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ESKİŞEHİR, 2019

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Welcome to the International Open and Distance Learning Conference and Anadolu University!

Articles 5 and 12 of Law No. 2547, which came into force on 6 November 1981 and reorganized Turkish higher education, granted Turkish universities the right to provide Continuous and Open Education. Later, this task was assigned to Anadolu University, which is scientifically and technologically robust.

Since its establishment, our Open Education System has aimed to transfer the technological opportunities of the period to education by going beyond the printed materials. Starting with television broadcasting, the process has now been replaced by multi-channel support services, online learning platforms such as e-Campus, and advanced mobile applications such as Anadolu Mobil.

With its 19 undergraduate and 41 associate degree programs and educational activities in North America, the Balkans, Western Europe, Central Asia and the Middle East, our Open Education System continues to offer top quality higher

Uluslararası Açık ve Uzaktan Öğrenme Konferansına ve Anadolu Üniversitesine Hoş Geldiniz!

6 Kasım 1981'de yürürlüğe giren ve Türk yükseköğretimini yeniden düzenleyen 2547 sayılı Kanun'un 5 ve 12. maddeleri, Türk üniversitelerine "Sürekli ve Açıköğretim Yapmak" hakkını tanımıştır. Daha sonra bu görev bilimsel ve teknolojik açıdan güçlü olan Anadolu Üniversitesine verilmiştir.

Açıköğretim Sistemi kurulduğu günden itibaren basılı ders malzemelerinin ötesinde dönemin teknolojik olanaklarını eğitim hayatına aktarmayı hedeflemiştir. Televizyon yayınları ile başlayan süreç günümüzde yerini çok kanallı destek hizmetleri, e-Kampüs gibi çevrimiçi öğrenme platformları ve Anadolu Mobil gibi gelişmiş mobil uygulamalara bırakmıştır.

Açıköğretim Sistemi 38 yıl sonra bugün 19 lisans, 41 ön lisans programı ve Kuzey Amerika, Balkanlar, Batı Avrupa, Orta Asya ve Orta Doğu'ya yayılan eğitim-öğretim faaliyetleri ile milyonlarca öğrene-

education to millions of learners today, 38 years after its establishment.

With 12 countries added just in the last year, the Open Education System currently offers higher education in 4 continents, 28 different countries and 3 different languages.

Digital transformation of society is also among the priority national goals in Turkey, as in the rest of the world. In order to achieve this national goal, the effective social functioning of education is essential. Both in terms of the size of its target audience and its digital technology centered education, Anadolu University Open Education System, which is among the world's largest universities, makes a significant contribution to the digital transformation of the society.

I would like to thank all the academics, researchers and students that come from around the world and from different provinces of Turkey to attend the International Open and Distance Learning Conference, and wish you all a very successful conference here.

ne nitelikli yükseköğretim sunmaya devam etmektedir.

Son 1 yıl içerisinde eklenen 12 ülke ile birlikte hali hazırda Açıköğretim Sistemi 4 kıtada, 28 farklı ülkede, 3 farklı dilde yükseköğretim sunmaktadır.

Toplumda dijital dönüşüm dünyada olduğu gibi Türkiye'nin öncelikli ulusal hedefleri arasında yer almaktadır. Bu ulusal hedefe ulaşmak için eğitimin toplumsal işlevinin etkin çalışması zaruridir. Dünyanın en büyük üniversiteleri arasında yer alan Anadolu Üniversitesi Açıköğretim Sisteminin toplumun dijital dönüşümüne katkısı hem hitap ettiği hedef kitlenin büyüklüğü hem de dijital teknoloji merkezli eğitim anlayışı açısından önemli bir noktadadır.

Dünyanın farklı coğrafyalarından ve Türkiye'nin farklı illerinden Uluslararası Açık ve Uzaktan Öğrenme Konferansına katılan tüm akademisyenlere, araştırmacılara ve öğrencilere teşekkür ediyor, başarılar diliyorum.

Prof. Dr. Selim BAŞAR

Vice Rector of Anadolu University

Welcome to the International Open and Distance Learning Conference!

This year's theme of the International Open and Distance Learning Conference covers global and local dynamics. In accordance with this theme, I will present some statistics about the Open Education System. Both in terms of being one of the mega universities of the world and its place in Turkish Higher Education, these data on Open Education will provide important clues about the conference theme.

As of the fall semester of the 2019-2020 academic year, 1 million 49 thousand and 227 active students are studying in 60 different programs of the Open Education System. The number of active and passive students is approximately 3.5 million. Since its establishment in 1982, a total of 9 million 27 thousand and 846 learners including active and passive

Uluslararası Açık ve Uzaktan Öğrenme Konferansına hepiniz hoş geldiniz!

Uluslararası Açık ve Uzaktan Öğrenme Konferansı'nın bu seneki temasında küresel ve yerel dinamikler yer alıyor. Bu temaya uygun olarak ben sizlerle Açıköğretim Sistemine ilişkin bazı istatistikler sunacağım. Hem dünyanın mega üniversitelerinden biri olması hem de Türk Yükseköğretimindeki yeri açısından Açıköğretime ait bu veriler konferans temasına ilişkin önemli ipuçları sunacaktır.

2019-2020 öğretim yılı güz dönemi itibariyle Açıköğretim Sistemi'nin 60 farklı programında 1 milyon 49 bin 227 aktif öğrenci öğrenim görmektedir. Aktif-pasif öğrenci sayısı yaklaşık 3.5 milyondur. Kurulduğu 1982'den beri Aktif, Pasif ve Mezun öğrenciler dahil toplam 9 Milyon

students and graduates have benefited from the Open Education System.

Some striking data from this large learner group draw attention.

The number of students studying with the second university provision corresponds to 44.28% of all students. The number of second university students is increasing every year. 240 thousand second university registrations were made only in this fall semester.

Approximately 70% of the students studying in the Open Education System are actively employed.

The average age of the students studying in the Open Education System is around 30 years old.

These data show that open education is no longer a educational channel preferred because of limited conditions, it is an accessible and contemporary system that enables lifelong learning with its functional and flexible, technology supported structure.

In this context, I wish that IODL 2019, where open and distance learning will be discussed with global and local dynamics, will shed light on new opportunities and dynamics.

27 bin 846 öğrenen Açıköğretim Sisteminden yararlanmıştır.

Bu büyük öğrenen kitlesi içerisinden bazı çarpıcı veriler dikkat çekmektedir.

İkinci üniversite uygulaması ile öğrenim gören öğrenci sayısı tüm öğrencilerin %44,28'ine denk gelmektedir. İkinci üniversite öğrenci sayıları her sene artarak devam etmektedir. Sadece bu güz döneminde 240 bin ikinci üniversite kaydı alınmıştır.

Açıköğretim Sisteminde öğrenim gören öğrencilerin yaklaşık %70'i bir işte çalışmaktadır.

Açıköğretim Sisteminde öğrenim gören öğrencilerin yaş ortalaması 30 civarındadır.

Bu veriler, Açıköğretimin artık sadece kısıtlı koşullarda tercih edilen bir eğitim kanalı olmadığını, teknoloji destekli fonksiyonel ve esnek yapısı ile yaşam-boyu öğrenmeye imkân sağlayan erişilebilir ve çağdaş bir sistem olduğunu göstermektedir.

Bu bağlamda Açık ve Uzaktan Öğrenmenin küresel ve yerel dinamikleriyle tartışılacağı IODL 2019'un yeni fırsatlar ve dinamiklere ışık tutmasını diliyorum.

Prof. Dr. Yücel GÜNEY
Dean of Open Education Faculty, Anadolu University
Conference Chair

Welcome to International Open and Distance Learning Conference, to Turkey, to Eskişehir and to Anadolu University!

After the 2002, 2006 and 2010 conferences, the main theme of the fourth International Open and Distance Learning Conference is "Glocal ODL Opportunities and Dynamics".

A call for papers on 26 different topics related to open and distance learning, which is interdisciplinary by nature, was made. Adaptive Learning Environments, Microcredentialing, MOOCs, mobile learning, learning analytics and artificial intelligence are some of them.

The conference, which will be an event where hundreds of academicians and researchers from different parts of the world will share their scientific work and opinions, will take place in this center for 3 days starting today.

Uluslararası Açık ve Uzaktan Öğrenme Konferansına, Türkiye'ye, Eskişehir'e, Anadolu Üniversitesine hepiniz hoş geldiniz!

2002, 2006 ve 2010'dan sonra bugün dördüncüsü düzenlenen Uluslararası Açık ve Uzaktan Öğrenme Konferansının 2019 teması: "Küre-yerel Açık ve Uzaktan Öğrenme Fırsatları ve Dinamikleri".

Doğası gereği disiplinler arası olan Açık ve Uzaktan Öğrenme ile ilgili 26 farklı başlıkta çağrıya çıkılmıştır. Uyarlanabilir öğrenme çevreleri, mikro kredilendirme, MOOClar, mobil öğrenme, öğrenme analitikleri ve yapay zekâ bunların birkaçı.

Dünyanın farklı coğrafyalarından 100'lerce akademisyen ve araştırmacının bilimsel çalışmalarını ve görüşlerini paylaşacakları konferansımız bugünden başlayarak 3 gün boyunca bu merkezde devam edecektir.

140 national and 125 international researchers participate in IODL-2019 conference. 149 scientific studies will be presented during 31 sessions in 5 different halls. Each day, panels will take place at the end of the sessions. We would like to thank all panelists who have contributed.

Keynote speeches will be held each day before the sessions begin. Four prominent academics, who have worked in the leading institutions of the world in the field of open and distance learning and made irreplaceable contributions to the field, will inspire us with their keynote speeches. I would like to thank our keynote speakers who have accepted our invitation: The president of EADTU Dr. Liz Marr from British Open University, Dr. Taerim Lee from Korean National Open University, Dr. Ramesh Sharma from Ambedkar University in India, and Professor Rory McGreal from Athabasca University in Canada.

I would like to thank everyone who have contributed to the organization of the conference, especially the Organizing Committee, and wish a successful conference for all participants and guests.

IODL-2019 konferansına ulusal düzeyde 140, uluslararası düzeyde 125 araştırmacı katılım göstermektedir. Konferans boyunca 149 bilimsel çalışma, 5 farklı salonda 31 oturumla karşınızda olacak. Her gün, oturum sonlarında panellerimiz yer alacaktır. Katkı veren tüm panelistlerimize teşekkür ederiz.

Her gün oturumlar başlamadan önce Keynote konuşmaları gerçekleştirilecektir. Açık ve Uzaktan Öğrenme alanında dünyanın önde gelen kurumlarında görev yapmış, alana yeri doldurulamaz katkılarda bulunmuş 4 duayen, açılış konuşmaları ile bizlere ilham verecek. Davetimizi kırmayıp aramıza katılan; İngiliz Açık Üniversitesinden, EADTU başkanı Dr. Liz Marr, Kore Ulusal Açık Üniversitesinden Dr. Taerim Lee, Hindistan Ambedkar Üniversitesinden Dr. Ramesh Sharma ve Kanada Athabasca Üniversitesinden Profesör Rory McGreal'e teşekkür ediyorum.

Başta Organizasyon Komitesi olmak üzere, konferansın düzenlenmesinde emeği geçen herkese teşekkür eder, tüm katılımcılar ve konuklar için başarılı bir konferans olmasını dilerim.

Keynote Speakers

Dr. Rory McGreal is a Professor in the Master of Arts in Integrated Studies programme at Athabasca University (AU), Alberta Canada. He is also the UNESCO/International Council for Open and Distance Education Chair in Open Educational Resources and Director of the Technology Enhanced Knowledge Research Institute (TEKRI). In addition, he is the co-Editor of Canada's first open access journal, The International Review of Research in Open and Distributed Learning (IRRODL). He was the Associate Vice President, Research at AU for ten years.

Previously, he was the executive director of TeleEducation New Brunswick, a province-wide bilingual (French/English) distributed distance learning network. Before that, he was responsible for the expansion of Contact North (a distance education network in Northern Ontario) into the high schools of the region. His Ph.D. degree (1999) in Computer Technology in Education at Nova Southeastern University's School for Computer and Information Science was taken at a distance using the Internet.

Rory was the founder of the world's first e-learning website for TeleEducation NB and one of the world's first metadata learning object repositories, the TeleCampus. In the past, he has worked in Canada as a teacher and teacher representative, and abroad in the Seychelles, the Middle East and Europe in various capacities as a teacher, union president, ESL technological training co-ordinator, instructional designer, language and computer laboratory co-ordinator, and educational advisor.

Awards

- European Distance Education Network (EDEN) Senior Fellow, October 2016
- Canadian Network for Leadership in Education Award, from the Canadian Network for Innovation in Education, Waterloo, ON, May 2016
- Lifetime Achievement Award, Open Education Consortium, Krakow, Poland, April 2016
- Open Courseware Consortium Award for the OER Knowledge Cloud, 2014
- Wedemeyer Award as a distance education practitioner, 2002

Dr. Taerim Lee is Professor of Informatics & Statistics, former Dean of College of Natural Science of KNOU, former director of KNOU Institute of Distance Education and e-Learning center. She was the program organizer and coordinator of the KMOOC 2014, e-ASEM RN1 meeting at Bangkok 2013 December, ASEM e-Learning ICT Colloquy in Sept. 2006 with 27 countries in Seoul and the e-ASEM Network follow-up meeting in 2007.

She works 35 years in the fields of Life Long Learning at KNOU and during last 34 years she had developed the computer based teaching instruction starting with 8 bits Apple computer at 1986. She is a biostatistician and former vice president of Korean Statistical Society, the former vice president of International Association of Statistics Education, the former president of Korean Society of Public Health Statistics and the former president of Korean Classification Society, and the representative of Asia Pacific area woman statistician of ISI, and was elected as the 2nd term of Executive Board Director of IBS last year. Her contents of Introductory Statistics were open to the APEC Cyber University for Public Health and ongoing collaboration with UNSIAP (UN Statistical Institute for Asia Pacific) of online education for Asia pacific official statisticians. Last 5 years she join at BITEC(Bioinformatics Training & Education Center) project for medical doctor supported by Ministry of Health & Welfare and eStat Project for K-12 to University student Data Analysis free software supported by Kore National Statistics. She published many books and e-Learning contents of statistics, Statistics and Life, Introductory Statistics, Data Analysis for Life data and Bioinformatics, Data visualization.

Dr. Ramesh Chander Sharma is editor of Asian Journal of Distance Education. Currently he is working as an Associate Professor of Instructional Design at Ambedkar University Delhi, India. Earlier he worked as an Associate Professor of Educational Technology and Learning Resources in the Educational Technology and Publishing (ETP) Unit at Wawasan Open University, Penang, Malaysia.

An expert in open and distance and technology mediated learning, he has taught as a Visiting Professor at Universidade do Estado da Bahia, UNEB, Salvador, Bahia, Brazil; Visiting Professor at University of Fiji, Fiji; Commonwealth of Learning as Director of the Commonwealth Educational Media Centre for Asia, New Delhi (CEMCA); Regional Director of Indira Gandhi National Open University, India and Director of Distance Education at Institute of Distance and Continuing Education at the University of Guyana, Guyana, South America. He had been a member of Advisory Group on Human Resources Development for the United Nations Conference on Trade and Development (UNCTAD). While at University of Guyana he also collaborated with UNDP for its Enhanced Public Trust, Security and Inclusion (EPTSI) project, Volunteer Service Overseas (VSO) and United Nations Volunteer (UNV) to develop suitable educational opportunities for communities and youth.

He has been associated with several peer reviewed journals as Reviewer, Editor and Editorial Advisory Board member in the field of Open and Distance Learning. An author/editor of several books and research papers on educational technology, educational multimedia and eLearning, Dr. Sharma is a practitioner promoting Open Educational Resources (OER). He has been a trainer and capacity builder in the field of educational technology, and has supervised doctoral research in the field. He has conducted workshops and evaluation activities for IGNOU, CEMCA, COL, UNCTAD, and Aga Khan Foundation, amongst others.

Dr. Liz Marr has worked in UK Higher Education for almost 30 years, as a lecturer for 20 years and more latterly as part of the senior management of the Open and responsibility for the University's Access curriculum, Open Programme, MA online and distance education (MAODE), Academic Professional Development, the development of research and scholarship in the areas of widening access and inclusion and overall responsibility for the University's UK and international validation partnerships, including private and alternative providers.

She is managing editor of the international journal Widening Participation and Lifelong Learning and an editorial board member of Learning and Teaching in the International Social Sciences. Liz has a long history of engagement with the widening participation agenda in the UK, initially through the Aimhigher programme and then through Lifelong Learning Networks. She joined the OU as Director of the Centre for Widening Participation and has since overseen the complete embedding of widening access and success activity across the whole institution, with a principal focus on adult and part time learners. She is Vice President of the European Association of Distance Teaching Universities, Chair of the UK Action on Access Forum, and and Executive member of the Universities Association for Lifelong Learning.

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Management of Open and Distance Education: Comparison of Cases: United States and Turkey

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Abstract

Reaching more and more learners every year, open and distance education, which is also referred to as e-learning, is meeting the diverse needs of different target groups. Either the provision of job opportunities or supporting professional development have been the primary goals of this system. However, there are many other reasons why people prefer this method of learning, with e-learning delivered in order to accomplish diverse needs. When a holistic approach is used to evaluate the applications and e-learning system in Turkey, it is clear that there are certain obstacles faced by learners, instructors and educational organisations. In a general sense, the areas causing problems can be addressed as policies implemented, accreditation issues, and quality assurance. Hence, this paper aims to provide practical and applicable suggestions for some of the problematic issues faced in the management of e-learning by considering two different cases from two countries, namely Arkansas Tech University from the United States (US) and Ankara University from Turkey (TR).

Keywords: *management in ODL, accreditation and QA in ODL*

INTRODUCTION

In traditional education, learning is only required to take place with the face-to-face classroom environment and through the synchronous participation of instructors and learners. As the consequences of increasing advances in Information and Communication Technology (ICT), transformations have also been observed within the wider education field. Hence, instruction can be additionally delivered through online environments with the emergence of e-learning and supportive technologies. e-Learning can be defined as 'the educational processes that utilise information and communications technology to mediate asynchronous as well as synchronous learning and teaching activities' (Jereb & Šmitek, 2006, p. 15).

e-Learning provides several benefits from the perspective of learners, instructors, and faculty. First of all, the flexibility of e-learning allows learners to select an appropriate time and place for their learning (Smedley, 2010). This increases learner satisfaction since they are not required to attend classes at specific times; instead being able to study at a time and place of their preference. At the same time, individual leaner differences are considered and learners' self-pacing also supported (Arkorful & Abaidoo, 2015). For instance, adaptive e-learning platforms consider learners' individual differences to present online content and activities in parallel to the learners' level. In this way,

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learners are able to progress in e-learning at their own pace, resulting in better academic achievement. Third, e-learning presents cost-effective instruction due to the decrease in travel-related expense, as well as in physical building space costs required for the place of instructional. Fourth, learners are able to access a variety of information sources that supports improvement based on the efficiency of knowledge acquisition and qualifications. Learners can access a wide variety of rich electronic resources (e.g., books, videos, documentaries, animations) and interact with online activities designed for practice or the attainment of learner experience. Especially, the use of interactive and immersive learning technologies such as virtual reality (VR) and augmented reality (AR) provides learners with valuable opportunities to gain experience not offered through the traditional learning environment. What is more, e-learning serves the needs of special groups such as learners who are required to work or learners with disabilities who are unable to attend face-to-face education (Ardito et al., 2006).

Either as formal or informal, e-Learning is gaining daily in its importance and on a global scale. Individuals have increasing interest towards online certificate programmes for professional improvement, or for learning about certain fields that they hold an interest in. Also, there is an increasing tendency for universities and other educational institutions to deliver online certificate programmes and online courses at the vocational, undergraduate, and graduate levels. In addition, fully online programmes exist for learners who prefer to study online. In this regard, the role of universities is crucial in the implementation of e-Learning as pioneers for instruction and continuous progress across various disciplines. The purpose of this study is to examine the practices of two sample universities in the e-Learning context, and to provide roadmaps for their policies, accreditation, and quality assurance activities.

METHOD

This study is a 'case study' where two universities from two countries, namely Arkansas Tech University (ATU) from the US and Ankara University (AU) from Turkey, were investigated in terms of their practical applications of online learning. Hence, this study sought answers to the following research questions:

1. What are the major application differences for online learning between the two educational institutions in terms of policies, accreditation, and quality assurance?

2. Which practical suggestions can be made for the improvement of online learning in Turkey?

Case study was selected as the method for this research since the phenomenon, which is the management and implementation approaches to online learning, is to be explored and discussed in depth (Yin, 2014). For exploration of the phenomenon, interviews were conducted with two experts from each university and also content analysis was carried out on related policy documents. The qualitative analysis followed an inductive approach in order to reveal the emerging themes and concepts.

FINDINGS

Policies for Online Learning

In addition to hardware, software, personnel, technology, and finance, policies have been proposed as a major component of online education application. Universities are advised to consider current bylaws, government documents and joint bargaining contracts while conducting existing online programmes or for the planning of new ones (Picciano, 2016).

Every country has different perspectives for shaping online learning from an organisational standpoint as well as for students. Since the USA is composed of states, universities, in this case ATU, has to obtain state authorisation as a participant of the SARA (State Authorisation Reciprocity Agreement) initiative, which is a state-level reciprocity process that provides opportunities to students who are residents of other states. Members states and institutions of SARA deliver e-learning under a set of policies and standards called C-RAC (Council of Regional Accrediting Commissions) Guidelines. These guidelines are supervised by the National Council for State Authorisation Reciprocity Agreements (NC-SARA) and administered by four regional higher education compacts (www.nc-sara.org). C-RAC guidelines are composed of nine standards supported by analysis/evidence indicators each scored in a range from 5 to 10 (see https://www.nc-sara.org/files/docs/C-RAC%20Guidelines.pdf). These standards cover institutions' missions and purposes, their integration of e-learning into regular processes, incorporation for governance and academic oversight, the design and delivery of curricula, the evaluation of effectiveness and the use of outcomes for enhancement, qualification and support for students' success, providing support services for online students, providing sufficient resources and offerings, and for assuring the integrity of its online offerings. These guidelines not only reveal the roles of the institution for providing online learning, but also provide a checklist to guarantee the quality of different aspects of the process. All remaining issues are framed according to the regular policies.

Turkey also has a similar management approach to defining how to implement online learning in higher education institutions. With a centralised system in Turkey, the Higher Education Council creates and announces such documents at the national level. Hence, the 'Procedures and Principles for Online Teaching in Higher Education Institutions' (see https://www.yok.gov.tr/Documents/Kurumsal/egitim_ogretim_dairesi/Uzaktan_ogretim/yuksekogretim_kurumlarinda_uzaktan_ogretime_iliskin_usul_ve_esaslar.pdf) is the primary guide that shapes online learning in Turkey, and therefore for AU. The document or guide is composed of five sections with a total of 20 main items, and most also having sub-items beneath. The headings addressed in the document other than purpose, scope, reasoning and definitions were; general principles, programme and course offerings, application of distance learning, student admission, transfers between programmes, duration of programmes, attendance issues, assessment, recruitment of teaching staff, tuition and material fees, budgeting operations, additional course fees and other payments, supervisor fees, authorisation and general implementation issues. However, although the document provides significant detail, certain points are not addressed, resulting in some Turkish universities establishing their own procedures and instructions in order to address the gaps, as in the case of Ankara University.

Hence, when these two documents (from ATU and AU) are compared from a general perspective, certain differences are notable that shape various aspects of online learning. The document addressing online learning in the US focuses on the learner and speaks in a learner-centred manner via standards, places emphasis and values pedagogy, considers quality by approaching issues from a qualitative perspective, and broadens the vision of the implementer. In contrast, the document that shapes online learning in Turkey is sanction-oriented via procedures and principles, and mostly addresses payment issues, expresses quantitative aspects for management, and limits implementations from various perspectives (see Table 1).

Aspect	Document – ATU	Document – AU
Presentation	standards	procedures and principles
Focus	learning-centred	sanction-oriented
Emphasis	values pedagogy	values payment
Approach	qualitative	quantitative
Speaking Voice	provides vision	limits implementations

Table 1. Comparison of Policy Documents of Two Universities

Online learning is a multi-dimensional process with three main actors: people, pedagogy, and technology. The most important aspect of any educational context is the learner, since all effort is spent on reaching expected learning outcomes through an effective pedagogy, hence why quality really matters for this learning process.

In their study, Casanova and Price (2018) provided a framework which is characterised by basic needs, institutional motivation, and stakeholders' motivations. Financial support together with institutional and technical support is addressed as basic needs, since funding was mentioned as the cornerstone of initiating sustainable online learning, whereas 'Online learning concepts, designs, systems, and resources have to have proven potential to be adopted and adapted to be used within the wider context of the HE institution to increase the likelihood of sustainability' (Casanova & Price, 2018, p. 10). Regardless of the importance of financial issues, any document/guide that manages online learning is expected to address the design and delivery of online learning as well as its quality, both of which are missing in the TR document. Having no concerns about financial issues and leaving the topic to the universities in a more autonomous manner might be considered. Moreover, pedagogical aspects and minimum requirements might be added to the document.

In the TR document, there is nothing mentioned about the integration of e-learning into regular processes or whether or not online learners should be treated according to the official undergraduate or graduate regulations that already exist. Although scientifically proven to be important, the TR document does not address the design and delivery of curricula (Beetham & Sharpe, 2013; Council for Higher Education Accreditation, 2002; Jowallah, 2014; Sharma, 2018), competencies of instructors (Adnan, Kalelioğlu, & Gülbahar, 2017; Baran & Correia, 2014; Gregory & Salmon, 2013; Gulbahar & Kalelioglu, 2015), qualification and support for students' success (Broussard & White-Jefferson, 2018; Brunton, Brown, Costello, & Farrell, 2018; Eaton, Sharples, & Buys, 2018; Zweig & Stafford, 2016;), or technology issues such as assuring

the integrity of any online offering (Hakim, 2017; Mackavey & Cron, 2019). Due to the lack of important headings, many universities in Turkey opted to prepare their own document as a directive and guide for online and distance learning, as in the case of AU (see http://uzem.ankara.edu.tr/images/PDF/uzaktan_ogretim_yonergesi.pdf), which also includes learning objectives for online learning, details of the teaching-learning process, instructional design issues, and standards for online content. The main reason put forward for the preparation of such a document by AU was to provide flexibility in terms of pedagogical and technological issues, and also to increase the quality in online instructional delivery.

Accreditation of Online Degrees

The Council for Higher Education Accreditation (CHEA) in the United States defined accreditation as 'a process of external quality review used by higher education to scrutinise colleges, universities and higher education programs for quality assurance and quality improvement' (Pond, 2001, p. 189). Accreditation plays a crucial role in the progress of education, research quality, and academic success. While learners tend to acquire an accredited degree, employers expect graduates of accredited programmes (Anaper, Nihan, Ulucay, & Cabuk, 2013).

The U.S. does not have a centralised federal education authority (e.g., a Ministry of National Education) controlling the quality of higher education (U.S. Department of Education, 2019). Hence, ATU requires accreditation by the National Council for State Authorisation Reciprocity Agreements (NC-SARA) (see https://www.nc-sara.org/) in order to provide online learning to learners from other states. The diploma is valid for the state of Arkansas and there is no sign on the document that the programme is administered online. Delivery of the programmes and validity of the diplomas are dependent on accreditation by the NC-SARA. The organisation has a detailed 'State Authorisation Reciprocity Agreements Manual' (see https://www.nc-sara.org/files/docs/NC-SARA_Manual.pdf) for the process to guide the applicants. Any degree-granting institution based in the United States that holds the proper authorisation and accreditation from an accrediting association recognised by the U.S. Secretary of Education can apply to its home state to participate in SARA, subject to the state being a member of SARA. Based on certain eligibility criteria, online learning should be delivered within the United States or a US territory. Institutions pay an annual fee to SARA based on the number of their students.

There is also the Distance Education Accrediting Commission (DEAC) which is a private, non-profit organisation founded in 1926 that operates as an institutional accreditor of distance education institutions, besides some other national accreditors like the Distance Education and Training Council (DETC), Accrediting Council for Independent Colleges and Schools (ACICS), Accrediting Commission of Career Schools and Colleges (ACCSC), Accrediting Council for Continuing Education and Training (ACCET), and the Council on Occupational Education (COE) Moreover, some programmes require special approval from various organisations. For example, the master's degree programme 'Special Education K-12', which is provided by ATU, required approval by the 'Council for Exceptional Children'. The council reviews all the instructional materials in terms of their excellence before granting approval, and the approval process has to be repeated every 3 years.

In Turkey, national accreditation institutions were established in 2016 in 11 different disciplines such as engineering, science-literature-language-history-geography, medicine, architecture, veterinary, educational sciences, nursing education, pharmacy, psychology, health sciences, and communication sciences. Additionally, the Association for Evaluation and Accreditation of Open and Distance Education Programmes (AEAODEP) was established in 2017 for the evaluation and accreditation of online programmes (http://audak.org/). Each of these institutions evaluates the undergraduate and graduate programmes in their disciplines and performs accreditation studies (Koçdar & Kapar, 2017). Also, the international ABET standards continue to be applied for engineering programmes. In order to initiate online programmes at the vocational, undergraduate or graduate levels, universities are required to apply to the Turkish Higher Educational Council together with the submission of application forms and essential materials (e.g., a list of courses, online course contents and activities). The Distance Education Committee, under the Turkish Higher Educational Council, performs the required evaluations and then provides decisions related to applications. If universities receive approval, they can begin to offer online programmes within their corresponding academic departments. Students applying to online programmes at the vocational and undergraduate levels are selected based on the Turkish centralised university entrance exam. For online master's programmes, students are required to sit the graduate programmes entrance exam and/or fulfil certain foreign language requirements. Online certificate programmes are initiated according to individual decisions of universities, hence applications are directly performed to the corresponding university. There is currently no online doctoral level programme in Turkey.

As mentioned by Özkul and Latchem (2011), Turkey places emphasis on access, equality and capacity building issues rather than the provision of quality. It is for this reason that one of the most important steps towards achieving quality in Turkish higher education is quality assurance and accreditation practices in online learning.

Quality Assurance

Quality assurance is essential to eliminate concerns of different stakeholders such as learners, employers, academics, governments, and accreditation institutions related to the quality of online learning (Chua & Lam, 2007). From the quality assurance perspective, the US document is composed of standards supported with analysis and/or evidence-based items which can also be interpreted as success indicators, whereas there are almost no quality-based issues addressed in the TR document. For both universities, there is neither a quality assurance process or document, nor any organisation established for inspection purposes. However, continuous evaluation and improvement based on empirical evidence is, in many aspects, of the utmost importance for any online learning system in order for it to be successful (Carnovale, Allen, Pullman, & Wong, 2016; Marciniak, 2018). Hence, Holt et al. (2013) proposed a quality framework where 'The heart is the building of distributed leadership capacity with the aim of enhancing the quality of learning and teaching outcomes and experiences through the alignment of the six interrelated elements and the cultivation of individual and collective agency…' (p. 392). The framework's six elements are: 1) Planning, 2) Organisational structures, 3) Governance, 4) Technologies, 5) Resourcing and 6) Evaluation. The authors also concluded that quality management

for online learning requires an enhanced form of distributed and shared leadership approach in decision making.

Similarly, Hinck Rice, Lowenthal, and Perkins (2018) also suggested several items to provide insight into what aspects of quality assurance are the most important for AACSB-accredited online MBA programmes. Some of these items are concerned with assuring the academic integrity of online courses and programmes, training faculty members and instructional designers, allocating adequate and ongoing resources, implementing a programme of continuous quality improvement, establishing uniform standards for faculty qualifications and credentials, and providing comprehensive online student support. Marciniak (2018) also presented a model designed to assess the quality of online higher education programmes, which relies on periodically collected data and strict analysis focused not only on the assessment the programme's quality (pedagogical and technological aspects), but also the continuous assessment of the programme (from the beginning to the end).

ATU has its own evaluation and improvement process based on C-RAC Guidelines generally handled by instructors. Similarly, AU implements a satisfaction survey each semester and shares an annual results report with departments and instructors, and then expects them to implement the necessary changes and improvements. No external control mechanism exists for either university. However, nationally recognised success indicators and an independent organisation charged with annual evaluation would be beneficial if such a process leads to the relevant agreements being implemented (Bakioğlu & Can, 2013).

Marciniak (2018) outlined 14 indicators within a quality assessment model for online education programmes as: justification of an online programme, educational goals of an online programme, student profile, thematic contents of an online programme, learning activities, online teachers' profiles, learning materials, teaching strategies, tutoring, assessment of students' learning, quality of virtual classrooms, assessment of the initial stage of an online programme, assessment of the development stage of an online programme, and assessment of the final stage of an online programme. Further quality assurance advice pertinent to online and distance learning programmes came from the Online Learning Consortium in the form of a Quality Scorecard, with headings of course fundamentals, learning foundations, as well as faculty and student engagement. Hence, these or similar quality assurance frameworks can be used as a guide for continuous quality improvement in online learning.

Suggestions for Turkey to Improve Online Learning Implementations

Although this study is limited with just two cases and a low number of participants, a considerable level of information was discovered, revealing many diverse processes and concepts. As also implied by Holt et al. (2013), each country and even each university has its own distinctive location, history, expertise in specific fields and reputation in society. This is the main reason why any education system, such as online learning in the current study, needs to be autonomous despite the existence of centrally managed formal agreements. Each university should implement their preferences of instructional design and delivery, either synchronous or asynchronous, based on their societal needs and demands. The question therefore is, how to reveal

which instructional strategies and methods work best for online design and delivery of programmes across all institutions, irrespective of using the same or unique approaches?

Know-how and experience is important when integrating new technologies and pedagogies into existing academic structures or when creating any new approach. Whilst universities are afforded the right to implement online learning, there is, however, no support, guidance or roadmap provided to them, which is why new emerging universities who intend to offer online learning seek help and advice from established institutions with previous experience. Universities not only learn from experience-based know-how and best practices, but also benefit from trusted facilitation and support during this process of innovation and change. Therefore, an independent division under the Higher Education Council (HEC) (similar to the Higher Education Quality Commission – see http://yokak.gov.tr/) or an organisation approved by the HEC, should be established to deal with policies, quality management and accreditation issues, since continuous evaluation and improvement is essential in order to cope with the challenges faced with the changing nature of both technology and today's learners (Bakioğlu & Can, 2013).

On the other hand, online learning is especially applicable to adult learners who are already employed and in need of professional development. Thus, limitations of providing high quality programmes just for graduate (Master's and Doctorate) learners should be avoided in order that adults nationwide can realise opportunities for various degrees or certificates whilst also working in their profession.

However, not all universities may be eligible to provide online learning, and therefore careful steps should be taken to facilitate the implementation of online learning. Without evaluation of the full curriculum and content of the programme, together with the competencies of the instructors, approval should be withheld. Careful and detailed justification that includes indicators based on the following issues should be sought from universities prior to granting approval for the online programme aiming to be offered (Holt at al., 2013):

- University having a vision for learning and teaching,
- Integrated vision for technologies in learning and teaching,
- Implementation plans and roadmap for emerging pedagogies and technologies,
- Continuous improvements based on evaluation results,
- Ensured effective collaboration-communication between all stakeholders, and
- Alignment of future plans and decisions with strategic goals.

Thus, instead of forcing one type to be applied by all the universities, the HEC should be orchestrating and approving different efforts serving for different learners' needs within society. Moreover, with such a rapidly changing world in terms of technologies and emerging professions, a one-time approval is no longer sufficient. Every institution should be monitored and go through periodic approvals such as every 3 years in terms of their curriculum, programme, content, technology and instructor quality.

DISCUSSION AND CONCLUSION

The expansion of online programmes and courses, learner and academician mobility, and the establishment of innovative pedagogies and technologies are some of the common approaches adopted by higher education institutions in order to increase their preferability and access to provide education to a wider audience. According to 2015 data, there were 505 open and distance programmes offered in Turkey (Koçdar & Görü Doğan, 2015). In the same year, there were a total of 74,619 learners registered to these programmes (Cabı & Ersoy, 2017). Although there has been an increasing number of online learners and programmes, accreditation of online programmes is not currently performed in Turkey (Can, 2016; Koçdar & Kapar, 2017). On the other hand, 'there is a need to enhance the quality of these distance education programmes and instructional activities they provide, and to establish a quality assurance system regarding the distance education practices' (Can, 2016, p. 6445). At the same time, the Bologna process requires accreditation of distance programmes with the establishment of a national accreditation institution.

There are also numerous studies which have underlined the lack of organisation within the current distance education programmes in Turkey in terms of recognised standards and the lack of feasible evaluation and assessment, which also demonstrates the need for quality improvements in online learning (Tonbuloğlu & Aydın, 2015). Thus, it is clear that certain steps need to be taken in order to come up with accreditation standards and independent organisations which can provide accreditation and evaluation. This may be achievable with the support of applications carried out by organisations such as the Accreditation Council for Distance Learning (ACDL – see http://acdl.org/), the Distance Education Accrediting Commission (DEAC – see https://www.deac.org/), the International Council for Open and Distance Education (ICDE – see https://www.icde.org/), and Mühendislik Eğitim Programları Değerlendirme and Akreditasyon Derneği (MÜDEK – see http://www.mudek.org.tr/) (Bakioğlu & Can, 2013).

Hence, after revealing issues about policy, accreditation and quality assurance, based on the research carried out in the current study, three main suggestions emerged which will be beneficial for online learning in Turkey.

From a Policy perspective:
- Distributed Leadership (for Design and Delivery of Innovative Pedagogical Approaches)

From an Accreditation perspective:
- Expansion of Graduate Studies and Recognised Certificates (for promoting lifelong learning and professional development)

From a Quality Assurance perspective:
- Periodical Quality Assurance and Approval (to assure curriculum, programme, content, technology and instructor quality)

Hence, a more flexible structure in varied degrees will meet the diverse needs of today's learners, and continuous evaluation will maintain the quality of the programmes. Today's 21st century citizens require different knowledge and skills than previous, which should be supported with online learning, thanks to mobility and technology. Expanding online learning to encompass adult education and lifelong learning

will fulfil the need for those already employed who wish to learn more about their profession in order to progress. Therefore, the HEC should take innovative steps by considering these factors alongside societal needs.

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Evolution of MOOC Designs, Providers and Learners and the Related MOOC Research and Publications From 2008 to 2018

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Abstract

Massive Open Online Courses emerged in 2008 as a result of openness movement in education and drew a lot of attention by 2011 when MOOCs were adopted by higher education institutions and used as a mean to deliver knowledge and educational content. Though MOOCs have a recent history, much has been articulated and MOOCs are claimed to be a revolution in education while some others claimed that MOOCs are a hype that will eventually fade away. In this context, this research aims to investigate MOOC research by reviewing MOOC literature. The findings of the study suggest that MOOC interest tend to continue, and the evidence-based empirical MOOC research is increasing steadily. MOOC research area is dominated mostly by educational research; however, other research areas demonstrate that there is an interest from other research areas which is thought to be promising. Regional interest demonstrates that USA, Spain and UK are leading countries; and most interest stems from developed countries with Anglo-Saxon cultures. Likewise, the leading higher education institutions in MOOC research are located in Europe or USA. It is also promising that nearly half of the MOOC research is funded by stated agencies. The study concludes that MOOCs are evolving and, based on research findings, it is moving from Slope of Enlightenment to Plateau of Productivity in Gartner hype cycle.

Keywords: *MOOCs, Massive Open Online Courses, MOOC research, MOOC providers.*

INTRODUCTION

Massive Open Online Courses (MOOCs) started in the year 2008 by introducing connectivist approaches (cMOOCs) (Siemens, 2013) and gained broad audience and interest by 2011 upon the emergence of extended versions of first generation massive open online courses (xMOOCs) (Stracke, Downes, Conole, Burgos, & Nascimbeni, 2019). The further evolution of MOOCs offered hybrid MOOCs designed by combining both connectivist and extended MOOC design principles (Bozkurt, Kilgore, & Crosslin, 2018; Roberts, Waite, Lovegrove, & Mackness, 2013). In the beginning, there were big participant numbers as well as huge expectations that MOOCs could offer learning opportunities for all worldwide and will completely change higher education (or even destroy it) (Dillahunt, Wang, & Teasley, 2014; Hansen & Reich, 2015). A first peak of the new phenomenon MOOC was claimed in the year 2012 when it took the cover page of leading newspapers and magazines (Pappano, 2012). Daniel (2012) critically discussed in the same year the starting decline of the MOOC development. Nevertheless, MOOCs continue to be designed, taken and evaluated in research and practice until the end of second decade of 2000s (Shah, 2019).

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Many research projects and publications started as documented in several literature reviews and overviews (Bozkurt, Akgün-Özbek, & Zawacki-Richter, 2017; Costello, Brown, Mhichíl, & Zhang, 2018; Liyanagunawardena, Adams, & Williams, 2013; Joksimović, et al., 2018; Veletsianos, & Shepherdson, 2016; Zawacki-Richter, Bozkurt, Alturki, & Aldraiweesh, 2018). Key research topics are the MOOC design (Conole, 2015; Stracke et al., 2018a), the learners taking MOOCs (Christensen, Steinmetz, Alcorn, Bennett, Woods, & Emanuel, 2013, Liyanagunawardena, Lundqvist, & Williams, 2015), and the quality of MOOCs (Lowenthal & Hodges, 2015; Margaryan, Bianco, & Littlejohn, 2015; Reich, 2015; Stracke, 2017; Stracke, & Tan, 2018). It turned out that MOOCs are not achieving such a high impact as expected in the hypes of the beginning but are continuously developed, offered and taken by an increasing number of MOOC providers respectively MOOC learners.

METHOD

As a review study, this paper focuses on the evolution of MOOC designs, providers and learners and the related MOOC research and publications from 2008 to 2018. To measure and compare the different developments, researchers collected data from Class Central, the worldwide leading collector platform of MOOCs, as well as from three online scholarly databases for research publications. Class Central was established in the year 2015; therefore, they provide data only for the period from 2015 to 2018 (Shah, 2015, 2016, 2018, 2019).

As databases for research publications, the researchers selected the Web of Science. In this round, researchers examined how empirical MOOC research evolved by focusing on journal publications (n=1255; Articles = 1132; Editorial = 81; Review = 42) indexed in Science Citation Index Expanded (SCI-EXPANDED), Social Sciences Citation Index (SSCI) and Emerging Sources Citation Index (ESCI) by using the following query in titles, abstracts and keywords of the published articles: "MOOC*" OR "massive open online course*". In this analysis, researchers further examined the progress of MOOC research in terms of the number of published studies, regional interest, organizations, research areas, and funding agencies.

FINDINGS AND DISCUSSION

The following table and figures present the data collected from Class Central and Web of Science (WoS) database. All data were collected on the 20th of September 2019 following the method and using the search terms as described in the section above. In Table 1, MOOC designs refer to the number of provided MOOCs while MOOC providers refer the number of institutions offering them and MOOC learners refer to all learners who signed up for at least one MOOC.

Dimensions	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*	*2018*
MOOC designs	n/a	n/a	n/a	n/a	n/a	n/a	n/a	4,200	6,850	9,400	11,400
MOOC providers	n/a	n/a	n/a	n/a	n/a	n/a	n/a	500+	700+	800+	900+
MOOC learners	n/a	n/a	n/a	n/a	n/a	n/a	n/a	35	58	81	101

Table 1. Evolution of MOOC designs, providers and learners (according to Class Central)

First of all, the data collected from Class Central demonstrate that there is still a huge increase in MOOC design as well as in MOOC providers and learners until today. That is in contrast to some claims predicting the decline or at least slow-down of the MOOC development but not surprising: Many MOOC providers are offering their MOOCs again and again over several years as the investment for such repetitions is very small. The very big numbers of participants realized by the first MOOCs are normally not achieved anymore, but the total number of MOOC learners is still increasing due to the continuously increasing number of offered MOOCs. In fact, this finding raises further questions. In contrast to first generation cMOOCs; second generation xMOOCs and third generation hybrid MOOCs are often adopted by investors for profit purposes. While such a situation demonstrates that MOOC providers responded increasing demands from learners and further resulted with promotion of MOOCs and MOOC platforms; it should be also noted that the current state of second and third generation MOOCs, mostly, do not share the same vision of first generation MOOCs: That is, MOOCs as a mean of accessing knowledge for free and ensuring equity in education.

The number of publications demonstrates that the MOOC research growing and, especially after 2014, there is a blast in the number of MOOC publications (Figure 1). Fueled by empirical evidence-based data, the tendency in MOOC research is expected to increase.

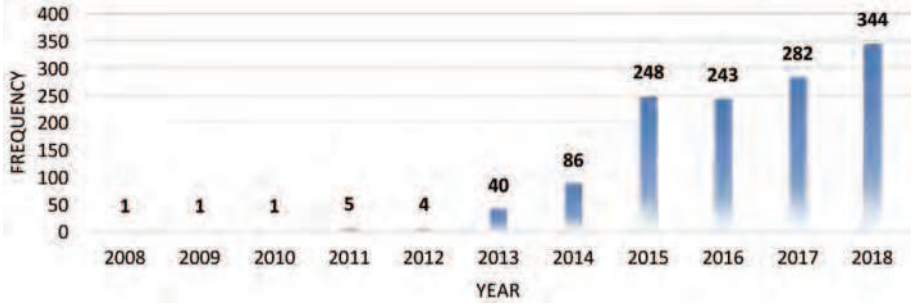

Figure 1. The number of the MOOC research publications per year.

The finding further indicates that research publications changed from descriptive and declarative papers towards quantitative and qualitative studies accepted by leading research journals indexed in Web of Science. This finding is thought to be promising because applied research can provide solutions for many ongoing discussions on MOOCs such as high dropout and low retention rates, quality issues, motivational factors, etc. The finding is further important in terms of broadening our understanding about MOOCs and drawing conclusions from empirical evidence which would help instructional/learning designers to develop better MOOCs.

Examination of research areas reveals that MOOCs publications are dominated by educational research (Figure 2) which is followed by other research areas such as computer science, engineering, business economics, information science, psychology, etc. It seems that MOOC research is being an interdisciplinary research area which is expected considering that educational processes are multilayered and multidimensional in nature.

Research Area	f	%
Education / Educational Research	779	52.00
Computer Science	193	12.88
Engineering	63	4.21
Business Economics	45	3.00
Information Science Library Science	42	2.80
Psychology	34	2.27
Communication	31	2.07
Science Technology	31	2.07
Other	280	18.69
Total	**1498**	**100.00**

Figure 2. Research areas of MOOC publications (2008-2018).

The regional interest in MOOC research reveals interesting patterns (Figure 3). Accordingly, many developed western countries demonstrate more interest with an exception which is China. On the other hand, taking into account that China's population is equivalent to around 20% of the total world population, the findings verify that it is worth investigating MOOC phenomena in its context, however, this is beyond the purposes of this study.

The other important point to consider is that MOOCs are supposed to open up education with some noble ideas such as equity in education, removing barriers between learners and knowledge and a sustainable learning ecology for lifelong learners. Conversely, the findings show that interest in MOOCs mostly originated from already developed countries. That being said, while there are a lot of discussions regarding knowledge gap between the global north and the global south, it is observed that MOOC research is in a bottleneck in terms of disseminating its know-how for what MOOCs promise for. It seems that there is a need to encourage and support developing and undeveloped countries to benefit from visions emerged with the advent of MOOCs by remembering that the second letter in MOOC acronym stands for 'open'.

Region/Country	f	%
USA	324	20
Spain	201	12
England	128	8
China	96	6
Australia	83	5
Canada	67	4
Netherlands	47	3
Germany	40	2
Scotland	36	2
France	34	2
Other	556	34
Total	**1642**	**100**

Figure 3. The regional interest of MOOC research (2008-2018).

When examined, it is seen that organizational patterns are in line with regional patterns (see Figure 4). However, it is also interesting to see that top 10 leading higher education institutions conduct around 12% of MOOC research, which raises suspicions on their being as gatekeepers. One possible solution to remove side effects of gatekeeping would be collaboration among universities by cross matching the ones from global north with ones from global south. Such a strategy would also be a remedy

for the imbalance mentioned in regional interest section and increase collaborative efforts as well as provides an opportunity for knowledge exchange.

Organizations	f	%
Universidad Nacional De Educacion a Distancia	30	1.6
Open University UK	26	1.4
Pennsylvania Commonwealth System of Higher Education	24	1.3
University of California System	24	1.3
Universidad Carlos III De Madrid	23	1.2
Massachusetts Institute of Technology	21	1.1
Harvard University	19	1.0
Open University Netherlands	19	1.0
Penn State University	18	1.0
University of London	18	1.0
University of Edinburgh	17	0.9
Other	1653	87.40
Total	**1892**	**100**

Figure 4. Organizational interest in MOOC research (2008-2018).

Another issue investigated in the research is the pattern of how MOOC research is supported or funded (Figure 5). Accordingly, 502 out of 1255 which equals to 40% of total number of the sampled publications are funded by mostly state agencies or organizations. Though this finding is still promising, it is expected that supranational organizations, such as UNESCO, can be leading contributor by funding MOOC research.

Funding Agencies	f	%
National Natural Science Foundation of China	24	3.6
National Science Foundation	19	2.8
European Union	16	2.4
Spanish Ministry of Economy and Competitiveness	12	1.8
Ministry of Science and Technology Taiwan	9	1.3
Fundamental Research Funds for The Central Universities	6	0.9
National Institutes of Health Nih USA	6	0.9
United States Department of Health Human Services	6	0.9
Comision Nacional De Investigacion Cientifica Y Tecnologica Conicyt	5	0.7
Regional Government of Madrid	5	0.7
Conicyt Fondecyt	4	0.6
Dutch Ministry of Education Culture and Science	4	0.6
Emadrid Project Regional Government of Madrid	4	0.6
European Social Fund	4	0.6
Gates Foundation	4	0.6
Other	541	80.9
Total	**669**	**100**

Figure 5. Funding agencies of MOOC research (2008-2018).

CONCLUSION

The analysis of the collected data is presenting some aspects. The overall interpretation indicates that MOOC research is still a trending topic and scholarly MOOC literature grows by strengthening its arguments. Locating the overall MOOC research on Gartner Hype Cycle (Gartner, n.d.), it can be claimed that MOOC research is moving from Slope of Enlightenment where the phenomenon is understood widely to Plateau of Productivity where the phenomenon mainstreams and is accepted by a wider audience (Figure 6).

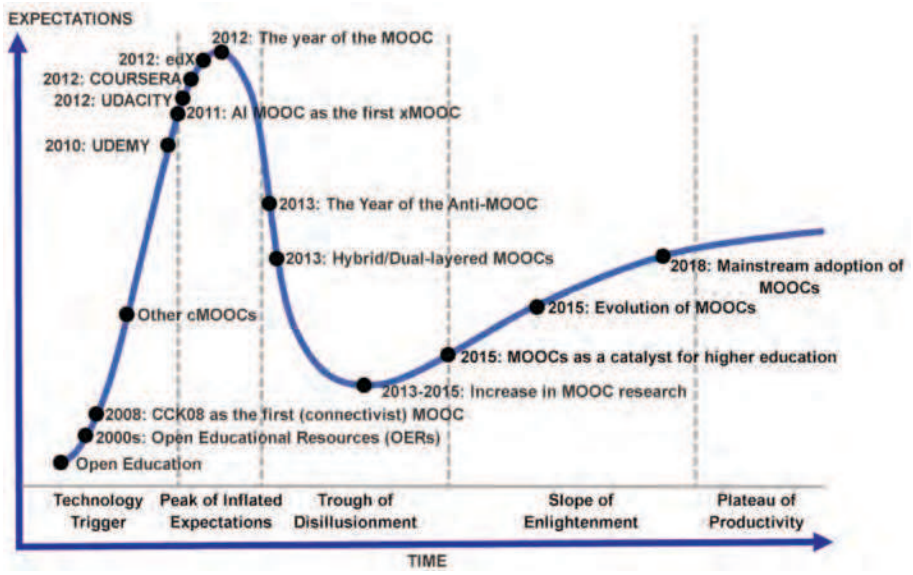

Figure 6. Progress of MOOCs on Gartner's Hype Cycle (Adopted from Bozkurt, Özdamar Keskin, & de Waard, 2016)

However, there is still a huge demand for further research on the MOOC designs, providers and learners and, in particular, on the quality of MOOCs. First initiatives like MOOQ (www.MOOC-quality.eu) and research results like the Quality Reference Framework (QRF, see: www.MOOC-quality.eu/QRF) for MOOCs are promising but require more validation, extension and improvement of the whole MOOC research and results (Stracke et al., 2018). Future research directions should focus the impact achieved by MOOCs on the individual learning processes as well as on the institutional developments in relation to learning designs and organizational strategies to provide, use and improve MOOCs. Furthermore, it would be beneficial to analyse how cross-institutional, -national and -cultural MOOCs can contribute to overcome the identified imbalance and to fulfil the fourth Sustainable Development Goal of the United Nations for equity and high quality learning and education for all.

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Development Integration of Balanced Scorecard and Six Sigma in Measuring Performance of Open University Academic Services

Rhini Fatmasari[1]

Abstract

Performance appraisal is one of the activities carried out by the organization to assess performance quantitatively. One of the performance assessment methods used is Six Sigma and the Balanced Scorecard. Six Sigma is an organizational approach to improve operational excellence, while the Balanced Scorecard provides a framework for transforming organizational strategies into work matrices that help organizations compete. Strategic business plans can be implemented using the Balanced Scorecard (BSC) performance management system approach, while various action programs can be applied using the Six Sigma approach. Both methods can be integrated to synergize in achieving the company's strategic goals.

This study aims to measure the performance of Open University academic services with the integration of BSC and Six Sigma in the field of academic services. Through this integration, performance measurement was focused on quality control by exploring UT's academic service system as a whole and combined with four perspectives in the Balanced Scorecard.

The results showed the level of student satisfaction with UT's academic services of 90.20% which means that students are very satisfied with UT's academic services which include programs of distance education and programs, models, teaching materials (modules and non-print teaching materials), face-to-face tutorials and online tutorials, learning assistance counselling services, and learning evaluation. Meanwhile, measurement using Six Sigma shows that UT academic services are at level 3, which means there are still some UT services that are not perfect, especially in tutorial and teaching materials services

Keywords: *Academic services performance, six sigma, balanced scorecard.*

INTRODUCTION

Performance is the work of an organization to realize its strategic objectives, customer satisfaction and contribution to the strategic environment. So that the determination of performance indicators based on the formulation of the strategic plan, vision, mission and organisational goals (Akdon, 2011). To know with certainty whether an organisation performance has been able to achieve the strategic objectives set, a series of performance measurement and evaluation is needed. The primary purpose of implementing a performance measurement system is to improve organizational

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performance so that it can better serve customers, employees, owners, and stakeholders. So that performance in the organization can be managed properly, it requires performance management. Armstrong (2006) states that: performance management defined as a systematic process for improving organizational performance by developing the performance of individuals and teams.

There are various methods of performance measurement that are applied in organizations, for example, Six Sigma and Balanced Scorecard. Six Sigma is an organizational approach to operational excellence that has existed since it launched at Motorola in the 1980s. Meanwhile the Balanced Scorecard provides a framework for transforming organizational strategy into a work matrix forward-looking that helps organizations compete. Strategic business plans can be implemented using to management system approach Balanced Scorecard, while various action programs can be implemented using the approach Six Sigma.

Not much research has discussed the integration of Six Sigma and the Balanced Scorecard in measuring organizational performance. Research that discusses the integration of Six Sigma and the Balanced Scorecard was proposed by Heavy and Murphy (2011) which explains the added value of the integration of the Balanced Scorecard with Six Sigma. Other research that discusses the integration of these two methods in the field of education is explained by Holmes, et.al., (2014). Both of these studies provide references and guidelines on how to integrate the Balanced Scorecard and Six Sigma for performance and specific measurements in the world of education.

Performance measurement with the integration of BSC and Six Sigma is very appropriate to be carried out at the Open University besides the performance measurement that has applied so far. This is done so that the Open University can measure UT performance through different perspectives, to obtain additional data on UT performance, especially those relating to student academic services. The implementation of academic services is carried out at the Central UT and 39 Distance Learning Service Units which are spread across 34 provinces and one UT UTB Foreign Service UPBJJ. The services provided are in accordance with standards that have been standardized in the UT Quality Assurance System (SIMINTAS UT) which has accredited, both national and international accreditation. The purpose of this quality assurance is the creation of continuous improvement in academic and non-academic services and will ultimately affect student satisfaction.

Due to the broad reach of the UT working area and the variety of academic services provided, the integration of BSC and Six Sigma needed as one of the measurements of Open University performance in the field of academic services. Through this integration, performance measurement is focused on quality control by exploring UT's overall academic service system and combined with the four perspectives in the Balanced Scorecard. This service is related to the vision and mission of UT and the focus of Academic Quality Development which includes policies regarding educational programs and curriculum, teaching materials, learning assistance services, evaluation of learning outcomes, as well as research and community service.

This research is based on the results of research by Heavy and Murphy (2011) and Holmes, et.al. (2014), but using a different approach. In previous studies, they have

discussed how the results of the integration of BSC and Six Sigma, while in this study will begin with the development of Six Sigma and BSC. While the evaluation and measurement of performance with the integration of these two models will be carried out the following year.

Russel and Taylor (2006) define Six Sigma as "a process for developing and delivering near products and services". Six Sigma defined as a process for developing near-perfect products and services in order to obtain results that are close to "zero defect". Six Sigma's focus is to prioritize customers by using data to get facts and data to get better solutions. The target of Six Sigma achievement is in three main areas, namely: (1) Improving customer satisfaction; (2) Reducing cycle times; and (3) Reducing defects. Six Sigma quality improvement programs can be implemented with a variety of methodologies. One method commonly used is to use the DMAIC (Define, Measure, Analyze, Improve, and Control) model approach. But there are also other methods that can be used, namely the IDOV method (Identify, Design, Optimize, and Verify) (Gaspersz, 2007). For the Six Sigma method to be implemented with an intensive Six Sigma quality improvement program, it must involve the top-level management intensively.

The Balanced Scorecard (BSC) is a measure of company performance so that companies can measure long-term performance by using indicators and specified benchmarks. The balanced scorecard provides answers to four fundamental questions on four perspectives, namely: (1) Customer and stakeholder perspectives; (2) Financial Perspective; (3) Employee and organization capacity Perspective; and Internal Business Process Perspective. Many organizations use the BSC as a foundation for a strategic management system. The BSC reflects a balance between short-term and long-term goals, financial and non-financial measures, lagging and leading indicators and perspectives on external and internal performance (Hepworth, 1998).

The added value of the BSC is a combination of all major business areas and identifying and clarifying the interrelationships of each perspective to produce success (Hepworth, 1998). This added value allows the company to know the financial condition simultaneously by monitoring progress in building capabilities and obtaining the intangible assets needed for growth (Kaplan and Norton, 2007). Scorecards place strategy and vision at the core of organizational goals, not control (Kaplan and Norton, 1992).

Integration of the Balanced Scorecard with Six Sigma

Based on an understanding of the objectives and workings of Six Sigma and the BSC it can be concluded that Six Sigma provides a structured tool for defining business problems through customer perception, measuring performance baselines, and prioritizing the root causes of implementing solutions and controls. Increasing Six Sigma metrics to a higher level indicates a smaller production error rate. This increase can collectively influence the achievement of the level of performance indicators to a higher level. The combination of Six Sigma with BSC can overcome the weaknesses of BSC in providing solutions and provide problem-solving capabilities for high-level performance metrics. Six Sigma is driven by a deep understanding of customer needs, rigorous use of facts, data and statistical analysis, and diligent attention to managing,

improving and re-creating business processes (Pande et.al., 2000). The strength of the BSC is its ability to translate strategies into relevant organizational metrics and performance measures while Six Sigma provides tools and methods to improve performance metrics and achieve the organization's vision and mission. Six Sigma also helps provide problem-solving in achieving performance in a systematic and structured manner.

Performance measurement indicators at BSC are poured into KPI (Key Performance Indicator. But if KPI does not reach the target after performance measurement, then Six Sigma programs consisting of Define, Measure, Analyze, Improve, and Control (DMAIC) stages can use. DMAIC can overcome various problems such as reducing defective products, reducing production costs due to waste, improving product quality, etc. The expected quality target in implementing the Six Sigma methodology is to improve process capability by achieving 3.4 DPMO (defects per one in the process production) 3.4 DPMO means 3.4 defects in 1 million opportunities DPMO is one of the process capability assessments to measure how good a production process is,

Alastair (2003) explains that the combination of the balanced scorecard with Six Sigma is a breakthrough in business performance named "Business Improvement System." Ad five components in combining a balanced scorecard with Six Sigma, including (1) Voice of the customer (VOC); (2) Optimal process; (3) Reform management; (4) Project or initiative selection; and (5) Project implementation or initiative. The method for integrating the two management systems is to see the suitability of the two, which begins by translating the DMAIC or IDOV models on Six Sigma and then linking them to the activities on the Balanced Scorecard. The focus of attention is primarily on how the objective components and measures of each Balanced Scorecard perspective are linked to the continuous quality/performance improvement program of Six Sigma, with the DMAIC methodology approach.

METHOD

Development of integration of balanced scorecard and six sigma in measuring the performance of open university academic services developed in this study uses a combination model of the Major Steps in the R&D Cycle (Borg and Gall, 1983) with the Steps of Systems Approach Model of Educational Research and Development (Gall, Joyce & Borg, 2007) in Suparman (2016). At steps 1, steps are carried out (a) research and information collecting in the form of literature reviews, surveys and interviews; (b) planning; and (c) develop preliminary products. Data obtained from the results of the questionnaire for BSC analysis were processed with the Customer Satisfaction Index (CSI) and Importance Performance Analysis (IPA). While processing six sigma uses Pareto analysis, fishbone and process capability report.

Respondent

Retrieval of development integration of balanced scorecard and six sigma research data in measuring the performance of open university academic services in step 1 conducted for UT students with a survey method using a questionnaire. The focus of the study compiled with the Key Performance Index (KPI) (Parmenter, 2010; Alstete & Beutell, 2004; Powar, KB, Panda, Santosh., Bhalla, 2000) on six service groups

consisting of: (1) study programs and distance learning ; (2) registration; (3) teaching material; (4) face to face tutorial and online tutorial; (5) counselling services and learning assistance; and (6) evaluation learning.

The research sample was UT students from 13 UT Regional Offices in Indonesia, with the number of samples per UT Regional Office. Samples were taken by purposive sampling method by considering the representation of the regions of Western Indonesia, Central Indonesia and Eastern Indonesia. Most of the respondents are S1 Basic Education (PGSD and PAUD) students (Figure 1).

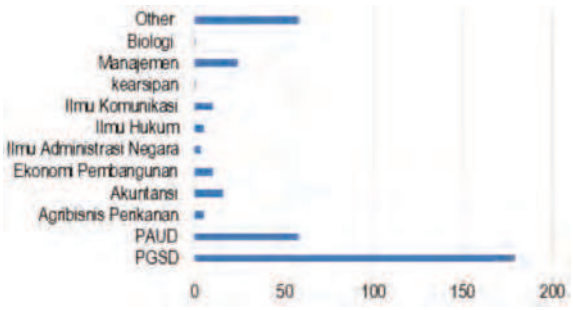

Figure 1. Respondent at Program Study

Analysis Method

Analysis of student satisfaction with Open University academic services quantitatively using Importance-Performance Analysis (IPA) (Lewis, 2004) and Customer Satisfaction Index (CSI) (Fandy Tjiptono and Gregorius Chandra, 2011) analysis tools. IPA is used to determine the gap between performance and expectations of service products and the CSI which is used to analyze the overall level of customer satisfaction (Handi Irawan, 2004; Nigel Hill, Self Bill, 2002; Ilieska, 2013). The results of the analysis with IPA and CSI explained in Figure 2 and Table 1 below.

FINDINGS

Balanced Scorecard Analysis

No	Indikator	Value
1	Study program and distance learning	91,05%
2	Registration	90,98%
3	Teaching Material	91,24%
4	Face to face tutorial and online tutorial	90,12%
5	Counceling services and learning as sistance	87,80%
6	Evalution learning	88,83%
Costomer Satisfaction Index		90,16%

Table 1. Customer Satisfaction Index

Table 1 shows that the level of student satisfaction with UT academic services in the six service groups is very high (90.16%). This table in line with the performance analysis index (Figure 2) which shows that 54% of UT academic service performance is in Quadrant B, which means that most of the academic services provided are in line with student expectations. 6.3% performance of UT academic services is in quadrant A, which means this service is considered very important for students, but its performance is still low. 29.2% of the performance services of UT academics assessed by students as being in Quadrant C, which means that the service is not too important for students and has low performance. 10.4% of service performance is considered not necessary by students and has reasonably high performance (quadrant D).

The performance analysis index shows that 46% of the performance of the services provided is not in line with student expectations, so the service must be improved. Meanwhile, services that considered not important should be reviewed. UT should focus on improving the performance of academic services that are important by students.

Measurement with BSC shows that KPI determined by UT was not reached 100% so that further analysis needs to be done using Six Sigma. The Six Sigma program consists of Define, Measure, Analyze, Improve, and Control (DMAIC) stages. DMAIC application can overcome various problems in the production process such as reducing defective products, reducing production costs due to waste, improving product quality and so on. Meanwhile in academic services, it is hoped that the DMAIC application can be used to analyze service lags, enhance the quality of service, reduce service costs, and improve academic service quality. So the combination of BSC with six sigma can provide a breakthrough in UT academic service performance (Alastair, 2003).

Six Sigma Analysis

Six sigma compiles the UT academic service mapping process and compares the level of importance with performance. Each academic service group is assessed through the DMAIC stages. Next, an analysis of six academic service groups with fishbone was conducted.

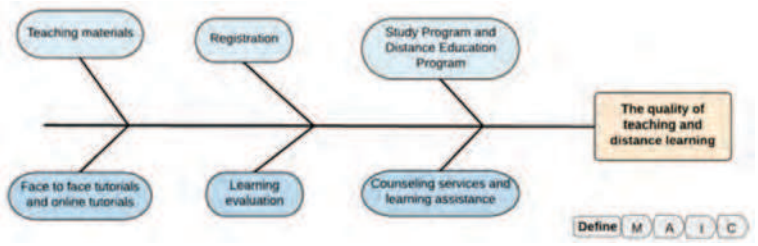

Figure 2. Fishbone Fishbone

The analysis shows that the results of UT's academic services are "the quality of distance education". Whereas the six academic service groups are factors that will influence these results. Fishbone analysis is used to help identify, sort, and display various causes of UT academic services that are not in line with the performance expected by students and cannot reach the overall KPI.

Fishbone analysis continued with Pareto chart analysis. The purpose of the Pareto chart is to clarify the most important factors of several influencing factors. In quality control, this often represents the source of defects that are most frequently encountered, the types of defects that occur most often, or the reasons that most commonly occur.

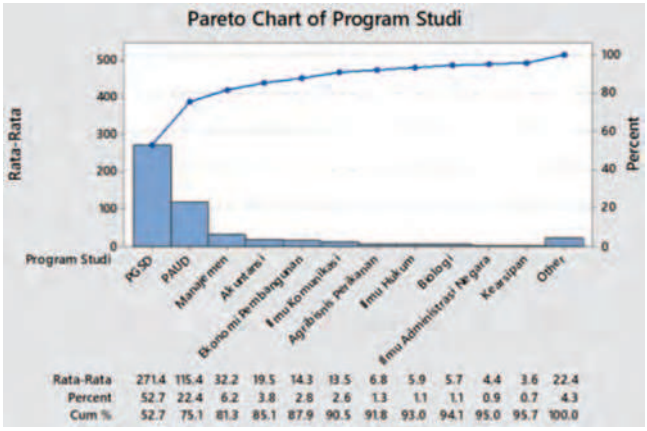

Figure 3. **Pareto Performance Analysis**

When there are complaints from consumers, based on the results of the Pareto chart in the study program, it appears that nearly 80% of academic service problems occur in students of Basic Education (PGSD and PAUD). This is because 55.62% of UT students are students of basic education study programs https://www.ut.ac.id/ut-in-angka. So, if UT wants to improve academic service performance and achieve the KPI that has been set to 80%, focus on improving academic services for students in basic education (Figure 4). Improvement of services for Basic Education students will have a very significant impact on improving services for Ut students as a whole.

Meanwhile, an increase in the performance of academic services that are considered important by students is also almost 60% also experienced by PGSD students and PAUD students and management study program students (Figure 5).

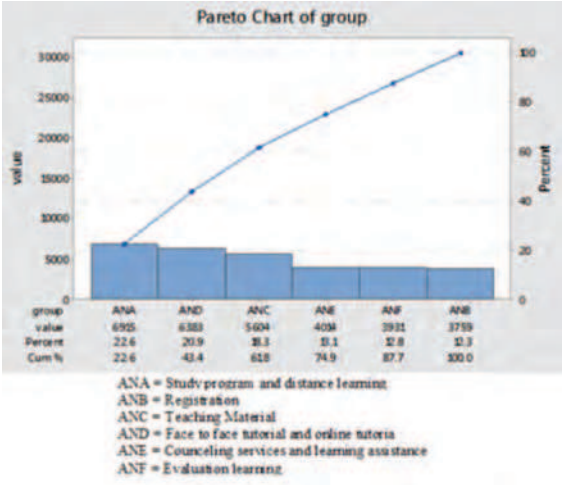

Figure 4. **Pareto Interest Analysis**

To improve UT services on services that are considered important by students, an increase in service quality focused on 3 study programs (PGSD, PGPAUD and Management). Thus, UT's academic services will increase to 80%.

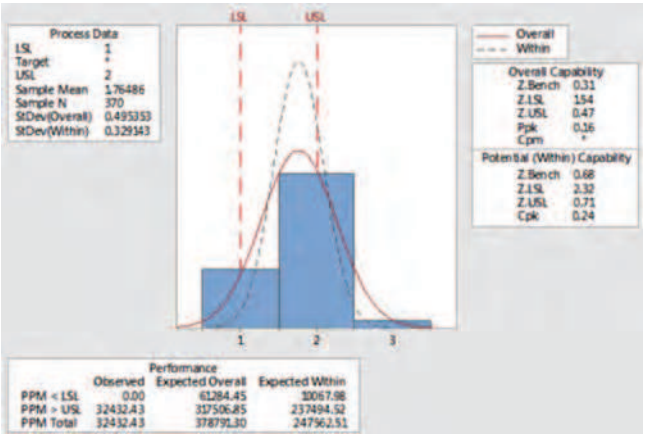

Figure 5. Pareto Analysis for Item of Academic Services

Figure 6 shows that 74.9% of UT's academic service problems are dominated by problems in (a) study program and distance learning; (b) face to face and online tutorials; (c) teaching material; and (d) counselling services and learning assistance. The results of the analysis with the Pareto chart in the learning service group showed a significant problem that occurred in the study group and distance learning service groups. Although in the BSC analysis the level of student satisfaction reached 91.05%, only 45% of the types of services were considered to have good performance by students. 18% of service types are considered not so important by students and have low performance. While 27% of the types of services, despite having high performance but are not considered important by students. 9% of the types of services in this group are considered important and require increased performance.

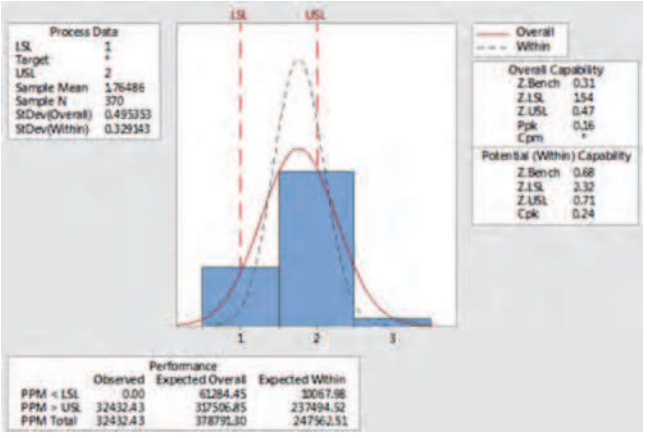

Figure 6. Process Capability Report for rata-rata

The subsequent analysis of the Six Sigma method is the analysis of process capability. Process capability is the ability of a process to produce a product/service in accordance with the needs/requirements of consumers or the specifications expected. Capability analysis is also used to find out a process running capable and produce products/ services according to its specifications. The expected quality target is to increase process capability by reaching 3.4 DPMO in the production process. Figure 6 shows that the value of z.bench is 0.68, which means that the z.bench is still below 1. The value is below sigma capability 2.5σ or 1.7 sigma.

Z.bench	Sigma Capability	PPM Defective	Level Sigma	Percentage without Defects	DPMO
1	2.5σ	158,655	± 1-sigma	30,9 %	691.462
2	3.5σ	22,750	± 2-sigma	69,2%	308.538
3	4.5σ	1,350	± 3-sigma	93,3%	66.807
4	5.5σ	32	± 4-sigma	99,4%	6.210
4.5	6.0σ	3.4	± 5-sigma	99,98%	233
			± 6-sigma	99,9997%	3,4

Table 2. Six Sigma Value Approach

By looking at the comparison in Table 2, it can be seen that the performance of UT academic services is still not satisfactory. With a sigma level below 1, there are 70% of UT academic services that still need to be improved, because these services are not in accordance with the specified KPIs.

Figure 6 also shows Cpk <1, so the process is said to be not capable and there needs to be an improvement in the process. The high level of errors in the delivery of academic services causes low student satisfaction.

DISCUSSION AND CONCLUSION

The results of the analysis of UT academic services with BSC and Six Sigma show that the performance of UT academic services still needs improvement. CSI analysis shows the level of student satisfaction is very high (90.16%), but the IPA analysis reveals 46% of the services provided are not in line with student expectations. This fact means that there are still many UT services that although they have high performance, they not considered important services for students.

Analysis with Six Sigma state that UT's academic service level is at sigma capability level 2.5 σ or sigma level below 1 (one). This analysis means that 70% of UT's academic services must be improved in accordance with the specified KPI. Academic services that need attention especially in (a) study program and distance learning; (b) face to face and online tutorials; (c) teaching material; and (d) counselling services and learning assistance. The Pareto analysis shows that service improvements must first be given primarily to the academic services of FKIP Basic Education students.

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Revealing the Role of Competences on Organizational Performance: an Empirical Study in an Open and Distance Learning Institution

Meirani HARSASI[1] , MINROHAYATI[2]

Abstract

This paper aimed to analyze the influence of competences on organizational performance. The study was conducted at an open and distance learning university in Indonesia. It was conducted based on a quantitative research to confirm the influence of tutor competences on performance. Therefore, independent variables are competences (pedagogic competence, personality competence, social competence, and professional competence) and dependent variable is organizational performance. The research utilized a survey and the data were collected randomly through a questionnaire. 327 respondents were participated in this survey and the hypotheses were then analyzed using multiple linear regression technique. Four hypotheses were formed and examined and all of them were statistically validated by the analysis. The results showed that all competences have positive impact on organizational performance. The implications of the results are discussed in the next section of this paper in the discussion and conclusion section.

Keywords: *competences, tutor, performance, open and distance learning institution.*

INTRODUCTION

Universities now are facing a highly competition in terms of the number of students, staff, as well as research funding (Hemsley-Brown, 2012; Hillman et al., 2014). Responding to this situation, universities require competent human resources to manage their activities that will lead to high-performance universities. Dessler (2007) stated that the success of human resources in improving performance is strongly influenced by competence, motivation, and discipline. Previous studies found that competence is the most influential factor for employee performance (Ismail and Abidin, 2010; Moore et al., 2002).

A university has special activities by providing teaching, research and services. In our university, as we implement open and distance learning (ODL), we have tutors to support our learning online. The limited number of internal tutors we have, requires us to recruit tutors from outside the university. In 2019, there were 2,833 tutors outside the university. This issue becomes important for us according to the effort to manage these tutors in order to maintain the quality of our online learning. Palloff and Pratt (2001) assert that online teaching necessitates moving beyond traditional pedagogy to adopt new, more-facilitative practices. Therefore, this study aims to analyze the effect

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of competency on organizational performance in an ODL setting. Competences in this study based on all competences of a teacher based on Constitution of Republic Indonesia number 14 of 2005, those are pedagogic competence, personality competence, social competence, and professional competence.

Related Literature

Several experts have defined the meaning of competence. Among of them are Winterton (2009) who defines competence as the ability to explain knowledge, in the form of understanding and skills to meet the standard requirements set by the employer. Whereas Blašková et al. (2014) stated that competence is a summary of key professionals and personal skills/talents and behavior patterns of an individual. Thus, competence create the basis of various work behavior skills that is important for successful performance.

In a higher education context, teacher competence including pedagogic competence, personality competence, social competence, and professional competence. Pedagogic competence is the ability to manage student learning which includes understanding of students, designing and implementing learning, evaluating learning outcomes, and developing students to actualize their various potentials. Personality competence is the ability of a strong, stable, mature, wise and authoritative personality, become role models for students, and have noble character. Social competence is the ability to communicate and interact effectively and efficiently with students, colleagues, parents of students, and the wider community. Professional competence is the mastery of learning material widely and deeply, which includes mastery of curriculum at school and scientific substance that cope the material, as well as mastery of the structure and scientific methodology.

Hypotheses Development

Čižiūnienė et al. (2016) stated that employees' competency is the main driver for organizational performance. Fathurrohman (2017) showed that pedagogic competence, professional competence, social competence, and personality competence influence performance. Another finding by Arifin (2015) also showed similar results, that competence influences performance which is mediated by job satisfaction.

The foundation of the theory that shows the influence of competence on performance is the basis for the development of research model. This research focuses on tutor's competences and their influence on organizational performance. For this reason, the variable of competences including pedagogic competence, professional competence, social competence, and personality competence. While organizational performance refers to the performance measurement in university context developed by Amin (2014).

Based on previous research and related literature, we proposed the research hypotheses as follows:

H1 : Pedagogic competence has positive impact on organizational performance.
H2 : Personality competence has positive impact on organizational performance.
H3 : Social competence has positive impact on organizational performance.
H4 : Professional competence has positive impact on organizational performance.

METHOD

This research is designed as a quantitative research using statistical procedures to draw conclusions or hypotheses test (Lind et al., 2015). The hypotheses then are translated into variables and measured by scale, carried out reliability tests, validity tests, and hypotheses analysis using multiple linear regression to draw conclusions. This research was conducted at an ODL university in Indonesia with the main focus of research is its online tutors, especially the tutors form outside our university. Therefore, the population in this study were all online tutors and we chose convenience sampling technique due to the wide area of prospective respondents scattered throughout Indonesia. The selection of respondents emphasized the ability of researchers to reach respondents and the willingness of tutors to become respondents. We generated our primary data by distributing the questionnaire and has collected 327 responses.

Variables in this study were developed based on previous studies, with indicators of each variable are measured using 5 points Likert scale with the range from 1 (strongly disagree) until 5 (strongly agree). Independet variables in this study are tutors competences taken from Constitution of Republic Indonesia number 14 of 2005. Whereas dependent variable is organizational performance developed by Amin (2014).

FINDINGS

We used *Confirmatory Factor Analysis* (CFA) to test the validity of our instruments. The initial factor analysis reveals that the value of Kaiser-Mayer-Olkin Measure of Sampling Adequacy (KMO MSA) is 0.908 and significant at 0.000 significance level. Thus, the result suggests that it is viable to run the factor analysis as minimum value is 0.5 (Ghozali, 2006). The initial factor analysis shows that there are four invalid indicators and we removed them. After removing those invalid indicator, the second factor analysis showed that all indicators are valid with KMO MSA is 0.911. Reliability test were carried out for each variable using Cronbach's Alpha. The result of reliability test shows that Cronbach's Alpha based on standardized items on all variables are greater than 0.60. This result imply that all variables used in this study are reliable or the internal consistency of the items in the questionnaire is acceptable.

We employed multiple regression analysis to test the influence of independent variables on dependent variable as proposed in the hypotheses. The result indicated that the adjusted R2 is 0.604, which means that 60.4% variation in performance variables can be explained by variations from the four independent variables. The F value indicates whether all the independent variables included in the model altogether have influence on the dependent variable. On the results of multiple linear regression tests, the F value is 76.973 with significance F value of 0.000. Because probabilities are smaller than 0.05, the regression model can be used to predict the influence of pedagogic competence, personality competence, social competence, and professional competence together on organizational performance. The results of the t test showed that all independent variables have a significance value below 0.05 or accepted all hypotheses as shown in Table 1.

Independent Variables	Dependent Variable	t	Sig t
Pedagogic Competence	Performance	3.596	.000
Personality Competence		3.278	.001
Social Competence		1.902	.059
Professional Competence		2.070	.040

Table 1. The Result of Multiple Regression Analysis

DISCUSSION AND CONCLUSION

This finding supported several previous studies, among of them are Rahman (2012), Hamidi and Indrastuti (2012), and Hakim (2015). This study seeks to measure organizational performance more broadly in terms of academics area. This finding verified that human resource competences will affect the performance of the organization, including in ODL institution. This also supports the research result of Wasilezuk (2002) and Baum (2011) which showed that competence has a positive effect on company performance, especially in terms of company growth. That is, the competence of human resources also contributes to the overall performance of the organization.

In a university context, Lucky and Yusoff (2013) have found that competence is one important factor in determining performance that will lead to university performance. Amin et al. (2015) found that good human resource management would support university performance. Thus, human resource competency will determine the success of a higher education institution. This study has a number of significant contributions to the literature and practice of the organizational performance. The model has confirmed that competency plays important role in creating organizational performance. Therefore, to achieve organizational performance, it is very important to manage human resource. Implementation of appropriate HRM practices for university employees will promote university performance. It is accordance with the finding of Lew (2009) that employees in university play a strategic role in improving ratings in key areas like research quality, academic reputation of faculty, academic program quality, research contribution to society, preparation of tomorrow's leaders and quality of graduates, including in ODL setting. Therefore, improving human resource competency is a shared responsibility within the organization, not only increasing professional and pedagogic competence, but also personality and social competence.

The theory of human resource and organization shows that employee competency is the main principles that drives company performance (Čižiūnienė, et al., 2016). Therefore, strengthening the competence of tutors in ODL setting is very much needed. Related to the results of this study, the four competences are found to be relevant to organizational performance. Having this finding, we propose some managerial implications that can be suggested. Strengthening tutor competence is not only in the area of academic (professional and pedagogic) competence, but also in personal and social competence. Therefore, tutors competences need to be strengthened through various soft skill development programs. During this time, tutors were only trained in order to have the ability to teach through online media that is focused on the hard skills of using online learning features in Moodle. Having the fact that all competences

are important, it is relevant for us to develop programs to strengthening soft skill. The soft skill development program can help organizations achieve performance through employee attitudes and behaviors that will complement hard skills, which can support the achievement of organizational goals as well. We suggest this research can be useful for future research to analyze more deeply about tutor competencies in terms of students' perspectives. Thus, it can be understood well the competences that can really useful for the success of students in online learning.

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Digital Transformation, MOOCS, Micro-Credentials and MOOC-Based Degrees: Implications for Higher Education

Ela AKGÜN ÖZBEK[1]

Abstract

Digital transformation has become one of the major issues not only in business but also in education. As a result of impending changes in the business procedures, the skills of the workforce has to be renewed. Higher education institutions are criticized for being slow to respond to digital transformation and furnishing their graduates with the skills that are expected by the business world. As such, new opportunities to upskill the workforce has been introduced by MOOCs. MOOCs that were offered as stand-alone courses are now presented in the form of micro-credentials and degrees. The purpose of this study is to find out the subject domains that dominate micro-credentials and degree programs offered by top MOOC providers and to discuss the implications of new business model of MOOCs for higher education in digital transformation.

Keywords: *Digital transformation, MOOCs, microcredentials, MOOC-based degrees, higher education*

INTRODUCTION

With the advances in digital technologies, one of the buzzwords that has pervaded the business world has become "digital transformation" especially after the announcement of "Industry 4.0" as the national strategic initiative of Germany in Hannover Messe 2011 (Klitou et al., 2017). The upcoming pervasion of advanced technologies like big data and data-analytics, Industrial Internet of Things (IIoT), artificial intelligence, robotics and autonomous robots, additive manufacturing has called for an urgent response from many sectors and institutions alike. It is expected that the impending transformation will not just affect the industries, but it will also disrupt the way societies function, political and public institutions operate and people behave.

The purpose of this study is to find out the subject domains that dominate micro-credentials and degree programs offered by top Massive Open Online Course (MOOC) providers and to discuss the implications of new business model of MOOCs for higher education (HE) in digital transformation.

Digital Transformation and Higher Education

Digital transformation is defined by King (2013) as "a visible wholesale restructure to avoid a tipping point caused by digital technologies and downstream market effects", by Fitzgerald et al. (2014) as "the process of using digital technologies to create new — or modify existing — business processes, culture, and customer experiences to

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meet changing business and market requirements" , by Önday (2017) as "the process of using technology to serve the public and private sector's goals, but not to move away from the focus of facilitating human life and to create a culture of digitalization perception that will be adopted by all segments of society", by Boulton (2019) as "a foundational change in how an organization delivers value to its customers" and by Akgün Özbek (2019) as "the transformation that people, processes, businesses and products go through because of and by means of digital technologies". The common point of all these definitions lies in the fact that they do not simply focus on the digital technologies nor they just highlight products and processes. The change in the lives of humans is the center of all transformation.

In their report on the societal impact of digitalization, World Economic Forum (WEF, 2019) projected that between two million and two billion people will lose their jobs; new businesses will emerge especially in automation, logistics and electric industries; new business models will be invented for a sustainable economy and environment. According to the same report, the ability to upskill will be a matter of survival in many industries. As it is highlighted in the report, the automation of many processes and the emergence of new jobs that did not previously exist will eventually lead to a shift in the skills and competencies of the workforce. Considering the rapid development rate of digital technologies and the transforming business world, the training of the workforce is now considered a top priority in many sectors.

As one of the major institutions contributing to the development of individuals, societies, countries and initially humanity, higher education institutions (HEIs) are also expected to participate in, adapt to and lead this transformation. Yet, HEIs are criticized for being slow to adapt to the changing realm and sometimes even for being resistant to change (Christensen and Eyring, 2011; Brownell and Tanner, 2012; Chandler, 2013; Matrosova Khalil, 2013; Schejbal, 2013; Sinclair and Faltin Osbo, 2014; McNeal, 2016; Starnes, 2016; Matthews, 2017). Among these criticisms, the inadequacy or irrelevance of curricula to furnish the future workforce with the skills and competencies required in the new job market which leads to a skills-gap, the traditional forms of teaching, non-flexible education formats are the ones that are closely linked to digital transformation.

From a Darwinian perspective, ability to adapt to changing social structures is a matter of "survival of the fittest". As Toffler (1981) highlighted in his famous work *The Third Wave* "The illiterate of the 21st century will not be those who cannot read and write, but those who cannot learn, unlearn, and relearn". Considering that learning to learn, unlearn and relearn is a vital skill in the digital age, those who create or find the means to survive in this spiral of learning will survive and the others will be irrelevant if they do not perish. For HEIs, creating future-proof curricula, programs and alternative continuous professional development opportunities, adopting learner and learning-centered educational practices, can be listed as the steps to be taken in this process of "natural selection".

MOOCs, Micro-Credentials and MOOC-Based Degrees

As a response to meet the educational demands of the newly formed, increasingly digitalized and rapidly changing society, new business models have emerged. MOOCs are one of these models that has been under inspection as a potential to disrupt HE. MOOCs which started with the promotion of quality education from top professors of prestigious universities, soon made their way into the business world by offering courses, micro-credentials and degrees that address the needs of workforce in the digital transformation. This evolving nature of MOOCs have been considered as a threat to the existing functioning of HEIs. The result of Zawacki-Richter, Bozkurt, Alturki and Aldraiweesh's (2018) content analysis of 362 MOOC reseach papers reveal that the potential and challenges of MOOCs for higher education institutions is one of the most visited topics.

When edX was founded partnering with MIT and Harvard University in 2012, the year 2012 was branded as "the year of the MOOCs", which soon led to a disappointment as the MOOCs could not keep up the promise of being the disruptive innovation for higher education. Nevertheless, the hype has not actually subsided. According to Class Central MOOC statistics, by the end of 2018, the number of universities contributing to the provision of MOOCs has exceeded 900 with an approximate number of 11,400 courses and over 101 million enrolled students (Shah, 2018).

Although there is an increasing trend of declining enrollments in individual courses, the paid enrollments in MOOCs are increasing (Lederman, 2018). This might be considered as an outcome of the qualitative change in the nature of MOOCs. Along with individual courses, many MOOC providers have begun to offer micro-credentials, nano degrees, digital badges and MOOC-based degrees. Badges, micro-credentials can be used for continuing professional development, upskilling, reskilling, (Lewis and Lodge, 2016) and they enable bite-size learning and industry-university cooperation according the demands of the sector (Mischewski, 2017). These micro-credentials and degrees provide individuals with an opportunity to adapt to the changing demands of the industry as MOOCs are compatible with work life, up-to date and comparatively low-cost.

The recent partnerships between MOOC providers, for profit and non-profit organizations and companies demonstrate how MOOCs are fulfilling their promise of being the disruptive innovation. Table 1 demonstrates some examples from MOOC partnerships:

MOOC Provider	*Company*
UDACITY	Google AT&T Mercedes Benz IBM Nvidia Lyft aws
COURSERA	Google IBM Intel Software The Linux Foundation The World Bank Group
edX	Amazon Web Services IBM Microsoft The World Bank Group
FutureLearn	European Institute of Innovation and Technology Cancer Research UK EIT Food NHS Employers Partnership for Advanced Computing in Europe (Prace) UK Parliament UNESCO
Xuetang	Microsoft

Table 1. Examples from MOOC Partnerships

This sample list of MOOC partnerships (Table 1) is an example of how MOOC providers penetrate in the continuous professional development especially of companies and organizations. Companies like Mercedes, Google, IBM train their own workforce with the MOOCs they assist while also contributing to the upskilling of many other employees and creating new career opportunities.

Literature Review

Acree (2016) reported on the 15 self-directed, job-embedded, scaffolded, competency and research based micro credentials developed by Friday Institute for teacher professional development. The results of their pilot study revealed that the teachers were motivated to learn more, wanted to apply what they have learned and encouraged reflective practice. Their study also revealed that personalization in micro-credentialing did matter and the instructional design and the online platform that are employed have an impact on completion rates.

Egloffstein and Ifenthaler (2017) surveyed employee perspectives on MOOCs for workplace learning. The results of their study with 119 employees from different enterprises yielded that the emploess expected to receive credentials on the MOOCs they attend. However, it was found that they did not really value the credentials they receive first because their employers did not value the credentials and second they did not believe the credentials reflect their real work-related competencies. As for the topics they preferred in MOOCs, on-the-job learning and work-related topics were of priority.

Resei, Friedl and Zur (2018) analyzed MOOCs and micro-credentials on entrepreneurship across five MOOC platforms. The results of their analysis revealed that there is a large number of course types in varying lengths addressing both university students and the public. The in-depth analysis of the courses revealed that most of the courses under investigation were related to start-up skills, entrepreneurial skills. Firm-level entrepreneurship courses were found to be limited.

Resei et al. (2019) interviewed eleven experts from HEIs, MOOC platforms and companies across Germany, Netherlands, Italy, UK, USA and Mexico. The results of their study revealed that learners demand more flexible, personalized, on-demand, omni-channel, collaborative, modular and stackable education. As for education and training, it was mentioned by participants that there is an increasing need for reskilling and upskilling; the half-life of knowledge is now a fact; universities are not the only places that provide education; there is a skills-gap between what the industry expects and what universities provide in their programs; millennials demand work-place training; specific target groups are addressed at trainings; university degrees are losing their importance while they are still demanded as a minimum prerequisite by traditional companies, and online testing is becoming more preferable both in trainings and in recruiting. Another finding of the study was that universities and human resources companies still have limited understanding of micro-credentials. The experts participating in the study declared that the micro-credentials should be used both as a standalone artefact and also as a part of a degree program. Another view presented during the interviews was that micro-credentials should be given to offline and blended courses as well as MOOCs. Finally, lack of understanding of micro-credentials, low standardization, low recognition and quality issues, limited stackability and transferability, mistrust in online education and testing, difficulty of teaching soft skills, accessibility and monetary issues, slow response rate and limited resources of universities are listed among the challenges for adopting micro-credentials. Despite these challenges, participants reported that micro-credentials are advantageous for learners, universities and companies. Nevertheless, they pointed out that this new business model is not going to disrupt the main business model of universities which will remain traditional, but will function as an add-on to adapt to the transforming business World.

METHOD

To analyze the subject domains that dominate microcredentials and MOOC-based degrees that are supplied by MOOC providers, content analysis is employed since content analysis enables both qualitative and quantitative inquiry (Elo and Kyngäs, 2008).

Sample

As there is a vast list of MOOC providers MOOCs with the highest number of enrollments were selected. For this purpose the statistics provided by Class Central (Shah, 2018) is used. Coursera, edX , XuetangX, Udacity, FutureLearn are listed as the five top platforms in terms of enrollment numbers. Although XuetangX partnered with Microsoft in offering a micro-degree in Business Application Talent Development (XuetangX, 2018), because no other information is available in English on their web-site, it is excluded from the analysis.

Data Analysis

First, the websites of the four MOOC platforms were screened to identify the micro-credentials and degrees on the same day in September, 2019. Next, micro-credentials that are provided by MOOC platforms were grouped. Under each micro-credential, the program names are first listed and later coded into relevant categories as there is a vast list of programs and there is no consistent cataloging of courses or programs across different MOOC platforms. Later, the frequencies of each program under the category of micro-credentials is noted, and the frequency and percentage of subject areas are calculated. The same procedure is applied for degree-based MOOCs.

FINDINGS AND DISCUSSION

Before the analysis of the subject areas covered in micro-credentialing programs of MOOC providers, the types of micro-credentials they provide were analyzed. Table 2 provides a list of micro-credentials given by MOOC providers:

MOOC Platform	*Microcredential*	*Description*
Coursera	Professional Certificates	Career credentials that can be taken in less than a year
	Master Track Certificates	Online modules taken from Master's programs with a potential to be turned into master's degrees
edX	Micro Masters	Graduate-level, career credentials
	Professional Certificate Programs	Industry or university-led certificate programs focusing on career skills
	xSeries	Clusters of courses for specialization on a specific subject
Future Learn	Programs with academic accreditation	Clusters of courses for specialization on a specific subject with a potential to be turned into credentials from universities
	Programs with professional accreditation	Career credentials that that can lead to professional credentials from indusrty
	Programs	Clusters of courses for specialization on a specific subject
Udacity	Nanodegrees	Programs developed with the cooperation of companies that aim to develop tech skills

Table 2. Microcredentials Given by Top MOOC Providers

The analysis of four MOOC platforms revealed that although there is no consistent approach in providing micro-credentials, they cluster around three categories:

1. Career credentials
2. Graduate-level credentials
3. Subject specialization

31 subject areas were identified in micro-credentials across four MOOC platforms. Later, the number of programs under each category is counted. A total of 279 micro-credential programs were identified. Table 3 demonstrates micro-credentials categorized according to subject areas across four MOOC platforms:

	COURSERA		edX			Future Learn			UDACITY	TOTAL	
	Professional Certificates	Master Track Certificates	Micro Masters	Professional Certificate Programs	xSeries	Programs with academic accreditation	Programs with professional accreditation	Programs	Nanodegrees		
	f	f	f	f	f	f	f	f	f	f	%
Academic Development					1	1				2	0,71
Artificial Intelligence/ Machine Learning/ Internet of Things	1	1	2	2						6	2,15
Automotive Technologies			1	1					4	6	2,15
Autonomous Systems and Robotics			1	1				2	1	5	1,79
Business			9	12		2		3		26	9,31
Computer Science	2		4	13	1				1	21	7,52
Communication			1		1					2	0,71
Customer Service and Marketing	1		2	4						7	2,50
Data Science	3	2	10	20	1	1		2	19	58	20,78
Energy and Environment			3	4	1	1				9	3,22
Engineering	1	1		2						4	1,43
Estate Development				1						1	0,35
Farming				1	1					2	0,71
Fashion				1						1	0,35
Finance			2	10		1	1	1		15	5,37
Health			2	6	1	3		2		14	5,01
Humanities			2		9	2		1		14	5,01

Table 3. Microcredentials Categorized According to Subject Areas

	COURSERA		edX			Future Learn			UDACITY	TOTAL	
	Professional Certificates	Master Track Certificates	Micro Masters	Professional Certificate Programs	xSeries	Programs with academic accreditation	Programs with professional accreditation	Programs	Nanodegrees		
Leadership and Management			9	8			4			21	7,52
Language				4				3		7	2,50
Music and Arts					1					1	0,35
Neuroscience					1					1	0,35
Project Management	1		1	4						6	2,15
Public Administration				1	1					2	0,71
Science					6	1				7	2,50
Social Work			1							1	0,35
Soft Skills			1	3	1					5	1,79
Sports				1						1	0,35
Teaching/ Education	1	1	3	2				2		9	3,22
Tourism			1	1						2	0,71
Web Development and Programming	2			8					12	22	7,88
Work Safety				1						1	0,35
TOTAL	12	5	55	111	26	12	5	16	37	279	100
	17		192			33			37		

Table 3. (Continued) Microcredentials Categorized According to Subject Areas

Table 3 demonstrates that most of the micro-credentialing programs are offered by edX (n=192, %68,81). Coursera with a number of 17 micro-credentialing programs offer the least number of programs.

The content analysis of the subject areas in Coursera, edX, Future Learn and Udacity micro-credentials reveal that 20,78% of the micro-credentialing programs across four MOOC platforms are on data science (n=58). Micro-credentials on business constitute 9,31% (n=26) of all programs. Following that, computer science micro-credentials make up of 7,52% (n=21); web development and programming 7,88% (n=22), leadership and management 7,52% (n=21) of all programs. Micro-credentials

on Finance (n=15) cover 5,37%, health (n=14) 5,01% and humanities (n=14) 5,01% of the micro-credential programs. Each of the remaining micro-credentialing programs constitute less than 5% of all programs.

Next, the subject areas that dominate MOOC-based degrees were investigated. 20 subject areas were identified. As Later, the number of programs under each category is counted. A total of 65 MOOC-based degrees were identified.[2] Table 4 demonstrates degrees categorized according to subject areas across four MOOC platforms:

	COURSERA		edX	FUTURE LEARN					TOTAL	
	Bachelor's Degree	Master's Degree	Master's Degree	Bachelors	Graduate Certificate	Post-graduate certificate	Graduate Degree	Master's Degree		
	f	f	f	f	f	f	f	f	f	%
Artificial Intelligence/ Machine Learning/ Internet of Things								1	1	1,53
Business		5	1	1	1	1		2	11	16,92
Cybersecurity			1		1			3	5	7,69
Computer Science	1	3	1						5	7,69
Construction management								1	1	1,53
Customer Service and Marketing			1					1	2	3,07
Data Science		4	2						6	9,23
Disaster Management and Emergency Management								2	2	3,07
Engineering		1	1						2	3,07
Finance			1			1			2	3,07
Health		2			2	1	1	2	8	12,30
human resource management						1			1	1,53
Humanities				1					1	1,53
Information Technology					1				1	1,53
Logistics								1	1	1,53

Table 4. MOOC-Based Degree Programs According to Subject Areas

2 Udacity offers only one computer science masters degree in cooperation with Georgia Tech Georgia Tech and AT&T. Therefore, it is not included in the table.

	COURSERA		edX	FUTURE LEARN					TOTAL	
	Bachelor's Degree	Master's Degree	Master's Degree	Bachelors	Graduate Certificate	Post-graduate certificate	Graduate Degree	Master's Degree		
Leadership and Management			3		2			2	7	10,76
Project Management					1		1	1	3	4,61
Sustainable Development and Humanitarian Action					1			1	2	3,07
Teaching/Education					1		1	1	3	4,61
Tourism								1	1	1,53
TOTAL	1	15	11	2	10	4	3	19	65	100
	16		11	38					65	100
	f	f	f	f	f	f	f	f	f	%

Table 4. (continued) MOOC-Based Degree Programs According to Subject Areas

The content analysis of the subject areas in Coursera, edX, Future Learn and Udacity MOOC-based degrees reveal that 16,92% of the degrees across four MOOC platforms are on business (n=11). Degrees on health constitute 12,30% (n=8) of all programs. Following that, leadership and management degrees make up of 10,76% (n=7); and data science 9,23% (n=6) of all programs. Degrees on cybersecurity (n=5) cover 7,69%, and computer sciences (n=5) 7,69% of the all degrees. Each of the remaining degrees constitute less than 5% of all programs.

These results indicate that MOOCs and MOOC providers concentrate on the basic topics that are under the frame of digital transformation. As digital transformation is data driven and can be managed with data analysis and computer sciences, it is not surprising that the MOOC providers play for the market while also creating a sustainable business model for themselves. Moreover, as digital technologies reshape the business world and call for new business models, it is again quite expected that the subject areas related to business, finance, leadership and management are among popular subject areas. Egloffstein and Ifenthaler (2017) also found that MOOC participants preferred work-related MOOCs, which is an indicator that not only the employers but also the employees turn to MOOCs for continuous professional development. Resei et al. (2019) also demonstrated that learners demand more flexible, personalized, on-demand, omni-channel, collaborative, modular and stackable education. The flexible schedule of MOOC micro-credentials and degrees which is compatible with intense work-life seems to be the right fit to satisfy the demands of the workforce and employees alike.

Although this penetration of MOOCs into business world may not directly disrupt HE, micro-credentials, nano degrees and digital badges are now considered as the disruptive changes in higher education (Lemoine and Richardson, 2015). Considering this remittent development of MOOCs and the way they have evolved into a new and popular form of continuous professional development should be considered an alarm bell for HEIs in rethinking their curricula and provision of educational services.

CONCLUSION

The dynamics of the industry that are shaped by digital transformation has made upskilling the workforce a top priority. As a result of the shifting paradigms of technologically enhanced business settings, the ability of HEIs in educating the future workforce is questioned. Ontologically, HEIs cannot be simply regarded as places where individuals just get the qualifications specific to an area of specialization or an occupation. They are the places where people build their knowledge, skills and identity. Lewis and Lodge (2016) define higher education as a "way of knowing, being and doing…not just developing inert or loosely related knowledge or skills". Therefore, treating universities as just occupational training organizations is not only demeaning their value, but is also a limited and flawed viewpoint. Nevertheless, this does not exempt HEIs from meeting the demands of society and industry. The analysis of subject domains that dominate micro-credentials and degrees across four MOOC platforms, namely courser, edX, Future Learn and Udacity, demonstrate that MOOCs are directly working towards digital transformation.

Considering the increasing trend in MOOCs to provide training for the existing workforce and degree programs that address the emerging needs of industry, the future of HEIs will be shaped by their adaptability to change and respond to the demands of the market since employability of their graduates is one of the factors that determine their prestige. In the process of digital transformation, as new sets of skills and competencies are expected of both the workforce and citizens, HEIs will have to adapt their curricula and reshape their business models and either choose to offer personalized, modular and specialized continuing education opportunities or they will lose their relevance. As such, the trends in MOOC micro-credentials and MOOC-based degrees can be tracked for the updating of curricula across disciplines in HE.

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Quiz Logs Analyse on Moodle E-Learning Platform

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Abstract

In the learning environment it starts to use mobile technologies to bring the education closer to the students. Teachers are producing a lot of materials and content for these applications, content that will be stored on mobile memory or it is better to use cloud technologies, and the mobile applications only to access the data from the cloud. The content stats to be very largely and easily we can speak about Big Data. Also, the activity of the students on applications is logged. These logs are saved for every action undertaken by the students and saved in the database. Using these logs in a smart way we can analyse them and predict the student's evolution. Also based on the analysis of these logs the teacher can improve the teaching mode adapting to the student's necessity. In this paper we analyse the logs of the student's activity in a quiz on the MOODLE platform to see the behaviour of the students in the moments of evaluation

Keywords: *e-learning, MOODLE, students, logs, evaluation, analyse.*

INTRODUCTION

The wave of new technologies that started at the late XX century, especially after the Internet presence, had a major impact on the society. Information and Communication technologies (ICT) induced major changes in most life aspects, in the way people work, communicate, develop or seek entertainment. Education is a domain which has been transformed by ICT over past years, with a wide palette of software programs and services that has emerged in supporting teaching, learning and collaborative work. Educators, children and parents have understood the potential of digital content and agree that the quality of learning can be improved by the proper use of ICT applications.

E-learning is both cause and result of major changes in the core definitions of educational concepts, as well as changes in the understanding of how educational processes must be planned and managed. The Internet and associated applications have eased the ways of distributing learning materials from educators to learners, from learners to educators and between learners. New technologies have improved the efficiency, the knowledge and skills, and the scholar performance overall. Most universities are now encouraging students into using online tools such as audio/video lectures, online textbooks, interactive simulations and assessments, online courses etc.

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There are some trends that support the idea of renouncing completely to the physical classroom, but in most cases, this is not possible nor desirable. The e-learning technologies are still developed towards assisting these situations, resulting in cases such as a flipped classroom where students learn theory in their own time and the classroom is used for applying the theoretical areas by working on projects with the teachers and other colleagues (Bishop & Verleger, 2013).

Different systems dedicated to e-learning have been developed, implemented and used in recent years. Today, besides being a support for face-to-face teaching, e-learning systems are used in teaching of fully online courses and, even more extensive, fully online study programs (Downing & Dyment, 2013). The educational systems all over the world, especially higher education, use e-learning systems such as Moodle, Edmodo, Canvas, Schoology, Blackboard Learn, and others.

LEARNING MANAGEMENT SYSTEMS

Currently, there are numerous applications in the educational field that help to improve the academic performance of students, applications that use digital rankings or badges to help engage, motivate and maintain student attention. Over time, there has been a positive relationship between student performance (using these educational IT systems) and obtaining higher grades. Most test applications (whether mobile, web, or desktop) are for higher education and have been designed to address a key aspect of the learning process, such as collaboration or motivation. At this time, student demand for personalized education is increasing due to competitiveness because the tests generate feedback, allowing students to see how they behave compared to their peers, stimulating the need for self-realization. New technologies and educational design methodologies continuously redefine the role of professionals, but little is known about which components contribute to the success (Philipsen et. al,2019), therefore these areas must still be tested and improved with empirical validations, potentially leading to changing the paradigm in which students and teachers perform, by getting more in-depth analysis regarding the students' behavior.

Student motivation is one of the key factors in e-learning, but a difficult issue to address. In a classroom, the teacher can address this issue directly, but in e-learning platforms the motivation must be addressed in new manners. Even if the learning environments are offering a wide range of features and improve the interactions with the users, these benefits are not properly exploited without the student engagement. The motives for which students may appear disengaged for might vary: One may act bored because he finds the work too easy; another may be capable of doing the work but lacks confidence and feels too anxious about resulting in a failure to concentrate; and another may not have the required skills but is wary of using the learning environment help because she has learned not to expect useful assistance from peers, parents or even teachers (Beal et. Al. 2006).

According to (Qu et al., 2005), there are three main aspects regarding the learner motivation – confidence, confusion and effort. These may be detected, to some extent, by the input logs related to the learner's actions – time required to complete a task, time in which he read the task's description, the number of related tasks completed etc.

The e-learning systems are keeping log files with users' activity, once they are authenticated in the system. These systems accumulate large data in relation to visits and times, resources viewed, assessments, completed quizzes, activities in chat rooms and on-line forums, data which is very valuable in analyzing students' behavior, predicting performance and assisting courseware authors in detecting possible errors, shortcomings and improvements (Romero et. al. 2008). The information about the learner's actions and activities that is stored in the log files can be used to obtain insights from the learner behavior in order to discover new knowledge from the usage data and to potentially improve the student performances.

For our analysis we have used the Moodle Platform. Moodle is an open-source learning management system, designed to provide teachers and learners a single robust, secure and integrated system to create personalized learning environments and is guided by social constructionist pedagogy. Moodle allows a high level of extensibility at all levels (Ramesh et. al., 2019). Its implementation is based on the LAMP stack, with the front-end and back-end in PHP, the database system is MySQL, and it resides on Apache web server. The platform is available in over 100 languages (Umek et. al., 2015). Moodle is successfully adopted by people and organizations around especially due to its integrated set of tools that have been originally designed from a social constructive perspective.

ANALYZE THE DATA FROM THE QUIZ LOGS

A major benefit of online tests is the fact that the feedback can be provided automatic and timely, therefore students can receive immediate feedback on their learning and also with opportunities to improve their understanding. Research on outcomes regarding quizzes' feedback prove that instant feedback opens new means of communication between educators and learners (Rinaldi et. Al., 2017)

Within the MOODLE platform, a quiz with 22 unique answer questions was created with a time of 15 minutes to answer these questions. 15 people supported this quiz.

The number of logs generated during this 15-minute test equals 947. The manual analysis of these logs takes a long time and is time consuming and resource consuming.

However, this analysis provides useful information about how the student takes the tests. For the anonymity of the students the set was used for their names [Student1:Student15].

Within the logs are saved events from the crowd: events = {"Quiz attempt started", "Quiz attempt submitted", "Quiz attempt summary viewed", "Quiz attempt viewed"}

The table 1 shows the events of "Quiz attempt started" with the starting moment of each student. The "Quiz attempt submitted" event provides us with the time to complete the test for each student.

It is noted that all students have started the test within one minute (09:40 – 09:41).

The students had to submit the test within 5 minutes (9:51 - 9:56). From here you can get the actual time spent by each student in the test with 22 unique answer questions. The actual times spent by each student in the test are presented in the following table.

User name	Event name	Start moment	End moment	Time spent in quiz (minutes)
STUDENT1	Quiz attempt started	09:41	9:56	15
STUDENT2	Quiz attempt started	09:41	9:56	15
STUDENT3	Quiz attempt started	09:41	9:52	11
STUDENT4	Quiz attempt started	09:40	9:53	13
STUDENT5	Quiz attempt started	09:40	9:55	15
STUDENT6	Quiz attempt started	09:40	9:52	12
STUDENT7	Quiz attempt started	09:40	9:55	15
STUDENT8	Quiz attempt started	09:40	9:53	13
STUDENT9	Quiz attempt started	09:40	9:55	15
STUDENT10	Quiz attempt started	09:40	9:52	12
STUDENT11	Quiz attempt started	09:40	9:53	13
STUDENT12	Quiz attempt started	09:40	9:53	13
STUDENT13	Quiz attempt started	09:40	9:53	13
STUDENT14	Quiz attempt started	09:40	9:51	11
STUDENT15	Quiz attempt started	09:40	9:55	15

Table 1. The Actual Time Spent in the Quiz

During this time each student had the opportunity to return to some questions that he was not sure of.

The event "Quiz attempt viewed" shows the page loading with a question. The following table shows the number of uploads for each student.

The number of tests shows the confidence of the students in the answers they give to the primate questions.

The degree of confidence (CD- Confidence Degree) is calculated using the formula:

$$CD = \frac{noQ}{noL} * 100 \quad (1)$$

where:

noQ – represents the number of questions;

noL – represents the number of page loadings.

With this formula, the degree of confidence for all students is calculated, Table 2.

Username	Number of page loads	CD – Confidence Degree
STUDENT1	40	55.00
STUDENT2	33	66.67
STUDENT3	65	33.85
STUDENT4	67	32.84
STUDENT5	57	38.60
STUDENT6	45	48.89
STUDENT7	45	48.89
STUDENT8	48	45.83
STUDENT9	53	41.51
STUDENT10	51	43.14
STUDENT11	45	48.89
STUDENT12	39	56.41
STUDENT13	44	50.00
STUDENT14	64	34.38
STUDENT15	60	36.67

Table 2. Confidence Degree for Students

After obtaining the degree of confidence for each student, this grade of confidence is analyzed with the mark obtained in this test and with the time spent in the test. This comparison can be traced in table 3. So that the time can be compared with the obtained note and with the degree of confidence, the values obtained for time in minutes are normalized using the von Neumann Morgenstern 3 normalization method by the formula:

$$TimeN_i = \frac{Time_i}{MaxTime} \quad (2)$$

where:

$TimeN_i$ – the normalized value for the time spent in the quiz by student i;

$Time_i$ – the time spent by the i student in the quiz;

$MaxTime$ – the maximum time for this quiz = 15 minutes.

The value obtained for $TimeN_i$ is in the range [0, 1]. For bringing in the interval [0, 100] is multiplied by 100. Thus, the formula for determining the time is:

$$TimeN_i = \frac{Time_i}{MaxTime} * 100 \quad (3)$$

The normalized values for the time spent in the test are passed to the last column of Table 3.

Username	Confidence degree	The obtained grade	Time spent in test (minutes)	Time with normalized values
STUDENT1	55.00	70	15	100.00
STUDENT2	66.67	72.5	15	100.00
STUDENT3	33.85	72.5	11	73.33
STUDENT4	32.84	85	13	86.67
STUDENT5	38.60	85	15	100.00
STUDENT6	48.89	95	12	80.00
STUDENT7	48.89	95	15	100.00
STUDENT8	45.83	75	13	86.67
STUDENT9	41.51	92.5	15	100.00
STUDENT10	43.14	97.5	12	80.00
STUDENT11	48.89	85	13	86.67
STUDENT12	56.41	87.5	13	86.67
STUDENT13	50.00	95	13	86.67
STUDENT14	34.38	82.5	11	73.33
STUDENT15	36.67	90	15	100.00

Table 3. Comparison The degree of confidence - the obtained grade

Student2 had the highest approximation between the obtained grade and the degree of confidence shown during the test. But he spent a lot of time in the test. This indicates that the student has read each question very carefully. This can also be seen in Figure 1.

Another important situation is for Student10. This student obtained the highest score: 97.5, even if he has a low confidence degree. That shows that the students not very confident in his knowledges and probably he learns in the last moment for that test. This situation can be observed if it is created a comprehensive analysis on all logs from the Moodle platform to see the activity of this student.

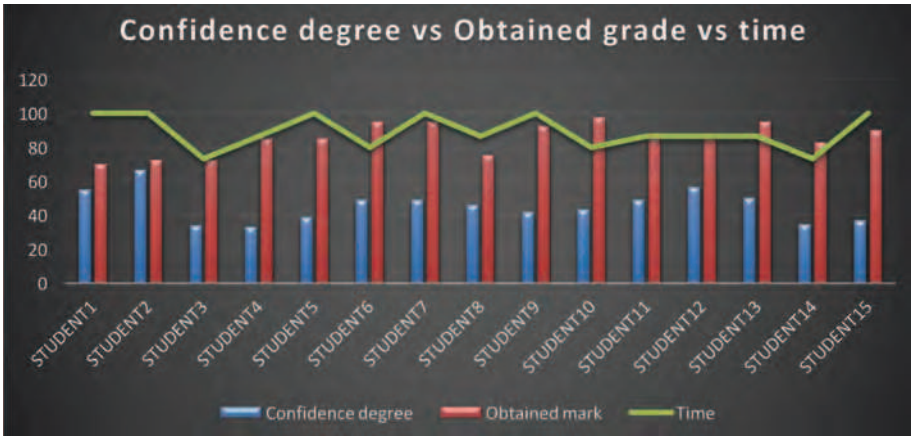

Figure 1. Confidence degree vs Obtained grade

By extrapolating the analysis of the existing logs, an analysis can be done at the level of the whole semester in which the students interacted with the platform.

CONCLUSIONS AND FUTURE WORKS

The results can be applied in personalized learning, as it is now accepted that the old "one-size-fits-all" scholar approach is not adequate for the current knowledge society. Students must develop their own learning needs and increase their expertise and skills in areas where they are under-performing. Identifying these areas is the first step required for taking the appropriate measures in individual learning to expand and strengthen the potential of every student. Based on the learner's profile, the teacher can decide which actions to consider – recommending materials, activities and tasks, suggest a different learning method and provide hints to increase the degree of confidence and the grades.

From the teacher's perspective, by analysing student's behaviour and performance, he must obtain an objective feedback regarding the instruction, find the student's learning patterns, determine most probable mistakes and, most important, determine which student requires specific support.

In our future work we want to create a comprehensive analysis on all logs from the platform to determine the clusters of the students on how they learn and the ideal moment to learn for the students. It is ideal to create a plugin for Moodle and in this way everyone that use Moodle platform can use these analyses for themselves.

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Industry 4.0 Challenges in Open and Distance Education

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Abstract

With Industry 4.0, not only industrial institutions, but also triggering technologies and in that labor force, all organizations are affected by both the structure and application as well as the tools and materials. Education is one of these organizations as well and cannot be considered independent from the environment. In order to meet the need for individual education, states attach great importance to education and in this context to distance education. Distance education carried out through printed materials or computer technologies, without having to come to campus or classrooms, regardless of geographical location, space and time the learning environment it offers and the technological tools it uses, the digital content is constantly changing, renewing and transforming depending on the industrialization and technological changes in the world. In this context, determining the effects of industry 4.0 on open and distance education system and investigating how it will guide open and distance education is of great importance in creating future visions of current institutions. Moreover, it is almost inevitable that distance education institutions which provide educational services to millions of learners are not affected by industry 4.0. To discover what is reflected in the future in industry 4.0 and distance education and the studies carried out in this direction are scarce indicates the importance of this study.

Keywords: *Industry 4.0, Open and Distance Education, System Approach, Industrialization.*

INTRODUCTION

The demand for education is increasing day by day with the desire of self-development of the educated people, the increasing population, the great global crisis and the diversification and proliferation of knowledge. Industrialization that increasing and growing in the 21st century which we live in, leads to rapid changes and transformations in almost every field, including education. With this effect, increasing individual needs, personalization of learning, differentiating the used technologies and being used more frequently in daily life have accelerated the studies towards objectification of education. Objectivated education has gone beyond traditional educational environments, it has been delivered to learners by means of both printed materials and industrialization, and with information and communication technologies which in our daily lives. In time, industrialization and distance education have been influenced by each other and distance education has gained importance. (Peters, 2010).

Today in which the source of information goes beyond the scope of schools and teachers, both children and adults with the increasing use of technology in social life find the opportunity to reach information whenever and wherever they want. Distance

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education can be an important opportunity to transform society in a better way, the presentation of information sense through digital media (Xing ve Marwala, 2017). In this context, how the distance education will be organized and implemented in the next few years with the effects of the industry 4.0 will confront us as a situation related to the management culture of the institutions providing distance education services. In this context, determining the effects of industry 4.0 on the open and distance education system within the framework of industrialization theory constitutes the problem of the study.

When the literature is examined, it is seen that industry 4.0 is a new concept in education and the studies on the effects of this on open and distance education are limited. In this context, with the theory of industrialization that forms the basis of distance education and determining the effects of industry 4.0 which nowadays has a snowballing effect as a system on open and distance education is of great importance.

It can be said that the thesis study in accordance with the above statements is very important for the managers and researchers working in the field of open and distance education to gain awareness about these developments (Oz, 2019). The main purpose of this study is to explore the effects of industry 4.0 on the open and distance learning area. For this purpose, within the framework of the elements discussed in Otto Peters' theory of industrialization, the study was tried to be determined based on the opinions of experts in the field of industry-related effects of open and distance learning.

CONCLUSION

Within the scope of the study, the results based on data obtained from the interviews with 10 different experts are as follows.

Conclusions of the Expert Views on Industry 4.0's Impact on Resources in Open and Distance Education System

Industry 4.0 and triggering technologies influence the specialization of resources in the distance education system, which cannot be considered independent from technology, rationalizing the process, preparatory work and capital intensive techniques. Since the distance education system cannot be considered without experts, industry 4.0 expects experts to change the traditional outlook and have an innovative vision. Experts should be equipped with multidisciplinary information such as educational, managerial and technological. Also in the industry 4.0, increased mechanization and less labor and human needs may result in the use of intelligent robots or agents, especially in support services, instead of experts. In this context, specialization will increase in the technological field and the areas of expertise will be different. In general, education and, in particular, universities require new skills and higher education human resources to meet changes in the labor market trends (Tung and Long, 2018, p. 852). Feshina, Konovalova and Sinyavsky (2018, p. 116) stated that the most popular specialization is in information and communication technologies. In the new era, scientific knowledge and technology will have great importance (Peters, 2005, p. 43).

In the distance education system, personalization studies should be at the forefront in rationalization, analysis and planning of the process. Industry 4.0 's distance education system will be more personalized in the production process, so it has to be produced accordingly. In the rationalization of the process, data taken from learners, learning analytics will facilitate rationalization in distance education. In this context, it has great importance to complete the infrastructure works at the stage of preparatory work.

In terms of cost reduction in distance education, capital intensive techniques are an advantage in making the industry 4.0 products cheaper for countries that produce technology. In the context of cost reduction and capital-intensive techniques, printed materials used in Anadolu University Open Education System were transferred to digital media.

Conclusions of the Expert Views on Industry 4.0's Impact on Instructional Design in Open and Distance Education System

In the design of distance education, the effects of industry 4.0 in terms of personalization are observed. When personalizing in production, the needs of learners should be taken into account in forming. Thus, while the needs of both learners and distance education institutions are met, cost-effective training is provided (Moore and Kearsley, 1996, p. 9). Another important point to be considered in formalization is culture. The learning environment of the learners, the changing social and individual characteristics and cultural values should be taken into consideration. It can be said that the technologies used in formalization will change with Industry 4.0. In this context, virtual reality, simulation, virtual environments, learning analytics and artificial intelligence technologies should be used in formalization. From these technologies artificial intelligence and the instructional design -with the mechanization of the content will be produced on its own according to the learners- are also the results obtained. Instead of designing instructions for specific goals with a minimalist perspective to the experience of learners, designers will design to achieve the same learning objective as the existing technological options for rich experience (Moller, Robinson, & Huett, 2012, p. 17). Developed in this direction, Anadolu University's application "Anadolum e-Campus" has a systematic design with a modular structure that offers open and distance education services in a complete package. This application includes learning management system, tracking of learner analytics, live lessons and mobile application components. (Anadolum eKampus, 2018).

Information and communication technologies are generally used in the distance education system as mechanization in instructional design. Increasing mechanization and the automation of the work of the experts will result in the transfer of most of the work and processes to the machines. Particularly, 3D printers, simulations, augmented reality, artificial intelligence and the expansion of technologies such as IoT will also facilitate objectification in distance education. In this context, fields such as medicine, environment and ecology can be given as distance education together with objectification.

Planning in instructional design should be made primarily in accordance with the audience by considering accessibility, availability, facilitation and costs. In this context, it has great importance for the experts to follow the technology knowledge,

environment information and current paradigms to be used. In order to develop experts in this respect, it should be ensured that they receive professional education about technology literacy and contemporary teaching design and pedagogy paradigms (Banerjee, 2018, p. 177). While it is possible to produce products in a standard manner in previous industrial periods, it can be said that standardization with industry 4.0 will not be in distance education. In this context, more studies should be carried out for individual education than mass production. Virtual networks, sensors, big data and analysis, there will be technologies that are suitable for personal designs rather than standardization.

With the increase of the technologies used in education, the spread of e-learning and the increase in the rate of using learners' mobile technologies have made access to information faster. Text or videos designed specifically for the person / institution used here, internet-based learning interface and evaluations are a process in which the knowledge thirst of the learners is tailor-made in the desired place and time (Barkan and Özdamar, 2007; Kumar, Banerjee, Gahan and Mohanta, 2016). It is one of the conclusions that in Industry 4.0 and open and distance education private designs should be done more.

Conclusions of the Expert Views on Industry 4.0's Effects on Delivery in Open and Distance Education System

In distance education delivery, industry 4.0 should be taken into account together with the wishes of learners. Academic staff should deliver the curricula according to the needs of the learners by keeping the autonomous control of the courses (Brooks and Kanuka, 2010, p. 73). Thus, access to the products to be delivere will also be easier. Delivering to learners, the distribution which is faster than before will also result in a reduction in costs such as logistics and storage. With developments in information and communication technologies and digitalization, the production of learning materials such as printed materials produced in distance education, may not be continue. According to Evans and Pauling (2010, p. 213), learners will register to the institutions of their choice by considering a number of criteria that will include not only the subject, the corporate status and the quality of the faculty but also levels of technology, such as ease of access, delivery speed.

Instead of mass production in the concept of fordism with Industry 4.0, the concept of mass production, which is specific to the individual in the concept of post-fordism, comes to the fore. In this context, the reflections of industry 4.0 on distance education in mass production, especially the development of digitalization and mobile technologies, facilitated access to the content and transportation. The concept of post- fordism production is characterized by flexible mass production forms with the principle of timely, aiming to respond quickly to changes in consumer demand (Brooks and Kanuka, 2010, p. 71).

Conclusions of the Expert Views on Industry 4.0's Impact on Interaction in the Open and Distance Education System

The importance of technology in interaction with industry 4.0 and developing technology structure in distance education is increasing. The development of

technology can result in the replacement of bots, especially consultants. This situation affects the interaction between the instructor and the learner, especially the virtual teachings, intelligent assistants such as technologies that will reduce the interaction with the actual teachings are the results achieved. Today, there is a need for specialists who see the potential of emerging technologies to develop and maintain interaction and collaboration with cost-effective communication technologies and their choice (Cleveland- Innes and Garrison, 2010, p. 18).

Increasing the interaction between the learner and the learner increases the interaction between the instructor and the learner. In this context, the increasing use of social media and the interaction of learners with social media increase the interaction with both the learner and the learner. Again, increasing the use of developing technologies and accelerating the interaction has changed the formal communication structure between the learner and the management team as an instant communication structure. It can be said that the interaction between the organization and the employees is accelerated and facilitated in terms of the organizational developments. In this respect, interactions must be supported with instant feedback.

Conclusions of the Expert Views on Industry 4.0's Effects on Learning Environments in the Open and Distance Education System

In distance education learner and instructor diverge from each other according to the time and space. Industry 4.0 and developing mobile technologies reduce the time and space separation in learning environments. The development of leraner, instructor and the technologies that bring the content together in different learning environments and also their use in design processes will be effective in the separation of time and space. It is necessary to select the appropriate learning environment for the delivery of the curriculums that are most effective in reducing the time separation (Moore, 1993, p. 26).

In Industry 4.0, it will be ensured that the developing and changing technologies will be organized in distance education, in addition to social studies, in science, health or technical fields. In this context, new technologies provide diversity in learning environments. In order to meet the learning needs and desires of distance learners, they demand that distance learning institutions use technology in a creative way, a new generation of distance education should use the newest technology everywhere (Moller, Robinson and Huett, 2012, p. 12).

Conclusions of the Expert Views on Industry 4.0's Impacts on Management in the Open and Distance Education System

Not only technological implications but structural effects of Industry 4.0 result in a change in functions in distance education. For example, it can be said that there are changes and transformations in the functions of open education offices such as student registration and book distribution with digitalization. In this context, it is the results that the offices can turn into. In order to realize the transformations, innovations should be made by predicting social and technological changes. The emergence of different fields of expertise with Industry 4.0, changes in functions can result in the emergence of new units such as digital media laboratory, student psychology unit, data analysis unit.

Increasing mechanization in production with Industry 4.0, social networks to be used in distance education, learning analytics, data control and security are very important for the division of labor and human resources. Developing technology can result in the need for less human resources in distance education.

With Industry 4.0 in distance education the importance of leadership skills is increasing. In this context, leaders need to be individuals who know the needs of the society and can follow what is done globally. It will be appropriate for individuals who think about the future of the country to be developed for changes and transformations, to follow the practices in other countries, to know the expectations of the society from education and to catch up with the age (Balyer and Öz, 2018). In addition, it is expected that the leaders can analyze the data as expected.

Otto Peters (2010, p. 19) states that a substantial amount of money must be invested in the preparation of a quality distance education material, development, testing and to establish a viable distance learning institution for assessment. And he also states that in order to be successful, many experts should work in close cooperation and concentration is needed.

According to the results obtained from the results, it is concluded that there will be no need to centralize with 4.0 and business and operations can be carried out with a virtual management center. Decisions must be taken from the center but the decision-making authority should be transferred to the sub-units. In decentralization sub-managers and non-management staff has the authority to make their own decisions and senior management permission are not required, in an uncertain environment in which the situation change so often decentralization is preferred by many institutions (Shamim, Zhang, Yu and Li, 2016). It can be said that Industry 4.0 coincide with decentralization.

It can be said that as a structure in distance education, Industry 4.0 causes changes and transformations. In this context, cooperation, control, feedback and data analytics come to the fore with other countries. In addition, mass online courses (KAÇD) come of as the portal systems where the fastest developments in distance education are experienced and offering courses that can reach the large masses. (Yamamoto, 2018). As of May 2018, Anadolu University has reached 58 lessons and 28,000 individual users with the implementation of AKADEMA, a MOOC project launched in 2014 (Aydın, 2018). It can be said that the increase in usage of MOOC portals will be a new period for open and distance education in terms of human resources management and the preference of learners. In addition, it can be said that virtual smart systems and support systems are being used in operation and education.

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The Effectiveness of Interpersonal Communication Between New Lecturer and Mentors

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Abstract

Prospective Lecturers of Civil Servants (CPNS) of Universitas Terbuka (Opened University) in 2019 are not the same role and function as lecturers in higher education in general. The academic and administrative atmosphere requires them to adapt and complete work quickly and correctly. In addition, they have different backgrounds so they encounter academic, administrative, and even personal problems that can cause problem to the work. Therefore, they are accompanied by a mentor who is a senior lecturer to guide, motivate, and advise them. So that the mentoring process runs well, effective and efficient,interpersonal communication patterns are needed between the mentor and the new lecturer. This study uses the theory of Social Penetration (Altman and Taylor) and effective interpersonal communication according to the humanistic approach which includes openness, empathy, positive attitude, supportive attitude, and equality. The methodology used is descriptive qualitative. Data collection technique used is in-depth interviews with key informants and informants. The results of this study can be used as evaluation materials for institutions in designing the initial program for admission of lecturers or staff in the following year.

INTRODUCTION

Indonesia owns and implements a different and complex education system, starting from (1) the distance education system which students learn independently and separately from the instructor and (2) the conventional education system (student and teacher interaction occurs directly and continuously). The existence of those education systems give birth to a difference between the distance education system and the conventional education system (Sewart, 1982).

Open University has different characteristics from other universities, both in terms of organizational culture, students, and teachers. The concept of open and distance education can also cause gaps that must be bridged, both communicatively and psychologically. This gap is very potential to cause problems in an organization that makes the distance education system be an unconventional education system and has unique characteristics (Moore, 1993).

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In 2019 Universitas Terbuka received as many as 74 CPNS Lecturers who were placed in the Center and in the Regions. The CPNS lecturers came from different backgrounds, some had or had never worked at UT and some had or had never worked as lecturers at other campuses. CPNS lecturers' understanding of their roles and functions in open and distance education is very common because they come from conventional tertiary institutions. Therefore, once entering UT and working professionally, problems are inevitable given the lack of experience and ability to work as a lecturer at open and long distance public universities.

To overcome the problems that arise in the process of adaptation of CPNS lecturers to the working atmosphere at the Universitas Terbuka, both at the Central and Regional levels, the UT leadership has provided a solution by providing lecturer mentors to each CPNS lecturer. The mentor lecturer is a senior lecturer who has worked at the Universitas Terbuka for a long time. The task of the mentor lecturer is to provide academic, administrative, and managerial advice, motivation, and advice to CPNS lecturers. The role of the mentor lecturer is expected to assist CPNS lecturers to be able to recognize their duties and functions in conducting academic, administrative, and managerial processes in open and long-distance tertiary institutions as well as addressing the problems faced, especially those related to CPNS lecturer academic activities.

Interpersonal communication is important for human life because interpersonal communication skills are an important part of human existence and every educated person needs to understand it. A person's personal and professional success is greatly influenced by effective interpersonal communication skills. This success is influenced by our ability to build relationships and conversations that are fun and understandable. Interpersonal communication skills are also recognized as crucial in one's professional success (Nurbani, 2019). Thus, interpersonal communication is an important factor in one's career success.

The importance of interpersonal communication has been investigated by Wina Puspita Sari and Asep Soegiarto (2014) in the journal Communicology Vol. 2 No. December 2, 2014. The research aims to look at the patterns of interpersonal communication between academic advisors and students in order to optimize the role and function of academic counsel. According to the study, interpersonal communication conducted by academic mentor lecturers intensively can help academic problems in students who encounter many obstacles and personal problems that can interfere the learning process of students and later will determine whether or not the results of potential development and optimal learning outcomes are achieved. The role of the academic mentor lecturer on the guidance of students is to provide guidance, motivation, and academic and non-academic advice.

In addition to the above research, interpersonal communication research was also conducted by Anggi Annisa Febrianti (2014) in the Communication Science e-journal Vol. 2 No. 4 with the subject of research between teachers and students in preventing juvenile delinquency. According to the results of the study, effective interpersonal communication can improve interpersonal relationships between teacher and student to help students stay in a positive corridor. Interpersonal communication between teacher and student can prevent student delinquency in Bontang 1 High School and has

been running effectively. This can be seen in broad outline that students feel they have a good relationship with the teacher despite experiencing human barriers that are seen from some students who is naturally shy so they are less opened to the teacher as seen from the other four elements of effective communication, namely empathy, support, positive attitude, and equality has been effective. The teacher is good in dealing with his students, always shows a friendly attitude, wants to help and respect each student's different opinions, gives confidence to students, and provides full support for positive student activities

From the two studies previously described, it can be seen that interpersonal communication is useful to bring closer relationships between one person and another who has a purpose in it, such as helping one's problems or preventing juvenile delinquency. For this reason, in addition to be conducted on students and academic supervisors as well as between teachers and students, this study wants to see how effective interpersonal communication occurs in the work environment that occurs between junior lecturers who enter into a non-conventional environment interact with senior lecturers in optimizing their functions and roles. as a lecturer in open and long distance colleges.

From the standpoint of communication science, so that the academic monitoring process runs as it should, an effective and efficient communication pattern is needed between the mentor lecturer and the CPNS lecturer. This is due to the fact that self-disclosure or junior self-disclosure process to seniors (mentors) is not easy especially if it is personal. There are many factors that can inhibit the occurrence of self disclosure. Therefore, an appropriate communication pattern is needed that enables self-disclosure between CPNS lecturers and mentor lecturers, namely a form or pattern of communication that contains an element of openness, empathy, supportive attitude, positive attitude and equality among the parties involved in communication, namely interpersonal communication patterns. According to Onong (in Sari and Soegiarto, 2014), compared to other communications, interpersonal communication is considered the most effective in activities to change attitudes, beliefs, opinions, and communicant behavior.

The formulation of the problem in this research is how is the pattern of interpersonal communication between mentor lecturers and CPNS lecturers of Universitas Terbuka in 2019 in order to optimize the roles and functions of lecturers in open and long distance colleges? This study aims to describe the pattern of interpersonal communication between mentors and CPNS lecturers of Universitas Terbuka in 2019 in order to optimize the roles and functions of lecturers in open and distance universities. Thus, this study provides a comprehensive picture of the role and function of lecturers in open and long-distance tertiary institutions in providing educational services to the public when they are in a new work environment.

LITERATURE REVIEW

The Role and Function of Lecturers at Universitas Terbuka

There are differences and similarities of the role and function between lecturers of Universitas Terbuka with conventional lecturers at other tertiary institutions. The

similarity between UT lecturers and lecturers in other tertiary institutions is to do the Tridharma Universities, while the difference is that lecturers at Universitas Terbuka conduct distance education support activities (Pendidikan Jarak Jauh), such as management of teaching materials and learning assistance services. In addition, there are also different roles and functions of lecturers for CPNS lecturers whose work units are in faculties (UT Central) and regions (UPT UPBJJ). Details of the activities carried out by CPNS lecturers are in accordance with the rule from Rector of Universitas Terbuka Number 649 in 2018.

Effectiveness of Interpersonal Communication

Interpersonal communication is a communication between the communicator and the communicant and is the most effective communication in changing a person's attitudes, opinions, or behavior, this communication is dialogic because there is sending messages from someone and received by others with direct effects and feedback (Nurbani, 2019).

The effectiveness of interpersonal communication is how far interpersonal communication is carried out in accordance with what is expected. Usually in the process of interpersonal communication, every individual wants to create certain impacts, certain impressions, or cause certain ideas and reactions from within others. This process sometimes happens to achieve everything, but sometimes it fails. That is, sometimes people react to others in ways that are very different from what is expected so that the activity in interpersonal communication is determined by the ability of individuals to clearly communicate what is conveyed, create the desired impression, or influence others as desired.

According to Devito (2013), the effectiveness of interpersonal communication according to the humanistic approach has five characteristics. The following explanation:

1. Openness
   The nature of openness refers to at least two aspects of interpersonal communication. The first aspect, namely we must be open to people who interact with us. By doing this, other people can find out our opinions, thoughts, and ideas so that communication will be easy to do. The second aspect refers to our willingness to respond honestly and frankly to others about everything that is said. Openness is shown by responding spontaneously and without excuse to communication and other feedback.
2. Empathy
   Empathy is one's ability to place oneself in the role and position of others. With empathy, a person tries to see and feel as others see and feel. The step in achieving empathy is to resist the temptation to evaluate, judge and criticize others. Accurate empathy involves sensitivity to the message as well as verbal facilities to communicate this. We can communicate empathy, both verbally and nonverbally.
3. Supportive Behavior
   Interpersonal communication will be more effective if there is supportive behavior within someone. That is, someone in the face of a problem is not being

defensive. Jack R. Gibb mentions three behaviors that cause supportive behavior: descriptive, spontaneity, and provisionalism. Descriptive, in communicating people who have this trait are more asking for information or a description of something. Usually in this situation, people do not feel insulted or challenged, but feel valued. Spontaneity, people who are spontaneous in communicating are people who are open and frank about what they think. Usually people like this will be responded to in the same way, openly, and frankly. Provisionalism, someone who has this nature is a person who has an open-minded attitude, there is a willingness to hear different views and is willing to accept the opinions of others if their opinions are wrong

4. Positive Attitude
   A positive attitude in interpersonal communication refers to two aspects: (1) interpersonal communication will develop if there is a positive outlook on yourself; (2) interpersonal communication has a positive outlook on others and various communication situations. We communicate a positive attitude in interpersonal communication in at least two ways, namely expressing a positive attitude and positively encouraging people to be friends to interact. Encouragement can be done verbally and nonverbally
5. Equality
   Interpersonal communication will be more effective if the atmosphere is equal. This means there must be recognition that both parties are equally valuable and precious and that each party has something important to contribute. Carl Rogers said that equality requires us to give unconditional positive rewards to others.

Theory of Social Penetration

Irwin Altman and Dalmas Taylor popularized the Theory of Social Penetration. This theory explains that interpersonal relationships develop gradually and can be predicted. This theory says that self-disclosure is the main way in which a courteus relationship moves towards an intimate relationship. According to West and Turner (2008: 197), here are some assumptions in the Theory of Social Penetration.

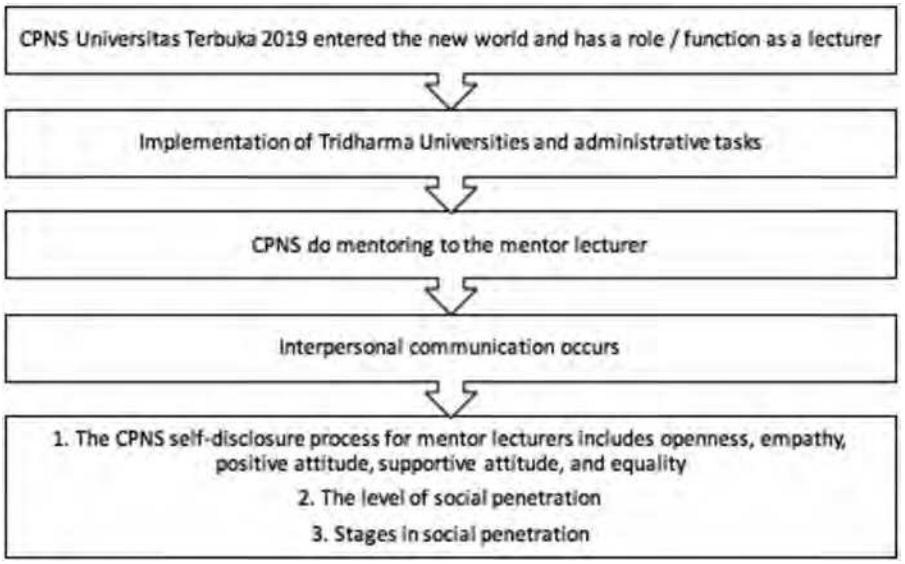
1. Relationships progress from not being intimate to intimate;
2. Relationship development occurs systematically and predictably;
3. Relationship development includes concentration and dissolution;
4. Self-disclosure is the essence of relationship development.

Self disclosure is the process of opening information about yourself to others who have goals. In general, the information contained in self-disclosure is significant information. Non-intimate relationships move towards intimate relationships because of self-disclosure (Altman and Taylor in Nurbani, 2018). Self-disclosure will help someone form a relationship between two people now and in the future and can provide intrinsic satisfaction to others. Self-disclosure can be strategic and non-strategic because in some relationships we tend to plan what will be done to others (West and Turner, 2008: 199).

Altman and Taylor use the analogy of onions to explain the self-opening process. In essence, humans have several layers of personality. If we peel the outer layer from an onion, we will get another layer. Such is the human personality. Person's information is analogous to onion skin. The outer layer helps describe who the person is, but based

on the person's habits, such as height and work. Underneath it will be found deeper information about a person who is usually only disclosed to his family, spouse, friends, and those closest to him. The deeper central parts of a person contain their values, self-concepts, emotional feelings, and unresolved conflicts. This layer is his personal territory and is not visible to others, even this very personal information is unknown to parents or partners.

Research Thinking Framework



RESEARCH METHODOLOGY

This research uses descriptive qualitative method by making informants' statements as the primary data source, namely mentors and lecturers of CPNS Universitas Terbuka in 2019. The technique of collecting data uses in-depth interviews. Data analysis techniques include data collection, reduction, display data and conclusion drawing

RESEARCH FINDINGS

In 2019 Universitas Terbuka accepted as many as 74 CPNS lecturers consisting of 24 working at UT Central and 50 working at UPBJJ (regional). Each work unit, both Central and Regional, has different and similar tasks and functions as lecturers. The similarity is that CPNS lecturers do the tridarma university. The work difference lies in tridarma support and distance education management. For those who work at UT Center are more related to matters that are academic and managerial, such as matters relating to modules, exam materials, to the curriculum. For those who are in UPBJJ, they are divided into operational and administrative work in terms of providing direct services to students or the public, such as registering, validating, conducting tests, implementing tutorials. Thus, to do these jobs, each UT lecturer in 2014 CPNS was given a mentor at UT Central. The following is analysis of the findings in the field.

Basically, the understanding of mentors and CPNS lecturers about their roles and functions is already correct. For example, a mentor already knows his role and duty to provide guidance for CPNS lecturers who are in his guiding responsibilities in order to help CPNS lecturers to teach them their duties as lecturers in open and long distance colleges, solving work problems, even to help develop the potential of lecturers themselves so that UT is even better at serving the community. In other words, the role and function of the mentor lecturer is not only related to academic matters.

The duties and roles of lecturers at UT are different from other institutions because UT is a tertiary education which carries out open and distance learning. The background of CPNS lecturers came from face-to-face tertiary institutions so that when they joined UT, they did not yet have a picture in carrying out their duties and functions. In addition, not all CPNS lecturers have a teaching background.

The behavior of CPNS lecturers to share information about themselves openly to other parties in this case the mentor is included in the behavior of self-disclosure process. Based on the findings of the research, it is known that there is difference in self disclosure of CPNS lecturer. CPNS lecturers who are in the Central UT may discuss work problems - both the problems of lecturer jobs of tertiary institutions and management of distance education - and personal problems, while CPNS lecturers working in UT Regional are limited to academic issues, especially the problem of implementing the tridarma university. If included in the dimensions measurement, that is the frequency and intensity or the time is relatively low for CPNS lecturers working in UT Regional because it is only done occasionally every week, whereas for CPNS lecturers at UT Central can occur every day. This is a difference because the mentor is at UT Central so CPNS lecturers who are in UT Regional experience distance constraints in conducting self disclosure. In addition, UT does not provide a schedule or duration of guidance between CPNS lecturers and mentors so that the self-disclosure process can be carried out at any time.

The process of self-disclosure of personal information, especially relating to private matters to others openly, is not easy, especially for CPNS lecturers who are in UT Regional who are constrained by distance issues. In accordance with the theory of Self Disclosure, there are several factors that affect self disclosure in this study, one of them is openness. There is no sense of trust in the mentor because CPNS lecturers feel they have only just joined in a new work environment so that they have not really known the mentor. Disclosure of introverted CPNS lecturers and certain topics is happening until up to date, while for CPNS UT Introverted Lecturers only occurs in the first month, then there are already a number of CPNS lecturers who are open to their mentors in terms of their personal lives. There is an uneasy feeling because they are reluctant to hold talks and are afraid of being discussed in the new workplace by CPNS lecturers if they do self disclosure on personal themes because self-disclosure behavior does have a certain degree of risk and these risks cause CPNS lecturers to no do the self disclosure.

This is consistent with the theory of self-disclosure that if the quality of information that someone has about himself is negative, usually someone does not want to do self-disclosure. The problems mentioned in the introduction are negative. However, they are reluctant to tell the mentor even about the positive information, such as

achievements that have been achieved or strengths owned. Although in fact by doing self-disclosure, they can clarify a problem that is confusing or disturbing so that they can be more calm or relieved because self-disclosure functions as a catharsis. Self disclosure can also improve relations with mentors because the mentor lecturer can recognize the person he is mentoring well

Self-disclosure cannot arise spontaneously or necessarily. Successful self disclosure is what happens gradually, there is an increase in self disclosure little by little and this happens to UT lecturers who are at the Center. Therefore, mentors need to foster a sense of trust and comfort in the lecturers they are mentoring so they will be open. This is indeed not easy. Openness here does not mean having to immediately open all life history, but rather reacting honestly to the stimulus that comes, not just being quiet, or not responding. As Joseph A. Devito said, there is nothing worse than ignorance and even discontent is far more pleasant.

Self disclosure is a dyadic effect because people tend to bring up the level of openness about themselves to others if other people also reveal something about themselves because someone will feel comfortable doing self disclosure if others also feel open. Self disclosure must be done by both parties. According to Budyatna and Ganiem, the rejection of self disclosure reciprocally reduces the appeal for people who do not want to do self disclosure. This means that not only CPNS lecturers are required to be open, but mentors must also play an active role in starting the disclosure process, especially regarding the atmosphere of working at UT. Self disclosure can only occur if both parties are equally active. Self disclosure is usually done on people we like, we trust, be supportive and positive.

So that self-disclosure can survive, do it with empathy. According to Devito, in this case it is an attempt to understand the motives and experiences of others, their feelings and attitudes, as well as their hopes and desires in the future. Both mentors and CPNS lecturers are required to have a high empathy attitude. Mutual understanding and comprehension between the two parties is needed so that the process of self-disclosure can occur. Mentors must encourage and guide CPNS lecturers on their duties and obligations. In addition, mentors must also pay attention to the work that has been done by CPNS through reports of orientation work that has been given and observe the psychological personality development of CPNS lecturers because of the large workload at UT.

The process of self-disclosure can occur effectively if each party understands the situation and conditions encountered. At the very least, we need to find an agreement, especially regarding the timing of the right mentoring for both parties. Empathy is also realized through verbal and nonverbal communication. The use of words that are criticizing, evaluating, or blaming can cause a defensive attitude that can stop the process of self-disclosure. Nonverbal communication can also strengthen the process of self-disclosure, for example, by providing facial expressions, eye contact, or supporting gestures. However, nonverbal communication cannot be carried out between mentors and CPNS lecturers in Regional UT.

As stated, people tend to do self disclosure to people who provide a positive and supportive attitude. A positive attitude or encouragement or motivation by a mentor

can be done not only by giving advice, but also through examples of cases that can inspire CPNS lecturers so that their careers at UT can contribute. Of course proper use of verbal and nonverbal communication is needed during the process. This positive attitude can make CPNS lecturers like and trust mentors so they feel comfortable. The purpose of their self-disclosure is to get information, insights, experiences in order to find solutions to the problems faced, not to be criticized or blamed for what happened to them. This is a translation of descriptive rather than evaluative attitudes which is one aspect of supportive behavior. In addition, a supportive attitude can also be shown by spontaneous attitude, which is straightforward and open in expressing his thoughts. This spontaneous attitude will produce the same reaction. This is the same as when we talk about the dyadic effect of self disclosure. In this study, CPNS lecturers spontaneously talked about academic issues, especially matters relating to conducting research and community service. They believe in a mentor who can provide input on the work of Tridarma (Lecturer Jobs). The same thing happens when CPNS lecturers hide their personal problems which cause the mentor to tend to wait on the grounds by the reason that the personal problem is the person's privacy.

The last supporting aspect of behavior is professionalism, which is open-minded, willing to hear stories and take time, and willing to change positions if circumstances require. In this study, the mentor has at least carried out an attitude of professionalism, that is when providing solutions or input on their problems, the mentor handed back to the CPNS lecturer whether he wanted to use the advice or not, so in this case the mentor did not force his will.

Self disclosure can also be effective if between those who communicate feel equally valuable and precious and have something important to contribute or equal. Equality can be realized by communication that is not pitched in seniority. In this study, seniority is still found in mentors, that is when mentors are difficult to be contacted by CPNS lecturers in clarifying the work done and tend to make the CPNS lecturers waiting and come to tell their problems rather than to find out himself. This behavior then causes the CPNS lecturer self-disclosure process to be limited.

The five aspects that influence the CPNS lecturer self-disclosure process in terms of mentoring, namely openness, empathy, positive attitude, supportive attitude, and equality are effective interpersonal communication patterns. Regarding interpersonal communication, the process of self-disclosure or mentoring that occurs between mentors and CPNS lecturers is better if done face-to-face and with no distance. Mentors for CPNS lecturers in Regional UT should be mentors who are in the same office so that with face-to-face communication, nonverbal communication that accompanies verbal communication will appear so that communication actors can find out the nuances of communication partners. The possibility of misunderstanding or message distortion can be reduced. Thus, interpersonal communication patterns that occur in the process of academic counseling in the object of research have not fully contained the components of openness, empathy, positive attitude, supportive attitude, and equality.

The communication model that occurs is interactional, which is a model that considers humans far more active. According to Deddy Mulyana, communication participants according to the interactional model are people who develop their human potential

through social interaction, precisely through taking the role of others. Interaction is the important variable that determines human behavior. Based on the above theory, it can be analyzed that the interpersonal communication behavior of CPNS lecturers and mentors is influenced by how their interactions and how the meaning or interpretation is given by each party when interacting.

There is a division of levels of social penetration based on existing layers on this research. The layers that occur in the process of interpersonal communication between mentor lecturers and CPNS lecturers are already in the depth layer (dept). The depth layer has passed through the other outer layers which include public image, reprocity, and breadth. The layers of depth that occur in CPNS lecturers have led to discussions on a topic down to self-concepts which include fear to one's psychological state. However, a layer of depth occurs in CPNS lecturers at Central UT. For CPNS lecturers in the UT Region, it is limited to the reciprocity layer to the mentor lecturer. However, in each work unit, CPNS lecturers in the UT Region are already at the depth layer aimed at their office colleagues.

Self-disclosure is the core of interpersonal relationships. A person's relationship develops from an introductory context to a close one and finally social penetration increases. This can be seen from the depth and breadth of the number of topics discussed or the level of information about personal matters discussed. This happened in interpersonal relations with CPNS mentors and lecturers at the Central UT. The stages in the social penetration that occur are (1) the orientation phase: CPNS lecturers and mentors open little by little about themselves, for example, regarding the origin of education, regional origin, status, and work experience; (2) the affective exchange exploratory stage occurs when CPNS lecturers begin to bring up their personalities to others who are colleagues in their respective units. Co-workers in his unit finally learned the identity of CPNS lecturers; (3) the effective exchange stage marked the emergence of a relationship between CPNS lecturers and more intimate mentors. At this stage, there happen to be concerned between one another. For example, if a CPNS mentor or lecturer does not come to work, one of them will feel anxious about the situation. In addition, at this stage critical and evaluative feelings also emerge because CPNS lecturers can begin to assess their tasks and functions based on the work given by them; (4) the stable exchange stage has also occurred because they have built a personal communication system in producing effective communication. CPNS lecturers finally learned the channel in conducting interpersonal communication, such as when to use WhatsApp or email and when is the right time to contact a mentor so as not to disturb him.

DISCUSSION

Basically the role of mentors in Regional UT and Central UT is very different due to differences in the duties and functions of lecturers. For CPNS lecturers in the Center, the role of a mentor is very helpful for the work because the mentor can be used as a discussion partner and guide a job. However, the role of a mentor for CPNS lecturers who are in the Regional UT is only as a person who assesses or validates the assignments given by UT during orientation. For example, CPNS lecturers confirm or approve the collection of research proposals or work on exam questions. For the actual work done in their respective units, CPNS lecturers in Regional UT are actually guided by the coordinator (either BBLBA or Rejian (Registration and Testing) or colleagues where they work. Thus, the role of the mentor to lecturers at UT Central is very helpful in the task and the function of new lecturers, while the role of mentors in new Regional UT lecturers only supports research activities and a number of teaching activities and does not play a large role in the support of distance learning even though the role and function of lecturers in the UT Region is greater in that section.

The interpersonal communication character in this research involves CPNS mentors and lecturers, there is feedback even though indirect, does not have to be face to face because of the distance between the mentor and CPNS lecturers, aims, produces several influences, influenced by context, and influenced by noise.

CONCLUSION

New lecturers at UT have different functions and roles based on the units they work for. The workload at UT is different from lecturers at other tertiary institutions. In addition, often personal matters interfere directly or indirectly with work processes that can hinder the achievement of work. Therefore, at UT there is a mentor whose job is to provide guidance to new lecturers. The presence of a mentor finally resulted in interpersonal communication that most effectively changed attitudes, which meant CPNS lecturers knew the roles and functions of open and distance higher education. Thus, the classification of interpersonal communication according to Adler in this study belongs to the situational definition because it involves a small number of people who have a close relationship with each other..

The effectiveness of interpersonal communication also takes place. Those who work in UT Regional must use media, such as email or WhatsApp, because of the distance, while those who work at UT KAP Center occur directly. Therefore, for the future, it is better for mentors of new lecturers working in UT Regional to be senior lecturers in their units to work so that the mentoring process can run well and the results of the work of new lecturers are maximized.

For the division of social penetration levels at CPNS lecturers at the Central UT with their mentors at the depth layer (dept), while the CPNS lecturers at the UT Regional are at the reciprocity layer. In addition, the four stages in the Social Penetration Theory have also taken place in the process of interpersonal communication between mentors and CPNS lecturers.

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Education 4.0: Defining The Teacher, The Student, and The School Manager Aspects of The Revolution

Beyza HİMMETOGLU[1], Damla AYDUG[2], Coskun BAYRAK[3]

Abstract

In this research, it is aimed to determine the school managers', teachers' and students' characteristics of Education 4.0 according to opinions of educational experts. The study, which is a qualitative one, was designed by using basic qualitative research model. Participants of the study consisted of 10 faculty members, selected with snowball sampling method. Data of the study was collected via semi-structured interview form. To analyze data, content analysis technique will be used. It is expected to operationalize Education 4.0 revolution in education system for the case of Turkish Education System.

Keywords: *Education 4.0, teacher, student, school manager*

INTRODUCTION

The industrial revolution has led to rapid and radical changes in many aspects of social life such as work, education, management and daily life (Blinder, 2006, p.116). Developments brought by Industrial Revolution have gone through four phases from the mid-18th century until the beginning of 21. Century (Bloem et al., 2014, p.11; World Economic Forum, 2017, p.7). The first Industrial Revolution is called "Machine Age", the second one is "Electricity Age", the third one is "Electronics Age" and the fourth one is "Internet Age" (Peters, 2017, p.34). The 2010s are the years of fourth phase of Industrial Revolution which witness the fastest changes and transformations ever. The fourth phase of Industrial Revolution points to an innovational period which covers cyber-physical systems (Bloem et al., 2014, p.11; Peters, 2017, p.36). The fourth industrial revolutions developing with cyber-physical systems were first suggested by a working group which consists of the representatives of Academy, industry, and politics in Germany in 2011 with the name of Industry 4.0 (Hermann, Pentek and Otto, 2016, p.3929). The most crucial development lead to Industry 4.0 is the usage of internet in industrial fields (Drath and Horch, 2014, p.57). Cyber-physical systems, which have contributed to development of Industry 4.0, point out the technologies which increase and enhance human capacity by being a part of daily life (Ballantyne, Wong and Morgan, 2017, p.2). One of the characteristics of Industry 4.0 is the highest change pace ever (World Economic Forum, 2017, p.7) and the other one is the difficulty of predicting the effects of these changes (Ballantyne, Wong and Morgan, 2017, p.2). Accordingly, it is possible the changes brought by Industry 4.0 will make change necessary for not only production sector but also many aspects of social life.

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Small-scale and large-scale changes that occurred during Industrial Revolution period have led to changes that effect almost every aspect of life. As new production features have changed workforce competencies economy demands, social life has obliged to evolve accordingly. Moravec (2013) approaches this situation as Society 1.0, Society 2.0, Society 3.0 correspondingly with Industry 1.0, Industry 2.0 and Industry 3.0. One of the sub-systems in society which was affected seriously from these transformations is education. Accordingly, with changes in the production process and the reflections of these changes on social life, content and concept and content of education have gained new meanings. Some authors have called these transformations education has passed or is expected to pass through as Education 1.0, 2.0, 3.0 and 4.0 (Harkins, 2008; Moravec, 2013). Education 1.0 is a kind of education that meets the needs of agricultural society. Knowledge was used to be transferred from teacher to student and students focuses on teacher's explanations. Education 2.0 is a kind of education system which meets the needs of industrial society. Learning process is focused on acquiring technologies that will be utilized in work life. Education 3.0 has evolved education to meet the needs of society by taking advantage of technology. Lastly, Education 4.0, developed at the beginnings of 21st century is expected to meet needs of innovation age. Students are expected to produce and adapt new Technologies which will contribute development of societies in this process (Puncreobutr, 2016, p.93-94). Education 1.0 is conceptualized as "download education", Education 2.0 as "open access education, Education 3.0 as "knowledge-producing education" and lastly Education 4.0 as "innovation producing education" (Harkins, 2008; Moravec, 2008).

Education 4.0 can be seen as new paradigm which reinterprets the concepts as learning, student, teacher and school according to needs of Industry 4.0. One of the examples of innovative teaching and learning practices as a part of Educations 4.0 is flipped classroom model. In flipped classrooms, students can investigate lesson-related digital sources such as videos, presentations materials, e-materials out of school and they can acquire the knowledge they need out of traditional classrooms. So, students can utilize classroom time for activities such as discussion, analysis and problem solving (Youngkin, 2014, p.368). Flipped classrooms can be accepted as a blended learning process since this model utilizes online learning materials while transforming traditional classrooms and enhances education process with these materials (Garrison and Kanuka, 2004, p.96; Göğebakan-Yıldız, Kıyıcı and Altıntaş, 2016, p.187). So, flipped classroom is a teaching-learning model which makes students responsible for their own learning, is practice-based, gives students individualized education opportunities and gives the opportunity of learning anywhere and anytime. Therefore, it can be said that flipped classroom model is coherent with qualifications of Education 4.0. Flipped classrooms which give the opportunity of blended learning can be evaluated as a mode developed example of Education 3.0 and distance education practices. During Education 3.0 process issues like how to integrate education and technology, how to include technology in present educational programs which are already very crowded and intense or how to overcome inconsistency between schooling and information Technologies were discussed (Ballantyne, Wong and Morgan, 2017, p.4; Collins and Halversont, 2010, p.19; Sendov, 1987, p.193). However, answer of question as which educational and managerial practices are needed for education 4.0 is so abstract and beyond satisfactory.

Education 4.0 can be seen as a new paradigm which reinterprets the concepts like learning, student, teacher and school according to needs of Industry 4.0. One of the examples of innovative teaching and learning practices as a part of Educations 4.0 is the flipped classroom model. In flipped classrooms, students can investigate lesson-related digital sources such as videos, presentations materials, e-materials out of school and they can acquire the knowledge they need out of traditional classrooms. So, students can utilize classroom time for activities such as discussion, analysis, and problem solving (Youngkin, 2014, p.368). Flipped classrooms can be accepted as a blended learning process since this model utilizes online learning materials while transforming traditional classrooms and enhances education process with these materials (Garrison and Kanuka, 2004, p.96; Göğebakan-Yıldız, Kıyıcı and Altıntaş, 2016, p.187). So, flipped classroom is a teaching-learning model which makes students responsible for their learning, is practice-based, gives students individualized education opportunities and gives the opportunity of learning anywhere and anytime. Therefore, it can be said that flipped classroom model is coherent with qualifications of Education 4.0. Flipped classrooms which give the opportunity of blended learning can be evaluated as a mode developed example of Education 3.0 and distance education practices. During Education 3.0 process issues like how to integrate education and technology, how to include technology in present educational programs which are already very crowded and intense or how to overcome inconsistency between schooling and information Technologies were discussed (Ballantyne, Wong and Morgan, 2017, p.4; Collins and Halversont, 2010, p.19; Sendov, 1987, p.193). However, answer of question as to which educational and managerial practices are needed for education 4.0 is so abstract and beyond satisfactory.

One of the topics emphasized within the scope of education that will raise individuals of Industry 4.0 is 21st-century skills. 21st-century skills are classified under various titles such as individual skills, interpersonal skills, life skills, applied skills, labor skills, non-cognitive skills (McComas, 2014, p.1), learning and innovation skills, knowledge, media and technology skills, life and career skills (P21, 2009). 21st-century skills, which emphasize innovation and learning skills as well as social, affective skills, have similar characteristics with educational content aiming innovation producing. However, studies and discussions about which educational and managerial processes and practices should be implemented to equip students with those skills are still going on. 21st-century skills, which are aimed to be gained through education, and the concept of innovation that has been discussed in the field of education since the mid-2000s, reflect the transformations expected from education by Industry 4.0. These transformations clarify the content of Education 4.0 and lead to redefining the educational concepts, processes, and practices. The formation of a theoretical structure about education 4.0 for putting it into practice can be evaluated as an important requirement for the transition of societies to Industry 4.0 and for their economic growth and social development. However, there are very few studies which discuss the theoretical structure of Education 4.0 both in Turkish (Yıldız-Aybek, 2017) and in foreign literature (Harkins, 2018; Peters, 2017; Puncreobutr, 2016; Wallner and Wagner, 2016). Also, these very studies take Education 4.0 at a very abstract and at only theoretical level. However, taking into consideration that the subjective, cultural and economic structure of the societies and the unique characteristics of their educational systems, it is thought that the content and characteristics of Education 4.0 are needed to be operationalized to direct the implementation. Thus, concrete

implementation proposals would be developed to facilitate the transition to Education 4.0 in accordance with the structure and functioning of the Turkish education system. In addition, determining characteristics of Education 4.0 would contribute to the related literature. In this context, it is aimed to determine the characteristics of school manager, teacher and student aspects of Education 4.0 according to the opinions of experts on educational sciences in this study.

METHOD

Qualitative research method was used in the study which examined the reflections of Education 4.0 concept in education. Basic qualitative research design, one of the qualitative research models, was used in the study. In this study, it was decided that the basic qualitative research design was the most appropriate design since it was examined how faculty members who are experts in the field of education make sense of the concept of Education 4.0.

Participants

The study group of the research consists of 10 faculty members working in Anadolu University Faculty of Education and Open Education Faculty in the 2019-2020 academic year. Participant faculty members were selected as participants by snowball sampling method to reach individuals who are knowledgeable about Education 4.0, a relatively new concept for education world. The study group consisted of 10 faculty members, 5 of whom work in the Educational Sciences Department of Faculty of Education and 5 of whom work in the Distance Education Department of the Faculty of Open Education.

Data Collection Tool

Data of the study was obtained through a semi-structured interview form. In this study, Education 4.0 at schools was examined in terms of the human capital aspect and so the interview form was structured. During the preparation of the data collection tool, literature was reviewed in detail on Education 4.0. After the literature review, the draft interview form consisted of 5 open-ended questions and probes. The draft form was rearranged with respect to the expert opinions received from two faculty members in the Department of Educational Administration. Semi-structured interview questions formulated with expert opinions are as follow:

1. How do you define Education 4.0?
2. How do you think the teacher of Education 4.0 should be?
3. How do you think the student of Education 4.0 should be?
4. How do you think the school manager of Education 4.0 should be?

Data Collection and Analysis

Before the interviews, voluntary faculty members were called to make an appointment. During interviews, questions were asked about the demographic characteristics of the participants and the characteristics of the study group were tried to be described. Researchers were asked open-ended questions in the data collection tool to participants. The interviews were last between 25- 35 minutes. In order to obtain detailed information about the questions, interviews were supported by probe questions. Data of the study is in the content analysis phase.

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Turkish Distance Learners' Awareness about OERs

İrem ERDEM AYDIN[1], Cengiz Hakan AYDIN[2]

Abstract

Open Education Resources (OERs) movement has been one of the most frequently cited concepts/implementations in higher education recently. OERs refer to teaching, learning and research materials in any medium -digital or otherwise – that reside in the public domain or have been released under an open license that permits no-cost access, use, adaptation and redistribution by others with no limited restrictions. This paper intended to reveal the results of a study that examined the OER awareness among the Turkish distance learners. The study has shown that there is a misunderstanding and misconception among the participants of this study about the scope and definition of OERs. A big majority of them confuses OERs with formal open education programs or courses. Additionally, the study also revealed that moving an upper module after getting a sufficient grade in exams, getting professors/instructors' support, receiving a certificate after completion are the most wanted features of OERs that might increase the diffusion of use of OERs among the Turkish distance learners.

Keywords: *Open Education Resources, OERs, Awareness, Turkish Distance Learners, Misunderstanding.*

INTRODUCTION

Openness in education has been addressed in various ways by many experts. For instance, David Wiley (cited in Wiley & Green, 2012) tried to elaborate this concept with four (later in 2014 he added the fifth one) criteria: reuse (the right to reuse the content in its unaltered/verbatim form), revise (the right to adapt, adjust, modify or alter the content itself), remix (the right to combine the original or revised content with other content to create something new), redistribute (the right to share copies of the original content, your revisions or your remixes with others), and final one added later, retain (the right to make, own and control copies of the content). Bates (2015, February 16) discussed the concept and the notion of openness in education with several other concepts and implementations, such as education for all, open access to programs and courses, open educational resources, open textbooks, open research and open data. Weller (2014) expressed the difficulty of trying to come up with a certain definition of openness, but listed several principles inherited into three major strands of openness in education (open access education, open source software, and web 2.0 culture). Weller suggested that freedom to reuse, open access, free cost, easy use, digital and networked content, social/community-based approaches, ethical arguments for openness, and openness as an efficient model are those common principles. Naidu

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(2017) relates openness with flexibility and uses both terms interchangeably. This paper also supports Naidu's idea and goes beyond by expressing that openness in education means flexibility not only in learning and assessment processes but also in recognition of learning efforts, in costs of learning, and in entrance to these processes.

OER movement holds great potentials for different stakeholders such as educators, students, self-learners, and governments. Increasing access to quality educational materials, reducing the costs, improving student learning, enriching life-long learning opportunities, showcasing research to widest possible audience, enhancing a school's reputation as well as that of the teacher or researcher, creating opportunities for peer review, maximizing the use and increases availability of educational materials, and raising the quality standards for educational resources by gathering more contributors are among the benefits of OERs listed in the literature (Conole & McAndrew, 2010; Mishra, 2017; Open Washington, 2017; Vukovic & Martin, 2009).

OER movement is still in awareness stage in Turkey despite the large-scale implementations, such as the Academic Informatics Network (EBA) Project of the Ministry of National Education (MoNE), Open Courseware Project, etc. These and more macro level initiatives are introduced later in this report. Meanwhile, the literature in Turkey concerning OERs is quite weak. Only three research studies have been published directly related to OERs. One of the first study conducted about OERs in Turkey was a doctoral dissertation of Engin Kursun. Kursun (2011) investigated the incentives, barriers and values about the OER movement in eight Turkish universities, that initiated open courseware (OCW) projects in 2014. The results have shown that although a big majority of faculty members (professors) value the use of educational resources they find on internet and digitize their materials. The most significant benefits of OERs are identified as learning from experienced faculty members' experiences and increasing the publicly shared digitized resources in Turkish language. According to Kursun's study, faculty members have a very strong consensus for possible benefits of freely publishing course materials. However, they still hesitate to share their materials due to concerns related to intellectual copyrights, marketability of their textbooks, lack of self- confidence about the quality of their course materials, fear of being criticized by their colleagues, lack of awareness and interest, and lack of support (2011).

In another study, Baysal, Cakir and Toplu (2015) investiaged the same eight universities as Kursun. These researchers used criteria in different categories: scientific discipline, course type, course materials, navigation and visual design, and access requirements. They also reached similar results as the former one: concerns regarding intellectual copyrights, and lack of support from upper management, especially from the Higher Education Council (HEC), a government agency that takes all the decisions about Turkish Higher Education are identified as the major barriers for diffusion of use of OERs.

Ozdemir and Bonk (2017) conducted a study to explore Turkish K-12 teachers' awareness of open educational resources (OER) as well as their perceptions of its potential opportunities and challenges for teaching practices. They noticed a misunderstanding exists between digital educational content on the Internet and OERs. A similar result as the previous ones about concerns regarding copyrights was also observed in this study. Table 1 reveals the results of the survey instrument the researchers used to collect data about the teachers' awareness in regard to different aspects of OERs.

Items	*Mean (Max. 5)*	*SD*
OER is available for free of charge	3.20	1.24
OER is provided with a license that allows free utilization	3.42	1.11
OER has the ability to remix with existing educational resources	3.63	.99
OER has the ability to repurpose	3.73	1.07
OER can be redistributed after it is modified	3.76	.99
Continual development of educational resources is important to OER	3.78	.95
OER is reusable	3.79	.99
Sharing is important to OER	3.89	1.05

Table 1. Awareness of Teachers in regard to Different Aspects of OER (Ozdemir & Bonk, 2017, p. 313)

As can be observed in these studies, there is a significant shortage of studies about OERs. We need more studies in different contexts, with various participants, focusing on different aspects of OERs and by using variety of research methods. For instance, learning students', especially the distance learners' awareness and comprehension might help the designers and instructors create better (more effective, efficient and appealing) learning opportunities and environments based-on OERs.

In short, this paper purposes to present the results of a study in which Turkish distance learners' awareness of OERs was investigated. More specifically, the study examined the Anadolu University' distance learners' (1) preference of the components/services of OERs, (2) factors and (3) barriers affecting their usage of OERs during learning processes.

METHOD

This study employed a descriptive survey method. An online questionnaire, prepared based-on the literature, was administrated to the distance learners of the University. The questionnaire link shared with the students through the learning management system. Total 1257 students filled out the questions but only of 751 was adequate to include the analysis. The questionnaire included questions regarding the students' (1) preferences of the services/components of OERs, (2) factors and (3) barriers affecting their usage of OERs during learning processes, and their demographics. This paper actually covers only results regarding the above aspects of the study. The results concerning to the other aspects and analyses related to those aspects were used in another publication.

Figure 1 shows that a big majority of the participants is non-traditional lifelong learners (24 and over). And almost one third of them are males (figure 2).

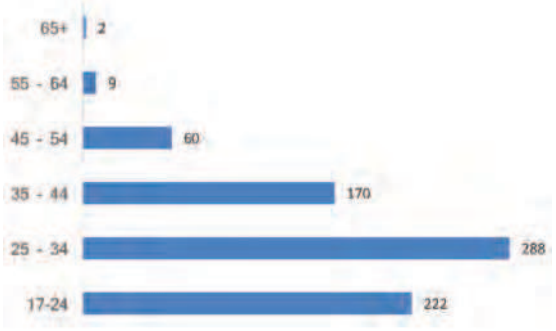

Figure 1. **Age Distribution of the Participants**

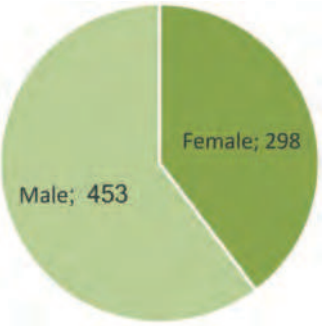

Figure 2. **Gender of the Participants**

FINDINGS

This study, first of all, revealed services that may increase the learners use of OERs. As can be observed from Table 2, moving an upper module after getting a sufficient grade in exams (62 percent of all the participants), getting a professors/instructors' support (58 percent), receiving a certificate after completion (49 percent), and having automated feedback about how successfully answered the questions in quizzes (45 percent) were regarded as important services (or characteristics) that might increase the use OERs by a big number of the participants. Surprisingly, activities require peer feedback (15 percent), teamwork (17 percent), and earning batches (19 percent) were found not as important as other services.

Services/Components	*Frequency*	*Percent*
Moving an upper module after getting a sufficient grade in exams	177	62.11
Getting professors/instructors' support	164	57.54
Receiving a certificate after completion	140	49.12
Getting automated feedback about how successfully answered the questions in quizzes	128	44.91
Being able to monitor the learning progress	111	38.95
Earning credits accepted for a diploma degree or a certificate program	106	37.19
Following a structured learning process with other participants	98	34.39
Having an on-demand help desk opportunity	94	32.98
…		
Earning batches	54	18.95
Requiring teamwork	48	16.84
Completing activities that require peer feedback	43	15.09

Table 2. **Services Increase the Learners' Usage of OERs**

This study, second, shown that OERs created and uploaded by a credible institution/person, easy to download, directly related to the user's field of interest and needs, includes clear learning objectives, have a high download ratio, and recently created, uploaded or revised were the factors affecting the learners usage of OERs (Table 3). Interestingly only a few participants found the copyright issues as important as others.

Factors	*Frequency*	*Percent*
OERs …		
… created and uploaded by a credible institution/person	151	51.71
… easy to download	143	48.97
… directly related to the user's field of interest and needs	129	44.18
… includes clear learning objectives	128	43.84
… have a high download ratio	114	39.04
… recently created, uploaded or revised Following a structured	107	36.64
…		
… have a flexible licensing structure	47	16.10
… licensed with CC	20	6.85

Table 3. Factors Affect Usage of OERs

According to the study, the participants noted insufficient quality, shortage of updated resources, inadequate internet connection for downloading and uploading, shortage of resources related to the fields of interest, and lack of experience about how to locate OERs as the most frequently barriers for use of OERs (Table 4).

Moreover, the students were asked to indicate what kinds of OERs they used over the last six months. The answers of the participants uncovered that a great deal of them confuse the OERs with open education programs or courses. These participants stated the distance education courses they took and materials presented to them as course materials as OERs.

Barriers	*Frequency*	*Percent*
Insufficient quality	142	48.97
Shortage of updated resources	128	44.14
Inadequate internet connection for downloading and uploading	115	39.66
Shortage of resources related to the fields of interest	109	37.59
Lack of experience about how to locate OERs	106	36.55
…		

Table 4. Barriers Affect the Usage of OERs

CONCLUSION

The study has shown that there is a misunderstanding and misconception among the participants of this study about the scope and definition of OERs. A big majority of them confuses OERs with formal open education programs or courses. Additionally, the study also revealed that moving an upper module after getting a sufficient grade in exams, getting professors/instructors' support, receiving a certificate after completion are the most wanted features of OERs that might increase the diffusion of use of OERs among the Turkish distance learners. Meanwhile, insufficient quality, shortage of updated resources, inadequate internet connection for downloading and uploading, shortage of resources related to the fields of interest, and lack of experience about how to locate OERs as the most frequently barriers for use of OERs.

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Student Satisfaction in Online Learning: Can Student Engagement Becomes Driving Factor Based On Student Interaction?

Moh. MUZAMMIL[1], Adrian SUTAWIJAYA[2], Meirani HARSASI[3]

Abstract

This paper examined the influence of student engagement on student satisfaction based on student interaction in online courses. The research was conducted at an open and distance learning university in Indonesia. The research was conducted through a quantitative approach and all data were processed using structural equation modelling. It utilized a survey, with the data being collected randomly through a questionnaire. The population was 124,041 students registered in online learning in Faculty of Economics. The questionnaires were attached in all online classes and 4,305 of them were returned. Four hypotheses were formed and examined and all of them were statistically validated by the analysis. The results showed that interaction has positive impact on student engagement and student engagement also has positive impact on student satisfaction. The implications of the results will be discussed in the next section of this paper in the results and discussion section.

Keywords: *Interaction, online learning, student engagement, student satisfaction*

INTRODUCTION

Student satisfaction in online learning is widely expressed in many research as it relates to student success in learning (Eom and Ashill, 2016; Gray and DiLoreto, 2016; Kauffman, 2015; Richardson et al., 2017; Sanford et al., 2017). Several previous studies have proven the existence of various factors that affect student satisfaction (Bolliger and Martindale, 2004; Sembiring, 2015; Eom and Ashill, 2016; Cheng and Chau, 2014). Interaction among participants and tutor seems to be an important topic in many studies that determine student satisfaction in online learning. However, there is still limited research examining the effect of student engagement on student satisfaction. Whereas, student engagement is very important in online learning because student involvement can be demonstrated through their cognitive development and the ability to create their own knowledge so as to lead them to success in learning (Banna et al., 2015; Britt, 2015). It seems to be difficult, despite the fact that in online environment, student tends to have fewer opportunities to be engaged with the institution (Martin and Bolliger, 2018). Therefore, creating student engagement becomes a challenge in order to achieve student satisfaction and how student engagement is structured by online course design that includes interaction.

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The issue about student satisfaction becomes important in the Open and Distance Learning (ODL) practice, including in Indonesia. In our university, there is a tendency to decrease in the number of students. Sembiring (2017) noted that there was a decrease in the student body in 2011-2015 in the number of 446,326; 415,030; 353,193; 333,501; 309,508. By following this pattern, there will be a decrease in the number of students in 2020-2021 to 220,743 and 193,099. In fact, our university has established a strategic plan that the student body in 2020/2021 is expected not less than 250 thousand students in total to sustain the existence (Universitas Terbuka, 2016). Having observed this gap, it is then useful to explore how to achieve student satisfaction through online learning activities.

This study aims to analyze the effect of student engagement on student satisfaction based on interactions in online learning. Student satisfaction in online learning becomes very important for our institution considering that we provide online learning in all courses. In other words, we can say that currently online learning is becoming a major learning mode besides printed materials as well. The main objective of the study is therefore to assess student satisfaction by considering student engagement in online environment. This study also seeks to analyze factors driving student engagement, consisting of student interaction among students, interaction between student and tutor, and interaction between student and content.

Related Literature

Interaction and student engagement are closely related in online courses. Student engagement is developed through interaction (Anderson, 2003), and fostering interaction is important in online learning (Martin and Bolliger, 2018). Interaction becomes central issue to successful learning, especially in online environment, a condition where students must be able to study independently. Studies have shown that students succeed in online learning depends on their activity during learning process (Verneil and Berge, 2000). Interactions are not only directly related to active learning, but also to engagement (Blasco-Arcas et al., 2013). Student engagement is the effort that a student spends on learning processes for the content of a specific course (Wang and Baker, 2015). It is also one of the key components of effective online learning (Dixson, 2010). Student engagement is considered to be a multidimensional construction with psychological and behavioral components (Fredericks et al., 2016).

Bernard et al. (2009) propose three basic engagement techniques of online learning: student-content, student-instructor, and student-student. Lear et al. (2010) supported this concept by validating that interaction with peers, instructors, and content can help online learners become active and more engaged in their courses. Having the importance of engagement in online learning, Martin and Bolliger (2018) emphasized that engagement is essential to student learning and satisfaction in online courses. Therefore, interaction is crucial to student satisfaction and engagement in online learning (Mandernach, 2005) and student engagement increases student satisfaction (Martin and Bolliger, 2018).

Conceptual Framework and Hypotheses

This research is important in the context of ODL institution that student satisfaction in online learning becomes an important goal to be able to maintain students completing their studies. In our university, as it is implementing open and distance education, students can take part in learning flexibly, including flexibility to re-register or not. This is related to the effort of maintaining the size and student body by improving online learning process. Having considered the related literature, this study therefore examines the conceptual framework as shown in Figure 1.1.

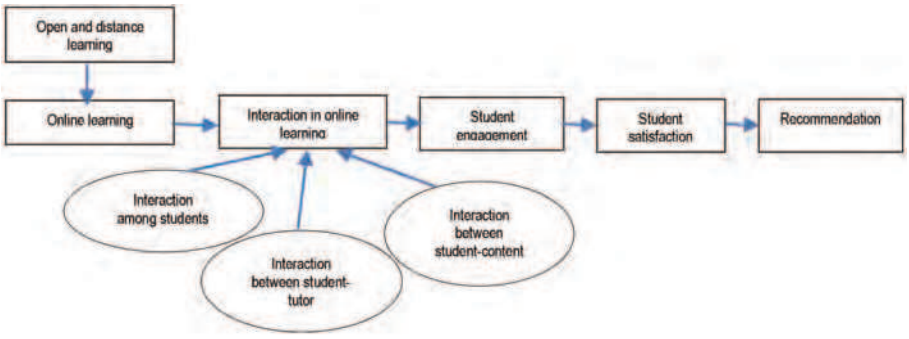

Figure 1. Conceptual Framework

Based on previous research and related literature, the research hypotheses and research model are as follows:

H1 : Interaction among students has a positive impact on student engagement
H2 : Interaction between student – tutor has a positive impact on student engagement
H3 : Interaction between student – content has a positive impact on student engagement
H4 : Student engagement has a positive impact on student satisfaction

METHOD

This study was designed as causal study to identify cause-and-effect relationship (Zikmud, et al., 2010). We tried to analyze causal effect of three exogenous variables (interaction among students, interaction between student-tutor, and interaction between student-content) and two endogenous variables (student engagement and student satisfaction). We conducted this study at an open and distance learning university. More specifically, it focused on the online learning of the Faculty of Economics. The empirical data were collected using a cross-sectional survey methodology. Respondents were students enrolled in online learning of first semester in 2018 at Faculty of Economics. There were 124,041 students enrolled in online learning and 4,305 students responded to the survey. We attached the research questionnaires on the online tutorial website and all students were allowed to participate on the survey. There was no compulsion and necessity for students to take surveys; we want them to participate voluntarily with expectation to get the best response. To achieve the research objectives and verified the research hypotheses which have been proposed, we applied structural equation modelling.

We developed our questionnaires based on previous studies. Table 1 below displays the references to our research variables. The indicators of each variable are measured using 5 points Likert scale with the range from 1 (strongly disagree) until 5 (strongly agree).

Variable	References
Interaction among students	Johnson et al. (2000)
Interaction between student-tutor	Peltier et al. (2003), Johnson et al. (2000)
Interaction between student-content	Peltier et al. (2003), Bernard et al. (2009)
Student engagement	Gray & DiLoreto (2016)
Student satisfaction	Gray & DiLoreto (2016)

Table 1. References of the Research Variables

FINDINGS

According to our hypotheses, results of the research model indicate the acceptable goodness-of-fit models. The fit statistics are presented in Table 2. All the fit measures from this study are in the range of recommended values suggesting the model is quite fit. The standardized parameter estimates and significant values for the hypothesis relationships are presented in Table 3. The findings suggest that the standard model of interaction is a good determinant of student engagement and student engagement serve as a good determinant of student satisfaction. All standardized regression of variables were significant at $p = 0.000$ and $\alpha = 0.01$.

Fit Measures	Study	Cut-off Value	Remark
CFI	0.808	CFI ≥ 0.90 = good fit 0.80 ≤ CFI < 0.90 = marginal fit < 0.80 = poor fit	marginal fit
RMSEA	0.042	RMSEA ≤ 0.08 p < 0.05	marginal fit
NFI	0.805	NFI ≥ 0.90 = good fit 0.80 < NFI < 0.90 = marginal fit < 0.80 = poor fit	marginal fit

Table 2. Fit Indices

Description	Estimate	p value
Interaction among students → Student engagement	0.138	0.000
interaction student-tutor → Student engagement	0.073	0.000
interaction student-content → Student engagement	1.126	0.000
Student engagement → Student satisfaction	0.759	0.000

Table 3. Hypotheses Testing

The results confirmed that the more active interaction among students, with tutors, and with content, the more strengthening student engagement. This relationship will ultimately strengthen student satisfaction as well. Another result also shows that interaction between student-tutor has the lowest estimate value compared to other interactions.

DISCUSSION AND CONCLUSION

This study makes a number of significant contributions to the literature on the student satisfaction in online environment. First, the model has confirmed that interaction in online learning is important in creating student engagement. Second, the study also confirmed that student engagement plays a role as driving factor to student satisfaction. The finding of this study supported previous study by Gray and DiLoreto (2016) that student engagement mediates the relationship of learner interaction and student satisfaction. Of the four hypothesized all have a significant effect. This result confirmed the importance of interaction in online environment, as Eom (2009) has stated that interaction between participants in online courses has been recognized as the most important construct of the dimensions determining Web-based course quality. Many studies also have shown that interaction is highly correlated to the learning effectiveness of Web-based courses and students with higher levels of interaction with content, instructor, and peers are reported have higher levels of satisfaction and higher levels of learning.

Another finding, interaction between student-tutor has the lowest estimate value, is contrary to past finding by Gray and DiLoreto (2016) and Kuo et al. (2013). Referring to the questionnaire's items that measure interaction between student-tutor, it refers to the tutor's activity in encouraging student to be active during the learning process. The low estimate value might be caused by two reason. First, respondents felt that the role of tutors is not too significant for them. Alternatively, second, respondents felt that tutors are not active during their learning process. These two possible problems will lead to different managerial implications. Therefore, we propose for the next research can explore deeper to the factors of interaction that will strengthen student engagement through a qualitative approach. This step is needed in order to reveal the actual problems of students regarding their interaction in online learning. Having a clearer information about this problem will lead us to take the most appropriate managerial policies.

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Implementation of Character Education Model in Lembaga Pembinaan Khusus Anak Indonesia

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Abstract

Character education is a mandate of Keputusan Presiden RI No. 87 Tahun 2017. Character education aims to strengthen the character of learners through harmonization of the heart, taste, thought, and sports with the involvement and cooperation between educational unit, family, and community.

Children who are in the Lembaga Pembinaan Khusus Anak (LPKA) caused by dealing with legal cases are children who need education, especially character education, which is more intensive compared to other children. UU No. 35 Tahun 2014 on Child Protection explains that every child are entitled to education and teaching in the framework of their personal development and level of intelligence according to interests and talents. So it is necessary to design a model of character education for children who are in the LPKA which aims to develop a personality. The long-term goal of character education for children in LPKA is that these children have a better character after leaving the LPKA. Currently, there is an institutional change of LPKA. These changes affect some of LPKA's policies, including education.

This research was conducted in LPKA Bandung and aims to examine how LPKA implements character education for children dealing with legal cases. The results show that LPKA has attempted to apply character education in its educational process. This is especially evident from extracurricular activities, such as reading Qur'an, music, religious coaching, football, and hydroponics. These activities are conducted by teachers, staff, and assisted by volunteers from the community. The problem of LPKA in character education is that there is no integrated character education curriculum that is used as a reference by non-governmental organizations and volunteers so that character education can be implemented optimally and effectively.

Keywords: *Keywords: character education, LPKA.*

INTRODUCTION

The character of a nation is related to the achievements of the nation in various fields of life (Megawangi, 2007). Character education is education to shape one's personality through character education, whose results seen in one's real actions, namely good behavior, honest responsibility, respect for other people's rights, hard work, and so on (Thomas Lickona, 1991). Character education aims to carve morals through the

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process of knowing good loving the good and acting the good, namely an educational process that involves cognitive, emotional, and physical aspects so that that noble moral can be etched into a habit of the mind-heart, and hands (Megawangi, 2007). Philosopher Atistothes also argues that the character is closely related to habits that are often manifested in behavior.

Nine foundations in character building are instilling 1) love for God Almighty and His Creation, 2) responsibility, discipline, and independence, 3) honesty, 4) respect and courtesy, 5) compassion, caring, and cooperation, 6) confident, creative, hard work, and never give up, 7) justice and leadership, 8) kind and humble, 9) tolerance, love of peace, and unity. The nine foundations need to be planted early on starting from the family and community environment, which is the environment for the growth and development of the younger generation. However, the world of education is expected to be a driving force to facilitate the development of national character.

Character education is applied to children through formal and non-formal education in Educational Institutions. However, currently not all students are in a comfortable condition to get educational services. Data on Penitentiary SDP as of May 29, 2016 showed that 5,442 students were currently under construction in 19 (nineteen) Lambaga Pemasyarakatan (LAPAS) Indonesia. There are various backgrounds and reasons why these children are in the LAPAS. However, if referring to the existing law, these children still have the right to get education and teaching. The right to get education is also based on international conventions and considerations, that prisoners have the right to the same education as other citizens. In UD 1945 pasal 31 ayat 1 dan ayat 2 it has been mandated that the rights and obligations of every citizen to get an education. This was reaffirmed in Undang-Undang Nomor 20 Tahun 2003, pasal 5 ayat 1, which states the right of every citizen to obtain quality education.

In the context of fostering prisoners in prisons, education and training is one of the main tools that help rehabilitate prisoners and their reintegration into society after serving their prison term at the Penitentiary. Through education, all potential prisoners (including child prisoners) can be optimally explored and developed.

One effort that needs to be done in terms of fostering child inmates is the education of characters who will form new characters after they have finished coaching in LAPAS.

REVIEW OF LITERATURE

Character education is efforts that are designed and implemented systematically to help students understand the values of human behavior that relate to God Almighty, self, fellow human beings, environment, and nationality that manifests in the mind, attitudes, feelings, words, and actions based on norms of religion, law, manners, culture, and customs (Ministry of National Education, 2010). According to Williams, Russell T. & Megawangi (2010), character education is plus character education, which involves aspects of knowledge (cognitive), feeling (feeling), and action (action). Thus, character education can be interpreted as an effort that is designed systematically and continuously to shape the personality of learners to have knowledge, speech, and actions based on noble norms that apply in society.

Schematically, the Ministry of National Education's Character Education Team (2010) describes noble values and character behaviors that are related to exercise, though, exercise, and taste and intention as shown in Figure 1.

Figure 1. Noble Values and Characteristic Behavior (Source: Ministry of National Education Character Education Team. 2010)

The Law in Indonesia describes the age limit of children aged 0-12 years, adolescence 13-20 years and adulthood age 21-25 years. Satjipto Raharjo (2009) defines children as humans under the age of 18 unless based on the laws that apply to children, it determined that age is reached earlier 13. To provide good protection for children in Indonesia, regulations that provide guarantees are needed legal protection for children in the Republic of Indonesia. Understanding children according to applicable law in Indonesia is contained in several regulations, namely:

1. According to Undang-Undang Nomor 39 Tahun 1999 Pasal 1 ayat (5) concerning Human Rights of the Child's definition which reads: "Children are any human under the age of 18 (eighteen) and unmarried including children who are still in the womb if this is in their interest;
2. According to Undang-Undang Nomor 23 Tahun 2002 Pasal 1 ayat (1) concerning Child Protection which reads "Child is a person who has not aged 18 (eighteen) years, including a child still in the content;
3. According to Undang-Undang Nomor 4 Tahun 1979 Pasal 1 ayat (2) concerning Welfare, which reads "Child is someone who has not reached the age of 21 (twenty-one) years and has never married". Also, also in the meaning of Undang-Undang No. 4 Tahun 1979, the child was not a small human;
4. According to Undang-Undang Nomor 11 Tahun 2012 Pasal 1 ayat concerning the Criminal Justice System of Children which reads "Children Who Are Confronted with Law, in the future referred to as Children are children who are 12 (twelve) years old, but not yet 18 (eighteen) years suspected of committing a crime".
Children who are in child LPKA, are children who are 'troubled,' both with their families, their environment or their playmates, schools, and others. Guidance methods that are in the Correctional Institution, as follows:

1. Coaching in the form of direct interaction that is family-friendly between coaching and fostered.
2. Coaching is educationally persuasive, namely trying to change its behavior through exemplary behavior and treating justice among others so that it inspires them to be praised. By placing correctional students as human beings who have the potential and self-esteem with the same rights and obligations as other human beings.
3. Development planning continuously and systematically.
4. Maintenance with increased security measures tailored to the situation at hand.
5. Individual and group approach.

Based on the results of the study by Eko Hariyanto et al. (2014), it found that there was an education for child prisoners in various Lembaga Pemasyarakatan Anak (LAPAS). Children in Indonesia are still far from the expectations and needs of child prisoners and still do not meet national education standards. This reality shows the various obstacles faced by the LAPAS Anak in providing educational services for children. The results showed that there were 3 (three) constraints, namely: 1) Internal Constraints, 2) External Constraints, and 3) Constraints from Individual Child Prisoners.

RESEARCH METHOD

This research uses a qualitative approach at LAPAS Anak Bandung Indonesia. Some characteristics of qualitative research include: being in a natural setting, grounded in the basis that the researcher is the main instrument for data collection, involves several methods of data collection, is inductive, based on participant meaning, often includes theoretical perspectives, is interpretive and holistic (Crasswell, 2009). The researcher used a qualitative approach in this study because the researchers wanted to describe it by identifying social characteristics, based on data from existing documents, namely court decisions, and other court processes, conducted by in-depth interviews. The data in this research are secondary data obtained from documents in LAPAS Anak Bandung, and primary data, the results of in-depth interviews with researchers with children. In-depth interviews conducted with children with certain criteria, which will determine in the field.

RESEARCH RESULTS

Maidin Gultom (2008) explained that based on Pasal 1 angka 8 Undang-Undang Nomor 12 Tahun 1995 jo. Pasal 13 PP No. 31 Tahun 1999 Tentang Pembinaan Warga Binaan Pemasyarakatan, known as 3 (three) classes of correctional students, namely: (1) Criminal Children, namely children based on court decisions undergoing criminal sanctions in the LAPAS Anak no later than 18 (eighteen) years; (2) State Children, are children based on court decisions submitted to the state to be educated and placed in the LAPAS Anak no later than 18 (eighteen) years. Status as a State Child until 18 (eighteen) years old. Even though the age has exceeded this limit, the State Child is not transferred to a LAPAS (for adults), because the child is not sentenced to prison. The State Child remains in the LAPAS Anak. If the State Child has undergone a minimum of one year of education, which is considered to be of good behavior so that it is deemed not necessary to be educated in the LAPAS Anak may submit permission to the

Minister of Justice, so that the child is released from the Child Correctional Institution with or without conditions; (3) Civil Children are children who, at the request of their parents or guardians, obtain a court decision to be educated at a LAPAS Anak. Determination of Civil Children in LAPAS Anak no later than 18 (eighteen) years. For a maximum of 6 (six) months for those who are not yet 14 (fourteen) years old and no longer than 1 (one) year for those who at the time of the court's determination are 14 (fourteen) years old and every 1 (one) year is extended with the provisions at the latest 18 (eighteen) years (Pasal 32 ayat (3) UU. No. 12 Tahun1995).

1. Data about children in LAPAS Anak Bandung are as follows

a. Education for Students

No	Information	Number
1	Not graduating from elementary / elementary school	42 children
2	SMP	60 children
3	Vocational High School	50 children
	Jumlah A + B	

b. Age Type

No	Information	Number
1	<14 years	3 children
2	15 years	13 children
3	16 years	23 children
4	17 years	44 children
5	18 years	44 children
6	> 18 years	25 children
	Amount A + B	

c. Type of Crime

No	Information	Number
1	Theft	11 children
2	Murder	
3	Robbery	13 children
4	Gen. order	41 children
5	A moral	2 children
6	Child protection	60 children
7	N drugs	
8	Persecution	6 children
9	Extortion	2 children
10	Emphasis	
	Amount of A + B	152 children

2. Education and Coaching Program

a. Education

Some programs that are in the Institute for Special Development of Class II LPKA Bandung, which must be followed by each student in the form of pesantren education, formal and informal education. Religious education / pesantren through a boarding school called "Miftakhul Jannah Islamic Boarding School" and a public school called the "Independent Midshipman School", which includes:

- Special Service Schools, Special Service Schools in LPKA, aimed at children in the senior secondary education level, head to Langlang Buana High School (for non vocational), Bandung PU Public Vocational School (for Automotive and Workshop Programs) and Lembang Agricultural Country Vocational School (for agriculture, cropping and fisheries majors), this was accomplished with assistance from the West Java Provincial Government Education Office, as an implementation of the West Java Governor Regulation concerning Special Service Education Guidelines (PLK) for Children Facing Laws in LPKA. Schools Special Services School Langlang Buana, SMK PU and Vocational Agriculture in Bandung LPKA students today have 85 (eighty-five) children, which is divided into several classes, namely class 10, class 11 and class 12.
- Open Middle School, Open Middle School in LAPAS Anak Bandung is in SMP Negeri 08 Bandung, this was done with assistance from the Bandung City Education Office, as an implementation of the Memorandum of Understanding between Kementrian Hukum dan HAM RI dengan Kementrian Pendidikan dan Kebudayaan RI, Nomor : M.HH-08. HM.05.02 TAHUN 2015, Nomor: 02/ IV/NK/2015 Concerning the Implementation of Education in Correctional Centers, Special Guidance Institutions for Children, Temporary Child Placement Institutions, State Detention Houses and Correctional Institutions. 08 Open Junior High School in Bandung LPKA currently has students of 53 (fifty three) children, which is divided into several classes, grade 7, grade 8 and grade 9
- The Special Education School, the Special Education School in LPKA, is intended for children in the Elementary School level, for primary school education considering the age of the child is above the age of elementary school children, the education level for them is in Package A, through the Community Learning Center (PKBM) The Special Education School, Package A in LPKA Bandung currently has 33 (thirty three) children.

b. Fostering

Some existing guidance programs in LPKA Bandung include:

- Spiritual Mental Development. Mental spiritual development, for those who are Muslim every child must follow regularly every day through the Miftakhul Jannah Islamic Boarding School in implementing cooperation with various private and government foundations related to religion including:
- Intellectual Development and Nationalism Insights. As for increasing Intellectual and national insight of the students, it was held: courses held in collaboration with NGOs as well as participants who care about children include: English language courses, training in writing articles, motivation, etc. For their National Insight through education on nationality and leadership, Scouting education, which includes marching training (UN), carrying out ceremonies on each 17th which aims to raise awareness of nation and state and train discipline, and train

nationalism in cooperation with: Scouts Sukamiskin Kwartir Arcamanik Dharma Group, LAHA (Child Rights Advocacy Institute), LPA, BP3AKB, Ombudsman, UPI (Indonesian Education University), UNPAD (Padjajaran University), ITB (Bandung Technical Institute), School of Nursing, STKS (College of Social Welfare) , UNJANI (Jenderal Ahmad Yani University), MARANATHA University, UNISBA, UNPAS (Pasundan University), Sharing Student Movement, etc.

- Sports and Arts Coaching. Sports activities are routinely carried out such as morning gymnastics, while other sports such as futsal, badminton and table tennis are expected to take turns, most of which have not been carried out due to limited art and sports tools owned by LPKA Bandung, for arts that can be done is practice drum band, Angklung and band, music, nasyid, marawis, etc.

c. Community / Social Development

To support the Correctional System, which is to restore the unity of the relationship of life, life and livelihood of children as individuals, and members of the community, the program is given to the students: the opportunity to participate in events outside the LPKA organized by partners or NGOs (LAHA) and outside agencies through Assimilation programs, Free Ahead Leave (CMB), Conditional Release (PB), etc. Events that have been attended include: Nasyid competitions throughout Prisons and Detention Centers throughout West Java (1st place), Indomart music festivals, music festivals at Saung Bambu Lembang Bandung, National Children's Day Events at Bogor Palace Th 2015, and activities musical performances in prisons / detention centers in the Greater Bandung Area.

d. Independent Development

Through Skills Training programs: including Suturing, animal husbandry, mechanic / motorcycle repair shop and cars, landscaping, fishing, hair scissors, training in making lantern lights, screen printing, making children's toys from used newspapers, painting, HP service courses, etc.

CONCLUSION

Based on the results of research at LAPAS Anak Bandung which aims to explore information about how the implementation of character education in LAPAS Children can be concluded that: (1) character education has been carried out by Bandung LAPAS Anak officers conducted through formal education in schools and informal education; (2) Character education is more applied through various daily activities in the LAPAS Anak, so that character education is inherent in every activity of the fostered child; (3) Character education in LAPAS Anak is primarily intended so that the fostered children can adapt to the community after they leave the LAPAS Anak; (3) the results of interviews with assisted children in LAPAS show that character education in LAPAS has helped them to understand good character and will try to apply it after they leave the LAPAS Anak.

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Disruptive Innovations and Teacher Education in the 21st Century

Aysun GÜNEŞ[1],

Abstract

Today's world is witnessing a great change in the way people learn. Digital technology disrupted our everyday lives and education is among the areas that should be revisited to meet the needs of the new era. With the rapid development of information and communication technologies, today's education come up with some terms like "Cloud Learning", "Mobile Learning", "e-Learning" and "MOOCs". The rise of the internet and its disruptive potential for education, both for the formal purpose of gaining extra training and credentials and for the informal purpose of learning new things in hope of personal life enrichment carried education to a new level (Horrigan, 2016). Keeping up to date with the Z generation is quite a challenging task for teachers as they were not born into this technology era. At this point the training of these teachers should be revised and the effects of the game changer disruptive technologies should be taken into consideration. This paper aims to draw an outline of the technologies that are used in teacher education under the effect of disruptive technologies by analyzing the papers with the keywords "teacher education" and "technology" from SCOPUS database. The papers were limited within the years 2014 and 2018.

Keywords: *Disruptive technologies, teacher education, database analysis, higher education*

INTRODUCTION

A future where we will experience what we watch in science fiction movies is at our door. It is also very important to be ready for this future, to adapt to the environment that it determines its rules by using its speed and to manage this environment in the best way, to train a generation that can read the perceptions open, think creatively, and choose the right information from the information flow in front of it while producing solutions to the problems. In today's world where technology and internet usage has increased every second, education 4.0 has been used as a reflection of industry 4.0 and has gained a place in the literature. These revolutionary developments in the industry have been observed in different ways in different times in history and each innovation has been neutralized and disappeared in the future. Today, which is the last stop of these powerful technological developments and also known as the information age in which people can access all kinds of information through the use of the internet, educational institutions and teachers, formerly known as information sources, leave their places to search engines, MOOCs (Massive Open Online Courses) and entertaining information videos in video channels. The way learning happens has been changing quite fast, that should also make the educators think about how they should follow the innovations in education and in the way people learn and they have to tailor their instructions according to those innovative changes in learning.

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Disruptive Innovation

"The most promising innovations aren't mainstream yet. But they will revolutionize the very fabric of learning." Sagenmüller, 2017

Currently, innovation is among the mostly used words. The word itself can be heard, seen and also felt all around the daily lives of today's people. Looking back at the past ten years or so, today using internet is as rudimentary as putting socks on in the morning[2]. The elements of innovation get more common and cheaper and this can be counted as the sign of their being disruptive for the previous technologies and innovations as disruptive innovations have transformed once complicated and very expensive products like the Internet into simpler and more affordable ones.

Disruptive technology is a term coined by Clayton M. Christensen. Christensen first used the term in his book "The Innovator's Dilemma" in 1997 and separated innovation into two categories: sustainable technologies and disruptive technologies. Sustainable technologies can be defined as technologies rely on improvements to an already established technology like "Harvesting energy with bladeless turbines while disruptive ones lack reforming and corrections. At first it has a limited audience and also has many problems with its applications. Over time it replaces the previous technologies like Alexander Graham Bell's "electrical speech machine," which we now call the telephone

The notion of disruptive technologies has always been a common theme throughout the history, for example the inclusion of smart phones into people's lives, disrupted the telecom industry, pocket cameras, MP3 players, calculators and many others. The first Xerox copier was a "disruptive" innovation because it completely changed the way people copied their documents and made the other copier brands nearly obsolete. On the other hand, the first color copier was a "sustainable" innovation which was built on the existing model.

It's important to take into consideration that disruption is a positive force. Disruptive innovations are not making good products better; yet they make products and services more accessible and affordable by making them available to a much larger population.

All new technologies are triggered according to the needs of people, some of these technologies meet the expectations of the users and become a common technology among the society. On the other hand, sometimes the adaptation of the new technologies into the lives of people can be difficult and not practical for people so these technologies fade among the others. While interpreting these new technologies, Gartner Hype Cycle graphs can be used as helpful guides providing graphical and conceptual presentation of the emerging technologies in five phases.

2 Pandey, K. B. (2017, July 06). 10 Innovations That Changed the Way We Live. Retrieved October 20, 2018, from https://www.listsworld.com/10-innovations-changed-way-live/today

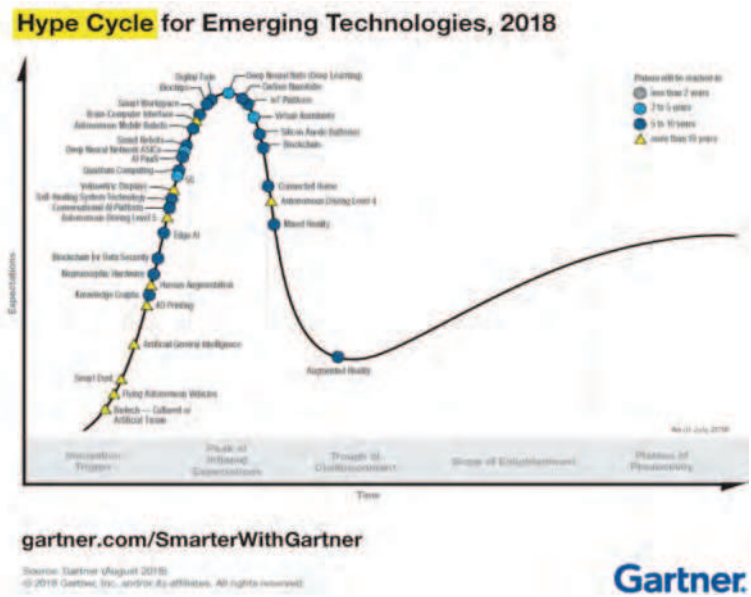

Figure 1. **Gartner's Hype Cycle**

Innovation trigger: According to Gartner, in this phase a potential technology breakthrough starts and publicity of this new agent in the market is triggered with the interest of the media and people. This potential technology lacks commercial viability and needs time to be known and widely used.

Peak of inflated expectations: There are success stories and high expectations boosted by the media coverage. As a result, companies may invest without a sound business strategy.

Trough of disillusionment: Hyped invesments and over-enthusiasm result in unexpected failures to meet performance. Disappointments spread and may be hyped by the media.

Slope of enlightenment: There are many examples of how the technology can be improved to satisfy the the needs of the early adopters. Second and third generation of the new technologies appear and pilots are funded by more enterprises and this may result in an increasing performance.

Plateau of productivity: Mainstream adoption of the products starts to accelerate, and the technology continues to grow and the viability of the product is clearer at this phase.

These phases are key points in the life cycle of a new technology. The time between the start and the plateau of productivity has been termed as time-to-value gap (Fenn&Raskino, 2008).

Teacher Education

Are people endowed with an innate gift for teaching or can it be taught to people? In the age of technology, the limitations that teacher educators have like the inappropriate use of technology, being unable to access the technology opportunities and also having teachers who are resistant to use and integrate technology into educational settings will be the future problems of the countries. There are so many challenges for teachers in the technology age like the rapid integration processes of technology into learning environments, inadequate knowledge of teachers about technology, Z generation and their fast adaptation to the new technologies and insufficient support from the school administration in getting help to make a smooth adaptation. To get continous in-house trainings in order to get used to the new technologies is a must for the teachers of the 21st century, also the training of these teacher from the scratch is essential to be aligned with the novelties in educational environments. To do so, our teachers need to be cutting edge learners, course designers, learner advocates, activists, tech-integrators, and facilitators. Many have these qualities naturally, but teacher education programs can, or should aim to cultivate them in the next generation of educators (Marquis, 2012).

Disruptive Innovations and Teacher Education

Such widespread innovation also has an undeniable impact on education. Education and educational settings have changed a lot especially after the onset of the Internet. The integration of web tools into education has made it inevitable for teachers to pursue a lifelong professional development as the change is unstoppable.

As Clayton Christensen underlined in his book titled "Disrupting Class: How Disruptive Innovation Will Change the Way the World Learns.", education is a tough industry in which penetrating is quite difficult as it is tied to the old-fashioned instructional designs where teacher is in the center of learning. Most of the time big educational institutions focus on sustainable innovation and technologies in educational context as it is safe for their teachers, students, managers etc. and they prefer to upgrade their existing services like the learning environment, learning sources and professional development for their teachers. For instance, integrating some Web 2.0 applications in English Language settings, can be a safe approach as it can be implemented with same curriculum changes and most of time teachers are not given an in-house training for the required change. Change is a dread word in education where playing safe is a wise attempt for the decision makers. To achieve growth and success in a fast-changing world of education, these sustainable technologies cannot go forward than the substitution of the desired change.

Over the years, the education reshaped and transformed itself with the pressure of technology and innovation around it. The idea of education was once tied to the classical face-to-face education with a teacher in the center and the idea of distance education was only about distant courses carried out by sending books and providing TV programs to support the learners.

Some big companies like Google, IBM and Apple no longer require employees to have a college degree as they can get the necessary content by just following Massive Open Online Courses (MOOCs). This is a big sign that the learning cycle is being

transformed in the age of technology. Once the flexibility was provided with distance education and now the borders of this flexibility has expanded with the use and the integration of technology in educational settings. That will not only change education contents and the student experience, it will also influence student attraction. Learning is now tailor made and one can choose the path of his/her learning.

At this point, teacher education should also be transformed by adding the necessary technology and innovation in it to make it more flexible, personal and up-to-date. Digital natives do not want to be taught by tech-resistant teachers as these students also want to be understood in the way they harness technology. The current teacher education system, "designed for standardization," ignores the individual needs of each student teacher and also the needs of the new generation. To design a more personalized teacher education programs, technology use is inevitable. Blending the learning environments, using online courses, integrating web tools in face-to-face learning environments could be the solution to the problem. Educators need to think about ways to develop learners' capabilities through real or simulated activities that the learners negotiate and that everyone recognises as leading to valued outcomes and functionings—and to energised and motivated individuals (Royle, Satager and Traxler, 2014). Innovation leads people in the direction of change in the manner of grasping knowledge.

METHOD

A qualitative and interpretive approach was taken for this study (Bogdan & Biklen, 1998). The research represents small-scale research investigating the use of technology in teacher education. To do so, 134 papers were chosen by using purposive sampling and analysed by using the document analysis method and the Scopus search machine (http://www.scopus.com) was used to reach a list of articles that included "teacher education and technology" in their key words, to select the 134 relevant ones. The timespan is between 2014 and 2018. The span is deliberately kept small as technology is growing so fast that earlier papers may not be representing the idea of technology and teacher education and the bridge that should be built in the effective and integrative use of these notions together.

FINDINGS

Technologies in Teacher Education

The aim in this study is to draw an outline of the technologies that are used in teacher education under the effect of disruptive innovations by analyzing the recent papers on teacher education and technology. While trying to define the chosen technologies in these papers the methodologies that they follow are also taken into consideration to give an insight to the future researchers on the areas investigated. The most common technologies or applications that were used- analyzed or mentioned in the papers were given in the table below:

TPACK (TECHNO PEDAGOGICAL CONTENT KNOWLEDGE)	STEM (SCIENCE, TECHNOLOGY, ENGINEERING, MATHS)	TAM (TECHNOLOGY ACCEPTANCE MODEL)
BLENDED LEARNING	FLIPPED LEARNING	DIFFUSION OF INNOVATIONS THEORY
MOBILE LEARNING	WEB 2.0	SCREENCAST
ICT (INFORMATION AND COMMUNICATION TECHNOLOGY)	TECHNOLOGY INTEGRATION	VIDEOS AND VIDEO CONFERENCING
DIGITAL LITERACY	GEOSPATIAL TECHNOLOGY (GPS)	LMS (LEARNING MANAGEMENT SYSTEMS)
PODCASTS	ONLINE DISCUSSION FORUMS	WIKIS AND PLC (PERSONAL LEARNING COMMUNITIES)
EDUCATIONAL DATA MINING	BLOGS	

Table 2. The most common technologies or applications in teacher education

Methodologies That were Used in the Papers

Upon deeply examining 134 papers on teacher education and technology between the years 2014 and 2018 that were retrieved form Scopus database, the methodologies of these papers also grabbed the attention of the reviewers. In most of these papers (82 papers- %61) qualitative method was used to get a deeper understanding about the use of the relevant technologies in teacher education settings by carrying out meetings, case studies and reviews. In 35 papers (%26) quantitative method was used by carrying out surveys to get the perceptions of teachers or student teachers about the use of the technology in question. Lastly the mixed method is used in 17 papers (%13) to see the bigger picture by carrying out both surveys and meetings to understand the perceptions of the teachers and/or student teachers on how or why to use a technology in teacher education.

As is stated in the study, in the long run, qualitative research will be more successful in contributing to policy debates in education if researchers can find ways to overcome the media's impulse to seek simplistic and brief answers to complex problems (Cooley, 2013). The use of technology to enhance and improve learning environments is quite a complex problem to get through especially in teacher education, so the use qualitative research in many of these aforementioned 134 papers shows that trying to get the personal views of people by carrying out meetings in person or in online settings give a deeper understanding of the phenomenon of technology use in teacher education and enlights the path to solution with better solutions.

CONCLUSION

"We expect to teach kids of the 21st century with educators in an education system shaped in methods of the 20th Century and in the buildings that were built in the 19th Century. That could only be achieved with the proper integration of technology which is the key of the future of education."

Education is going digital like most of the components of life especially after the onset of the Internet, so extracting the notion of teacher education from digitalization is out of question. The question is how can it be implemented into teacher education to meet the necessities of the new era and to educate the new digital generation. Insisting on using the old school ways in education will only be a big mistake as the learners of the technology age keep learning anytime, anywhere. The need for flexibility and personalization also needed in teacher education. The effects of technology in all educational settings show that all of these technologies have a disruptive effect in the way people learn. Kabakciet al. (2010) describe how they engaged teacher educators in professional development opportunities around the use of information and communication technologies in their practice. In particular, they argue that adult learning theory should play a more prominent role in professional development for teacher educators and these pedagogy and andragogy should be combined with technology in teacher education. The perceived benefits of using disruptive technologies in teacher education can help student teachers and educators create a professional learning community, reflect on their learning more, support and extend class discussions and become more digitally literate. Understanding and implementing innovation and technology in teacher education contexts is a long and a difficult process to follow as it requires flexibility and open mindedness to think about what is new and show respect to what others think. In a nutshell as Hardman (2015) stated it would also be unrealistic to expect teachers to embark upon a journey of active engagement in lifelong learning unaided by technology.

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Quality Assurance in Distance Learning: Practicability of Quality Matters Program

Funda ERGULEC[1], Zeynep YURTSEVEN AVCI[2]

Abstract

In the literature related to distance education and quality assurance, it is stated that an evaluation tool should be used to improve the quality of distance education courses (Chao, Saj & Tessier, 2006; McGahan, Jackson & Premer, 2015). In fact, it has been found that there is a connection between the application of quality standards to distance education courses and students' learning (Parscale, Dumont & Plessner, 2015). Quality Matters (QM) program which is an international program created to bring a common understanding of course quality in distance education (Quality Matters, 2019) will be described in detail in this study. The purpose of this paper is to describe utilization of the Quality Matters (QM) program as a method to improve online course design. The applicability of QM program into Turkish distance education system will be discussed.

Keywords: *Distance Learning, Quality Assurance, Quality Matters, Online Course Design, Instructional Design*

INTRODUCTION

As online course offerings continue to proliferate, there has been remarkable growth in online enrollments (Allen, Seaman, Poulin & Straut, 2016; Boston & Ice, 2011). According to the 2015 survey of online learning (Allen et al., 2016), 28 percent of students, a total of 5,828,826 students, now take at least one distance education course. In addition, more recently Allen et al., (2016) reported that public institutions serve the largest portion of online students in higher education, with undergraduates constituting 72.7% and graduate students 38.7% of all distance students.

While the numbers of students enrolled to distance education is not really high compare to United States, there is still an increasing number of students taking distance courses in Turkey. According to the Council of Higher Education Statistics of 2018-2019, out of 343 398 students who are studying at the undergraduate degree across the country, 5241 which corresponds to 1.5% of undergraduate students are enrolled in distance education programs. 5840 out of 66,871 graduate students are enrolled in distance education programs which corresponds to 8.7% of graduate students. According to the Council of Higher Education Statistics, the proportion of students continuing their graduate education through distance education has increased by more than 3% in approximately three years since 2015.

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In order to design effective online courses and develop standards of quality, many online course evaluation tools have emerged, and many organizations have been established in this context. To address course design issues, numerous guidelines, best practices and standards have been developed in the United States and around the world. In recent years, Baldwin, Ching, and Hsu (2017) have examined six different online course assessment tools and their characteristics (Blackboard's Exemplary Course Program Rubric (2012), California Community Colleges' Online Education Initiative (OEI) Course Design Rubric (2016), The Open SUNY Course Quality Review Rubric (OSCQR) (2016), Quality Matters (QM) Higher Education Rubric (2014), Illinois Online Network's Quality Online Course Initiative (QOCI) (2015), California State University Quality Online Learning and Teaching (QOLT) (2015)). At the end of the study, they determined the basic standards which are common to all six assessment tools.

- Describe the objectives of the course.
- Easy and clear access to the course management system.
- Use of technology to encourage student participation and facilitate learning.
- Promoting student-student interaction.
- Utilizing communication and activities to develop the concept of "we" in the classroom.
- The presence of the instructor's contact information in the system.
- Explaining expectations about communication and class participation.
- Giving rubrics for each assignment and exam.
- Each measurement and assessment tool are compatible with the purpose and objectives of the course.
- Establishing links to corporate services.
- Making the course suitable for students with special needs.
- Explaining the rules of the course clearly.

Purpose of the Paper

In the literature related to distance education and quality assurance, it is stated that an evaluation tool should be used to improve the quality of distance education courses (Chao, Saj & Tessier, 2006; McGahan, Jackson & Premer, 2015). In fact, it has been found that there is a connection between the application of quality standards to distance education courses and students' learning (Parscale, Dumont & Plessner, 2015). Quality Matters (QM) program which is an international program created to bring a common understanding of course quality in distance education (Quality Matters, 2019) will be described in detail in this study.

The purpose of this paper is to describe utilization of the Quality Matters (QM) program as a method to improve online course design. The paper summarizes the eight standards of the QM rubric and describes the QM peer review process. Then, the applicability of QM program into Turkish distance education system will be discussed. The paper introduces an internationally accepted, widely implemented in the USA, quality assurance program and its process to international scholars who are teaching or interested in distance learning.

Quality Matters (QM) Program

Quality Matters (QM) program MarylandOnline, Inc. (MOL) consortium is an organization initiated by researchers on the question of "how can we measure and guarantee the quality of a distance learning course". QM is an international program created to bring a common understanding of course quality in distance education (Quality Matters, 2019). The QM rubric is used by many institutions around the world for accreditation and quality improvement of distance education courses and programs. As of 2019, 1200 institutions from thirteen different countries are members of the QM program (Quality Matters, 2019). The QM rubric is an assessment tool based on instructional design principles (Quality Matters, 2019) designed to provide a quality course design in distance education courses. Within the scope of QM Program, 42 standards have been determined in 8 main areas in order to evaluate the distance education courses in terms of quality. The main purpose of the QM standards is to improve the design quality of distance education courses based on rubrics. In other words, QM focuses only on the design part of a course in distance education, not on the implementation and learning processes.

QM standards are among the most commonly used quality standards by researchers and instructional designers. There is an increasing international attention toward QM rubrics due to the success of QM program and its acceptance in the United States. As of 2019, 13 countries have a member institution or organization to QM program. The following are the 8 main areas of QM higher education rubric. Under these 8 main areas there are a number of specific standards (42 in total). Each specific standard is assigned a point value "essential" (3 points), "necessary" (2 points), and "important" (1 point). Points are awarded on a pass/no-pass basis by QM course reviewers use those number to determine whether each particular standard has been met. A course must earn 85% of the available points in order to become certified.

- Course Overview and Introduction
- Learning Objectives (Competencies)
- Assessment and Measurement
- Instructional Materials
- Learning Activities and Learner Interaction
- Course Technology
- Learner Support
- Accessibility and Usability

Research on Quality Matters Rubric Effectiveness

There are empirical research confirming the empirical evidence of the QM Rubric's effectiveness for improving the quality of online courses. Some of this research will be discussed here. For example, in their study, Bogle, Day, Matthews, and Swan (2014) designed an online course with QM guidelines and compared students' grades. They found significant improvements in final exam scores and overall course grades. Similarly, Swan, Matthews, Bogle, Boles, and Day (2012) examined the effects of course redesign on student grades. In their study, they redesigned one course with the QM guidelines and the other with Community of Inquiry framework by Garrison, Anderson, and Archer (1999). They found joint application of QM standards and CoI framework result in better student performance. Considering the satisfaction of the

students with course, Aman (2009) found students were significantly more satisfied in courses that were QM reviewed. Similarly, Finley (2005) found that student satisfaction increased as a result of the redesign with QM standards. In Parscale, Dumont and Plessner (2015) study examined the relationship between quality management theory and student learning outcome assessment with a random sample of 45 accredited business schools in higher education. They found positive and significant correlation between quality management theory and student learning. Thus, they conclude that applying quality management standards could enhance the assessment process.

Discussion and Conclusion

Given the increasing demand towards distance education in Turkey, the QM program can be applied in Turkish distance programs to improve student learning outcomes. Since the program offers best practices in online course design and improve the quality of online courses, it might help faculty teaching distance courses to improve their course design. The program focuses on the course design rather than the content, so it might help the faculty to design efficient and effective online learning environments.

Since the QM rubric was initially developed in the USA, the original language is English. While the QM rubric has been translated to other languages, there is no available version in Turkish yet. As some other countries, such as China, have found major differences when using the existing QM rubric in their country (Gao & Legon, 2015), there might be similar differences when it gets to review a Turkish online course. For example, there might be some challenges with cultural differences, so the adaptation in other countries needs to take these challenges into account.

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Tutor and Student Perception about the Role of Tutors as Motivators to Students for Independent Learning

Widyasari[1], Dewi ANDRIANI[2], Tiesnawati WAHYUNINGSIH[3]

Abstract

In education that applies the distance education system, tutors have a role as facilitators and motivators so that students can learn independently. Even with a remote system, tutors and students can meet when doing face-to-face tutorials. At that time the tutor can provide facilities and motivation to students so they can study independently. This study discusses the role of tutors and student responses regarding the role of the tutor. This research is quantitative descriptive, data obtained through the distribution of questionnaires and interviews with tutors and students. Questionnaires were distributed at 16 UPBJJ-Open Universities in the territory of Indonesia. The total tutor population was 194 and students were 434. The data was entered into the SPSS and then processed and analyzed to find the relationship between the variables studied. After that the data processing results can be obtained that the tutor has carried out his role as a facilitator well. Tutor has done his role well but there are still things that are felt lacking by students. Tutors provide variations in the setting of the learning environment even though it is done once. Tutors provide reference books to enrich student knowledge and give quizzes every week. From the students also need to be reminded that independent learning is an effort to find solutions to their own learning problems and if you have difficulty can ask for tutors' help.

Keywords: *Open and Distance Learning, Role Of Tutor, Students Response*

INTRODUCTION

Studying independently is absolutely essential for students of the Indonesian Open University (UT). However, it is not easy to implement considering the educational culture that is accustomed to "teachers teaching students listening" is still inherent in Indonesian society. In Andriani's research (2015), the difficulties faced by college students at UT were difficulty understanding modules, feeling alienated, and not getting feedback from the results of their assignments.

Therefore, the Open University as a pioneer of distance education since 1984 in Indonesia understands the difficulties of these students by providing assistance with learning services namely tutorials. There are various types of applied tutorials including face to face tutorials, online tutorials, webcam tutorials, and television and radio tutorials. In addition to face to face tutorials, other tutorials use multimedia

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to bridge between tutors and students. Whereas the face-to-face tutorial requires a physical tutor who can help them learn. The availability of tutors is really needed by UT given the large number of tutors needed so UT recruits tutors from outside UT. Open University works closely with conventional education institutions in providing tutors who have teaching experience. The face-to-face education lecturers were given training on how to become tutors in accordance with the Open University's provisions.

Tutors are not teachers. Tutor assignments are different from teacher assignments. Research conducted by Herman (2010) tutor assignment there are 5 variables, namely mastery of tutorials including preparation of tutorial plans, tutorial materials and assignments, mastery of teaching materials, ability to communicate with students, discipline by coming on time, assigning tasks on schedule, collecting assignments on time. This study discusses the perception of the role of the tutor in motivating students to learn independently and the student's perception of the role of the tutor. From these two perceptions, differences in opinion between the two were sought. On one hand the tutor has done well in leading the discussion but it turns out on the student side wants more than what has been given by the tutor. The result of research are expected to be input for tutors in improving learning abilities.

METHOD

This research is a descriptive quantitative research. The data displayed in the form of numbers are given a description with sentences. The population is tutors and students in 16 provinces. There are 194 active tutors and 434 students from various semesters who were following the tutorial face-to-face. Data obtained by distributing questionnaires and interviews. The data collected is then processed, analyzed, and given a description.

FINDINGS

From the data obtained regarding tutors 'and students' perceptions, we divide the question into three parts, namely perceptions about tutors 'grades, perceptions about tutors' motivation to increase independent learning, and perceptions about tutor commitments

Tutor and Student's Perception about Assesment

Tutors provide an assessment of student work in face-to-face tutorials with questions about (1) mastery of material, (2) constructive feedback, (3) monitoring learning outcomes, (4) student learning progress, (5) the value of student learning progress , and (6) save student's assessment result.

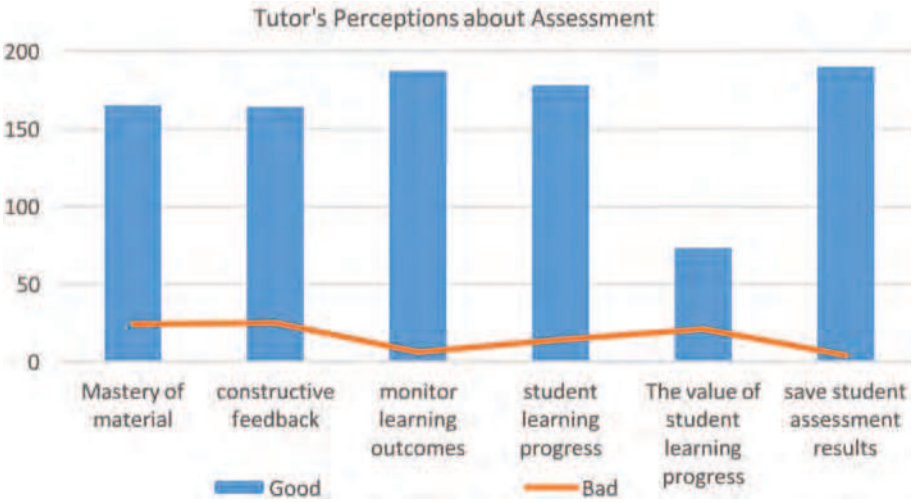

Table 1. Tutor Perception about Assesment

Tutors' perceptions in terms of grading are very good, such as tutors giving material that they master and tested to students, tutors have given constructive feedback, and so on. But the tutor gave a rather inadequate assessment in reporting the value of student progress.

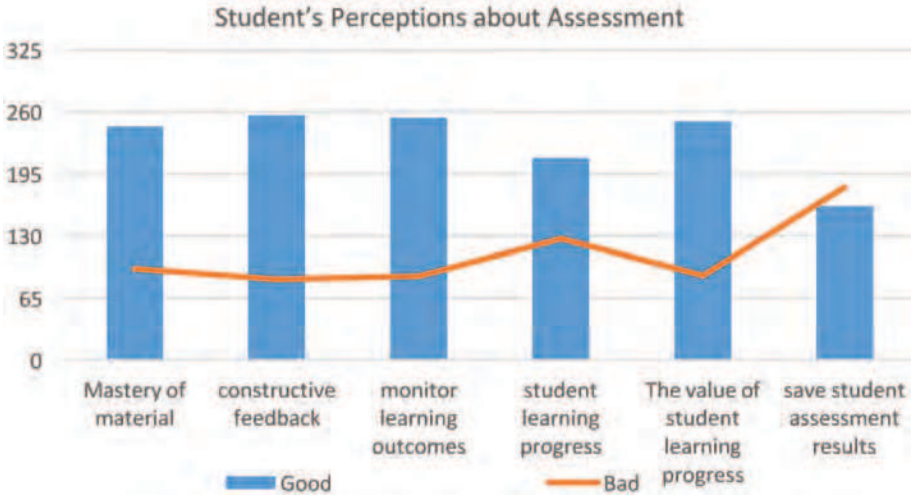

Table 2. Student Perception about Assesment

Tutors and Students' Perception in the Role of Tutors Motivates the Improvement of Independent Learning

There are seven questions given about tutors and students' perceptions about the role of tutors motivating the improvement of independent learning. The questions are (1) students' perceptions about the role of tutors motivating students to learn independently, (2) increasing their ability to learn independently, (3) giving problems to be discussed, (4) providing academic instruction for small groups, (5) giving book recommendations, (6) providing tutorial materials such as handouts and quizzes, and (7) monitoring students' ability to master learning material.

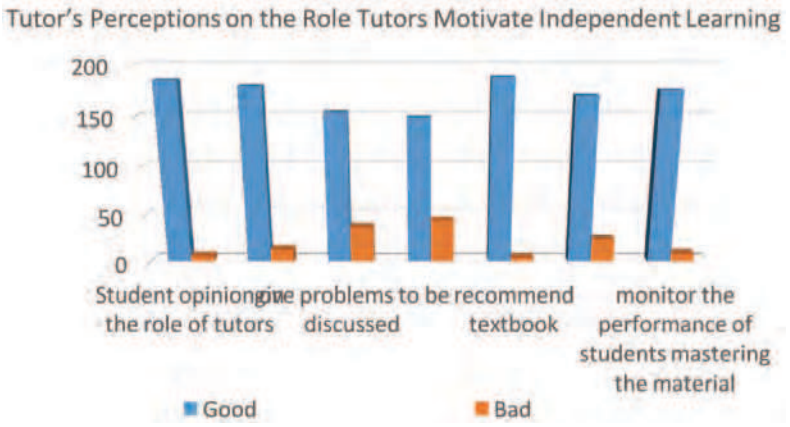

Table 3. Tutor's Perception on The Role Tutors Motivate Independet Learning

In this case the tutor gives a good perception of his role as a motivator for students to learn independently. However, students 'perceptions are somewhat different from tutors' perceptions, especially in the section providing academic guidance for small groups, giving book recommendations, providing tutorial material such as handouts and quizzes.

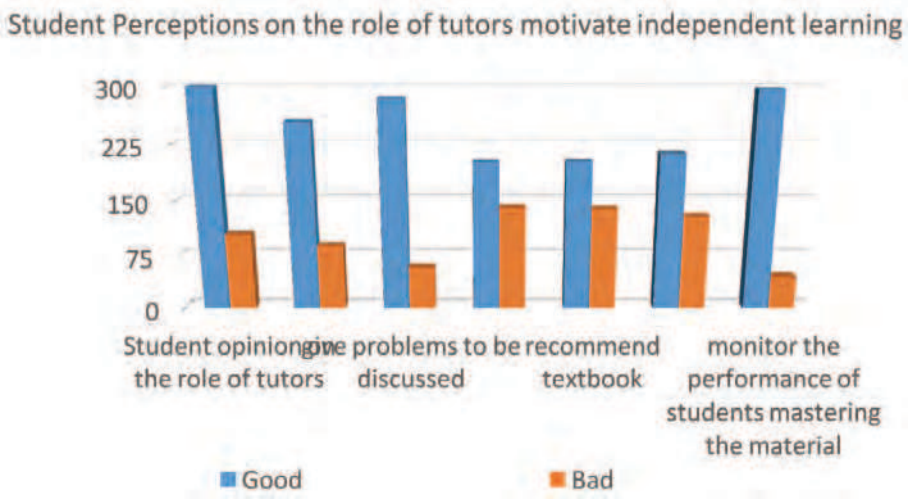

Table 4. Student's Perception on The Role Tutors Motivate Independet Learning

Tutor and Student Perception about Tutor Commitments

For the tutor and student perceptions section of the tutor's commitment, both are given the same question, namely (1) the tutor manages the learning environment, (2) the tutor makes an appointment to guide learning whenever, (3) the tutor arrives on time, (4) the tutor is committed to helping students until the end of the semester, (5) tutors give personal instructions to individual students.

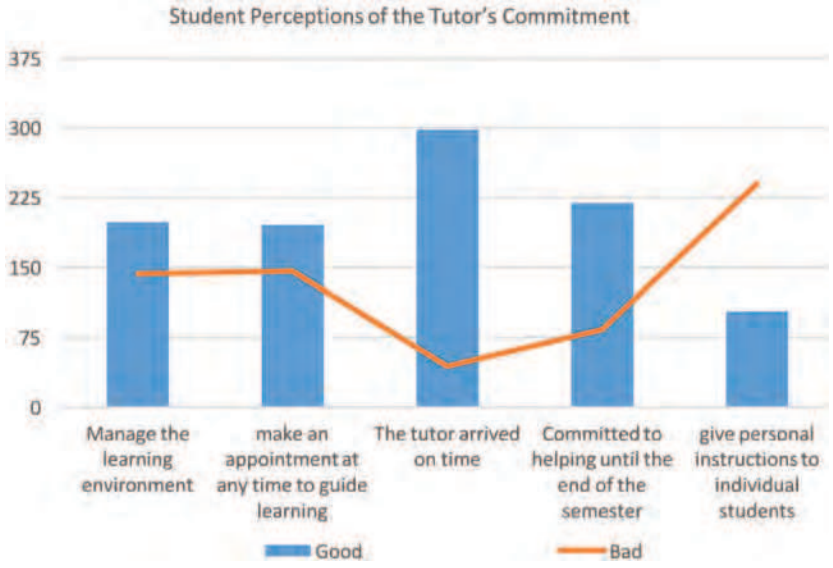

Table 5. Tutor Perceptions of the Tutor's Commitment

In this case the tutor gives a very good perception about his commitment as a tutor to improve independent learning for students.

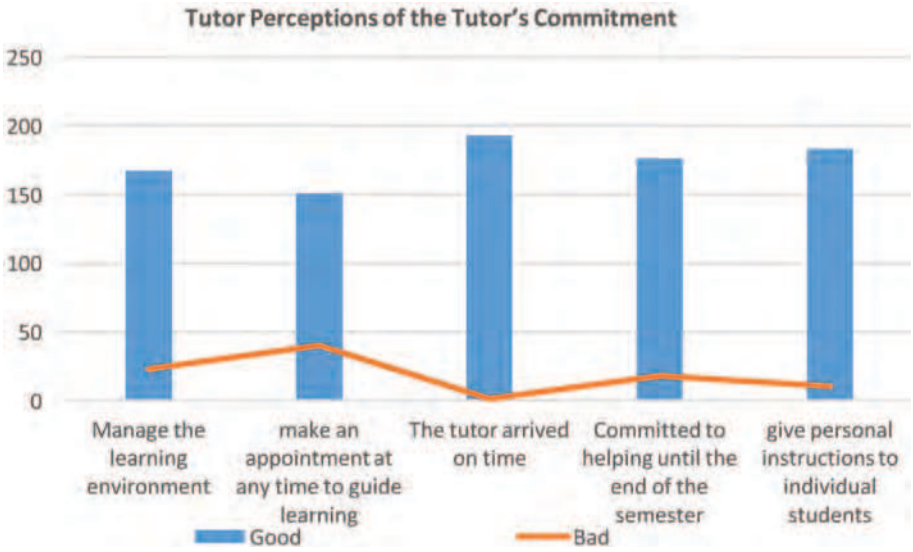

Table 6. Student's Perceptions of the Tutor's Commitment

Student perception of the commitments given by tutors is still relatively good, only in the part of the tutor regulating the learning environment, providing tutoring at any time, and tutors giving personal instructions to individual students.

DISCUSSION AND CONCLUSION

In the perception section of tutors and students regarding the grading there are significant differences in the two perceptions. Tutors have given reports on the progress of students, but for students there are still tutors who do not report the progress of students. Students want a score report is to know the level of ability of students among other students, and students want to compete with other students from the results of the value report. This is in line with Sardiman's research (2014, pp. 92-95) states there are several forms and ways to foster motivation in learning activities in schools, namely: 1) Grading; 2) gifts; 3) Praise; 4) Punishment; 5) competition; 6) Ego-involvement; 7) giving a repeat; 8) know the learning outcomes; 9) generate interest. Therefore this gap can be overcome by the willingness of the tutor to report regularly on the progress of students every week.

As for the tutor and student perceptions regarding the role of tutors in improving students' independent learning abilities, there are also significant differences in providing academic instruction for small groups, giving book recommendations, providing tutorial materials such as handouts and quizzes. According to students, there are tutors who give instructions or academic direction in passing and are not expressed interpersonal students such as providing academic guidance in improving grades and strategies to quickly graduate. In this case the tutor allows students to find out for themselves about academic strategies through the UT administrative staff or through the UT catalog. As described by Knowles (In Rusman 2014), one of the authors of the book "self-directed learning: A guide for learners and teachers", the independent learning process is "a process which individuals take the initiative, with or without the help of others, "to diagnose them learning needs, formulate learning goals, identify resources for learning, select and implement learning strategies and evaluate learning outcomes." Therefore, students are expected to help themselves in improving their academic abilities. In this case the tutor only gives motivation and direction in general to students. Tutors only provide material from modules because all exam materials are taken from modules. But there are also tutors who provide recommendations for other books as knowledge enrichment alone. As for this matter for students is not enough, they want there to be reference books that are worth reading by students or materials that can be copied to increase knowledge. Back to the principle of independence that in learning, students are expected to help themselves overcome learning difficulties. If in learning modules there are materials that are not yet known students should find out the truth from other reference sources. Tutors as facilitators can direct appropriate books for students to read.

Besides that students still want tutors to give a lot of small quizzes to find out the progress of student learning. Even though every third, fifth, and seventh meeting there are tasks that must be done by students, this is felt by students is still lacking. Students want a quiz to be held every week.

As for the tutors 'and students' perceptions of the tutor's commitment, there are different perceptions in managing the learning environment, giving tutoring at any time, and the tutor giving personal instructions to individual students. The following describes one by one the problem.

Students want tutors to be able to manage a conducive learning environment such as varying seat positions, delivery of material that varies not only with lecture and discussion methods, and learning outside the classroom. This is done so that students do not feel bored. With the tight schedule of face-to-face tutorials that only take place eight meetings with a large amount of material, of course it's difficult for tutors to make variations in managing the learning environment. But it needs to be done once in a while in order to give refreshing to students. And then students want tutors to give personal instructions to individual students who have learning difficulties. Sometimes students are bothered by work problems or students who have problems such as domestic life or economic difficulties. It makes students sad so they don't concentrate on studying. Students want tutors to provide personal advice and motivation. In this case, the tutor actually has given a mobile number to the student so that students can contact him at any time if he needs help. There are even tutors who create whatsapp groups as a medium of communication between tutors and students.

The conclusion of this study is that the tutor has done his role well but there are still things that are felt lacking by students. This can be resolved if the tutor provides time to make an assessment report each week, the tutor has provided academic direction but only generally does not personally address each student. Tutors provide variations in the setting of the learning environment even though it is done once. Tutors provide reference books to enrich student knowledge and give quizzes every week. Tutors have endeavored to open private lines of communication by giving mobile numbers to students. From the students also need to be reminded that independent learning is an effort to find solutions to their own learning problems and if you have difficulty can ask for tutors' help.

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Students' Barriers to Online Tutorial

SUGILAR SUGILAR[1]

Abstract

Online education should be the core of the student learning support services to realize Universitas Terbuka as the cyber university of Indonesia. However, participation in the online tutorials was still not encouraging. For example, the average of the percentage of students' participation in the first academic semester of 2017 to the 2nd semester 2018 for one course was 2.21%. This study aimed to identify barriers for students to participate in the online tutorial. The method consisted of two stages. First, analyzing qualitative data which were gathered through open-ended questions to identify factors of the barriers. It revealed four factors, (1) information, (2) motivation, (3) technical, and (4) assistance. Second, developing 20 items' questionnaire based on the four factors and distributing them to students. A total of 237 students filled out the questionnaire. The data were then analyzed using Structural Equation Model (SEM) to validate the factors and analyze students' barriers to participate in the online tutorial. The results of the analysis were used for recommendations to improve student participation in online tutorials.

Keywords: *Online tutorial, barriers to participation, structural equation model.*

INTRODUCTION

An online tutorial is one of the students' learning support service provided by Universitas Terbuka (UT). The online tutorial is an internet-based of tutorial service provided by UT. The purpose of the online tutorial is to offer a learning support service enabling the students to communicate with tutors through the internet. The advantage of the tutorial online is that the communication between students and tutors us relatively fast. However, only the students in an area with internet facility can access the online tutorial.

Until now, the students' participation in the online tutorial was still low down. For example, in Educational Statistics course (PEMA 4210), the number and proportion of students taking face-to-face tutorials compared to online tutorials. The proportion of the students who participate in the online tutorial on average was only 2.21%, raising questions that require answers, namely, what are the barriers for students to take online tutorials?

METHOD

This study uses a mixed-method to answer questions about what students' obstacles are to take part in online tutorials. The method implemented in this study consists of the following three steps:

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- A questionnaire asking what obstacles students have in attending online tutorial is distributed to students who are taking face-to-face tutorials. This questionnaire is an open question regarding obstacles that prevent students from taking online tutorials. The results of this questionnaire were then analyzed qualitatively to get an overview of the factors underlying students' obstacles to take online tutorials.
- Based on literature reviews and the analyses results of of the first step, a questionnaire in the form of a Likert scale was developed to measure the level of student barriers in taking online tutorials.
- A sample of 237 students was filled out of the questionnaire developed to measure the level of barriers to online tutorial participation. The results of questionnaire entries were then analyzed with PLS-SEM uses Smart-PLS software. The use of PLS-SEM to overcome the constraints of the lack of a theoretical basis in building structural models and not fulfilling normal assumptions (Hair et al., 2016).

FINDINGS

Students' Opinion on Barriers to Participation in the Online Tutorial

A qualitative descriptive analysis was carried out on students' written answers to open questions related to student barriers to following the tutorial. The 76 written answers resulted in four student answer groups, namely (1) the barriers conveyed by 34 (44%) students related to the lack of online tutorial information, (2) barriers delivered by 15 (20%) students related to attitudes towards online tutorials, (3) barriers delivered by 20 (26%) students related to technical barriers at the time of starting the tutorial, and (4) barriers delivered by 7 (10%) students related to obstacles during the tutorial take place.

Some students revealed the obstacles before students' following the online tutorial from students' response to an open question in the questionnaire. The hindrance includes information about online tutorials that do not reach students. The students expected that information should include the notion of online tutorials, benefits, and ratings in online tutorials, schedule of implementation of online tutorials, how to register online tutorials, and who are the contact persons. A student wrote that information about online tutorials was felt to be very lacking, he wrote that since the first semester as a UT student until now after the sixth semester there was no explanation on how to follow the tutorial, the UT should go to the study group to explain the online tutorials. Information about the tutorial has been given face-to-face when the orientation of new student studies is carried out by regional office centers of UT. However, not all students can take part in these activities. Many students live in remote areas, making it difficult to go to the location of new student study orientation activities.

Although students may already have adequate information about online tutorials, some students have internal barriers to themselves in the form of lack of motivation to follow the tutorial. Based on the theory of expectancy-instrumentality-valence (Simone, 2015), motivation is a function of the perception of the benefits of following an online tutorial and the perceived ease of doing so. In this case, some students know

the benefits of online tutorials, but consider it as difficult to follow. Alternatively, students judge online tutorials as not useful even though they can use them. A student wrote that he considered face-to-face tutorials to be more effective than online tutorials for achieving learning goals. Another student wrote that he had problems with eye problems so he could not read through a computer screen.

Obstacles felt by students when carrying out online tutorials are related to procedures for registering participation in online tutorials as well as obstacles to slow internet speeds in certain areas. Students complain about the complexity of the stages to follow the online tutorial. A student wrote that he was interested in taking online tutorials, but before the implementation of the online tutorial, he could not activate his account. Other students complained about the difficulty of registering to participate in online tutorials.

Student barriers to starting the online tutorial above suggest the need for technical assistance provided by UT. Technical assistance is needed by students, whether they are going to take part in online tutorials or when students have taken part in the online tutorial. In this case, many students feel they do not know how to obtain technical assistance or do not even know that there is technical assistance provided by UT. A student wrote that he needed a written-guidance to use the online tutorial. Other students expressed the different thing that at the time of the tutorial, he could not find feedback from tutors regarding the tasks he was doing.

To complete the above findings in identifying student barriers in following online tutorials, the following are various research results that report several obstacles in participating in online learning. Palmer, Bowman, & Haroff (2013) identified technical, structural, and cultural as the barriers to part-time in online learning. Technical barriers include having no access to the internet or computer and a lack of computer skills. Structural barriers comprise some factors that are related to poverty and social marginal. Cultural barriers contain factors related to learned behavior from a community culture, such as learning style. Srichanyachon (2014) identified students' challenges to participate in online learning, namely problems with online systems and personal problems. Problems with online system connection errors, system complexity, communication convenience, and attractiveness. The personal problems of students consist of a lack of computer skills, internet skills, understanding the platform used for online tutorials (UT uses Moodle) and lack of money to support the cost of internet connection.

Based on a descriptive qualitative study of student answers to open questions and few previous research reports about participation in online tutorials, four factors were identified as students' barriers to participating in the online tutorials, namely: (1) lack of information about online tutorials, (2) low motivation of students to follow the tutorial online, (3) technical barriers to starting and implementing online tutorials, and (4) lack of support services felt by students. The four factors were then developed as a questionnaire with a Likert scale to measure the size of the students' barriers to taking online tutorials. For this reason, each factor was developed by a five-point statement of obstacles to follow the online tutorial so that students would assess all 20 items on the statement as "Strongly Disagree" until "Strongly Agree."

Structural Equation Model of Students' Barriers to Participation in Tutorial

A questionnaire to measure student barriers to taking online tutorials was given to 327 students to fill out. Student fields were analyzed using a structural least square structural equation model (PLS-SEM) using Smart-PLS software (Ringle, Wende, & Becker, 2015). The reason for using PLS-SEM is primarily to overcome the weak theoretical model and abnormal assumption deviations (Hair et al., 2016). Figure 2 presents the results of the analysis in the form of diagrams that describes\ students' barriers to participation in online tutorials (Barriers) which were reflected in factors related to information about online tutorials, students' motivation to participate in online tutorials (Motivation), technical skills to get through the online tutorial (Technical), and availability of supports in online tutorial (Support). Each factor in Figure 2 was associated with several indicators or observed variables which were counted up from items in the questionnaire.

PLS-SEM does not have an established goodness-of-fit measure (Sarstedt & Ringle, 2017). The discriminant validity measures the validity of the measurement, namely the value of the average variance extracted (AVE) of each item in the questionnaire. The AVE value of each item questionnaire that is more than 0.50 indicates significant convergent validity, and a higher AVE value towards the latent variable intended than to other latent variables shows the discriminant validity (Fornell & Larcker, 1981). Table 2 shows that all items in the questionnaire or observed variable have an AVE value > 0.50 for the intended latent variable. Also, the AVE value for each observed variable has the highest value on the intended latent variable. Thus, measurements on the model studied show convergent validity and discriminant validity.

Item	Examples of the statements	Average Variance Extracted				T-Stat
		Inform	Motiv	Support	Technical	
I. Information						
I1	…	0.732	0.159	0.419	0.003	18.448
I2	…	0.786	0.145	0.429	0.121	25.050
I3	I don't know the schedule of the online tutorial	0.861	0.237	0.418	0.104	41.658
I4	…	0.818	0.331	0.391	0.128	26.443
I5	I don't know what devices needed for an online tutorial	0.827	0.365	0.402	0.069	35.556
M. Motivation						
M6	…	0.425	0.700	0.309	0.112	13.238
M7	…	0.217	0.824	0.316	0.197	21.435
M8	I think there is no benefit for joining the online tutorial	0.183	0.876	0.406	0.264	45.122
M9	Probably, joining an online tutorial will just waste my limited time	0.279	0.904	0.424	0.299	61.099
M10	…	0.241	0.851	0.478	0.237	39.155
T. Technical						
T11	…	0.014	0.122	0.025	0.664	7.608
T12	…	0.014	0.122	0.025	0.664	11.680
T13	I have difficulties in reading through a computer screen	0.026	0.298	0.202	0.794	20.184
T14	…	-0.011	0.182	0.168	0.803	18.144
T15	I don't have devices for a tutorial online	0.202	0.171	0.387	0.739	19.283
T16	…	0.441	0.188	0.143	0.550	13.686
S. Support						
S17	...	0.381	0.419	0.797	0.355	24.750
S18	I need a written guidance	0.523	0.378	0.854	0.180	39.689
S19	I need an opportunity to guided practice	0.396	0.425	0.884	0.277	45.627
S20	...	0.405	0.348	0.825	0.228	28.097

Table 1. Discriminant Validity

Table 4 lists the reliability of the measurement for each variable. From Table 4, it appears that for each measurement variable, the Cronbach alpha value is higher than 0.80. Thus, measurements for each latent variable indicate adequate reliability (Sarstedt & Ringle, 2017).

Variable	Alpha Cronbach	T-Value	P-Value
Information	0.865	51.868	0.000
Motivation	0.888	54.463	0.000
Supports	0.861	48.241	0.000
Technical	0.840	44.319	0.000

Tabel 2. Reliability

Factors Reflecting Barriers to Participation to Online Tutorial

The following factors are the inhibiting factors for students to take online tutorials base on the previous findings. These factors are; (1) lack of information received by students regarding online tutorials, (2) motivation of students to take online tutorials, (3) technical barriers faced by students when they will start and during online tutorials, and (4) lack of assistance services felt by students. Figure 2 shows the structural model of the students' barriers to online tutorials.

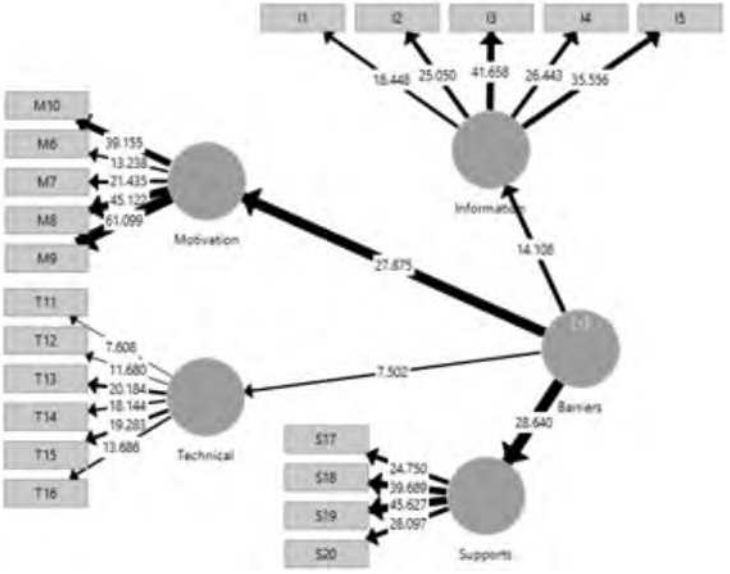

Figure 2. Structural Model of Students' Barriers to Online Tutorial

The number on the arrow line indicates the significance of the correlation coefficient (t-values) to represent the strength of the relationship between two variables, in this case, the strength of an observed variable reflects latent variable or the strength of the latent variable reflects other latent variables. For example, Figure 2 showed that the latent variable of the Support (availability support service for using online tutorial) was indicated by 28.640 of t-value which was the most strength variable to reflect the latent variable of the Barriers to Online Tutorial, and the observed variable of s19 was the most strength item in the questionnaire in reflecting the Support variable with t-value = 45,627. As could be seen in Table 2, the s19 item is a statement that expressed the students need an opportunity to a guiding practice of the online tutorial. The next statement, which was the second most strength to reflect the barrier to participation

in the online tutorial, was s18 with t-value = 39.689. The item of s18 is a statement that expressed the students need written guidance to join and carry out the online tutorial (see Table 2). UT did provide such written guidance. The problem was how the students could have and grasp the document.

The second best in reflecting barriers to participation to an online tutorial, as could be seen in Figure 2, was the motivation variable, with T-value = 27.875. Motivational variables are internal barriers for students to take online tutorials. Motivation is influenced by perceptions of the value of participation in online tutorials and the ease of following it. So, the barriers that come from motivation can be tangible in the form of perceptions of lack of benefits from participation in online tutorial or perceptions of natural difficulties following online tutorials. The questionnaire items that most strongly show motivational barriers are points M8 and M9, which state that students do not see the benefits of online tutorials.

The third variable that reflects the barriers in following online tutorials is the variable lack of information about the online tutorial with the t-value = 14.108. This obstacle applies to students wanting learning assistance in the form of online tutorials, but they do not find an explanation for how to follow it. The questionnaire item that most reflects this variable is the point I3 (t-value = 41.658) and I5 (t-value = 35.556) which states that students do not know the schedule and equipment needed to take online tutorials.

CONCLUSION

To increase the number of students using online tutorial in the future, UT and similar open and distance university with large number of heterogeneous students spread out in remote areas, should (1) provide student support services specialized for tutorial online in every regional office centers, (2) inform the students to the benefits and easiness of tutorial online to their learning, (3) provide and distribute a written guidance of online tutorial, and (4) offer online practice for students whenever they need.

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The Community of Inquiry (CoI) Framework for Overcomig Learning Barriers in Open and Distance Education

Zeynep YURTSEVEN AVCI[1], Funda ERGULEC[2]

Abstract

Open and distance education options offer various opportunities to learners around the world. However, the quality of the online courses continues to be questioned. Learning barriers in open and distance learning environments are centered around low levels of participation and lack of interaction. In this study, the Community of Inquiry (CoI) Framework, which structures the interaction between students, teachers and content, is examined in terms of learning barriers. The most important objective of the model is to create activities for meaningful learning environment. Cognitive presence, social presence and teaching presence, which are the three main components of CoI framework, have been examined in terms of providing solutions to learning barriers. For an effective CoI framework implementation, where all three components support each other, the teacher needs to design instruction based on student needs; direct teaching activities, research and discussions during the course; and provide the necessary content. In this way, teaching presence is taken to the higher level. A successful application of CoI framework with this high-level teaching presence along with high level cognitive and social presence, for which today's technologies are used efficiently, has the potential to eliminate many learning barriers encountered in open and distance learning.

Keywords: *CoI Framework, learning barriers, cognitive presence, social presence, teaching presence.*

INTRODUCTION

Distance education programs are rapidly expanding and gaining greater importance throughout the world (Mahlangu, 2018, Moore & Fodrey, 2018). The reasons for this development include the possibility of individual learning by ignoring the factors such as age, status and environment, freedom to receive education from the desired university, the opportunity for employees to continue their education careers while continuing their business life and professional development at a more affordable cost. In addition, distance learning is recognized for its positive contribution to facilitating access to teaching support, responding to the challenges posed by the globalized world, providing flexibility in time and reducing travel costs (Katoch, Doah, Dadashi, 2018; Mahlangu, 2018).

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While open and distance education options offer various opportunities to learners, the quality of the online courses continues to be questioned (Allen and Seaman, 2016). Low level of participation (e.g. Lee, Choi, & Kim, 2013) and lack of interaction (e.g. Tsiotakis & Jimoyiannis, 2016) are some of the learning barriers encountered in online learning environments. In a face-to-face classroom environment, student-teacher and student-student communication and interaction can occur naturally in the classroom since the students and the instructor are in the same space at the same time. In a distance education classroom, such an immediate interaction is usually not available. Therefore, in online course design, the teacher and / or instructor designer has to create various interactive learning activities.

Instructional design in distance education highly affects level of student participation and interaction (Palloff & Pratt, 2013; Rovai, 2007). In other words, providing a technological environment for distance education is not sufficient for deep and meaningful learning, instructional design is of great importance in planning and conducting distance education courses. In this study, it is suggested that Community of Inquiry Model (CoI) (Garrison, Anderson and Archer, 2000) will eliminate important learning barriers, when it is used designing and / or evaluating open and distance learning environments.

Problem Statement and Significance of Study

Some of the difficulties faced by students in open and distance education programs in higher education institutions are identified as: loneliness, lack of productive interaction, lack of course interaction, lack of opportunity to ask questions, low computer literacy skills, low response to e-mails, technical inadequacies, low attendance rate and lack of communication with academic staff (Akkus & Acar, 2017; Bilgic & Tuzun, 2015; Sahin, 2019). This study reveals that the Community of Inquiry Model (CoI), which constructs the interaction between students, teachers and content, will contribute to the prevention and solution of most of the problems posed by the learners, when it is applied in the planning and / or evaluation of the existing online courses.

The Community of Inquiry (CoI) Model

The Community of Inquiry (CoI) Framework is a learning model that was first developed by Garrison et al. (2000) and adopted a collaborative-constructivist approach. According to Garrison et al. (2000), learning consists of the interaction between three important components of students, teachers and content. The CoI model was developed based on the interactions between these three components. The most important objective of the model is to create activities to provide critical thinking and a meaningful learning environment. In this context, the CoI model consists of three intertwined components: cognitive presence, social presence and teaching presence. Figure 1 shows the structure of the model and the relations of the components in the model.

Cognitive presence: It is about students' being able to create meaning in communication with their teachers and peers and construct their learning (Garrison, Anderson, & Archer, 2001; Polat, 2013).

Social presence: It includes the ability of participants to identify themselves in the community, communicate with the community members and develop interpersonal relationships by reflecting their individual personality (Garrison, 2009; Polat, 2013).

Instructional presence: It involves designing, facilitating and guiding social and cognitive processes in order to realize relevant learning outcomes (Anderson, Rourke, Garrison, & Archer, 2001).

Figure 1. Elements of an Educational Experience (Garrison, Anderson and Archer, 2000)

METHOD

In this study, each component of the Community of Inquiry (CoI) Framework was examined in terms of learning barriers in open and distance learning; each component was sought to answer the question of how it can offer solutions to learning barriers. In this context, the three main components of the CoI framework, namely cognitive presence, social presence, and teaching presence are examined in terms of providing solutions to learning barriers. Learning barriers were determined in accordance with the reviewed studies.

INVESTIGATION COMMUNITY OF INQUIRY FRAMEWORK IN TERMS OF LEARNING BARRIERS

The concept of presence, which is used to express the basic components of the Inquiry Community Model, expresses sense of being in a place and belonging to group through the communication and interactions they establish in an online learning environment, even though the teacher and the students are not in the same physical space (Picciano, 2002).

Cognitive Presence

Considering the "learning pyramid" developed as a result of the studies conducted by National Training Laboratories (NTL), the contribution of the course readings and audio-visual representation techniques to the earning, in which students receive information in a passive process, varies between 5% and 30%; while the contribution of the techniques such as the discussion groups, practice-based learning, and teaching others, in which students participate in an active process, reaches 50%, 75% and 90% respectively. The cognitive presence dimension of the Community of Inquiry Framework includes the processes of construction of knowledge through research and discussions conducted by students in line with common objectives (Bulbul, Tugtekin, İlic, Kuzu and Odabasi, 2016; Polat, 2013). This configuration starts with a triggering event and follows the phases of exploration, integration and resolution (Garrison et al., 2001). In this context, CoI framework foresees that a course conducted through distance education does not only include lectures by teacher, but also the active participation of the students in the learning process and that the discussion groups are intensively employed. The teacher prepares the environment for the student's active participation in the process by raising questions (triggers) that students can use their research and questioning skills to answer. Of course, the progression of students to the integration and resolution stages depends on the teacher designing appropriate learning activities and taking a facilitating and guiding role throughout the process (Garrison, Anderson, Archer, 2010). If these processes are carried out in harmony, a successful CoI application with a high level of cognitive presence has the potential to prevent learning barriers such as inefficient courses and course not meeting the expectations.

Social Presence

Social presence dimension of the CoI framework defines students` participation academically and their communication with each other in a democratic environment (Garrison et al., 2010). In this context, with today's technologies, it is possible for teachers to prepare an environment for their students to provide a high level of social presence. For example;

Conducting an introduction activity for which participants share the reasons for taking the course individually (at the time of the live course or through a discussion form),

Providing platforms that enable students to communicate with teacher or a specialist from whom they can get response to their questions on a timely basis (such as regularly answering e-mails and/or a Q & A discussion form)

A successful CoI application employing some of these learning activities that require and increase social participation and interaction, it is possible to prevent learning barriers such as feeling lonely, less interaction, and no opportunity to ask questions.

Teaching Presence

In CoI framework, teaching presence involves designing, facilitating, and guiding social and cognitive presences in order to obtain personally meaningful and educationally valuable learning outcomes. This process consists of design and organization,

facilitating discourse, and direct instruction phases (Anderson et al., 2001). For the instructional design and organization phase, teacher designs instruction choosing appropriate teaching methods to use environment effectively, determines rules, establishes time parameters, and so on; for the facilitating discourse phase, specifies agreed / disagreed areas, attracts students to discussions, directs discussions, evaluates the effectiveness of the process so on; and for the direct teaching phase, presents the content, asks questions, directs the discussion on a specific topic, diagnoses mistakes, presents information from different sources, and so on. With all these components, teaching presence is directly related to the other two presences and guides teacher to eliminate the problems that may occur in them. In this context, in a successful application of CoI framework where sufficient teaching presence is provided, the teacher should recognize student needs and create a learning environment accordingly, create learning activities and contents appropriate to their needs. In this way, many learning barriers will be eliminated.

DISCUSSION AND CONCLUSION

In this study, cognitive presence, social presence and teaching presence components, which are the three main components of the CoI framework, were examined in terms of providing solutions to learning barriers. In order to increase the teaching presence, the teacher should perform the detailed instructional design of the course by taking into consideration the needs of the students, carry out studies to provide the necessary content and technological infrastructure, and seek solutions for the problems that may occur. In addition, it is important that today's technologies are used efficiently to provide high level cognitive and social presence. In line with these findings, a successful application of CoI framework where all three components support each other has the potential to eliminate many learning barriers encountered in open and distance learning.

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Using Blended Learning to Enrich Student Learning Experience in a Post-Graduate Course for In-Service Teachers

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Abstract

This paper investigates the use of blended learning to teach in-service teachers a post-graduate distance education course on "Integration of Theory and Practice in Teaching and Learning". Integration of theory and practice in teaching and learning is fundamental as foundation to develop teachers' knowledge, skills, and competence to better prepare them to be effective teachers in the classroom throughout their professional lives. The design for the course includes provision of self-learning materials and blended learning to engage students in learning. The blended learning comprises twelve-week online tutorials and four-weekend face-to-face tutorials integrated into the online tutorials. Three assignments are given to students with feedbacks by the tutor, and students take an essay type examination in designated locations at the end of the semester. Blended learning will be analyzed in terms how it facilitates learning, how it engages learning, how students benefit from blended learning, and what improvements are needed. Information about learning experiences are sought from the students through online questionnaire.

Keywords: *open and distance learning, student support services in ODL, barriers to learning, lifelong learning*

INTRODUCTION

Blended learning has been used in higher and teacher education, incorporating the use of new technology to facilitate learning using printed, online, and other media, and a combination of learning support using face-to-face, mediated, and online tutorials in synchronous and asynchronous modes. This paper investigates the use of blended learning to teach in-service teachers taking a post-graduate course on "Integration of Theory and Practice of Instruction" for the degree Master of Basic Education at Universitas Terbuka (UT) Indonesia. The course provides self-learning materials supported with a twelve-week long online tutorials enriched with face-to-face tutorials during four weekends and assignments to engage student learning. This research attempts to reveal how blended learning is used to facilitate learning, how blended tutorials are designed, and how learning interactions take place. A questionnaire was distributed online to the students taking the course to collect information about their views, comments, and feedbacks to blended learning and the course.

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Distance and Bended Learning

New technology has contributed to new approaches to teaching and learning and has enabled knowledge to be stored, shared, and distributed in digital format which becomes easier to use in teaching and learning. The paradigm of teaching and learning has shifted from the traditional face-to-face mode to new technology-enhanced mode. Distance learning institutions in Asia have gradually transformed themselves into using technology as means of delivering knowledge to distance online learners (Latchem & Jung, 2010). Research findings have indicated blended learning as effective teaching and learning strategy for a variety of subjects such as MBA course, medicine and clinical science, and natural science (Makhdoom, Khoshhal, Algaidi, Heissam, and Zolaly, 2013; Gurubatham, 2014; Bhowmik, Meyer, and Philips, 2019).

Research findings show evidences of effectiveness of blended learning environments in teaching various higher education subjects (Renner, Laumer, and Weitzel, 2014). A meta-analysis of the literature on the effectiveness of online and blended learning indicates that students in online learning conditions performed better than those receiving face-to-face instruction, and blended learning has advantage over face-to-face classes as it tends to involve additional learning time, instructional resources, and course elements that encourage interactions among learners (Means, Toyama, Murphy, & Baki, 2013). Findings of an experimental study on the effectiveness of a blended learning environment in an Introduction to Computers course indicate that students have expressed that they learn more effectively in a blended learning environment (Eryilmaz, 2015). Findings of research by Hubackova & Semradova (2016) conclude that blended learning is acceptable and favored by foreign language students, and the students accept new technology rapidly and learn to use the technology easily.

Teacher Education at a Distance

The world needs more and better teachers (Perraton, 2010). Nearly 69 million new teachers are needed to achieve the 2030 Sustainable Development Goal 4 (SDG 4) to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all (UNESCO, 2016). Teacher education institutions are challenged to develop competencies in the integration of theory and practice in teaching and learning through the pedagogy of teacher education that is different from the traditional lecturing approach and abilities to show exemplary pedagogical behavior (Korthagen, 2016). There are stages in teacher educational development that includes preparation, induction, continuous development, and reflective practitioner (Townsend and Bates, 2007).

Distance education has been employed to train in-service and pre-service teachers, and maintain teachers' continuing professional development (Gultekin, 2006; Perraton, 2010). Technologies have been used in teaching and learning to benefit student and teacher learning (Burns, 2011). Research findings show that distance education programs that are well designed and effectively implemented can provide a flexible alternative to the traditional approach to in-service teacher education (Carr, Fung, and Chan, 2002). Knowledge in subject matter and competence in teaching and learning is intertwined, and research findings have indicated how learning in schools can be

enhanced when teachers are actively studying what and how their learners are learning in connection with their teaching (Osman and Booth, 2014).

For Indonesia, the Law acknowledges that teaching is a profession (Sumintono and Subekti, 2014). Teacher training in Indonesia ensures a continuous professional development, from pre-service, induction, to lifelong continuing professional development. The teacher profession generally begins with pre-service teacher education, and the Law requires a minimum of relevant degree at bachelor level in primary teacher education to teach in primary schools, or subject-based teacher education to teach in high schools. New teachers are recruited with bachelor's degrees and are inducted at schools by senior teachers and go through certification to qualify as professional teachers by Law. In-service teachers go through a series of continuing professional teacher development in line with the subjects they teach and educational levels they teach.

Integration of Theory and Practice in Teaching and Learning

Integration of theory and practice in teaching and learning has been an important subject of research in education, and there is tension between theory and practice in teacher education, and effort is needed in linking practice and theory, establishing links between teacher education institutions and schools, and addressing specific pedagogical strategies and techniques (Korthagen, 2016). Integration of theory and practice in pre-service teacher education may be done through action research, as it helps student teachers use theories for reflection on practical activities that would lead to understanding the theory and practice integration process (Bobrakov, 2014). Research findings indicate that practicing integration of theory and practice early on during classroom learning seemed to help students in applying these skills in making decisions and professional judgements in practice (Van Rensburg, 2006). Teachers are confronted to the challenge of integrating theory and practice in teaching and learning in the classroom from pre-service training through in-service training, and lifelong professional lives (Lavonen, Henning, Petersen, Loukomies, & Myllyviita, 2019; Whatman and MacDonald, 2017; Flores, 2017).

Teacher trainees are often confronted with question about relevance of theory to practice, how teachers apply theories they are learning to the problem they confront in the classrooms (Gordon, 2017). Maaranen (2009) research findings on teacher students' workplace learning and the integration of theory and practice in teacher education indicate that the students who worked while they studied took advantage of the studies and applied them to work, and they set more demanding teaching goals and reflected on their work more theoretically. Case study is one method to link theory to practice and it can help to present students with some aspects of real-life scenarios whereby they can apply and integrate knowledge, skills, theories and experience (Ching, 2014).

METHOD

This study used a questionnaire distributed online to students taking the post-graduate course to collect data. As online tutors, the authors facilitated student learning, interacted with students, gave feedbacks and comments, conducted observation,

and took notes of online tutorials. The questionnaire attempts to reveal information about various aspects of blended learning, including study habits, flexibility, face-to-face tutorials, Internet access and connectivity, online tutorials, blended learning, integration of theory and practice, and comments and feedbacks to blended learning and the course. There were 24 out of 54 students (44%) responded to the questionnaires.

The Course "Integration of Theory and Practice in Teaching and Learning"

Serving about 500 students, the Master of Basic Education program is designed to develop the competencies of the student teacherss to design, analyze, and evaluate teaching and learning process in basic education. After completing the program, the students are expected to have developed the knowledge, attitudes, skills and professional competencies in basic education (Universitas Terbuka, 2019). Students admitted to this program are in-service teachers or educational managers and supervisors with bachelor's degrees and a Teaching Certificate. Students are required to accomplish a total of 42 credits or 13 post-graduate courses, including a six-credit research project as parts of the requirements for the fulfillment of the program. The learning materials is designed to enable students to pursue independent learning and are provided with discussion, examples, self-tests, formative tests, summary, and keys to answers for tests.

The course MPDR5102 Integrasi Teori dan Praktek Pembelajaran (Integration of Theory and Practice in Teaching and Learning) is a three-credit course for the Master of Basic Education Program providing students with conceptual framework for understanding the integration of theory and practice in instruction, perspectives of learning theories, active learning and mastery learning, learning approaches based on multiple intelligences, and how those concepts are implemented in the classroom teaching and learning (Universitas Terbuka, 2019). Students are expected to have broad and in-depth understanding of the nature of learning and teaching and its practice in the classroom, discussing topics on principles of teaching and learning, learning theories, active learning, mastery learning, multiple intelligences, quantum teaching, and virtual learning (Suciati, Wardani, Winataputra, Malati S, Mustafa, Herry, 2015).

Blended Learning in the Course "Integration of Theory and Practice in Teaching and Learning"

Blended learning is used to teach the course MPDR5102 Integration of Theory and Practice in Teaching and Learning, involving online and face-to-face tutorials to support student learning and assignments to prepare students for semester examination. Blended learning in tutorials is mandatory for all post-graduate courses to provide students with learning experience and engagement. Tutorial activities begin with orientation week, in which students learn what to do to attend blended online and face-to-face tutorials, learning activities, and assignments. The tutorials include 12 weeks long of online tutorials integrated with 4 weeks of face-to-face tutorial sessions in weeks 4, 7, 10, and 13 conducted in weekends.

Using Moodle as platform, online tutorials allow tutors and students flexibility for asynchronous and synchronous interaction and communication. Each week online tutors provide initiation, introduction, discussion, examples, and explanation about

specific topics in the learning materials. Interactivity and communication between tutor and the students and among themselves engage students in learning. Tutors enrich discussions of the topics with open educational resources (OERs) to enrich learning experience. The online tutors facilitate learning through activities such as probing questions to trigger discussions and interaction with and among students, addressing students' questions, giving comments and feedbacks to students' ideas and responses, and summarizing online discussion topics. Students in each course are requested to submit 3 assignments uploaded online before the end of sessions 3, 6, and 9 of the online tutorials.

Face-to-face tutorials engage student learning, in which the tutor presents learning topics to students for responses, comments, questions, and give feedbacks to students. Students may be asked to make presentations on certain learning topics with feedbacks and comments from the tutor and peers. The face-to-face tutors mark and give feedbacks to students' assignments submitted online. These assignments are aimed to assess students' understanding of concepts presented in the learning materials and provide summative assessment of the topics being discussed. Feedbacks to assignments are provided to students during face-to-face tutorials to facilitate students' understanding of difficult concepts and motivate students learning of the materials. Assignments are designed to engage student learning, assess students' knowledge and competence on certain topics, and prepare students for semester examination.

Semester examination for post-graduate students are conducted for 3 hours each course in two consecutive weekends at the end of semester in designated locations. Post-graduate courses are intended to develop analytical thinking and competencies of students in their profession. Essay-type tests are developed to assess students' competence of the course. Final grades for the blended learning course are based on contributions of 40% face-to-face tutorial scores, 20% online tutorial scores, plus 40% semester examination scores.

FINDINGS

The UT Post-Graduate Program, in which the Master of Basic Education is one of its 7 master's programs, has been developed to meet the demands for graduate studies, and it contributes a total of 2,043 students (0.68%) of the total 302,484 students in 2018. The followings are responses to the questionnaires sent out to post-graduate students taking the course.

Responses to Questionnaire

Study habits. In terms of study locations, the responses indicated that all students studied from home (100%), in the workplace (33%), in public zones (25%), and in the library (8%). In terms of media used, many students preferred using laptops to access digital learning materials (71%), printed learning materials supported with other media (46%), and less students used smartphones (25%), and printed materials only (29%). In terms of ease and flexibility in managing time for studying, many students said they had a very high degree of flexibility (21%), high degree of flexibility (54%), and restrictions in time management (29%). Allocating time to study the learning materials, read references, and work on exercises and assignments posed a serious

challenge for students, and this was indicated by the fact that many students spent 2 to 4 hours per day (46%) and even less than 2 hours per day (42%). Most students said that the learning environment at home and in the workplace were very highly supportive to learning (50%) and generally supportive to learning (50%). Many students indicated effort to use the opportunity to learn very actively everyday whenever possible (50%), every 2 to 3 days whenever possible (29%), every 4 to six days (13%), and once a week (8%).

Face-to-face tutorials. Face-to-face tutorials provided opportunities for students to study and interact directly with the tutors, students, and their peers. Most of the students (83%) attended all the face-to-face tutorial sessions, and the remaining students (17%) were unable to attend all sessions. Students prepared themselves for the face-to-face tutorials through several learning activities such as reading the learning materials and relevant literature (71%), making summary of the learning materials (33%), working on exercises and formative tests (21%), and having discussions with peers (29%). Many students actively participated in activities during the face-to-face tutorial sessions, including asking questions (79%), expressing comments and opinions (58%), requesting clarifications and feedbacks (29%), and stating corrections and objections (13%). Many students indicated that they had very a high degree (38%), a high degree (50%), and a moderate degree (12%) of active interactions with the tutor and their peers. Students said that the initiations, support, and direction of the tutor were very much useful (75%) and useful (25%) to motivate learning, and they found that the assignments were very much useful (67%) and useful (33%) to engage learning. Students indicated that the face-to-face tutorials were very much useful and motivating to learn (67%) and useful and motivating to learn (33%), and the support provided by the tutor was very much useful and facilitating learning (71%) and useful and facilitating learning (29%). Overall the students indicated that peer learning were very much motivating and useful (63%), and motivating and useful (37%), and they thought that the face-to-face-tutorials made them very much ready (46%) and ready (54%) for the semester examination.

Internet access and connectivity. Students had varying degrees of flexibility in Internet access and connectivity. All students had Internet access and online connection from home (100%), the workplace (50%), free public Internet access (21%), and paid Internet café (13%). For online connections, most students used computer laptop (92%), mobile devices (42%), desktop computers (21%), and tablet (13%). Students had unlimited easy access to Internet (29%), easy access at certain times (38%), and limited Internet access (33%). Students had excellent online connections for a variety of functions such as video, file download, email, and radio (33%), good online connections (50%), and difficult connections (17%). Internet literacy was very much high and encouraging and most students used the Internet for learning online every day whenever they had the opportunities (83%), every 2 to 3 days (13%), and every 4 to 6 days (4%).

Online tutorials. Most of the students had a higher degree of flexibility in accessing online tutorials every day to suit their needs (46%), every 2 to 3 days (50%), and every 4 to 6 days (4%). In terms of time for daily study, most of the students spent 2 to 4 hours per day (67%), less than 2 hours per day (17%), and 5 hours or more per day (16%). Most of the students were involved in learning activities to prepare themselves for online tutorials, including reading the learning materials (79%), made summary

of the learning materials (46%), had discussions with peers (29%), and worked on exercises and formative tests (21%). During online tutorials most of the students engaged in learning through expressing opinions and comments in online discussions (92%), asking questions to the tutor and peers (38%), and requesting clarifications and giving feedbacks to the tutor's and peers (21%), and expressing objections and stating corrections (4%). Many students interacted actively with the tutor and their peers every day (25%), every 2 to 4 days (38%), and at least once every 8 days (29%). All students agreed that the online tutor's initiations, learning support, and direction were very much useful and motivating (46%) and useful and motivating (54%). All of the students further agreed that the online tutorial assignments engaged them in learning and were very much useful (50%) and useful (50%) to motivate them to learn, and that the online tutorials were very much useful and motivating to learn (50%) and useful and motivating to learn (50%). All students said that the online tutorials and the online tutor were very much useful and facilitated them in learning (50%) and useful and facilitating (50%). All students also said that peer learning during online tutorial were very much useful and motivating (50%) and useful and motivating (50%). The students thought that online tutorials made the very much ready for exam and directed in learning (33%) and ready for exam and directed in learning (67%).

Benefits of blended learning. Three questions asked in this section attempted to reveal the benefit of blended learning, how students managed their time to attend blended learning activities in both face-to-face and online modes and made themselves ready for semester examination. All students believed that blended learning was very much useful (58%) and useful (42%) in enriching their learning experiences. Attending both face-to-face and online tutorials were important priority and most of the students could manage their time and study schedules very easily (29%) and easily (50%), but some students had difficulties in organizing their time and study schedules (21%). Blended learning helped the students enriched learning experience, improved understanding of the concepts discussed, and made the students very much ready (42%) and ready (58%) for the semester examination.

Experiencing the integration of theory and practice in teaching and learning. All students said that they learnt the integration of theory and practice in teaching and learning during the tutorials and applied the experience in the classroom (100%). Most of the students indicated that they had been strongly encouraged (54%) and encouraged (38%) by the supervisor/tutor and had feedbacks from peers in the course to experience the integration of theory and practice in teaching and learning. Finally, students said that they would be able to apply the practical experience in their own classrooms at schools because they were inspired from the learning materials of the course (67%), they were encouraged by the tutor (46%), they had theoretical and practical feedbacks from peers during the course (25%), and they learnt through interaction with peers during the course (17%).

Comments and Feedbacks to Blended Learning

The students responded to the questionnaire expressing their comments and feedbacks to blended learning in the areas of benefits, improvement, online tutorials, and face-to-face tutorials.

Benefits. Blended learning through online and face-to-face tutorials were well implemented and facilitated students to have deeper understanding of the concepts presented in the learning materials, discover new ideas, engage learning, and direct students to manage time carefully. For student teachers, blended tutorials provided inspiration to design classroom instruction enriched with online experience for students. Blended learning supported quality learning process, enriched learning experience, and motivated students to learn. Teaching and learning could be conducted in flexible manner, allowing students flexibility and independence to study. Discussions with tutors and peers took place in tutorials, and they might be extended beyond the scheduled face-to-face tutorials. It added knowledge and insights, gave ideas for learning and teaching in the classroom, enriched learning experiences, and made learning easier to take place.

Improvement. Blended learning was good when it was supported with good internet connection. Tutors needed to give feedbacks to the students' comments. The assignments needed to be designed to suit learning conditions as students had discussions and assignments all at the same time. The tutor needed to manage good combination of the tutoring functions and learning interactions. More time was needed to allow students to work on assignments before submission, and feedbacks and assignment scores needed to be given to students sooner to motivate students.

Online tutorials. Online tutorials engaged student learning, facilitated independent learning, and encouraged students to interact with the tutor and peers. Online tutorials motivated students with work commitments to have flexibility to study to suit their needs. Students thought that they needed more time for online tutorials and work on assignments, more in-depth initiation materials, and feedbacks for better scores. Students thought that some obstacles, such as poor infrastructure and equipment, unfamiliar with new technology, and poor internet connectivity could contribute to poor access to online teaching and learning results. The online tutor needed to improve interactivity with students in terms of responses, supervision, and feedbacks to online discussions.

Face-to-face tutorials. The tutor should inform the scores to the students to motivate learning. There could be more flexibility in terms of rules for deadlines for submission of assignments and discussions. The quantity and frequency of face-to-face tutorials could be increased, but some students thought of saving costs, shorter time, and less frequencies of face-to-face tutorials. The learning materials presentation could be synchronized for both online and face-to-face tutorials. Teaching practice for the course also needed to be conducted during face-to-face tutorials.

DISCUSSION AND CONCLUSION

Discussion focuses on students' comments and feedbacks to the course, followed by conclusion of the study.

Discussion

Students' comments and feedbacks on the course can be grouped into the areas of learning materials, new insights into improving teaching and learning at schools, and improved theoretical understanding of teaching and learning.

Learning materials. The learning materials were well-designed and well-written, and the course included a wide range of relevant topics of teaching and learning, supported with videos on teaching and learning. The printed learning materials needed to be printed on quality paper with larger fonts to improve legibility. More topics on teaching and learning methods in the classroom needed to be added. The course needed to include topics on how to address current challenges and future needs of education, relevant theories and advances in education for the 21st century, and different types of formative tests.

New insights into improving teaching and learning at schools. This course provided new insights into primary school education through concept mapping that facilitated learning. The course was a good reference and provided knowledge foundations to improve teaching and learning in primary schools. It developed competency through experiential learning and was useful as insights into teaching practice. The course directed students to explore new insights and knowledge and helped students understand the integration of theory and practice in teaching and learning, presenting knowledge on improving theoretical foundations and practical knowledge for classroom teaching and learning. Guideline information for follow-up by students in integration of theory and practice were needed to be included in the course.

Improved theoretical understanding of teaching and learning. The course provided in-depth knowledge on teaching and learning, and improved understanding and knowledge to improve professional practice in teaching and learning. As useful knowledge investment, the course improved knowledge on various theories in teaching and learning. The challenge for the students to better understand the course was improving competencies in foreign language. The course needed supervisor/tutor who could encourage students to think more independently.

Conclusion

The research provided findings on various aspects of blended learning for the post-graduate course "Integration of Theory and Practice in Teaching and Learning", particularly relating study habits, blended learning, face-to-face and online tutorials, integration of theory and practice, and comments and feedbacks on blended learning and the course. Further study needed to look at how blended learning improved student learning process and results. Future research should carefully look at learning analytics for the course and address issues that come out to improve the course, its pedagogical design, and learning results of the students.

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Using Online Tutorials to Engage Student Learning Biology at a Distance

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Abstract

All subjects can be taught at a distance, and teaching biology online is a challenging endeavor. This paper investigates how open university students learn biology at a distance supported with online tutorials, focusing on three undergraduate Biology courses of Universitas Terbuka (UT), namely Cell Biology, Basic Natural Science, and Plant Structure. Students learning biology in online tutorials were observed during eight-week sessions, and a questionnaire was distributed online to students to reveal some aspects of online tutorials, namely access to internet and connectivity, interactivity in online tutorials, practicum and laboratory, use of OERs, and feedbacks on online tutorials and the courses. The roles of online tutor were critical to facilitate online learning, so the online tutor was observed in terms of feedbacks to students, interactivity, responses to questions, initiation of interaction, and learning engagement. Findings of this study provide new insights and better understanding of how students learn online, how online tutorials enrich learning, how online tutor facilitates learning, and how students learn from their peers.

Key words: *Open and Distance Learning, Student Support Services in Odl, Barriers to Learning*

INTRODUCTION

Distance learning systems have offered science courses online and produced many graduates. Distance learning institutions realize specific challenges to address in teaching science online, which is demanding in terms of the complexity of concepts and skills taught, technological and logistical support needed, relevant literature and research, and lack of pedagogical training of science educators (Kennepohl & Shaw, 2010). New technology has contributed to the transformation of distance learning into online learning, constructing new landscapes and methods for teaching and learning in higher education (Anderson & Elloumi, 2004). This study investigates the teaching and learning of biology online at a distance, addressing the questions on how distance students learn biology online and what kind of effective online support is to be provided by the institution. It focuses on observing online tutorials in three first-year undergraduate courses in biology offered by Universitas Terbuka (UT) Indonesia,

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namely Cell Biology, Basic Natural Science, and Plant Structure. Students are observed in terms of their online learning activities, while the tutor is observed in terms of tutoring activities.

Engaging Student Learning Online at a Distance

Distance education system has evolved to address challenges in student learning, success in learning, retaining students for success in learning, increasing use of technology, and shift into online learning (Anderson & Elloumi, 2004; Bozkurt, 2019). The foundations of educational theory for online learning highlight the importance of learner preparation, activities, interaction, and transfer when taking online learning (Ally, 2010). Research findings have indicated the significance of instructional design to facilitate development and delivery of online learning that make learning an enjoyable experience (Chen, 2016). Approaches to effective online instruction needs to address new methods of course design, peer interaction, and tutor preparation and support (Crawford-Ferre & Wiest, 2012). Online learning and teaching in the digital world are moving towards expanding access to knowledge, improving teaching and learning, and advancing our understanding of how people learn (Garber, 2015). Research findings provide evidence to suggest online learning can be at least as effective as the traditional mode of teaching and learning (Nguyen, 2015).

Online learning has reached a new stage for development and is seen as an important facilitator in higher education (Willcox, Sarma & Lippel, 2016). Online, blended, and lifelong learning provision is a future trend for next-generation pedagogy (Witthaus, Rodríguez, Guàrdia & Campillo, 2015). Learning in the digital age depends on connectivity, which implies a paradigm shift of learning away from the view that learning is an internal and individual activity (Siemens, 2004). Digital technologies have impact on support for distance learning to be integrated with teaching and assessment, taking into accounts both internal and external factors to the students (Tait, 2014). Distance education in the digital age system is challenged to develop learning support system that allows connectivity to ensure students' success in learning.

A key challenge for online educators is linking learner needs, pedagogy, and technology in order to construct more interactive, engaging and student-centered environments and encourage self-directed learning (Parker, Maor & Herrington, 2013). Learning engagement in distance learning ensures persistence and improves academic achievement (Everett, 2015). Technology is important to engage student learning in an online course (Miller, 2013). Student engagement in learning is concerned with the interaction, effort and resources to optimize student experience, enhance learning outcomes, and ensure success in learning (Trowler, 2010; Senior, Bartholomew, Soor, Shepperd, Bartholomew & Senior, 2018). It is the duty of the institution to design distance learning courses that engage students in learning and ensure learning engagement activities.

Online learning engagement is a multidimensional concept involving student behavior, psychological aspects, design of online pedagogy, and needs for interventions to ensure learning outcomes (Hu & Li, 2017). In a MOOC environment, students do not seem much attached to peer interaction, rather MOOC student engagement is enhanced by certain instructor attributes, such as the instructor's ability to show enthusiasm about

the subject and use of humor (Hew, Qiao, & Tang, 2018). Research findings by Coetzee & Oosthuizen (2013) indicate the relation of coherence in terms of studies, work, study engagement, learning, and assessment design, and thus learning engagement through making learning meaningful helps students to increase confidence and accomplish the learning tasks in their studies and professional lives.

Open education resources (OERs) are transforming the landscape of teaching and learning (Berti, 2018). The sustainability of OERs can be examined in terms of its effectiveness to ensure learning (Wiley, 2007). Open universities have roles in widening participation in higher education through innovations and taking advantage of the new trends in the use and integration of OERs in teaching and learning (Lane & Van Dorp, 2011). OERs have attracted educators to become more innovative through its openness and flexibility, and adoption in cost-effective ways for teaching and learning (Sandanayake, 2019). The challenge for distance education is to take advantage of OERs, integrate OERs to support learning, and select OERs to best benefit learning.

Learning Biology Online and Requirements for Practicum and Laboratories

Distance education programs in sciences necessitate specific requirements to address complexities in operations. Glaze (2018) has observed the changing landscape of undergraduate sciences in which the scientific practices, tools, and thinking around which the students were trained bears little resemblance to the interactive and enhanced practices of modern science. Hughes & Overton (2009) note that teaching and learning methods in sciences are often heavily content driven, involving lecture, small group teaching, problem-based learning, industrial work experience, and practical work. Various assessment tools are used in sciences, including examinations and assignments, tests, laboratory and practical reports, software development, portfolios, and presentations (Hughes & Overton, 2009). These circumstances pose specific challenges to introduce new competencies and improve the practice of online teaching and learning and assessment in biology.

Despite uses of new technology, the principles of teaching and learning in higher education and its purpose to facilitate learning remains the same, in which learning is seen as understanding the world, comprising activities such as mastering principles, understanding proofs, remembering facts, acquiring methods and techniques, reasoning, or developing behavior appropriate to specific situations (Fry, Ketteridge & Marshall, 2009). Teaching and learning in distance education involve interaction, including student-teacher interaction, student-content interaction, and student-student interaction (Moore, 1989; Anderson, 2010). Teaching and learning today rely the use of information technology to benefit learning and develop knowledge, skills, competencies, attitudes, and good characters of the students (García-Valcárcel & Tejedor, 2009).

There are core activities that can be attributed to effective teaching and learning of science at a distance, namely learning, laboratories, and logistics (Kennepohl & Shaw, 2010). Both on-campus and off-campus lab programs in biology need to provide students with different but equivalent experience that facilitates the development of lab skills of both types of students, and a mix of independent, off-campus and on-

campus laboratory exercises and classes may allow distance students to develop basic laboratory skills without the need for on-going campus attendance (Mosse & Wright, 2010). A home experiment kit for undergraduate students can be designed to provide experience for distance students as that of on-campus laboratories, and distance students gain familiarity with common lab instruments (Lyall & Patti, 2010). A further development is the use of remote teaching laboratories as a tool to integrate a strong laboratory component within a science course that allows students access to science experiments and upgrade their laboratory skills (Kennepohl, 2010).

Biology courses taught on campus and online require practicum for students to acquire competence in science. While practicum in an on-campus laboratory is relatively easier to conduct, practicum for online students poses complex challenges to conduct. Learning science at a distance demands specific design of practicum activities and laboratories that can be accessed and used by students. Laboratories for practicum activities can be designed as physical laboratories in cooperation with partners, or through the development of science kits, virtual labs, or remote labs depending on the circumstances and conditions of students. Distance education institutions need to make assessment on the conditions prior to making decisions on what kinds of laboratories are made available to students. Distance education systems have responded the needs to deliver science laboratory to using different approaches, the kit-based laboratory and the residential laboratory (Shaw & Carmichael, 2010).

Bachelor of Science Program in Biology at Universitas Terbuka

Established in 1984 as open university, UT has transformed itself into modern open university that relies on online and digital services. UT has an open admission policy in which students with high-school certificates can be admitted to its undergraduate programs. In 2018, UT has over 300,000 students studying in a wide range of diploma, bachelor, and master programs, and doctoral programs will be offered starting in 2020. The Bachelor of Science Program in Biology is an eight-semester 145 credits undergraduate program offered by UT Faculty of Science and Technology (formerly Faculty of Mathematics and Natural Science). Students taking biology courses are provided with digital learning materials delivered via email, and the printed materials sent out to students' mailing addresses. UT courses follow systematic design of instruction, equipped with self-learning materials, a variety of media, and tutorial support to provide students with independent learning and study flexibility. OERs are accessible online through the UT internet radio, internet TV, and digital library.

Tutorials are provided for each course to students face-to-face or online. The face-to-face tutorials allow small group learning and interaction of 30 students facilitated by the tutor, conducted for eight sessions in locations accessible by students. The online tutorial has been used to allow for flexibility and asynchronous learning interaction with the tutor and peers. An online classroom consists of 50 students facilitated by an online tutor. Both face-to-face and online tutorials require students to submit assignments in the 3rd, 5th, and 7th sessions respectively. Students attending tutorials are evaluated in terms of participation and interactivity during tutorials and the submitted three assignments. The face-to-face and online tutorials contribute up to 50% and 30% respectively to final semester grades. Science students conduct practicum in the laboratory of partner institution or using dry lab.

METHOD

This research involved a survey questionnaire distributed online on google form to students participating in online tutorials in in three courses, namely BIOL4115 Cell Biology, BIOL4117 Plant Structure, and BIOL4112 Basic Natural Science. The questionnaire attempts to reveal information on internet and connectivity, online tutorial process, practicum and laboratory, use of OERs, and student comments and feedbacks on online tutorial and the course. A total of 150 students, 50 students in each of the three online tutorial classes, were observed throughout the online tutorials. A total of 22 students responded to the questionnaire, comprising of 3 students of BIOL4115 Cell Biology, 8 students of BIOL4117 Plant Structure, and 12 students of BIOL4112 Basic Natural Science.

A small percentage of students take science courses at a distance. The UT statistics of 2008.2 indicates that a total 302,484 students register for programs and courses, of which 4,981 students (1.65%) are of the Faculty of Science and Technology. The Biology Study Program contributes 446 students (8.95%) to the total 4,981 students in the Faculty of Science and Technology. The 2008.2 data describe the profile of UT student body: employed as teachers (58%), unemployed (9%), females (66%), residing on two main islands of Java and Sumatera (70%), and under 25 years of age (36%) (UT, 2019). UT has observed increasing trends in the number of students participating in online tutorials and interactivity in online tutorials. Data for 2017.2 indicated that there were 1,164 courses provided with online tutorials, and students participated in online tutorials in 1,163 courses (98%) (UT, 2018). Table 1 indicates the number of students participating in online tutorials in the three courses being investigated.

Course	Number of Students	Number of Students in Online Tutorials	% Students in Online Tutorials
BIOL4115 Cell Biology	62	57	91.94%
BIOL4117 Plant Structure	133	123	92.48%
BIOL4112 Basic Natural Science	977	771	78.92%

Table 1 Number of Students Participating in Online Tutorials in the Three Courses

FINDINGS

The students of the three courses expressed their interests in online tutorials, stated their views and opinions about online tutorials, gave comments and feedbacks, and provided other information openly in the questionnaire. Responses to the questionnaire address questions on Internet access and connectivity, online tutorial, practicum and lab, and use of OERs. Findings on comments and feedbacks of the students to online tutorials and the course are also analyzed. Summary of results of the students' responses to the questionnaire and comments ad feedbacks to the online tutorials and the courses are presented in the following.

Responses to the Questionnaire

Internet access and connectivity. Internet access and connectivity are the basic requirements for online learning. UT students learn from home (86%) and in the workplace (59%), indicating convenience and flexibility to study in an online mode. Students use computer laptops (82%), smart mobile devices (64%), and computer desktops (23%) to participate in online tutorials. Students say that Internet access is generally good and accessible to suit their needs (64%), even excellent and easily accessible (27%), and few students indicate that Internet access is difficult (9%). Internet connectivity in terms of ease of use in online learning such as video, file download, email, is generally excellent (23%) and good (64%), and poor (13%) to some students. Difficulties in Internet access and connectivity pose a serious challenge in online learning environment, as they hinder learning process and ultimately results.

Online tutorials. Online tutorials facilitate learning as they engage student learning through reading the materials, working on exercises or tests and assignments, interacting with the tutor and peers, and getting feedbacks from the tutor and peers. Many students have flexible access to online tutorials every day (56%), every 2 to 3 days (26%), and every 4 days or less (18%). Most of the students spend 2 to 4 hours every day on online tutorials (54%), less than 2 hours per day (28%), and 5 hours or more per day (18%). Many students indicate that they interact with the online tutor and their peers through asking questions, responding to tutor's initiations, making clarification on tutor explanations at least once or more per day (23%), every 2 to 4 days (23%), and every 5 days or less (46%).

Online tutorial students study make effort before and during the online tutorial sessions. They make preparation for the online tutorials through activities including reading the learning materials (68%), working on exercises and formative tests (72%), making summary of important concepts (27%), and discussion with peer students (23%). Students are also active once they log in during the online tutorial sessions with activities including putting forwards ideas and comments (86%), asking questions (27%), asking for clarifications and giving feedbacks (18%), stating objections and corrections on issues being discussed (18%). These activities seem to have engaged students in learning the materials.

Students say that the initiation and learning support and direction provided by the online tutor are very much useful and motivating to learn (36%%) and useful (59%). Students also find that assignments are very much useful (82%) and useful (18%) to engage in learning. Overall students say that the online tutorial experiences are very much satisfying (77%) and satisfying (23%), and students also find that the online tutor are very much useful to facilitate learning (14%) and useful to facilitate learning (77%). Peer learning during online tutorial are very much useful (14%) and useful (68%). Finally, students think that online tutorials make them ready (73%) and very much ready (27%) for the final semester examination. In conclusion, most of the students think that online tutorials engage student learning, make them learn the materials through interaction with the learning materials, learn the materials facilitated by the tutor and peers during online tutorials, and prepare them for semester examination.

Practicum and laboratory. Practicum experience in the lab is fundamental for science students, as the lab allows them to have hands-on experience in science and develop

their lab skills. The course BIOL4117 Plant Structure requires students to conduct practicum in the lab that has been arranged by UT in collaboration with partner universities and science institutions in the vicinity of student residences. The other two courses under study, BIOL4115 Cell Biology and BIOL4112 Basic Natural Science do not require practicum in the lab. Students conducting practicum in the lab make necessary preparation for the practicum by carefully reading the learning materials and practicum guide and making summary of the learning materials and practicum guide before practicum. Guided by the supervisor, during the practicum in the lab students follow the supervision, conduct the practicum, take note of the practicum results, and eventually write the practicum report. Students say that the practicum experience in the lab is useful to develop their lab competence and skills and the practicum guide is helpful in conducting the practicum. The practicum experiences make them feel confident and ready for the semester examination and eventually for the future work in science fields.

Use of OERs. UT provides its own OERs online for easy access by students to learning resources, and these include online digital library, online reading room, online discussion forum, and other UT knowledge portals. Students spend 2 to 4 hours per day (40%), less than 2 hours per day (55%), and 5 to 7 hours per day (55%). The students indicate that UT OERs are useful (85%) and very much useful (15%) to enhance their learning experiences. UT students also make use of OERs from other sources outside UT, such as YouTube, academic journals, and other knowledge portals outside UT. Many students spend 2 to 4 hours per day (32%), less than 2 hours per day (59%), and 5 to 7 hours per day (9%) to access OERs from knowledge portals outside UT. Students find these OERs from portals outside UT useful (7%) and very much useful (23%). These findings indicate students' interests and use in OERs.

Comments and Feedbacks to Online Tutorials and the Courses

Students have expressed their views on online tutorials and the courses through comments and feedbacks openly stated in the questionnaire. These students' comments and feedbacks are diverse and comprehensive, addressing needs and issues from the students' perspectives, and they can be categorized into the following areas: design for online learning, facilitating student learning, flexibility in studying, learning engagement and interactivity, feedbacks in learning, Internet connectivity and time allocation, and difficulties and shortcoming.

Design for online tutorials. The design for online tutorial is critical to allow online learning to take place effectively. The students indicate that the design for online tutorials is good in terms of presentation of the materials, assignments, and online discussion. The design allows the online tutor to present the general outline of the materials, initiate discussion, engage learning, moderate online discussion, and give feedbacks to students' comments and opinions.

Facilitating student learning. Online tutorials facilitate student learning online and help to improve understanding of the topics discussed in the learning materials. The online tutorials engage students to learn more actively and independently. Online tutorials provide students with learning opportunities in greater flexibility without necessarily spending the time to come to certain locations to access online tutorials.

The students expect that the online tutor should be more active to initiate learning activities, address students' questions, and give feedbacks to assignments. Students say that sometimes tutor may not go into discussion in more details for some issues or topics of interests of certain students.

Flexibility in studying. Flexibility in studying is a major advantage of online learning. Online tutorials suit to meet circumstances of the students who need flexibility to study because they have limited time, family and social obligations, and work commitments. Online tutorials work effectively to help students learn, improve students' understanding of the topics, and motivate students to learn through online discussions. Well-presented initiation materials provided by the online tutor are useful to facilitate and encourage students to learn.

Learning engagement and interactivity. Learning engagement and interactivity are fundamental in online learning. Students believe that the online tutor needs to engage students in learning through giving assignments, addressing discussions, giving feedbacks on formative assessments based on the learning materials, and avoiding the presentation of topics irrelevant to the learning materials. The online tutor needs to respond further to online discussions and give feedbacks to on topics being discussed. It is important that the online tutor presents better initiation materials and detail explanations to the students. The students need close supervision and encouragement in order to be active in the online discussions. Good communication and interaction with students are essential during online tutorials to keep students engaged in learning.

Feedbacks in learning. Feedbacks to students are essential components of learning activity in online learning. Students think that the tutor needs to give feedbacks during online discussions soon as possible to confirm students' understanding of the concepts being discussed. Feedbacks to students by the online tutor may be provided in the forms of answer keys on assignments so that students can study them on their own. It would be helpful to students when feedbacks and answers to submitted assignments are distributed to students to improve their understanding of the concepts. Students further need to be allocated more opportunities to conduct practicum and more time to accomplish online activities before semester exam. Students say that dry lab can be effectively used to help students to learn independently whenever there is absence of physical lab.

Internet connectivity and time allocation. Constraints in Internet connectivity and time allocation needs specific attention. Ensuring the quality of the Internet connectivity involves both the institution and the students accessing online tutorials. At times nearing deadlines, network connection is poor so that it is difficult to access online tutorials. During the final week of online tutorial sessions, the network connection does not work well so that assignments are submitted late, which is discouraging to students. This condition has made submission of assignments and online discussions difficult to do. Some students may need longer time to work on assignments, and feedbacks from the tutor are needed to get faster from the tutor. Scores for assignments should have been received by students faster. Online tutorials need to allocate more time for discussion on certain topics in order that the students can better prepare for the semester exam.

Difficulties and shortcoming. Some difficulties and shortcomings relate to the quality of communication infrastructure and Internet access which vary in different regions and this pose specific problems for students with low quality Internet access. Some students have difficulties in allocating time for online learning because of their commitments to other activities. These students have expectations that assessments are designed in ways that enable them to get good scores for online discussions, assignments, formative tests so that they can be better motivated to learn. Students think that scores in online tutorials make them feel appreciated for their effort. Students say that some of the initiations are irrelevant to the topics of the learning materials, and there is sometimes little feedback from the tutor and peers. This situation discourages online discussions among students, and they respond to tutor questions without feedbacks from the tutor.

DISCUSSION AND CONCLUSION

Three undergraduate courses offered by the UT Study Program of Biology were investigated in terms of the use of online tutorial to engage student learning. The course BIOL4115 Cell Biology is a first-year introductory course providing basic knowledge and concepts of cell biology designed to provide undergraduate students with knowledge on cellular and molecular mechanisms occurring within the cell (Issoegianti R, Rahman, and Rohmah, 2016). The course BIOL4117 Plant Structure is also a first-year undergraduate course in Biology aiming to provides student with basic knowledge in various aspect about plant structure. Several topics discussed in this course are basic structure and terminology in seed plants (Syamsiyarsih, Suwandi, and Sumarsono, 2016). The course BIOL4112 Basic Natural Science is a basic general introductory course on science aimed at giving a basic understanding of various aspects of natural science to undergraduate non-science students (Dewiki and Yuniati PKH, 2014). Discussion and conclusion of the research provide new insights into online teaching and learning through online tutorials.

Discussion

Online tutorials for the three courses are conducted on Moodle platform. The online tutorials include 8 sessions conducted for 8 weeks. Each of the sessions 1 to 7 begins with initiation and introduction to each session by the tutor presenting essential concepts and enrichment of the concepts with examples, cases, and explanations followed by discussions. Session 8 provides final summary over the learning materials. OERs are provided to enrich student learning experience in online tutorials. Formative assessment is provided for each session in which students make their assessment on their own with feedback from tutor or peer students. Attendance and participation in each of the session is recorded and contribute to final grade for the course.

The role of the online tutor is critical to engage student learning, encourage and direct students to learn, and motivate students to study the learning materials. During sessions 3, 5, and 7, online tutorial assignments 1, 2, and 3 respectively are to be submitted by students. Online tutors initiate student learning through introduction to the topics, and questions are asked to encourage students to learn the materials. Follow-ups are undertaken through asking probing questions to check students understanding, facilitate discussions, and responding to students' questions. Online tutors give feedbacks to submitted assignments. Students are engaged in learning throughout the

8 weeks of online sessions. Feedback and assessment for the three assignments are presented to students by the tutor during sessions in between 3 and 8. During the final session 8, the tutor presents a summary of the whole course, highlighting essential concepts and points, presenting conclusions, and followed by evaluation of online tutor by students, and a formative assessment.

Practicum in science is fundamental to develop competency and lab skills of the students. The course BIOL4117 Plant Structure Science in this study requires practicum in which students conduct observations and experiments in laboratory and environments. This BIOL4117 course is equipped with the practicum guidelines for students integrated into the learning materials. Practicum workbook for the students guide students to conduct practicum in systematic steps. Practicum is a supervised activity that can be done in actual laboratory in collaboration of local partner universities or institutions, or in dry laboratory accessible by students through http://elearning.ut.ac.id/ (UT, 2018). Some science courses are provided with practicum kits and manuals that allow students to conduct supervised practicum individually, independently, or in groups with peers. The other two Biology courses BIOL4115 Cell Biology and BIOL4112 Basic Natural Science require no laboratory practicum.

Conclusion

This study has provided new insights into teaching and learning online, how students learn online and how the tutor facilitates learning online. Further research needs to be conducted in terms of students' learning achievements in assignments and semester examination as the results of online tutorials. Learning analytics at course, program, and institution levels respectively can be one of the ways to ensure effective learning process, results, and outcomes. Ensuring student success in online learning is one critical strategy to retain students and prevent them from attrition.

Future research needs to explore in-depth learning analytics and involve students, tutors, course managers, and course designers as participants to have in-depth information about pedagogical design of online learning and student learning process. A specific tracer study is needed to look at how distance students eventually succeed in learning online and eventually graduate with degrees. The students' views on online tutorials and the courses are worth addressing carefully by the online learning institutions and online educators, designers, tutors so that the best online learning can be designed in ways that genuinely help students learn.

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Perceived Learning Needs of Research Assistants Pertaining to ICT-Related Research Skills*

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Abstract

In the current study, we aimed to explore perceived needs of research assistants pertaining to technology use skills for academic research purposes. Data were collected through a 25-item Likert questionnaire along with a personal information form. Items were developed through literature search, expert opinions, and opinions of research assistants in different graduate institutes. Different academic research competencies were addressed in the questionnaire such as literature search, data collection, data analysis and reporting. A total of 441 research assistants at a Turkish state university participated in the study (220 females, 49.9% & 221 males, 50.1%). In addition to descriptive statistics, parametric tests were used to analyze the data. It was observed that the perceived learning needs pertaining to reporting, data analysis, literature search, and data collection were highly cited. The degree of perceived learning needs differed with regard to gender, fields of study and the current stage of the graduate education.

Keywords: *ICT, research process, ICT usage in research.*

INTRODUCTION

The use of emerging technological tools increase in our daily lives continuously. Similar to several fields of study, the use of technology is an important component of academic activities. Contemporary academic research has become almost technology-dependent. Therefore, the technology usage habits and competences of individuals in academia may have significant effects on academic outcomes. In other words, making use of the facilitating features of technology at every stage of the research process is now very important to make a difference in the academic world.

Academic research can be carried out in different disciplines with different methods. However, it is possible to combine the components of academic research under four topics in most fields: literature review, data collection, data analysis and reporting. The

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facilitating role of technology applies to all these topics. For instance, a literature review is mostly conducted on electronic, or digital libraries instead of traditional libraries. Comprehensive and systematic literature reviews could be done easily in such digital libraries. Similarly, data collection processes are conducted heavily through online surveys. As researchers may sometimes need to reach large samples in a short time, using online environments for data collection quite effective. In the data analysis phase, which is one of the most important steps of research, the facilitating role of the technology is intensely felt as well. Data analysis software is preferred in all disciplines. To be able to analyze data easily and quickly through digital tools is an important determinant of this preference. Finally, word processors, visual production software and electronic tables are heavily used in the reporting phase of academic studies. Particularly converting the report into a reader-friendly form makes it almost imperative to use such software.

In brief, every step of the research process may involve a technology requirement. Meeting this requirement is dependent on having some technology-based research skills. In this regard, we aimed to explore the perceived needs of novice researchers pertaining to the use of technology in research. Accordingly, the following research questions were prepared:

1. How is the degree of research assistants' perceived learning needs with regard to ICT-based research competencies?
2. Do these perceived needs differ with regard to
   a. Gender?
   b. Graduate institute?
   c. Stage of graduate education?

METHODS AND PROCEDURES

Participants

Data were collected from 441 research assistants at a Turkish state university. The distribution of gender was almost equal. That is, 220 females (49.9%) and 221 males (50.1%) participated in the study. Different fields were represented in the dataset including social sciences (*f*: 176; 39.9%), educational sciences (*f*: 120; 27.2%), science and engineering (*f*: 64; 14.5%), fine arts (*f*: 29; 6.6%), health sciences (*f*: 44; 10%) and vocational schools (*f*: 8; 1.8%). Majority of participants were PhD students (*f*: 325; 73.7%).

Data Collection and Analysis

A 25-item Likert questionnaire and a personal information form were used to collect data. While the personal information form included background variables such as gender and graduate, the Likert questionnaire involved items pertaining to several academic competences such as literature search, data collection, data analysis and reporting. Items in the form were developed through resorting to the contemporary literature, expert opinions, and opinions of research assistants in different graduate institutes. Items were rated as "I need to learn" (3), "Not sure" (2), "I do not need to learn" (1). Internal consistency coefficients were 0.883 for literature search, 0.906 for data collection, 0.882 for data analysis, and 0.863 for reporting.

In addition to descriptive statistics, skewness and kurtosis values were considered to meet the normal distribution assumption before parametric analyses (George & Mallery, 2010; Huck, 2012). The p-value was set as 0.05 in all analyses.

FINDINGS

Preliminary analyses revealed that the most cited need was 'learning about relevant plagiarism software (*f*: 310; 70.3%)' whereas the least cited need was 'learning how to use advanced configurations in search engines (*f*: 165; 37.4%)'. When individual items were examined in each competence, it was observed that the needs pertaining to reporting (*f*: 271; 61.5%), data analysis (*f*: 265, 60.1%), literature search (*f*: 264; 59.9%) and data collection (*f*: 254; 57.6%) were cited by respondents.

Gender was a statistically significant predictor of perceived learning needs. That is, males reported higher needs in terms of data collection ($t_{(439)}$=2.49; p=0.013) and data analysis ($t_{(439)}$=2.01; p=0.046) than females whereas the practical significance of these results were trivial (Cohen's d=0.23).

It was observed that the degree of perceived needs differed with regard to the fields of study. More specifically, perceived learning needs pertaining to the literature search ($F_{(5, 435)}$=.10.096, p<.05), data collection ($F_{(5, 435)}$=2.583, p<.05), data analysis ($F_{(5, 435)}$=7.517, p<.05) and reporting ($F_{(5, 435)}$=6.071, p<.05) differed across graduate institutes. In post hoc analyses, it was observed that respondents from the graduate school of educational sciences had higher means than respondents in other groups.

While respondents in different stages of masters had similar scores with regard to each competence, PhD respondents in varying stages differed in terms of their perceived learning needs. More specifically, in terms of reporting, PhD students who were currently writing their dissertations had higher means than those still pursuing their coursework ($F_{(2, 355)}$=3.921, p<.05).

DISCUSSION AND CONCLUSION

Within the scope of the current research, perceived learning needs pertaining to ICT-based research competencies were explored across 441 research assistants in different disciplines. Perceived needs regarding the literature review, data collection, data analysis and reporting stages were intensely expressed. The predictive role of gender on the degree of perceived needs was statistically significant but practically trivial, although the gender difference with regard to technology usage and attitudes towards technology is highly-cited in the literature (Cai, Fan & Du, 2017). The fact that technologies addressed in the current study are research-oriented could have led to this finding. An important finding was that the perceived needs differed according to the field of study. Respondents from the graduate institute of educational sciences expressed higher degrees of perceived learning needs. Finally, PhD candidates expressed their research reporting needs more intensely than other PhD students who were still continuing their course load. That is, they felt the lack of research-related ICT skills since they actually needed to produce a scholarly manuscript. Findings signaled the need to provide novice researchers with further opportunities to develop their ICT-related research skills.

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Need for Accreditation Agencies as Stakeholders in Open and Distance Learning: Case of "AUDAK" in Turkish Higher Education System

Elif TOPRAK[1], A. Nurhan ŞAKAR[2]

Abstract

This paper gives brief history of integration of Turkey to Bologna process that has shaped quality approaches in the Turkish Higher Education System and explains how national accreditation agencies act as important stakeholders to sustain quality in higher education, based on learning outcomes. Secondly, it concentrates on the specific need for external evaluation in Open and Distance Learning (ODL) and the enrichment of accreditation criteria to monitor how pre-determined learning outcomes are achieved via ODL media. Finally a new association founded in Turkey, namely AUDAK that has the vision to be an international quality assurance agency in the ODL field is given as a case.

Keywords: *Quality assurance, accreditation, Bologna process, quality in higher education.*

INTRODUCTION

The scientific and technological advances in almost all fields and economic globalization have accelerated the restructuring of higher education systems. As a result, countries have been engaged in international collaboration to compare their systems and produce common solutions to similar problems. Quality assurance (QA) is among these issue areas whereby societal engagement of higher education is realized through the engagement of internal and external stakeholders. QA is an embracing term that covers all policies, processes and actions to maintain and develop the quality of an higher education institution. Accreditation on the other hand refers to a form of quality assessment which involves a yes/no decision and a special status granted to an institution or program.

This paper gives brief history of integration of Turkey to Bologna process that has shaped quality approaches in the Turkish Higher Education System and explains how national accreditation agencies act as important stakeholders to sustain quality based on learning outcomes. Secondly, it concentrates on the specific need for external evaluation in Open and Distance Learning (ODL) and the enrichment of accreditation criteria to monitor how pre-determined learning outcomes are achieved via ODL media. Finally a new association founded in Turkey, namely AUDAK that has the vision to be an international quality assurance agency in the ODL field is given as a case.

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EFFECTS OF ESG ON THE HIGHER EDUCATION SYSTEM IN TURKEY

An example for extensive cooperation in transnational education, has been the Bologna Process, that commenced officially after the signing of the Bologna Declaration in 1999. The Bologna Declaration sets the main goals of the process, which is built upon the idea of creating a comparable, competitive and transparent European Higher Education Area in Europe. Among the major goals of the Bologna Process, one is to set up and extend a network of quality assurance in higher education, and to contribute to the improvement of higher education in Europe.

The guidelines and standards set by the ENQA in 2005 in "ESG: European Standards and Guidelines for Quality Assurance in the European Higher Education Area", play a guiding role in quality assurance systems in higher education. The ESG framework requires higher education institutions in the European Higher Education Area to offer consistent and comparable services (http-1). In this respect, the following guidelines are adopted in setting up internal and external quality assurance systems:

- to raise students' and academic staff's awareness of quality assurance in higher education,
- to improve the quality of programs and to ensure sustainability of quality assurance in higher education institutions,
- to refer to the expertise of foreign specialists in quality assurance, and to conform to principles of transparency,
- to determine external quality assurance needs, and to give responsibilities to institutions that assume a role in external quality assurance.

Accordingly, each member country should specify quality assurance standards in consideration of its education system, and evaluate the education system in the light of these standards. The countries also establish quality assurance agencies for the review of quality improvement activities in higher education institutions. In this way, external reviewers assist higher education institutions in determining their level of quality (http-2).

Turkey participated in the Bologna Process in 2001 as a result of the need for restructuring the higher education system and alignment with the European Union legislation. In Turkey, the Higher Education Council (CoHE) is the main institution responsible for the implementation and monitoring of the Bologna Process requirements. CoHE has seen the Bologna Process as an effective instrument for the restructuring of the higher education system. To this end, the following steps were taken in chronological order:

- The Higher Education Council issued the "Regulation on Academic Assessment and Quality Improvement" in 2005. This regulation specifies the principles regarding the review of education and research activities in higher education institutions, quality improvement, and approval and recognition of the level of quality by an independent external quality review.
- The Commission of Academic Assessment and Quality Improvement drafted the "Guidelines for Academic Assessment and Quality Improvement in Higher Education Institutions". These guidelines define processes and performance

indicators required for systematic functioning of academic assessment and quality improvement practices. The processes defined in guidelines are strategic planning, institutional review, periodicity in quality improvement and monitoring in higher education institutions.

- In accordance with the Regulation on Academic Assessment and Quality Improvement, higher education institutions have set up Boards of Academic Assessment and Quality Improvement to manage quality assurance at the institutional level. The main duties of these boards are: (1) to review academic and administrative services in the institution in consideration of the institution's strategic plan and goals, (2) to exert efforts to improve quality and have the level of quality approved, and to perform "internal review" in the institution, and to draw up an internal review report or have it drawn up, (3) if the institution undergoes an "external review", to make preparations for the external review, and to provide support to institutions, agencies or boards that perform the external review (http-3).

Many Turkish universities have applied for Diploma Supplement (DS) label to enhance national and international recognition, and to ensure that Bologna requirements have been satisfied in the higher education system. Furthermore, Turkish higher education institutions have also applied for the European Credit Transfer System (ECTS) label by preparing program and learning outcomes for all programs in the institution.

CoHE has recently taken new steps at the national level regarding quality assurance in the Turkish higher education system, and established the Higher Education Quality Board in accordance with the "Regulation on Higher Education Quality Assurance" published in the Official Gazette in 2015. The working principles of the Higher Education Quality Board are based on the "Regulation on Higher Education Quality Assurance", which sets the principles regarding:

- internal and external quality assurance of education and research activities as well as administrative procedures in higher education institutions,
- accreditation processes, and authorization of independent external review agencies,
- duties, authorities and responsibilities related to quality assurance (http-4).

In Turkey, external evaluation and accreditation agencies that operate in the field of higher education must receive a certificate of authorization from the Higher Education Council in accordance with the "Directive on the Authorization of External Evaluation and Accreditation Agencies Operating in the Field of Higher Education" adopted by the Council in 2016. The accreditation agencies that receive a certificate from the Council are officially authorized to carry out accreditation procedures at the national level. As of 2019, there are eleven (11) evaluation and accreditation agencies, namely MÜDEK, TEPDAD, FEDEK, VEDEK, EPDAD, HEPDAK, İLAD-İLEDAK, SABAK, TUADER-TURAK, ECZAKDER and TPD that accredit four-year bachelor degree programs in engineering, medical sciences, humanities, veterinary medicine, education, nursing, communication sciences, health sciences, tourism, pharmacy and psychology programs (http-5).

CHALLENGE IN ACCREDITATION OF OPEN AND DISTANCE EDUCATION PROGRAMS

The shared understanding for quality assurance as recognized by ESG, has the common purpose of ensuring a high quality and relevant education based on learning outcomes and recognized by governments and employers. Quality assurance necessitates the recognition of common standards however these standards and evaluation criteria are expected to manage the diversity and plurality of higher education in different disciplines and teaching methods. Distance education methods that provide flexibility and learner autonomy have always been questioned and discussed on the basis of quality when compared with the conventional/traditional face-to-face education. As the generally accepted quality framework is based on learning outcomes; many national and regional authorities use similar means to evaluate institutions and programmes both traditional and distance. However the different means and media used in distance education need to be considered in reaching the specified outcomes. Another characteristic is the high number of students in mass education provided via distance education especially in Asian countries. These numbers may necessitate to find creative solutions and means to evaluate the institutional performances besides learning outcomes (Belawati & Zuhairi, 2007).

A dynamic and flexible systems approach is important for the progress of distance education to meet different learner needs (Saba, 2012). The one-size-fits-all course structure prevents the system of higher education from responding to the changing needs and competitive environment. If higher education institutions are to be responsive, all stakeholders need to be aware of the pros and cons of new media and what they imply in terms of reaching learning outcomes via distance education. This dynamic systems approach is conducive to taking each institution's vision, mission and organizational structure into consideration. In addition to the cultural diversity at individual, societal, institutional levels; the components of the ODL need to be taken into consideration when speaking about accreditation of distance education institutions and programs; such as learning materials, instructional design, assessment, support services for students and teaching staff. In this connection, institutions need human resources specialized in ODL when establishing their own systems for QA and accreditation (Koçdar, 2011). The review teams must be composed of these specialists besides field/discipline experts so that they can understand and evaluate issues, necessities, technologies, organization and qualifications required by open and distance education.

AUDAK: PIONEER ACCREDITATION AGENCY IN TURKEY FOR ODL PROGRAMS

AUDAK was founded on 31st July, 2017 as an association to function as an external QA agency to inform public and private institutions about management and organization of ODL, evaluate and accredit ODL degree and non-degree programs. AUDAK needs to be authorized by the HEQC in order to accredit bachelor degree programs in Turkey that are provided through ODL services (http-6). What is unique about AUDAK is its specialization on ODL and its evaluation criteria that dwell into means to meet the learning outcomes as stated in the Turkish Qualifications Framework for Higher

Education. Besides, its main characteristic is its inter-disciplinary nature separate from the other eleven (11) national accreditation agencies authorized by the HEQC, since AUDAK needs to appeal to different disciplines provided via open and distance education. CoHE has decided for the ESG as the roadmap to quality in HE including for internal and external QA processes. In this connection, the association aims to increase the quality of ODL providers to internationally recognized standards, and assure its sustainability.

AUDAK as an accreditation agency is a pioneer organization because it aims to provide counselling and evaluation/accreditation services to a wide spectrum of institutions such as distance education/continuous education centers of HEIs, private companies that produce learning materials for ODL, public and private institutions that provide non-degree, informal, lifelong learning courses/programs such as Short Learning Programs (SLPs), certificate programs, Massive Open Online Courses (MOOCs). These pillars in ODL are beyond the scope of CoHE which brings forth another responsibility for the quality of lifelong learning. Since blended learning in HE has become a general practice, there is need for application of quality standards for open and distance education with the collaboration of all distance teaching universities.

CONCLUSION

The accreditation and/or academic audits are either mandatory or voluntary in different regions and the agencies are governmental, quasi-governmental or independent institutions. Practices may change, however according to all approaches, quality agencies are important stakeholders, on which governments keep an eye on, though the level of control and the means utilized to monitor their work may change (Lewis, 2016). Quality assurance agencies work with standards to evaluate students' learning outcomes. In addition to this, the penetration of ODL to all disciplines emphasizes the need for evaluation criteria developed specifically for open/distance/online/blended learning that requires the evaluation of ODL media and means utilized to reach the learning outcomes. Institutions apply either common standards for conventional and distance education or standards specific to distance education. However behind is the rationale for the adoption of quality frameworks as ensuring accountability and improving the quality of services. This sensitivity vis-a-vis the social engagement and required transparency, also necessitates a thorough examination of the ODL methods and their integration to the accepted standards.

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An Examination of a Flipped Classroom Practice in Terms of Seven Principles for Good Practice in Undergraduate Education

Halil KAYADUMAN[1], Turgay DEMİREL[2]

Abstract

Flipped classroom (FC) practice could be considered as an emerging pedagogy in education. Although there are many research studies investigating the impact of FC based classes on motivation and learning outcomes of students, very little is known about the underlying reasons for this impact on students' learning. Therefore, the purpose of this research is to examine the FC based instruction in terms of seven principles for good practice in undergraduate education. A descriptive case study was implemented in an undergraduate course with 37 students in a developing university in Turkey. The focus group interviews were administered with three different groups at the end of six weeks of implementation. The overall findings indicated that FC based instruction is promising in terms of seven principles for good practice. Increasing communication and collaboration between student-student and student-instructor, students' participation in learning process actively, and students' implementation of knowledge could be reported as the strengths of FC based instruction. However, transferability of knowledge, the increased motivation of the students, the importance of finishing tasks on time, and meeting students' expectations need strengthening to improve learning and teaching.

Keywords: *Flipped classroom approach, seven principles for good practice in education, blended learning, distance education, video-based lecture.*

INTRODUCTION

Flipped classroom (FC) approach has been increasingly becoming popular practices in learning and teaching environments. Basically, the instructors deliver video lectures in FC for students to prepare the topic of the week before the class hour and conduct more active learning methods and strategies in-class time such as problem-solving, discussions to provide unique learning experiences (Kissi et al., 2018).

FC based teaching practices support students in many ways. Several research studies in the literature point out that FC approach can reinforce students' higher-order thinking skills (Kong, 2015), foster their motivations (Sahin et al., 2015) and increase learning outcomes (Kostaris et al., 2017; Sergis et al., 2017). Although many researchers examine different aspects of FC practices, most of the studies have focused on investigating the various impacts of FC on students' learning. However, the viewpoint of this research

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is that there is a teaching dimension as well which needs to be investigated in FC practices. In other words, there are many research studies which investigate the impact of FC based classes on motivation and learning outcomes of students but very little is known about the underlying reasons for this impact. Furthermore, there is still limited understanding about what factors make FC based teaching practices good instruction. Therefore, this research aims to address this issue.

When reviewing the extant literature, one can see that there are different recommendations for providing good instruction. One of them is seven principles for good practice in undergraduate education (Chickering & Gamson, 1987), which was extensively benefitted in educational environments. According to Chickering and Gamson, there are seven principles in undergraduate education to foster learning and teaching. These principles would be useful to evaluate instruction and reveal the factors that can have an impact on students' learning. Therefore, the purpose of this research is to examine the FC based instruction in terms of seven principles for good practice in undergraduate education. Examining this instruction has potential not only to promote better learning outcomes and teaching experiences but also lead to more systematic improvements on FC based instruction.

LITERATURE REVIEW

Flipped Classroom Approach

Flipped classroom (FC) approach could be considered as an emerging pedagogy in education. In the FC approach, instructors share learning materials related to their courses before the class hour through a digital platform and administer more student-centric methods and strategies in the class hour (Bergmann & Sams, 2012). Thus, students become more active in-class hour and interact with their instructor and peers rather than listening lecture. The FC approach has received a significant level of attention from both researchers and practitioners. Most of the research studies primarily investigated the learning outcomes, students' performances, engagements, and motivation. For example; Kostaris et al., (2017) conducted an FC approach in ICT course and found out that students' learning outcomes and motivation increased as a result of attending FC based course. Katsa et al., (2016) reported that FC based Math course increase learning outcomes and motivation level of students. Baepler et al., (2014) pointed out that learning outcomes in FC based course were better than the traditional classroom. All in all, the existing studies highlighted that FC based courses have a positive impact on students' learning and performances but not yet sufficiently examined its potential in terms of instruction. Therefore, it is needed to address this issue in further studies.

Seven Principles for Good Practice in Undergraduate Education

Seven principles for good practice in undergraduate education was developed by Chickering and Gamson (1987) based on 50 years of research to improve learning and teaching. These principles are encouraging interaction between students and instructor, developing cooperation amongst students, fostering active learning, giving feedback, underscoring the importance of time on task, urging high expectation, valuing students' talents and learning styles.

Although these principles have been worked in many different subject domains, the evaluation of web-based courses has also been studied in the literature (Goktas, 2009; Graham et al., 2001; Alvarez, 2005; Mukawa, 2006) and found out that it would be useful to utilize these principles to evaluate web-based instructions. Considering FC based courses as a sort of web-based class, it could be appropriate to use it to examine the FC approach to reveal the underlying factors affecting the learning of the students.

METHOD

This is a descriptive case study (Merriam, 1998), which collects qualitative data to examine a flipped classroom-based undergraduate course in terms of seven principles for good practice. The following research question guided the study:

1. To what extent is the flipped classroom approach in an undergraduate course appropriate in accordance with Chickering and Gamson' seven principles for good practice?

Participants

The participants included in the present study registered to the Probability and Statistics course in a developing university in Turkey. There are 37 undergraduate students involved in the study and they have no experience of having a flipped classroom-based course. All of the students have access to a computer and internet and know how to use them. While most of them connect to the internet via mobile phones, some also use desktop, laptop and tablet computers.

Procedure

The present study was implemented in some part of the Probability and Statistics course. The professor designed the course based on the flipped classroom approach and carried out for 6 weeks. The professor aimed to teach basic statistic topics such as t-tests (one, paired, and independent sample), analysis of variance, and correlation with the help of the SPSS program. A learning management system (LMS) and WhatsApp group specific to this course were utilized in the scope of the course.

Initially, the professor prepared a powerpoint presentation regarding the topic of the week and indicated an SPSS example explaining the topic. He then produced a video covering the presentation and example and shared them with the students through LMS and WhatsApp group. The participants were supposed to study these resources out of the classroom and be ready to apply the knowledge in the classroom. In order to ensure that the participants study these resources, the professor made a quiz regarding the topic every week. After the quiz, the professor shared an application that the students need to carry out the knowledge gained from the video and upload it to the LMS until the end of the classroom. The students were free to collaborate with each other but each of them had to submit their own works. While the students engaged in the application in the class hour, the professor scaffolded them. Specifically, the professor usually gave feedback to the students' works and explained the incomprehensible points in this process. The students were graded based on the quiz and application that they submit in the classroom.

The researchers in the current study designed an interview protocol by benefitting from Chickering and Gamson' seven principles for good practice and two experts in the College of Education checked the appropriateness of the questions. Then, the researchers administered focus group interviews with three different groups (7, 6, and 4 subjects) at the end of 6 weeks of implementation. In order to ensure the validity and reliability of the study, the researchers kept the data for confirmability and, the experts reviewed the data to confirm the consistency of the study.

Data Analysis

The researchers followed the content analysis procedures (Yıldırım & Şimşek, 2013) to analyze the data gained from focus group interviews. The data were firstly transcribed verbatim and then initial themes developed based on seven principles for good practice. After that, emerging themes included in the analysis. Two experts in the College of Education checked the codes and themes to validate the findings.

FINDINGS

The themes and subthemes emerged as a result of the qualitative data analysis were presented in Table 1. While n expresses the number of students in the table, f indicates the frequency of data excerpts.

Themes	Subthemes	*n*	*f*
Contact between students and faculty	Communication increased	7	15
Cooperation among students	In-class cooperation increased	5	9
	Learning from peers increased	3	3
	Cooperation decreased	1	1
Encourages active learning	Having an implementation Opportunity	5	9
	Active participation increased	5	7
	Transferability of knowledge	3	3
	Motivation increased	2	2
Gives prompt feedback	Having feedback from faculty	5	6
	Having feedback from peers	3	4
Emphasizes time on task	Finishing tasks on time	2	2
Communicates high expectations	Meeting expectations of students	2	2
Respects diverse talents and ways of learning	Appealing to different ways of learning	6	10
n=number of students, f=frequency of data excerpts			

Table 1. Themes Regarding the Thoughts of Undergraduate Students for FC Approach

As can be indicated from Table 1, the participants mostly reported that FC approach seems useful for them. Moreover, when the interview data was analyzed considering seven principles of good practice, one can understand that FC approach is especially beneficial for increasing the communication between instructor and students, appealing to different ways of learning, increasing in-class cooperation among students, and providing implementation opportunity. On the other hand, there are some critical points which need to be considered for more successful FC based implementations such as meeting expectations, finishing tasks on time, and increasing motivation since most of the students did not express them.

DISCUSSION AND CONCLUSION

The present study examined the FC based instruction in terms of seven principles for good practice in the undergraduate course to extend the current body of knowledge and reveal underlying reasons for its impact on students' learning. The overall findings indicated that FC based instruction is promising in terms of seven principles for good practice. More specifically, the results highlighted that student-student and student-instructor communication and collaboration increased as a result of the FC based instruction. Students reported that they received more feedback from their instructors comparing to the traditional classroom. The previous research studies in the literature state collaboration could increase learning outcomes and lead to more satisfactory experiences (Chen et al., 2015; Liu & Lan, 2016; Walsh & Li, 2016). Therefore, supporting collaboration could be one of the critical factors of FC based instruction on learning.

The findings also revealed that the students actively participated in the activities carried out in the classroom and found opportunities to implement the knowledge gained from the videos. Furthermore, the students stated that FC based instruction appeals to the different ways of learning since they have opportunities to study anytime and anywhere with the help of the video-based lectures and implement in the classroom. Thus, this instruction helped them understand and reinforce the topics. The previous research studies also reported FC based instruction could support active participation and help to attain better learning outcomes (Hung, 2015; Katsa et al.,2016; Sahin et al.,2015). Since the FC approach is basically grounded on the active learning principles (Meyers & Jones, 1993), it could be concluded that FC based instruction could appeal to the diverse way of learning and increase active participation of students.

Although the FC based instruction carried out in this research have mostly positive findings in terms of seven principles of good practice, there are some important points that need strengthening. Transferability of knowledge, the increased motivation of the students, the importance of finishing tasks on time, and meeting students' expectations were least discussed by the students. The reason behind these issues might stem from the characteristics of the course, instructor and students. Therefore, further FC based practices and research studies should address this issue in order to improve learning and teaching. Finally, the students in the current study took FC based instruction for the first time. Thus, their opinions about FC based instruction might have affected by novelty effect. Therefore, this should be considered while interpreting the findings.

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Second Life: A Three-Dimensional Virtual World for Developing Thai EFL learners' English Communication Skills

Hambalee JEHMA[1],

Abstract

This quasi-research aims to investigate if applying the Second life, a virtual platform, in the Engish communication classroom is highly effective. Other factors such as the gender differences, the difference of majors of study, and the number of hours spent on computers were also investigated. The Second life has been employed as a research tool in the study for developing English as a foreign language undergraduate students' English communication skills. The samples of this study were 40 undergraduate students from two different majors, social sciences and science, divided into16 males and 24 females They were studying English course at the university as a compulsory subject. The students took the TOEIC test as the pre-test before the semester starts. They were, then, asked to practice their English communication skills by typically interacting with the English contents, having discussion in the Second Life platform virtually outside of the classroom. After the TOEIC test was taken again at the end of the semester as the post-test and the data has been analyzed by t-test and ANOVA, the findings show that students with different backgrounds which were genders, fields of study, and hours of spending the computers have indifferent mean scores in their communication skills. It means all the students have developed their English communication skills. Applying the Second Life in English Communication classroom for EFL learners is highly recommended.

Keywords: *English communication skills, Second life, Thai EFL learners, Virtual classroom.*

INTRODUCTION

The rapid evolution of information and communication technology has a great influence on the societies and education. Particularly, educators in the field of language teaching or English teachers always make conscious and research effort to increase the effectiveness of their teaching approach. They have wholeheartedly tried to find any productive ways to make language learners enjoyable while they are learning the subject. Various activities, namely games, songs and interesting stories, have been integrated in the language classroom for ages. Nevertheless, when the technology like computers is launched to the market along with other useful programs like the internet, technology- enhanced education is becoming an increasingly important. So that the virtual platform like Second Life has recently been applied in teaching and learning especially employing the Second Life (SL) in teaching and learning language for communication which will be presented in this study.

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Second Life for Education

In 2003, the new interesting virtual world called "Second Life" has been released. This internet-based 3-dimensional virtual world has been created by Linden Labs company in San Francisco. The total numbers of users around the world now has beaten the numbers of over 16 million registered users over the last few years (Linden Lab, 2009). Though there were other virtual reality environment such as Twinity (Metaversum GmbH, 2009), and There (Mekena Technologies, 2009) as the SL competitors, it was considered the most attractive virtual world as there were various interesting activities the users can enjoy compared to its competitors (Wagner, 2008). Avatar is called for the users' virtual representatives. The appearance of the users will be customized for their own avatars. So that the users can interact with each other through the avatar themselves. Moreover, the environment can be transformed by creating the virtual intended objects, together wth communicate, collaborate and so on (Fetscherin and Lattemann, 2008). To view the content and travel around in the SL, users can control their own avatar by typically using the keyboards or mouse from the computer by moving it to the directions, left or right, or even flying by choosing the flying button shown on the screen (The Schome Community, 2007). The avatar themselves are called the "residents" of SL. They can easily communicate via chat by simply texting or voice communication via their connected microphones. Though the program itself seems to be advanced in terms of creating the program, it is the users' friendly program even the ones with no programming experiences. The mentioned reasons can affirm why the SL was rapidly wide spread globally. That's why it brought the attention of the educators in applying this attractive and interesting program into their teaching and learning (Bainbridge, 2007). Though there are some limitation such as the high speed of the internet while being online required, its 3D social interaction and realistic visualization definitely concur the limitation is worth effort (Braman,Vincenti, Arboleda & Jinman, 2009). Though becoming more interests in conduction the researches and studies concerning the SL is being subtle, the limited studies have been conducted concerning applying it into the classroom specifically for English language learning.

Teaching and Learning English Communication Skills

The English communication four skills, listening, speaking, writing, and reading are very important to both for education or business. That is the reason why so many language learners are very interested in improving these skills (Zhang, 2009). Because many of them aspire to professional careers in English dominant communities, the coming decade will see increasing pressure placed upon EFL high school, college, and university graduates to possess excellent skills in both speech and writing. EFL teachers commonly turn to widely accept a second language or a foreign language (L2) teaching methods and materials. Though a lot of materials supporting teaching L2 learners developing English communication skills, they seem not to be successful because of many reasons. Some of the students are required to study English in the classroom while being an undergraduate for their degree (Murphy, 1991). In addition to speaking, listening skills, receptive skills should be focused as it plays an important role in communication curricula because high school and college students are expected to enroll in lecture-centered courses during their earliest experiences within mainstream classrooms. Lecture-centered teaching in mainstream classrooms requires that EFL college students function effectively as listeners from the very beginning of

their academic careers. Within most classroom settings, listening serves as a primary channel for learning while reading is also vital since the students are required to read for any lessons provided effectively. Moreover, the skill of reading comprehension has been ranked very important by the employers who will consider if they will employ the graduates in the future (Casner-Lotto & Barrington, 2006). Because little attention is given to the students' listening abilities in other academic preparatory courses (Chamot, 1983), listening and connections between listening, speaking, and pronunciation emerge as central components of EFL oral communication (Murphy, 1991). To master this skill, not only the activities concerning listening skill solely, but the speaking tasks are required to be implemented since they both need to be together in order that L2 learners can master English oral communication skills (Zamel & Sheikh Ibraham, 1985).

Second Life for English Communication Classes

Given the potentials of the second life in EFL classrooms, Hismanoglu (2012) investigated the future of second life as a new dimension in foreign language learning and teaching especially for the English communication classes. His paper aims to zoom in the benefits of using SL in foreign English Language classroom. He found out that SL provides a conducive learning environment to learners which teacher should make use of as either a main approach or a supplemental to their methodologies. Further, he noted that SL opens an avenue for students to enhance their own learning at their own pace while nurturing other communication skills like collaboration and sharing. SL, as he noted, assimilate a real-life language learning environment that made it effective language learning platform in terms of communication skills.

Understanding the learners' views in different countries are essential in implementing a new platform for learning. Although there were several works done to vouch its positivity, it is likewise significant to explore how other learners from different regions view SL. In 2012, Baram, Cukurbasi, Polak and Dogusoy took a step in looking into the potentials of second life in education through second life users' profiles and views. A total of 118 participants were involved in the study. Using a likert scale questionnaire, the study revealed that majority of the SL users did not have specific thoughts about the applicability of SL in education and are not willing to participate in any activity that involved it. Further, the view SL is not stretched to its potentials being an educational learning platform which is of opposition to many findings that considered it positive. Although there are quite a few who saw the positive side on it. It was revealed though that students' learning is quite positive when action learning principles were incorporated. This was evident on one of the responses of the participants which state that "SL makes me communicate better with people". The study then, concluded that SL may reduce learner-learner distance in e-learning in addition to reducing teacher-learner distance.

Dove tailing the stand of Hismanoglu, Gaukrodger and Atkins (2013) shared the belief that having an authentic language learning environment for language communication learning, language learners become more motivated as they understand the nitty-gritties of language learning, including people's roles and contexts. Operating on role play as a technique, they employed SL which involved an avatar in surfacing the language learners' perceptions of the use of multi-user virtual environment. It was also

attempted to explore on how SL can be integrated in language teaching and learning especially for English communication skills. Having varied linguistic competencies, the study involved 12 international students studying English in New Zealand who were then participated in a survey. Results showed, despite being a virtually-operated learning vehicle, teacher intervention is still necessary. Thus, it was concluded that SL can be used as a complementary approach to teaching which provides optimal learning in both formal and informal setting. Further, it was also noted that employing SL can help learners to take ownership of their learning. Teachers, for one, remain as facilitator and assessor in this learning environment. Lastly, it was asserted that integrating multi-user virtual environment is of great assistance vis-a-vis classroom-based teaching.

In a similar study, Brooks (2016) explored the use of second life as applied in teaching. In her article, she looked at the ways virtual world was employed within the traditional "brick and mortar" language classrooms and assessed its effectivity. The findings revealed that SL can be integrated in the language communication classroom in various ways and have shown effectiveness than other virtual platforms. Seeing the clear benefits of SL, it was recommended that quantitative approaches may be used in exploring its effectiveness particularly focus on the macro-skills, communication skills. Further, it was also noted that the design of SL is crucial to learners; thus, a creative design is necessary to ensure seamless learning.

Despite the negative outlook of students' perception on SL as an educational learning platform in Turkey, several studies continue to explore its potentials as a learning tool. Chiang, Yang, Huang and Liou (2014) investigated the impact of a 3D virtual learning environment based on Second Life on student motivation and achievement in learning English as a second language especially in English communication class. Twenty-one students, one English instructor and one tutor participated in their study. Using one-way ANOVA, the results revealed a positive influence on the participants' self-efficacy on English learning in 3D virtual worlds and its effectiveness in learning English communication. The study concluded that 3D virtual worlds provide situated learning environments and thematic learning scenarios, as well as socialization and interactive communication environments for students. Learners who have higher intrinsic goal orientation or higher extrinsic goal orientation of English communication learning in Second life or higher self-efficacy would have higher achievement. Thus, the paper shed positive light, a reverse view of the case of Turkey, on the potentials of SL in employing as learning platform in educational institutions. SL may demonstrate enhanced learning achievement among students.

Ince et al. (2014) developed a 3-dimensional interactive multiuser and multi-admin IUVIRLAB featuring active learning methods and techniques for university students and to introduce the virtual laboratory of the Istanbul university and show its effects on students' attitudes on communication skills and its laboratory. Based on the study, students did not have any technical problems in using the 3-dimensional interactive tool. The study also demonstrated students' positive outlook at it and their high motivation in using the tool for learning. It was also noted that students were at ease using the tool and were convenient for learning.

As some researches support the effectiveness of SL in teaching, Hassan, Dzakiria and Idrus (2016) focused on students' perception. They intended to elicit Iraqi students' perception on SL's potential as a virtual platform to improve English communication learning. In carrying out their study, a qualitative case study was employed through interviews as their data collection technique. Based on the findings, the Iraqi students' showcase an affirmative response on the potentials of SL in enhancing their English language skills and proficiency through their interaction with the avatar which helped them reduce language anxiety and this making learning English more interesting.

One of the challenges that every foreign language learner is language anxiety especially for communication. It is what hampers the development of every learner's language skills. This means learners' perception of learning their target language has a huge impact in the success of their development. Looking at this perspective, Couto (2011) proposed a study to look at the impact of Second Life in learners' foreign language anxiety. Two stages were considered in carrying out the study; first was a native English speaker was paired with a native Spanish speaker to complete number of speaking activities; and the second was as same as the first, but it will have a randomly selected native Spanish speaker which was conducted in a university. After having performed the activities, participants were asked to answer a Foreign Language Classroom Anxiety Scale (FLCAS). The results have shown that using SL, foreign language anxiety was reduced; however, the study identified some areas of opportunities like low number of student participants and instruments were mainly about students' impression that will require more empirical approaches such as Galvic Skin response and heart monitoring to strengthen the research to arrive at more conceive results.

Lan and Lin (2016) investigated how mobile seamless technology like SL can be used to enhance the pragmatic competence of learners. Their study noted that contextual influence on FL/SL has been an important issue in SLA. In the same vein, learners' context affects learning and the amount of transfer which is vital in enhancing pragmatic competence. Through their study, they confirmed that active involvement play an important role in the success of social communication which suggests that a careful design of learning tests and timeliness are essential in making mobile seamless technology effective.

In a recent study, Wang (2012) explored another technology-enabled tool for enhancing oral English teaching strategies. Using descriptive analysis, her study revealed a positive attitude toward teaching strategies based in SPOC. Because of this development, six teaching strategies were suggested such as text guidance, video demonstration, PPT assisted learning, micro-lecture learning, self-testing and group work. These strategies may further inform the design of the proposed study employing SL framework.

The literatures cited show the potentials of Second Life as an educational learning platform. Wang et al. (2012) noted that SL showed positive impact to students as they have become highly motivated which Chiang et al. (2014) considered to be an important aspect in improving higher achievement. Hismanoglu (2010) reported that SL presented positive points as most learners see learning in a more authentic learning space for SL resembles that of a real-life experience. Because of the authentic learning space, students and teachers alike are able to reduce social distance which often creates a wall for learning. Baram et al. (2012), in their paper, mentioned that SL promotes an

ease of learning. This then affirms that SL may be a viable educational learning space as Wang (2012) noted it complements teaching. Although there are number of positive points, it is equally important to look at how it can be implemented as Brooks (2016) asserted, design is critical to the learning of students. In doing this more conducive and effective, it may be relevant to subscribe to Wang's (2012) suggested teaching strategies that compliment learning such as text guidance, video demonstration, PPT assisted learning, micro-lecture learning, self-testing and group work. Thus, the proposed study provides an opportunity in developing a SL learning tool and explore on how it can enhance the English communication skills in the Thai classroom. The results of the study may offer two salient contribution: first, it can provide a new learning options, that is the SL-driven learning tool, which can also be used for more exploration on how it impacts both the teacher and students in the English as a Foreign Language Classroom; second, it will provide a different perspective on how SL is viewed, implemented and designed as informed by the Thai context.

Objectives of the Study

The aim of this study is mainly to investigate if applying the Second life, a virtual platform, in the Engish communication classroom is highly effective. Other factors such as the gender differences, the difference of majors of study, and the number of hours spent on computers were also investigated. Within this perspective, the research objectives for this study are as follows:

1. To investigate if there is significant development of EFL students' English communication skills learning through the Second Life virtual class room.
2. To explore whether the gender differences, the different majors of study, and the number of hours spent on computers have any impacts on students' English communication skills development learning through the Second Life virtual class room.

The two significant objectives mentioned earlier aim to answer the following two significant hypotheses:

1. The students' post-test scores will be greater than their pre-test scores at the level of significance.
2. The gender differences, the different majors of study, and the number of hours spent on computers have significant impacts on students' English communication skills development.

METHOD

As the researcher has applied some significant research methodologies, the research tool like TOEIC pre and post-tests for data collection, the participants and their background will be discussed here. Not only what mentioned earlier, the research procedures such as the instructional design, and how data had been analyzed will also be explained respectively.

Participants

The 40 Thai undergraduates participated in this study were the freshmen students studying the university required English course at a comprehensive university in

Thailand. There were 16 males and 24 females studying in two categorized majors, 17 students from social studies and 23 students from science majors. In terms of the numbers of spending time on computers weekly, they were divided into three groups, which were 5-6 hours, 7-9 hours, and 20 hours or more. Talking about their English learning experiences, they all have been studying English since they were at the secondary and high school levels as compulsory subjects following the Thai education system requirement. All of them have passed the similar minimum English requirement admission examination for getting to the university. Because of their similar Englsih scores of the admission examination, they have been, then, placed in this course together. And they can be assumed that their English background was quite at the similar level.

English TOEIC Pre-test and Post-test

The test of English for international communication or TOEIC is considered as a world-wide standardized test for examining the English communicative skill levels which is universally popular as almost 3 million registered candidates a year (Mark, 2003). The researcher has employed this test in this study in order to explore the development of students' English communicative skill. The students in this study were initially informed regarding the test format and shown the samples of each category of the test before the pre-test begins. They were, then, asked to finish the first part of the test which was listening questions including 100 questions divided into different categories: the photograph, question-responses, conversations, and talks. After the first part has been finished, the examinees were asked to continue finishing the other 100 reading questions contain of the completion, the cloze-test, and the reading passage parts. They have had approximately 75 minutes to have all questions finished. For the post-test, similar procedure has been done at the end of the semester before the scores had been finally analyzed. Though it seems only two domains of the tests were included in the TOEIC test, listening and reading, the study by Donald and Powers (2015) confirmed that the 2300 TOEIC test takers' communication skills results as the target performance domain in their study can be possibly assessed by specific domain not only in that domain but in other related domains as well in a holistic way.

Instructional Design

The instruction of the course has been given four hours a week divided into two periods for the whole semester. To master the English communication skills, students were required to participate in the Second Life virtual classroom provided by the teacher. The students have been informed earlier about the specific periods for each class by having discussion and agreement among teacher and students. So that the class periods were varied depending on the avalability and the agreement. The class instruction procedures can be clearly seen in Figure 1.

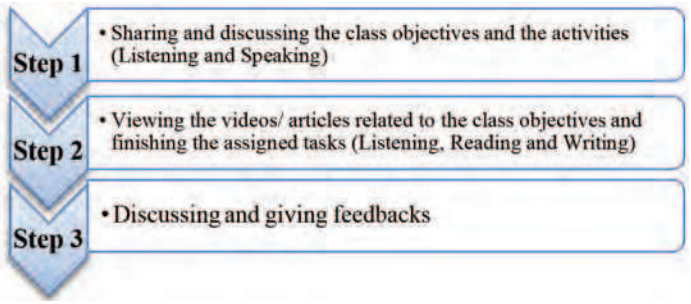

Figure 1. Class Instruction Procedures

Figure 1. portrays that after the students and the teacher have logged into the Second Life virtual world, the teacher started to inform the class objectives and the tasks going to be assigned for each period. The students were given a chance to ask or discuss about what they are going to participate. For example, students were asked to watch the videos related to some specific topic which was hidden in somewhere around them and they would be asked questions after 15 minute long activity. After the students enjoyed the assigned tasks, the teacher asked the questions related to that videos or articles. It was the time for practicing speaking skill together with writing skill if the teacher asked to write any reflections. The listening practices from enjoying the vidios would give them opportunity to develop their listening skill thoroughly. Giving feedbacks for 10 to 15 minutes from the teacher was the last step before the class ended.

Figure 2. Second Life English Communication Class

Data Analysis

Though the development of English communication skills were assessed in order to confirm the results of the treatment of the study, other variables such as genders, students' majors of study, and the numbers of hours spent on computers weekly were also monitored in order that the results of the treatments can be a strong evidence to support the research objectives.The data from pre-test and post-test were, then, analyzed by applying the t-test and one-way ANOVA as the results from the t-test itself can show a difference between two groups is unlikely to have occurred because the sample happened to be atypical. This statistical significance is determined by the size of the difference between the group averages, the sample size, and the standard deviations of the groups, and the one-way ANOVA is used to determine whether there are any statistically significant differences between the means of two or more independent (unrelated) groups of variables: male/female, social science/ science, and the numbers of hours spent. The results can affirm if there is any different impact of the the different variables on developing students' English communication skills.

FINDINGS

After all the research methodology has been done, the data collected was analyzed and shown in various categories as follows:

Students' English Communication Skill Development Comparisons

The following analyzed data have clearly shown the students' English communication skill development in various aspects: the descriptive statistic for students TOEIC scores, mean scores comparison, descriptive statistic for scores of the post-test, test of homogeneity of variances, and mean score comparison by ANOVA.

TOEIC Scores			Total Number
Variables	Mean	S.D.	
Post_Male	384.06	72.875	16
Pre_Male	318.13	76.002	16
Post_Female	403.75	78.564	24
Pre_Female	339.79	75.893	24
Post_Soc	408.53	76.990	17
Pre_Soc	344.41	61.183	17
Post_Sci	386.52	75.610	23
Pre_Soc	321.30	84.883	23
Post_5-6 hrs	360.50	57.949	10
Pre_5-6 hrs	304.50	60.067	10
Post_7-9 hrs	397.69	72.704	13
Pre_7-9 hrs	330.77	75.301	13
Post_20+ hrs	415.29	83.936	17
Pre_20+ hrs	347.06	83.555	17

Table 1. Descriptive Statistic for Students' TOEIC Scores

The TOEIC scores of the 40 students with different variables are clearly shown in Table 1. All variables of the post-test scores considered in the study were higher than the pre-test ones. In terms of genders, both males and females had higher post-test scores than the pre-test, yet the females achieved better than males (Female mean = 403.75, Male mean = 384.06). In addition to the gender variables, the majors of students were counted. Though both social science and science students performed better in the post-test, the students from the social science majors performed better than the students from science (Social science mean = 408.53, Science mean = 386.52). Another variable counted in the study was the number of hours the students spent on their computers weekly divided into three groups, 5-6 hours, 7-9 hours and 20 hours and more. There was no difference of development in terms of the post-test compared to the pre-test as all groups performed better in the post-test. Interestingly, the higher number they spent weekly, the better scores they performed in the post-test (5-6 hrs. = 360.50, 7-9 hrs. = 397.69, 20+ hrs. = 415.29).

		Paired Differences					t	df	Sig. (2-tailed)
		Mean Difference	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
TOEIC	PostMale - PreMale	65.938	39.252	9.813	45.022	86.853	6.719	15	.000
	PostFemale - PreFemale	63.958	41.231	8.416	46.548	81.368	7.599	23	.000
	PostSoc - PreSoc	64.118	44.414	10.772	41.282	86.953	5.952	16	.000
	PostSci - PreSci	65.217	37.340	7.786	49.070	81.364	8.376	22	.000
	Post1 - Pre1	56.000	33.649	10.641	31.929	80.071	5.263	9	.001
	Post2 - Pre2	66.923	38.217	10.600	43.828	90.018	6.314	12	.000
	Post3 - Pre3	68.235	45.756	11.097	44.710	91.761	6.149	16	.000

Table 2. Mean Score Comparison (Pre-test and Post-test)

To be more specific, the paired diferences in Table 2 show the significant data of the pre-test and post-test scores analyzed by applying t-test in all variables. Based on the mean comparison analysis by the use of t-test for dependent sample, it shows that there was significant mean score differences of the pretests and the posttests of the TOEIC tests at .05 level (sig. ranked from 0.000 to 0.001). That means all posttest mean

scores were greater than all pretest mean scores. All students who have been in the study had significantly improved their English proficiency in terms of communication skill specifically.

TOEIC Post-test Scores			Total Number
Variables	Mean	S.D.	
Male	384.06	72.875	16
Female	403.75	78.564	24
Soc	408.53	76.990	17
Sci	386.52	75.610	23
5-6 hrs	360.50	57.949	10
7-9 hrs	397.69	72.704	13
20+ hrs	415.29	83.936	17
Total			**40**

Table 3. Descriptive Statistic for Scores of the Post-test

From Table 3, the TOEIC poste-test scores were shown in mean and S.D. of different variables. Even the numbers of female students were higher than males', the mean scores of females were higher than males at 403.75 and 384.06 respectively. In terms of their majors of study, the students from social science majors have performed quite better than the science students with the scores of 408.53 and 386.52 respectively. Interestingly, the students who spent a lot more on computers weekly had the highest scores with the mean of 415.29 compared to other groups who performed lower scores at only 397.67 for the 7 to 9 hours spent a week group, and the least at 360.50 mean scores among the group of spending 5 to 6 hours on computers a week. It can be clearly seen that the higher numbers of hours they spent on computers a week, the better scores they achieved in the TOEIC post-test.

		Levene Statistic	df1	df2	Sig.
TOEIC Posttest Mean	Male	.561	1	38	.459
	Female				
	Soc	.004	1	38	.947
	Sci				
	5-6 hrs	2.186	2	37	.127

Table 4. Test of Homogeneity of Variances

The table of the test of homogeneity of variances indicated that all variances of the mean scores of TOEIC tests were significantly equal at .05 level (Sig ranked from .127 to .947). It can be said

that all the variables shown in Table 4 affirmed that the students performed better in the TOEIC post-test compared to the pre-test ones.

	Variables		Sum of Squares	df	Mean Square	F	Sig.
TOEIC Posttest Mean	Male / Female	Between Groups	3720.938	1	3720.938	.638	.429
		Within Groups	221623.438	38	5832.196		
		Total	225344.375	39			
	Social / Science	Between Groups	4734.401	1	4734.401	.815	.372
		Within Groups	220609.974	38	5805.526		
		Total	225344.375	39			
	Hours	Between Groups	18967.576	2	9483.788	1.700	.197
		Within Groups	206376.799	37	5577.751		
		Total	225344.375	39			

Table 5. Mean Score Comparison by ANOVA

According to the ANOVA table comparing mean scores above, it revealed that there was no significant mean differences of any types of post-test mean scores of different variables: male/female, social science/ science, and the numbers of hours spent at .05 level (Sig. ranked from .197 to .429 respectively). To clarify, students with different backgrounds which were gender, fields of study, and hours of spending the computers have indifferent mean scores in their communication skills.

DISCUSSION AND CONCLUSION

The findings of the study mentioned earlier have brought various aspects related to the research objectives. The following sections will be discussed regarding the main objective of English communication skill development after applying the Second Life in teaching and learning, the related factors or other variables counted in the study, and how the students in the study found themselves after the semester finished.

Developing English Communication Skills Through the Second Life

In terms of English communication skill development, applying the Second Life in the English language classroom is highly effective as the TOEIC post-test scores of all students in this study with different variables are considered higher than the pre-test ones. Based on the mean comparison analysis by the use of t-test for dependent sample, it showed that there was significant mean score differences of the pretests and the posttests of the TOEIC tests at .05 level (sig. ranked from 0.000 to 0.001). That means all post-test mean scores were greater than all pretest mean scores. Therefore, all students who have been in the study can be confirmed that they had significantly

improved their communication skills. This phenomenon can be affirmed by Hassan, Dzakiria and Idrus (2016) previous similar study. Based on their findings, the Iraqi students' showcase an affirmative response on the potentials of SL in enhancing their English language skills and proficiency through their interaction with the avatar which helped them reduce language anxiety and this making learning English more interesting so that the students' communication skills have been improved. Not only the earlier mentioned study, but Lan and Lin (2016) also confirmed that active involvement play an important role in the success of social communication which suggests that a careful design of learning tests by applying three-dimensional platform like SL was essentially important. In addition, the study done by Wu (2017) also exposed the results in similar direction. To be more specific, the students' skills development has been explored through another technology-enabled tool like SL for enhancing oral English teaching strategies. Using descriptive analysis, her study revealed a positive attitude toward teaching strategies based in SPOC. Because of this development, six teaching strategies were suggested such as text guidance, video demonstration, PPT assisted learning, micro-lecture learning, self-testing and group work. These strategies may further inform the design of the proposed study employing SL framework.

Impacts from Different Variables on Developing English Communication Skills through Second Life

Though the gender difference was another variable considered if there were any impacts on developing students' English communication skill through the Second Life, the results clearly show that the significant data of the pre-test and post-test scores analyzed by applying t-test in all variables clearly confirmed the students' development based on the mean comparison analysis by the use of t-test for dependent sample. It shows that there was significant mean score differences of the pre-tests and the post-tests of the TOEIC tests at .05 level (sig. ranked from 0.000 to 0.001). That means all posttest mean scores were greater than all pretest mean scores. All students who have been in the study had significantly improved their English proficiency in terms of communication skill specifically. The same confirmation has been also confirmed by the previous study done by Bani Hani (2015). The study involved 20 students where five to them were males while the rest were females. The study revealed that students were more competent in utilizing virtual platform devices to read the appointed texts, send questions, read and supply immediate feedback to peers. The study concluded that additional support in that the students' computer self-efficacy and attitudes were essence aspects which influenced the success of virtual learning. It also revealed that gender was not a prime ease which affected the self-efficacy and attitudes toward the virtual learning. In addition to the gender variable, the majors of students were counted. Though both social science and science students performed better in the post-test, the students from the social science majors performed better than the students from science. However, there was no different significance of applying Second Life for developing their English communication skills as the test of homogeneity of variances indicated that all variances of the mean scores of TOEIC tests were significantly equal at .05 level. It can be said that all the variables shown including the variable of the different majors of study affirmed that the students have developed their English communication skills. This phenomenon has been confirmed by the research done by Ince et al. (2014). The research was about developing a 3-dimensional interactive multiuser and multi-admin

IUVIRLAB featuring active learning methods and techniques for university students who were from different majors of study and to introduce the virtual laboratory and show its effects on students' attitudes on communication skills and its laboratory. Based on the study, students did not have any technical problems in using the 3-dimensional interactive tool due to their different study fields. It was also noted that students were at ease using the tool and were convenient for learning. The number of hours spent on computers by the students was the last variable considered in this study. Though all the groups have performed better in the post-test compared to the pre-test, the higher number they spent weekly, the better scores they performed in the post-test (5-6 hrs. = 360.50, 7-9 hrs. = 397.69, 20+ hrs. = 415.29).

Conclusions

The aim of this study is to investigate if applying the Second Life is highly effective in developing students' English communication skills. Though there were other variables considered such as gender differences, the different majors of the study, and the numbers of hours spent by the students on their computers, the paired diferences show the significant data of the pre-test and post-test scores analyzed by applying t-test in all variables shows that there was significant mean score differences of the pre-tests and the post-tests of the TOEIC tests. The ANOVA comparing mean scores also revealed that there was no significant mean differences of any types of the post-test mean scores of different variables: male/female, social science/ science, and the numbers of hours spent. To clarify, students with different backgrounds which were gender, fields of study, and hours of spending the computers have indifferent mean scores in their scommunication skills. It means the students have deveoped there English communication skill through the Second Life classroom platform.

In conclusion, implementing the Second Life in English communication classroom for EFL learners is highly recommended as it can facilitate the students master their English communicative skills more effectively.

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Bringing Distance Closer: Online Intercultural Exchange for English as a Foreign Language

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Abstract

Thanks to information communication technologies, it is now possible to conduct internet-based intercultural exchange between institutions of different cultural/national origin. These online exchange activities comprise structured tasks that aim at providing foreign language students with language skills and intercultural communicative competence. Using Web 2.0 Internet tools in such interactions, including blogs, podcasts, or social networks such as Facebook, Twitter, can provide foreign language students with numerous opportunities to develop intercultural interaction as well as language skills. Designed in qualitative research model, this study aimed to present the perceptions of English as a foreign language learners about the effects of an online intercultural exchange activity conducted in two higher education institutions located in Turkey and China. Data were gathered through in-depth interviews with the voluntary participation of 6 Turkish and 7 Chinese language learners. Analysis of the transcribed interviews revealed some themes regarding the participants' perceptions about intercultural exchange activity, its effect on development of their language skills and intercultural communicative competence, and communication failures they experienced. The data gathered through this study might shed light on how to design effective online intercultural exchange activities by considering the learner perception in open and distance learning contexts.

Keywords: *Online intercultural exchange, language learning at a distance, mobile learning, intercultural communicative competence, learner perception.*

INTRODUCTION

Widespread use of Internet technologies, especially interactive social networking tools have renovated the way people communicate, work, socialize, and learn. Considering this context, online communicative activities like 'telecollaboration' or 'online intercultural exchange' (OIE) can be a part of foreign language learning process (O'Dowd, 2007, p.17) as a mean of distance learning. The rise of Internet technologies has replaced the previous common goal of communicative competence in foreign language learning with 'intercultural communicative competence' (ICC)(Byram, 1997). ICC, which refers to understanding and appreciating aspects of diversity and developing cultural sensitivity in communicating with people from other cultures, is regarded as an essential capability in globalizing and instantly changing world (Wilberschied, 2015). OIE aims to bring language learners together with the help of information and communication technologies (ICTs) (O'Dowd & Ritter, 2006) in order to develop their ICC and foreign language skills. In OIE activities, numerous

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Web 2.0 tools such as Skype, Facebook, Twitter, Google Hangouts, wikis, Facebook Live, Messenger or WhatsApp can be integrated in order to enhance cross-cultural communication (Jin & Erben, 2007; Lee & Markey, 2014).

THEORETICAL FRAMEWORKS

Intercultural Communicative Competence

Deardorff states the top-rated definition of ICC as "the ability to communicate effectively and appropriately in intercultural situations based on one's intercultural knowledge, skills, and attitudes" (2004, p.194). With the spread of Internet technologies around the word, the number of non-native English speakers has increased, and also English has become the medium of communication in computer mediated learning, e-learning, mobile learning, and most open and distance learning contexts. This led to the rejection of modeling after native speakers of English for cultural learning, and it nudged the teaching of foreign culture into a new direction (Liaw, 2006, p.50). According to Byram and Fleming, the speakers who communicate across different cultures are those who can "establish a relationship between their own and the other cultures, to mediate and explain differences – and ultimately to accept that difference and see the common humanity beneath it" (1998, p. 8). Once foreign language learners gain ICC, they have a chance to engage in collaborative activities with the other language learners from many different cultures in order to develop their language skills. Thanks to the recent improvements in ICT, current language learning contexts contribute to culturally dependent language classes with substantial changes (Belz, 2002).

Interaction Equivalence Theory

Anderson (2003) put forward the theory of equivalency of interaction by stating that independent study and interaction can be combined with the development of new, cost-effective technologies that support learning in all directions. As the first definition of the interaction, Moore (1989) defines "Three Types of Interaction" model, which include learner- content, learner-instructor, and learner-learner interaction as essential components of interaction in educational contexts. According to Anderson (2003), if one of the three types of interaction in the learning environment is maintained at a high level, the other two types of interaction can be reduced to a minimum level or disabled. In general, according to this theory, it is stated that it is possible to implement a distance education process which is efficient and less costly in terms of time and money by employing appropriate types of interaction. From this perspective, OIE activities can enhance learner-learner interaction by bringing language learners together by means of different online communication tools.

RESEARCH ON ONLINE INTERCULTURAL EXCHANGE ACTIVITIES

OIE studies in foreign language learning context has increased in the last 20 years with the rise of ICTs and communicative approach that provide opportunities for authentic interaction with the native speakers of the target language in other countries in English as a foreign language (EFL) contexts. The studies on foreign language teaching at a distance focus on various topics, among which OIE ranks the second (Vorobel & Kim,

2012). The findings reveal positive results along with some challenges (O'Dowd & Ritter, 2006). Among claimed benefits of such activities are sociolinguistic advances, development of language skills (Helm & Guth, 2010), development of ICC (Byram, 1997; Chun, 2011), language awareness and motivation (Michell, 2011), gaining fluency in speaking (Tian & Wang, 2010). As a comprehensive study, Helm (2015) surveyed 210 university language teachers in 23 different European countries and 131 students to explore current practices and attitudes towards OIE. The findings revealed predominant positive attitude towards such activities. However, some problems such as organizational difficulties, lack of time, limited technical support and great uncertainty regarding issues students should address in their exchanges study were also identified.

METHOD

Underpinned by a phenomenological approach in which participants selected through purposeful sampling describe their first-hand experiences in their own words, this study aimed to track the experiences of EFL learners who participated in a 5-week OIE activity. In order to find out how learners felt about the OIE activity, in-dept, one to one interviews were conducted with the participants. Participation in the activity was evaluated as a part of the assessment in their English course for Chinese learners; however, it was on voluntary basis for Turkish learners. Among 100 participants who participated in the activity, 7 Chinese learners and 6 Turkish learners volunteered for the interviews.

Procedures

The OIE activity included three stages, which were: information exchange stage, comparison and analysis stage and collaboration and product creation stage. The participants used a mobile application, WeChat, which is similar to WhatsApp. A common topic, food, was chosen as the theme of the activity. The participants were paired up randomly and they exchanged their WeChat IDs. In the information exchange stage, the participants were supposed to get to know each other by asking questions related to their departments, daily routines, the cities they live in and so on. In the comparison and analysis stage, they were supposed to communicate about food culture, cuisine, food festivals in their countries, and their food choices, eating habits and favorite food. In the collaboration and product creation stage, they were supposed to create a product that could be shooting a video of their favorite recipe, preparing a presentation on a food festival or on a peculiar food to their country.

Data Analysis

After the interviews were transcribed, important statements that were believed to identify the phenomenon were highlighted. The statements were grouped to create meaningful codes that are independent from each other. The researcher read the transcripts constantly during the process. After all codes created, they were combined into meaningful themes that describe the phenomenon. Triangulation was performed by employing multiple perspectives to interpret the same set of information. In order to achieve that, two colleagues read and analyzed the same set of transcripts, and then compared their codes. Negotiations were done until all the codes agreed, so the coding became credible.

FINDINGS

Text analysis revealed positive attitude towards the OIE activity in general by both Chinese and Turkish learners. Majority of the participants found the activity interesting, exciting and appealing. However, almost all participants mentioned about some problems regarding some communication failures and the reasons behind them. Table 1 shows the important statements, codes and themes emerged from the analysis of Chinese and Turkish learners' responses.

Some of the Important statements	Codes	Themes
EFL skills		
Exercise English in different ways, like hearing, talking, writing and so on. Boost our speaking skills mostly We both improved English skills I do believe this activity improves my language skills I talked much and it does good to my spoken English. Gives me an opportunity to talk with others in English This activity has contributed to my language skills In this activity, we can learn to talk, that's really different Helpful for us to improve, because when we sent them a text or a voice massage, we use English all the time It provides us with a new form of English learning that can't be practiced without out teacher's help When we talk, we are actually learning at the same time. I checked if my expression is correct before I text them.	Chance to practice English Helps improve language skills Motivates to use English Helps improve speaking Fosters learner autonomy	Practice language in real-life context Learner autonomy Language awareness Motivation Fluency
Feelings about ICC		
It contributed because students in different culture background have different thinking and communication patterns. Through this project, we learn to communicate with one who are totally distinguished from us. We repeated the sentences with patience if not hearing clearly. It improved friendship Definitely, because they are my new friends, I should be more polite and friendly, I have to pay attention to my way to communicate with them. This activity connected students from two different countries, from two different cultures. That makes us have a better understand about other countries, We will understand their culture and then we will talk more and understand their meaning. We should be tolerant about the different chatting style and also respect it. The strength is we can talk to people of different cultural backgrounds who have different ideas We are learning language as well as learning diverse cultures.	Different cultural backgrounds Respect & emphaty Fosters cooperation Understanding the other culture Being exposed to different ideas diverse cultures	Cultural awareness Developing intercultural communication strategies Collaboration Friendship Understanding cultural diversity

Communication failure		
Delayed responses made me frustrated. My partner did not reply me, she seldom replied me My partner was a little bit reluctant to talk to me, they seemed very busy. They were not interested in this conversation Some topics are not what I am interested in Specific assigned tasks, I don't think it can work out well. Both of us are not talking in mother tongue so that we can't be understood by each other very well. Do not limit the subject of our conversation. Sometimes our partners have their work to do, so they are too busy to respond us We need their help to finish our homework, but they have no task. No pressure, no power. Maybe our partners are not very positive and the time zones, it's not very convenient to talk to them	Partners' lack of interest Not interesting topic No chance to choose the topic No native speakers Differences in curriculums Living different time zones	Lack of interest Non-native speakers Time difference Different course requirements Different study programs Fixed topic

Table 1. Chinese and Turkish Learners' Responses

DISCUSSION AND CONCLUSION

Overall aim of the study was to create an authentic language learning environment that supports development of foreign language learning skills and ICC. In general, the findings revealed positive opinions of participants regarding the OIE, which is a similar finding with relevant literature (Belz, 2006; Chen & Yang, 2014; Helm, 2015; Helm & Guth, 2010; Tian & Wang, 2010). The participants appreciated the activity by pointing out its contributions to their EFL skills as well as ICC. Nevertheless, they mentioned about some challenges that created communication failures, which have been indicated in many studies (Belz, 2002; Helm, 2015; O'Dowd & Ritter, 2006; Schenker, 2012)

For linguistic benefits of the OIE, the responses indicated that the activity promoted their foreign language skills in many ways. The responses showed that for both groups the activity triggered language awareness, learner autonomy, motivation, willingness to practice the language in real life. Learner motivation, willingness to communicate, and learner autonomy are considered as significant attitudinal components in the realm of language learning (Benson, 2007; Dörnyei, 1998; Gardner & Lambert, 1972; MacIntyre et al., 1998).

For development of ICC the emerging themes were cultural awareness, development of intercultural communication strategies, collaboration, friendship and understanding cultural diversity. These themes might indicate that OIE activities contribute to development of ICC, as supported in a body of research in the literature (O'Dowd, 2007; Bueno-Alastuey & Kleban, 2016). According to Harden (2000, p. 120), ICC is

not attainable through any kind of formal teaching, and the only way to develop it is to practice through first-hand experience in real life context. The participants of this study frequently stated that they had a chance to learn about the other culture, enhance their communication skills with foreigners, realize similarities and differences through practice in real life context, whereby gained experience and confidence in communication across cultures.

Despite all the aforementioned linguistic and cultural benefits of OIE for foreign language learners, a number of communication failures were mentioned by the participants. According to O'Dowd and Ritter (2006), these problems are categorized in four levels: individual, classroom, socio-institutional and interaction problems. In this study, participants in both groups emphasized the same themes that were partner's lack of interest, fixed topic, huge time difference, different course requirements, different study programs, and different incentives. In this study the participants stressed that different study programs kept either side busy in different time periods, so they could not participate as much as they wanted.

Considering all aforementioned benefits and challenges of OIE activities, the findings of this might contribute to the relevant literature. In general, responses revealed that OIE activities have potentials to make language learning enjoyable, interesting, motivating and meaningful with chances to practice the target language in real-life context for real purposes without time and place constraints. Therefore, such online exchanges can be regarded as effective alternatives for distance language learning practices. With regard to communication failures, there might be some precautions for the future OIE activities. Careful planning, coordination and team-work are significant to maintain activities.

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Towards Learning Analytics and Educational Data Mining: A Systematic Literature Review

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Abstract

Learning Analytics and Educational Data Mining are increasingly popular in the context of integrating the benefits of today's technology with learning environments. Especially significant data sources such as Massive Open Online Courses and new methods and trends in the processing of these data have accelerated the studies on Learning Analytics and Educational Data Mining. The scope of this research is to understand the concepts of LA and EDM with recent developments in MOOCs research. While investigating related researches, the definitions of Learning Analytics and Educational Data Mining terms, differences between these two terms, Application Areas, Data Types Used and Algorithms were evaluated in the context of the themes.

Keywords: *Learning Analytics, Educational Data Mining, MOOCs*

INTRODUCTION

Open and Distance Learning (ODL) applications are becoming more widespread with the development of information and communication technologies. This requires the design, development, implementation, and evaluation of learning environments where technologies are not only integrated but also hosted Developing learning environments for the characteristics and needs of individuals has been the focus of researchers working on human learning today. One of the basic concepts of this research, Massive Open Online Courses (MOOCs), can be defined as courses offered to more than thousands of people through online learning environments. However, in this research, the characteristics of MOOCs are heterogeneous learning environments, in which the learners themselves take the decisions about the learning processes and they are heterogeneous. While MOOCs are seen as a big data source for researchers with their diversity, their potential in this sense has not yet been revealed. The necessity of research on the discovery of the data obtained from MOOCs in terms of learners' characteristics, diversity, behaviours in the system and similar issues is evident There are many studies in the context of the field of Learning Analytics research, which have been increasing and becoming widespread in life-long learning activities since its first announcement in the world (Tabaa & Medouri, 2013; Ezen-Can, Boyer, Kellogg & Booth, 2015; Atapattu, Falkner & Tarmazdi, 2016; Jiang, et al., 2014). These researches are shaped around common goals such as predicting the achievement or performance of learners, determining the probability of drop-out, and revealing the behaviour

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patterns of learners. When the scope of previous researches is limited in the context of applications, various behavioural data of the learners in the system are analyzed with different methods and give feedback and warnings to learners and instructors (Bainbridge, et al., 2015; Brooks, Thompson & Teasley, 2015; Cohen & Shimony, 2016) and individualizing learning content (Sonwalkar, 2013; Blanco, García-Peñalvo & Sein-Echaluce, 2013; Gynther, 2016). Learning processes may vary according to the subject and the interaction level of the course.

METHOD

The literature review is defined as 'summarization of the literature in an area of research to conceptualise models for empirical testing' by Cumbie et all. (2005). Following the research questions mentioned below, the relevant literature was reviewed by the authors. In this study, a systematic review of the literature was presented mainly in the context of LA and EDM. The studies related to the subjects in this context have been reached via the SCOPUS database employing a special search technique. The research problem of this research is to understand the concepts of LA and EDM with recent developments in MOOCs research. In line with this research problem following research questions is going to be answered by reviewing the relevant literature:

1. How is the difference between LA and EDM defined?
2. What are the application areas LA and EDM?
3. What type of data and algorithms are used in LA and EDM applications?

Data Collection

The data used in this research consist of the researches which are obtained by using special search criteria from SCOPUS database. In the data collection process, specific search criteria were determined by using the keywords *Learning Analytics, Predictive Learning Analytics*, *Learning Analytics Applications in MOOCs, Educational Data Mining* and *MOOCs in Educational Data Mining.*

Data Analysis

In the process of data analysis, firstly the special search criteria offered by SCOPUS has been reached to the list of researches related keywords. It has been paid attention to the fact that the published researches have been published after 2014 in terms of currentness.

RESULTS

In the 21st century, the act of learning is referred to as the tendency that information and communication technologies, which are independent of time and space, become our extensions and that individuals' autonomy, differences, and needs are taken into consideration more. The diversity of technologies and intermediaries used for learning also makes it easier for individuals to address different learning needs and preferences. In this context, MOOCs are one of the improvements in technology-based learning that adds dimensions such as online, openness and massiveness. It is possible to take and certify courses in almost every field with MOOCs such as science, philosophy, art, and technology.

Online learning environments consisted of courses offering services to a limited number of students, specifically for institutions and organisations (Cristea, Alamri, Kayama, Stewart, Alshehri, & Lei, 2018). In 2008, 25 Manitoba University students and 2800 Internet users attended the Connectivism and Connective Knowledge (CCK08) course offered by Stephen Downes and George Siemens. The term MOOC was first used for this course. As of 2018, MOOCs have grown rapidly in the education sector with 101 million students, more than 900 universities and more than 11,000 courses (Shah, 2018).

One of the most important advantages of MOOCs is the high number of participants and the different learner profiles in the courses. On the other hand, the research topics such as the acquisition and hosting the system behaviours, interactions and demographic data of learners in the same environment are a few of the issues for researchers to be explored in depth. It provides information about the performance and behaviour of the learners in the system according to the different Also, it is possible to make inferences about the success and participation status in the course with different behaviour patterns shown by different learning groups. These different types of data provide clues for the design, development, and evaluation of learning environments.

Learning Analytics and Educational Data Mining

Emerging web technologies have greatly increased the possibilities of data hosting and processing. Thus, the opportunities for making inferences and predictions by revealing the relationships between the variables has been increased in this direction (Bello-Orgaz, Jung, & Camacho, 2016). While large amounts of data cannot be mentioned for traditional online courses, this has changed with the emergence of MOOCs, and big data research in the field of education has gained momentum.

Although Ingram (1999) suggested that data mining applications be used in educational studies in the early years of online learning research, the opportunities on EDM (EDM) and LA have been increased with the emergence of MOOCs. As a result of these, EDM and LA have become an area of educational research and application with the increase in the number of learners, interaction and data hosting opportunities. Although the field of LA is relatively new compared to big data, data mining and artificial intelligence, it has been the subject of thousands of researches especially in the field of e-Learning. Studies in this area show that EDM, LA, and academic analytical applications are used in studies in the field of ODL (Avella, Kebritchi, Nunn, & Kanai 2016).

According to Hung, Hsu, and Rice (2012), EDM refers to the application of various methods, such as pattern discovery and estimation models, to better understand the hidden sets of information in the learning environment to make discoveries from the data in the learning environment.

LA is defined as measuring, collecting, analyzing and reporting data on students and learning contexts to understand and optimize learning and the environments in which it occurs. In the early stages of LA applications, the focus was on estimating models based on the analysis of demographic and performance-based data obtained through the Student Information System (SIS) and Learning Management System (LMS), where students' demographic data were hosted (Tempelaar, Rienties, Mittelmeier & Nguyen, 2018).

Liñán and Pérez (2015) examined the similarities and differences between LA and EDM. When LA focuses on applications, EDM develops and adapts statistical, machine learning, and data mining methods to examine educational data produced mainly by students and instructors. According to Bienkowski, Feng, and Means (2012), LA includes more disciplines than the field of EDM. While both are linked to the fields of statistics, computer science, learning science and psychology, LA research is also linked to sociology and information sciences.

Ashraf and Khan (2017) compared these two areas of research under the categories of origin, techniques, methods, and structure. According to this comparison, in terms of origins, LA is based on prediction, systematic intervention, semantic web decisions, while EDM focuses on the prediction of learning outcomes, educational software, student modelling, and automated processes. In the context of the techniques used, while LA adopts a data-driven approach, EDM adopts a top-down, theory-driven approach. When compared in terms of methods, it is possible to learn the models developed in the field of LA during the test process and to find new patterns and algorithms in EDM. Finally, when these two approaches are compared in terms of structure, while LA has a kind of understanding of complex systems in a holistic structure, EDM adopts new patterns explored with different algorithms. Both fields of research show similarities and differences in terms of various parameters, as explained briefly in the previous paragraphs, but are quite new and available for exploration.

Scopes of Application

According to Romero and Ventura (2013), application areas of LA and EDM was classified as *Predictio*n (Yadav, & Pal, 2012), *Clustering* (Antonenko, Toy, & Niederhauser, 2012), *Relationship Mining* (Kinnebrew, & Biswas, 2012)), *Distillation of data* (Baker, Corbett, & Wagner, 2006), *Discovery with models* (Jeong & Biswas, 2008), *Outlier Detection* (Ueno, 2004), *Social Network Analys*is (Palazuelos, Garcia-Saiz, & Zorilla, 2013) *Process Mining* (Bogarín et al., 2014), *Text Mining* (Tane, Schmitz, & Stumme, 2004; Shibani, et al., 2017) and *Knowledge Tracing* (Lee, & Brunskill, 2012).

Data Types

In the systematic literature review conducted by Moreno-Marcos et al. (2018), the data types used in the LA applications detailed as dropout rates, attendance rates, certificate acquisition rates, scores, classification of discussion activities, preferences, behaviours. More specifically, when the variables used to develop a prediction model are examined, demographic data, video-related variables, exercise-oriented variables, discussion activities, platform usage, time spent in activities, login-logout data and synchronous activity participation data are used (Yildiz & Okur, 2018; Algarni, 2016; Ray, & Saeed, 2018).

In the age of the Internet of Things, learners are not only interested in computer and telephone interactions. Data can also be collected from IoT (Internet of Things) compliant devices if it is using it and with the necessary permissions. For example; there are activities such as jogging / walking that the learner must perform daily within the course of a sports branch. Smart wristbands can monitor whether these activities are performed or not. In the presentation of Siemens (2015) during the LAK

Conference, he stated that multiple model data sets could be created with hardware and software to collect voice, attention, keystroke rate, gesture and mimic data.

LA and EDM provide information on the performance of learners in both research and development contexts, feedback that can be provided to learners, completion times, percentages, error feedback on the courses or materials offered, and issues that learners have difficulty working with. Within the framework of ethical issues, user modelling studies taking advantage of the digital footprints of learners are also noteworthy (Ezen-Can, et al., 2015; Rai & Beck 2011). These studies mainly provide process-based data to researchers in the areas of design of adaptive systems, accessibility, measurement and evaluation, and user experience.

Algorithms

Baker and Inventado (2014) categorized the algorithms used in the field of EDM and LA in the form of Predictive Algorithms (Classification, Regression, Latent Knowledge Estimation), Structure Discovery (Clustering, Factor Analysis, Domain Structure Discovery), Relationship Mining (Association Rule Mining, Sequential Pattern Mining, Correlation Mining, Causal Data Mining), and Discovery with Models.

CONCLUSION

The definitions of Learning Analytics and Educational Data Mining terms, differences between these two terms, Application Areas, Data Types Used and Algorithms were mentioned in the previous paragraph on Learning Analytics, and on which subjects researchers and practitioners can benefit from Learning Analytics is also an important problematic. Learning Analytics provides information on the performance of learners in both research and development contexts, feedback that can be provided to learners, completion times, percentages, error feedback on the courses or materials offered, and issues that learners have difficulty working with. Within the framework of ethical issues, user modelling studies taking advantage of the digital footprints of learners are also noteworthy (Ezen-Can, et al., 2015; Rai & Beck 2011). These studies mainly provide process-based data to researchers in the areas of design of adaptive systems, accessibility, measurement and evaluation, and user experience.

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An Evaluation of Classroom Teachers' Opinions on Online Material Preparation Training Through Mooc and Blended Education Model

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Abstract

The aim of this study is to increase the awareness of primary, secondary and high school teachers regarding Massive Open Online Courses (MOOC) as well as to help them to benefit from these media and to determine their opinions about these courses. As a result of the experimental study, the results of the MOOC media through which the experimental group was trained and the blended learning training model of the control group were compared. Therefore, the aim is to provide guidance for the continual discussions about the effectiveness of MOOCs. In the study, blended training was given to 33 teachers, whereas a complete online course on a formed platform was given to 34 teachers; consequently, the opinions and the success levels of the teachers were compared. The resulting data of the study was obtained from an opinion scale given to the teachers as well as a media evaluation form. The obtained qualitative and quantitative data were analysed and have been presented in the findings section.

Keywords: *Massive Open Online Courses, MOOC, Blended Learning, Teachers, Web Based Learning, Moodle.*

INTRODUCTION

The development of technologies used in education affects education media, teachers and also the learners themselves. Only the satisfaction of teachers and learners from these developing technologies would not be sufficient. Therefore, these media and materials should be used so that both learners and teachers can benefit accordingly. In order to make the currently used Massive Open Online Courses media effective, the materials used in such media should be prepared in a conscious manner according to the learner profiles. The Massive Open Online Courses provide people with life-long self-development opportunities. Furthermore, while individuals are improving themselves, they also have new education possibilities through the ability to set their own education durations and times without impacting other areas of their lives. In terms of the teaching profession, those working in this sector need to improve themselves continuously, particularly in this digital era where the students' profiles are continually changing. The elements required for attracting students' interest and attentions in the classroom would change every day as they meet new digital tools every day. Therefore, the teachers should choose the path that they will follow carefully

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in order to increase their educational quality and its efficiency. If it is assumed that the students' interest increases when digital tools are used along with developing technologies, it is evident that if digital tools-device and materials are used correctly in educational media, this can ease teachers' duties.

Massive Open Online Courses

The distance learning approach has developed to the point that massive open online courses are now available, which are free, open online courses that provide learners the unconditional right to participate as well as being open to everyone (Bozkurt, 2015). The accessible open course resources and social media are also included in massive open online course media and those media are the ones of which the user interfaces are provided (Le Counte et al., 2015). Above all, the MOOC media are designed according to the knowledge levels, skills, interests, desires and learning needs of the learners so that they can organize their own participation (McAuley, Stewart, Siemens and Cormier, 2010). Although widespread participation in open online courses existed in the past, the concept of MOOCs first emerged in 2008 (Cormier, Stewart, Siemens and McAuley, 2010).

Massive open online courses have been developed as a result of "Connectivism Theory", which Siemens (2008) defined as the "Learning Theory of the Digital Era". The connectivism theory has arisen based on the developing technology and the changing human lives as a theory which defines learning through networks as a result of the studies conducted in the early 2000s by two Canadian academicians - George Siemens and Stephen Downes (Downes, 2012; Siemens, 2005).

Blended Learning

Ünsal (2012) defined blended learning as "a teaching program that is most suitably and specially prepared for a specific group on 'average' level through combining new technologies, activities and facility types".

However, Usta (2007) defined it as blended education that benefits from all types of technology and combines various distance and face-to-face learning models in the classroom.

Although blended learning is defined differently by many researchers, they agree on the definition that blending learning involves "combining the Internet based education and face-to-face education in the traditional classroom manner". Additionally, the definition accepted in the literature about the blended learning method is "30-80% of the lesson content within the tools as online, implementing the traditional learning method in the remaining time out of this period" (Allen and Seaman, 2014; Porter, Graham, Spring and Welch, 2014).

Objectives

In this study, the objectives include increasing the awareness of classroom teachers regarding MOOC media and materials as well as their ability to use such media effectively. Also, the data gathered from this study will act as a guide for researchers studying in this field, which is another objective. In order to measure the study

productivity, the same training was given again to another group of classroom teachers using the blended learning model.

As well as teaching those models to the teachers in this course, they were asked to implement the things they learned during the course later in their own classrooms with their students. Therefore, the teachers would be able to use those media for their self-development and would also be able to apply the materials and things they had learned during the course in their own teaching practices.

The sub goals of the study are:

1. To determine the proficiency perspectives of the participants in the MOOC and Blended Learning groups before and after the course,
2. To determine their opinions about the prepared MOOC platform,
3. To determine whether they used the MOOC platform before and after the course,
4. To determine whether they will implement the things they learned during the course.

METHOD

In this study, "online material design" training was given to the classroom teachers through the MOOC and blended training methods. As two separate groups, the teachers participated in the training as volunteers. The participating teachers from different schools were assigned to the groups based on a random placement method. The two group participants were trained on the same subject for a total of 7 weeks. During the course, the teachers were trained in terms of getting an e-mail address, preparing educational videos on the Internet, using the Moodle as both learners and teachers, creating documents and e-books on the Internet and using the cloud media effectively. While the MOOC group teachers completed the trainings interactively entirely on the Internet with each other and the training leader, the blended training group teachers met with the trainer 3 times a week using in-class media and maintained those trainings by benefitting from the online materials. For the teachers in the MOOC group, the MOOC media was prepared on the Moodle system and all lesson materials were shared on this platform with the participants.

Study Group

This study was conducted in the 2016-2017 fall semester with classroom teachers working in the Turkish Republic of North Cyprus. A total of 67 teachers from different branches, schools and cities voluntarily participated. While 33 teachers from different branches were placed in the blended group, 34 teachers from different branches were placed in the MOOC group. In total, 19 female (57.6%) and 14 male (42.4%) teachers were in the blended training group, while 20 male (58.8%) and 14 female (41.2%) teachers were in the MOOC group. The age of the participating teachers from different schools ranged from 25 to 55.

Data Collection Tools

According to the objectives of the study, the teachers were presented a proficiency perception scale about the effective use of materials on the MOOC platform and their preparation as a learner. Also, in order to determine whether the teachers benefited from the MOOC platform during the course, a platform evaluation form was presented to them which was prepared by the trainer by the end of the course so that their opinions about the media could be obtained. Through the opinion scale prepared by the course trainer, the teacher opinions were obtained regarding whether they would use the materials they had learned during the course in their lessons later.

Proficiency Perception Scale about Massive Online Open Courses of Teachers

Before creating the proficiency perception scale about massive open online courses, previously created scales about the massive open online courses were researched in both Turkish and international literature. No scales have been created about the massive open online courses. This scale will be implemented for the teachers in order to measure the proficiency perception on Massive Open Online Courses in terms of both learners and teachers. The item pool prepared during the scale creation was presented to 7 experts and after obtaining their opinions, the scale initially consisted of 40 items. This scale was administered to 355 teachers. In the first phase, the 40 item-scale was implemented to 200 teachers and then analyses were conducted; subsequently, 10 items that were deemed not to be suitable were removed. The resulting 30-item scale was implemented to 155 teachers and the validity and reliability of the scale was assessed. The analysis results given below were gathered after the scale had been implemented for the last time. Factor analysis was conducted in order to determine the construct validity of the scale. In order to measure the data and sampling numbers' suitability according to the factor analysis, the KMO and Bartlett tests were conducted. The factor analysis is the strongest method in analysing construct validity and enables measurement with a lower number of factors by gathering together the variables that measure the same quality (Kerlinger, 1973; Öngel, 1975; Tabachnick and Fidell, 1989). According to the evaluation of the results of factor analysis, the factor load values of items on the scale are suggested to be .45 or higher and the emphasis was on paying attention to the high load value on only one factor during the item choice. In order to determine the reliability of the scale, the Cronbach's alpha reliability coefficient of the scale dimensions according to the data was calculated. Since the Cronbach's alpha reliability coefficient is the internal consistency coefficient, the measured variable should be one dimensional. In this regard, a different reliability test was implemented to the scale's first factor and also a different reliability test was implemented to the scale's second factors. While the scale's first factor's Cronbach Alpha coefficient was .946; the scale's second factor Cronbach Alpha coefficient was found as .939 (Tan, 2001; Kiraz, 2003).

The KMO and Barlett test were first implemented to the scale. The KMO and Barlett test show the normality and the suitability for factor analysis. In the analysis after the pre-implementation for the scale, the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO) value was calculated as .639 and since it is >.600, it is meaningful. The Chi-Square value of the Bartlett's test was 15377.924 and the degree of freedom was 435, which indicates that it was meaningful ($p=0.00$, $p<0.05$).

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.639
Bartlett's Test of Sphericity	Approx. Chi-Square	15377.924
	Df	435
	Sig.	.000

Table 1. KMO ve Bartlett Test

The Evaluation Form of Teachers for the Massive Open Online Course Media

Attention was paid to particular details when preparing the Massive open online course media. Many different details can affect the learners' learning process such as the media where the course would be created and the material characteristics. For this reason, the learners' opinions about their course media, process and materials are very important for course experts. A qualitative evaluation form was created in order to obtain the learners' opinions about those criteria. Since all the participants in the blended and MOOC groups followed the same media, the form was presented to all the course participants. The views of 6 experts were obtained for the prepared form for the teachers, necessary revisions were made and lastly, it was implemented to the teachers at the end of the course.

Perception Form about the Course

During the course interview form preparation, the aim was to gather the teachers' opinions about the entire course process. During the course preparation, the main aim was to allow the teachers to benefit from the course as much as possible, to help them learn from the materials prepared during the course in terms of its positive and negative sides, to create their own materials and use those materials during their education as online to support the in-class education. Assuming that the participant teachers would want to improve themselves continuously, the first aim of the course was to use the massive open online courses as the theme of the course. The other aim was to contribute to either the teachers' life-long learning or to develop it as their hobby. In this regard, the teachers have evaluated the massive open online lessons and its contents in different aspects, the Moodle media established on this course in general, as well as the advantages and disadvantages of the group in which they participated. Five expert views were obtained during the Course Interview Form preparation and the final designed form was given to the teachers after the course.

MOOC Using States of the Teachers

One of the objectives of the study is to increases the teachers' awareness of the MOOC media and to enable them to have continual self-development by using those media. Accordingly, teachers were asked whether they used MOOC media before and after the course in the demographic information section of the proficiency perception scale that had been improved.

Data Evaluation

In order to analyse the meaningfulness of the point differences related to the pre-test and post-test results, the paired sample t-test was used. For the explanation of the

data differences, the general average was considered. The reason of the preference of those methods is due to the equal distribution of participant numbers. N Vivo 10 software was used for the gathered qualitative data analysis and they were explored via descriptive and systematic analysis.

FINDINGS

The Proficiency Perspectives of Blended and MOOC Group Participants on Massive Open Online Courses before and After the Course

The results of the comparison between the proficiency perspectives of the blended and MOOC group participants in terms of the massive open online courses before and after the course have been given in Table 2.

Blended Learning Group		N		SS	df	t	p	Explanation
Average Point	Pre-test Post-test	33 33	3.03 3.92	.49 .40	32	-9.79	.000	p<0.05 Meaningful
MOOC Group		**N**		**SS**	**df**	**t**	**p**	**Explanation**
Average Point	Pre-test Post-test	34 34	3.02 4.30	.51 .29	33	-13.15	.000	p<0.05 Meaningful

Table 2. The proficiency perspectives of Blended and MOOC group participants on MOOC before and after the course

As the massive open online courses are a very new approach, they are not widely known. Since they only started to be used in Turkey in 2013, the number of related scientific studies is minimal. It is assumed that usage levels in the Turkish Republic of Northern Cyprus in regard to distance learning are similar, and the pre-test implemented to the participant teachers exhibited low results, which reinforces this expectation. When the results of the pre-test and post-test are compared, it is found that there is a meaningful difference between the two groups (For both groups p=.000, p<0.05).

The Comparison of the Results of Evaluations by the Blended and MOOC Group Teachers

The following table illustrates the evaluation results of the Blended and MOOC teacher groups in regard to the massive open online course media within the scope of the study.

	$\bar{X}$	N	SS	t	df	p	Explanation
Blended Learning Group	4.09	33	.21	-.415	65	.680	p>0.05 No Meaningful
MOOC Group	4.11	34	.20				

Table 3. Comparison of the results of evaluation by the Blended and MOOC group teachers

The participant teachers' opinions about the MOOC media were positive in both groups. On average the Blended group (=4.09) and the MOOC group (=4.11) scored the MOOC media and its materials for the course "Very good". While both groups evaluated the media in terms of different variables, no meaningful difference was found between the evaluation results of both groups (p= .680, p>0.05).

The Blended group participants used this supportive media with the aim of filling in the variable scales and forms and solving the success test; on the other hand, the MOOC group participants followed the entire course from the beginning through this media. In other words, both groups used the media actively for seven weeks. By the end of the course, all the participants had created their own materials and courses on the same platform. In their study Şimşek and Turan (2017), researched the usefulness of the massive open online courses on mobile media and they made suggestions accordingly based on the results in order to increase this usefulness. They evaluated the most commonly used types of MOOC media, such as Coursera, Udacity and Udemy in regard to their usefulness in courses in terms of gender, age, technological literacy and online course experience variables on mobile media. According to the results, statistical differences were found in terms of interface quality, information quality, usefulness and system utility among the evaluated three systems.

This study shows that there might be differences in the variables of the most commonly used massive open online course media, such as system utility, usefulness, materials and content.

The Presentation of Frequency and Percentage of State of Using the MOOCs by the Teachers before and After the Course

On Table 4; frequency and percentage of state of using the MOOCs by the teachers before and after the course have been given.

Blended Learning Group					MOOC Group			
MOOC use of teachers	Before		After		Before		After	
	F	%	F	%	F	%	F	%
Using	6	18.2	24	72.7	9	26.5	30	88.2
Not Using	27	81.8	9	27.3	25	73.5	4	11.8
Total	35	100.0	35	100.0	36	100.0	36	100.0

Table 4. The distribution of MOOC use of teachers before and after the course

As there has been a positive development in the proficiency perceptions of teachers on massive open online courses after the course, they also have the same positivity in the state of their using those media. After the course, the participant teachers visited the MOOC media more and registered as members. After the course, the number of participant teachers in the blended group who stated that they would benefit from those media increased from 18.2% to 72.7%. In other words, 24 out of 33 people benefited from the MOOC media. By the end of the course, the number of people in the blended group who continued not to use MOOC media was 9 (27.3%). However, 30 people (88.2%) from the MOOC participant group registered and are now using those media. The number of people in this group who continue not to benefit from MOOC media is 4 (11.8%).

The Blended and MOOC group Teachers' Opinions about Using the Things They had learned during the Course in Their Own Lessons

Table 5 presents the blended and MOOC group teachers' opinions about using the things they had learned during the Online Educational Material Design course in their own lessons in tabular format based on the analysis reulsts, some of the teacher perspectives have been given directly without any changes.

Using the Learned Elements in the Lessons (n=67)	f
The materials used make the learning entertaining	48
I believe that it would motivate my students	58
My students also have the right to benefit from these opportunities	44
It makes learning more effective	55

Table 5. The distribution of teacher opinions about implementing the things they had learned during the course

The Massive open online course materials are materials that are prepared on digital media but could be used in traditional education. The teachers can upload the supportive materials into the MOOC groups in their in-class education and use them as well as creating faster and more effective learning. After the course, the teachers can create their own massive open online course based on the things that had learned during the course and can provide education to learners from all over the world. They can also improve the materials they had learned during the course and integrate them into their class training and motivate the young people during the lessons.

In this direction, the teachers' opinions about using the elements they had learned in their own lessons were asked. The answers show that the teachers were positive about being trained with the massive open online course materials and would like their students to also benefit from those opportunities. According to the conversations with teachers and their opinions during the course, from the beginning of the course, the teachers had already started to use the elements they had learned in their own classrooms. The teachers stated that from the day they had begun to use those methods and materials, the students became more entertained and did not realise when the lesson had finished. They also often mentioned that the students wanted to be trained with those materials on a regular basis. These positive reactions of the teachers are due to the training they received and this was reflected in their students. According to both groups' teachers' opinions, they were very satisfied with the materials, video durations and flow, explanation styles that they mentioned all the time. Due to this increased level of satisfaction, they used the materials in their classrooms, which increased the student motivation and believed that if those who were not using them chose to do so, this would also increase their students' motivation.

The aim of participating in the course was not only to learn, but also to share the elements they had learned with their students and colleagues which are stated by the teachers and they claimed everyone had the right to learn and benefit from the possibilities and technologies. Additionally, they stated that this kind of training was better and more entertaining, which meant that they were highly motivated to use them in their own lessons. Some of the opinions of the teachers about using the elements they had learned during the course in their own lessons are as follows:

"…exactly my aim was this when I participated in this course. From now on I am able to prepare richer lesson content and can present to my students through using different media." (Interview form: T42).

"…Yes, I am thinking. I already teach by using the available technologies in my school. It grabs my students' attention. With the new technology, the students learn better through being entertained." (Interview form: T59).

"…I will definitely use. I believe all the teachers should benefit from these opportunities and provide more quality education." (Interview form: T18).

"…If the lesson management systems such as Moodle are established in the school, I would like to use them regularly. The subjects that the students don't understand inside the class would be beneficial if they are watched and listened on the computer media later. Also, I am thinking of creating tests on the systems and preparing supportive activities from the external resources." (Interview form: T16).

"…Yes, I am thinking. I would like to have a teaching manner, materials and content that motivate, enliven and entertain the learners so that the education is more qualified." (Interview form: T45).

"…This course in which I participated has made an unbelievable contribution to my lessons, social life and learning. I definitely would like my students also to benefit from those opportunities and their benefits." (Interview form: T31).

"…Especially I would like to use the materials we have learned in my own lessons to present a more qualified educational manner so that it would be more informative for the students." (Interview form: T10).

"…I would like to inform my students during the first weeks of semester about those topics and to use these opportunities during the semester together with my students." (Interview form: T39).

"…I began using the elements I have learned from the first week of the course in my own lessons. Feedback given by students reflected that this has increased their motivation and the lessons have been more interesting." (Interview form: T51).

"…Thanks to this course and media, when we prepare lesson materials, we have more freedom compared to the traditional ones and also we have the opportunity to deliver contents to the students in the out of the lesson times, which helps us improve our teaching jobs. This media and associated materials could motive students more and when they are learning the content, the students are livelier and more entertained." (Interview form: T61).

RESULTS AND DISCUSSION

Meaningful differences were found in terms of the proficiency perception tests that were applied to the Blended and MOOC group teachers before and after the course. The reason for this is that the massive open online courses are new and they first started being used Turkey in 2013. Other reasons include that the related studies in this country are very rare and the teachers are unaware of those novelties. It is assumed

that the lecturers and teachers working in this country have only been learning and using the massive open online lessons very recently. One of the sub-objectives is to prepare the teachers for this course as both learners and teachers and to enable them to benefit from the courses during their teaching and learning lives. Therefore, according to the results obtained, there is a meaningful difference in the pre-test and post-test comparison of the Blended and MOOC group teachers' proficiency perceptions about the massive open online lessons, which shows that this study has achieved its goals.

In another analysis, it is believed that the MOOC group teachers have more positive proficiency perception states for the massive open online courses than the blended group teachers, because they followed the whole course through the MOOC media (which was created for this course) and they therefore they were prepared mentally and in terms of their potential abilities

As another objective of the study, the teachers evaluated this prepared massive open online course media in terms of its usefulness and materials. During the course, the teachers created materials that would be used in the massive open online courses and they were able to see the pros and cons of those media by analysing the MOOC media which, were prepared by both experts and novices in the field. By the end of the course, the teachers were asked to evaluate the MOOC media that had been prepared for them and the obtained data were analysed. According to the analysis, both blended and MOOC group teachers' opinions about the MOOC media and materials were very positive. Both groups of teachers stated that the media was perfectly prepared and there was no meaningful difference between the opinions of both group teachers about the media.

Another aim of the study was to increase the teachers' awareness of massive open online courses and to use them in both their individual and professional development as well as in other subjects. As result of the study, it is possible to say that this objective was achieved.

As a result of the study, it is possible to state that the teachers in both groups made positive progress in using the massive open online courses. While only a limited number of teachers in the blended group used the massive open online courses for their self-development, by the end of the course, more than half of the blended group teachers benefitted from those media. Among the MOOC group teachers, while a small number benefitted from those media, by the end of the course, a significant number of the teachers used those media for individual and professional development. The advantage of the materials used in massive open online courses for the teachers is that they can use them in the traditional teaching style also. Therefore, the teachers were asked whether they thought about using the elements they had learned in the course in an online environment or in traditional lessons. In this regard, it has been found that most of the teachers who started learning these materials began using them in their own lessons from the first day of learning. As both users and the learners, the teachers who gained knowledge from those materials stated that those materials made learning more effective and would motivate students more. The teachers said that they

were aware of the new opportunities, effective materials and were satisfied with the training course. Additionally, the teachers noted that the students should be aware of those novelty materials which are necessary because they can receive considerable benefits by using them. In addition to these positive opinions, the teachers mentioned that the MOOC materials made the learning more effective.

Future Studies

The Massive Open Online Courses have been considered as the variables of this study which are discussed in conjunction with blended learning, the validity and efficiency of which has been proven by experts. In order to increase the validity of the obtained data, these types of studies should be conducted by comparing the MOOC with different educational models to different samples. Although the same method and technique could be implemented in the future studies, changing the scope and sampling in different countries with more participants would not prevent the results from being compared and also the obtained results would provide guidance for researchers who study in the field of web based education or distance learning.

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A Perception of Open and Distance Learning in the Postmodernism Era

Eda ATASOY[1]

Abstract

Baudrillard (1994) states that while modern societies were organized around production, postmodern societies are organized around 'simulation'. In the world of simulation, labor industries are replaced with knowledge and digital industries which means man power is replaced with communication technologies such as television, radio, computers, the Internet, and smart phones all of which are simulating reality. In the postmodern world, there is also an emergence and highly use of communication technologies in learning, specifically in open and distance learning where the message; that is the 'content' is transmitted through the medium; that is communication technologies. In this respect, this paper is informed by Baudrillard's postmodern metaphorical notion of 'simulation' as a conceptual framework to provide a critical examination to a) how communications technologies and simulation itself affect distance learning practices at undergraduate levels; and b) how their presence and use shape our perceptions of what distance learning is, or needs to be. At the end, the study concludes that communication technologies and simulation can be seen as new opportunities to supplement and complement distance learning practices as long as we don't let them split up from the reality and act on their own as 'simulacrums'.

Keywords: *Baudrillard, simulation, simulacrums, postmodern, communication technologies.*

INTRODUCTION

Baudrillard (1994) states that while modern societies were organized around production, postmodern societies are organized around 'simulation'. In the world of simulation, labor is replaced with signs, codes, models, images and symbols, so social production and order are ruled by electronic and digital cultural media such as television, computers, the Internet, radio, information processing, as well as communication and knowledge industries which are simulating reality (Kellner, 2005). In line with this, it can be said that the vast use of technology including diversity into the physical and virtual lives is a characteristic of postmodern era. In the postmodern world, there is also an emergence of technology in learning, of which the expanding presence of distance learning can be given as an example (Remtulla, 2008). Peters (1988) noted that distance learning would be impossible without technology including the modern means of communication and electronic data processing (as cited in Simonson, Smaldino, Albright, & Zvacek, 2008, p. 44). Considering these, this paper is informed by Baudrillard's postmodern metaphorical notion of 'simulation' as a conceptual framework to provide a critical examination to a) how communications

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technologies and simulation itself affect distance learning practices at undergraduate levels; and b) how their presence and use shape our perceptions of what distance learning is, or needs to be.

BAUDRILLARD'S NOTION OF SIMULATION

Baudrillard (1927- 2007) has called the postmodern era as the age of simulation where the representation- television and computer images and symbols- replaces or precedes the reality. In his book 'Simulacra and Simulation' (1994), he defines simulation as:

To simulate is to feign to have what one doesn't have, so it implies an absence. Simulating is more complicating than pretending because simulation threatens the difference between the "true" and the "false", the "real" and the "imaginary".

Baudrillard (1994) states that while modern societies were organized around production, postmodern societies are organized around 'simulation'. In the age of simulation, labor is replaced with signs, codes, images, models and symbols. In this respect, Baudrillard (1994) presents four successive levels of simulation:

> It is the reflection of a profound reality;
> It masks and denatures a profound reality;
> It masks the absence of a profound reality;
> It has no relation to any reality whatsoever; it is its own pure simulacrum. (p. 6)

In the first stage, there is a copy of reality, and this copy can be distinguished from reality. In the second stage, the copy hides or even alters the origin of reality, so copy is no more distinguishable from reality. In the third, there is no reality at all. There is the copy of the copy, bearing little resemblance to real, so offering a simulacrum (Bleakley, Bligh, & Browne, 2011). In this stage, simulation becomes reality. In the fourth stage, simulation, as simulacrum splits up from the reality and acts on its own (Bleakley et al., 2011).

OPEN AND DISTANCE LEARNING IN THE POSTMODERN WORLD

In the contemporary period within the emergence and highly use of new communications technologies such as TVs, radios, computer communications, and the Internet, new approaches towards distance learning have emerged (Simonson et al., 2008). In the 20th century, identified as the industrial era of distance learning, there was a focus on the geographical constraints and these constraints used to be dealt with strategies like mass production and delivery of learning packages. In the postmodern era, on the other hand, the focus has shifted from distance constraints to educational issues like sustaining communication at any time any place by utilizing every communication technologies available (Garrison, 2000). On this basis, in the 21st century universities distance learning is initiated through not only printed materials, but also with broadcasting and the Internet (Cakir & Oguz, 2010). Learners and instructors have access to the learning programs, materials, and services at different times and places thanks to synchronous (e.g., internet phones, online chat, and video conferencing) and asynchronous (e.g., emails, forums, and discussion boards) communications technologies (Ozkul, 2001). It is a fact that today, in the postmodern

world, almost all students have become "native speakers of the digital language of computers, video games and the Internet" (Prensky, 2001, p.1), and this has made their readiness for distance learning unquestionable. Notwithstanding, how successfully educational organizations will adapt themselves to the postmodern environments by adopting the aforementioned research and theoretical concepts in distance learning (Saba, 2011) is still a future concern.

OPEN AND DISTANCE LEARNING AND COMMUNICATION TECHNOLOGIES

Baudrillard, as a cultural theorist, also holds big concerns on the possible damages of electronic mediums- that is, communication technologies, on people as a direct result of postmodern era. In his book 'Simulacra and Simulation' (1994), he gives a place to McLuhan's formula, the medium is the message, which he suggests as the key formula of the postmodernism era. He finds a similarity between 'the confusion of the medium and the message' and 'dissolution of TV in life and dissolution of life in TV'. In this sense, Baudrillard (1994) proposes that:

> Finally, the medium is the message not only signifies the end of the message, but also the end of the medium. There are no more media in the literal sense of the word (I'm speaking particularly of electronic mass media) - that is, of a mediating power between one reality and another, between one state of the real and another. (p. 82)

During the earlier phases of industrial revolution, quick performances of the given tasks were important, yet today developing skills in distance interaction- that is, collaboration with remote teams has become central to educational institutions (Dede, 1989). This shift from industrial production to post-industrial production- postmodern era in Baudrillard's terms- has affected the technological world the learner must enter, so the technological dimensions of school trajectories (Waks, 1998). In this sense, some discussions have been raised on the utilization of communications technologies in distance learning. In his article published in 1996, Pickering talks about the effects of the Internet along with video, broadcast TV and multimedia in general and their newly usage in distance learning and proposes that the Internet is being used to provide co-operative, user-friendly, and affordable distance education resources. Also, according to Kaur and Abas (2004) in distance education learners' use of communication technologies has a vital importance in terms of maximizing the potential of distance learning in a 'knowledge-based economy'. Similarly, Herold (2010) suggests that technology utilization has made online instruction possible and thanks to online instruction, many have had the chance of attending school, as well as those with geographic and temporal constraints have had the opportunity to take education. For him, technology is an aid to teaching in general and unquestionably can make the lives of teachers and learners easier. It seems that for the next fifteen years, communications technologies will go on increasing in power and decreasing in cost, which will eventually influence distance learning environments in two ways: the combination of communications technologies with computers and the ascend of affordable technology for education (Dede, 1989).

OPEN AND DISTANCE LEARNING AND 'SIMULATION'

In the teaching and learning literature, simulation is defined as a courseware or program specifically designed to simulate real life events or situations to enhance learning (Juhary, 2011). Within the emergence of the Internet as a joint among communication media (Pickering, 1996) in the postmodern era, the use of simulation in distance learning has been a center of attention (e.g., Guzic et al., 2012; Juhary, 2012; Harold, 2010; Tella, Kynaslahti, & Husu, 2014). The research studies investigating the use of simulation have basically evolved in two fields; online clinic education (e.g., Bleakley et al., 2011; Guzic et al., 2012), and online science education (e.g., Rutten, Van Joolingen, & Van der Veen, 2012).

Most of these studies concluded that combining distance learning with simulation is an effective strategy and can also be a powerful tool in the future distance learning due to its many advantages. First, simulations have learners engage in real-life environments that would be too time-consuming, costly, dangerous or difficult in real-life (Juhary, 2011). Moreover, they have a motivational appeal to engage the learners (Harold, 2010). Also, thanks to the availability of web-technology they may be used in different fields and may initiate life-long learning (Granlund, Berglund, & Eriksson, 2000).

On the other hand, in their study, Bleakley et al. (2011), approach the use of simulation in learning with caution and at the end of their study they propose a simulation project consisting of different scenarios, each of which is blended with Baudrillard's successive stages of 'simulation'. In their first scenario, they present simulation as a bridge between classroom learning and work-based learning (Figure 1).

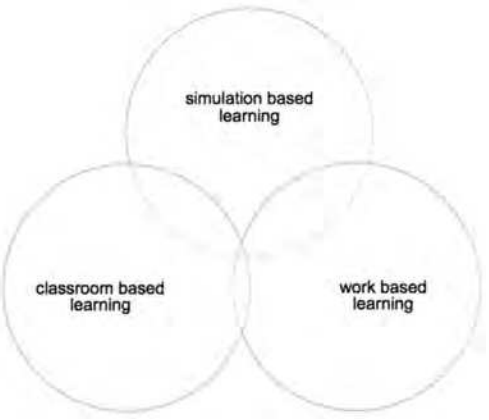

Figure 1. Simulation as a bridge between classroom and work-based learning. This figure illustrates the functioning of simulation as a third place between the classroom learning and tne word based learning. Taken from Bleakley, A., Bligh, J., Browne, J. (2011). Learning by simulation and the simulation of learning. In S. J. Hamstra (Ed.), Medical education for the future (pp. 153-169). United Kingdom: Springer.

According to Bleakley et al. (2011), this figure conforms to Baudrillard's stage 1- where the copy can be distinguished from reality easily and stage 2- where the copy hides or alters the reality, so it is almost impossible to distinguish it from the reality. Baudrillard's stage 2 is ideal in distance learning since the aim of simulation is to enable the learners

to work in real-life environments (Juhary, 2011) and to experience dynamic and interactive simulations (Granlund et al., 2000). However, as Bleakley et al. (2011) state, there is a danger if the simulation starts to conform to Baudrillard's stages 3 and 4 (Figure 2).

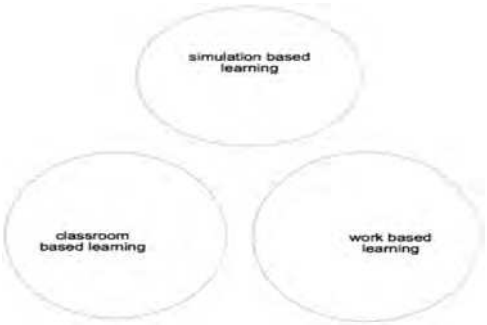

Figure 2. Simulation acting alone as a simulacrum. This figure illustrates how simulation splist up from the reality and acts on its own. Taken from Bleakley, A., Bligh, J., Browne, J. (2011). Learning by simulation and the simulation of learning. In S. J. Hamstra (Ed.), Medical education for the future (pp. 153-169). United Kingdom: Springer.

Figure 2 shows the disappearance of reality or original. There is the copy of the copy, bearing little resemblance to real world, so offering a simulacrum (Bleakley et al., 2011). In this stage, simulation itself becomes the reality. Also, simulation as simulacrum splits up from the reality- that is, classroom based learning and work based learning and acts on its own (Bleakley et al., 2011). There is no more connection between real and copy, so it is a pure form of simulation.

Considering these, as long as the use of 'simulation' in distance learning conforms to Baudrillard's stages 1 and 2, we can see it as a new opportunity for learning, rather than a misconstruction of reality as Tella et al. (2014) suggests. Nevertheless, we should not let simulation replace the reality as exemplified in Baudrillard's stages 3 and 4. It will be wiser to use it as a tool or strategy to supplement and complement distance learning.

CONCLUSION

In the 21st century universities, learners and instructors have access to the learning programs, materials, and services at any time any place thanks to synchronous and asynchronous communications technologies (Ozkul, 2001). Even though these communications technologies serve well when it comes to vanishing boundaries in education in terms of place and time, we should still be careful about their possible damages on people as a direct result of postmodern era as Baudrillard (1994) points out. Another point that we should take into consideration is the place of 'simulation' in distance learning. As long as the use of 'simulation' in distance learning conforms to Baudrillard's stages 1 and 2, it can be seen as a new chance for learning, rather than a misconstruction of reality as Tella et al. (2014) suggests. Nevertheless, when it comes to the simulacrum between the real and the mediated conforming to Baudrillard's stages 3 and 4, it will require a great attention for online educators to connect learning to both virtual and real-world subjectivities (Voithofer, 2002). The 21st century represents the postmodern era in which transactional issues such as teaching and learning dominate distance learning (Garrison, 2000). Therefore, cultural theorists, educators, and researchers all together have a responsibility for setting a clear-cut difference between the simulation and reality and adapting the distance learning practices accordingly since it will eventually shape our perceptions of distance learning and all its components including learners, instructors, content, technology, interaction as a 'simulacrum of traditional learning' or a 'reality itself in postmodern world'.

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Reinforcing Motivation and Engagement by Behavioral Design in Learning Systems

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Abstract

In this paper, the opportunity of implementing behavioral design into learning systems is elaborated from a theoretical aspect. Technology has power to change human behavior and habits. Anywhere anytime connection concept provides ease of access, variable content, low cost, which attracts the users affecting many aspects of life. Education is affected from this trend and it led instructors to move e-learning environments. Although e-learning systems have many advantages, motivating students online can be challenging because of content, isolation, poor communication with instructors, and lack of connection between content and the students' needs. On the other hand, most of the students are already addicted to digital content due to habit forming products in daily life. Once they become addicted to technology, the books and traditional education or content are not interesting for them. The biggest problem of the education can be considered as the students who are not interested with the content and do not want to learn. With the behavioral design aware educational technologies, permanence, continuity and qualification can be given to learning, engagement level can be improved and better study habits can be formed.

Keywords: *E-learning, Motivation, Engagement, Study Habits, Behavioral Design, Habit Forming*

INTRODUCTION

When the technology serves our particular needs, it also changes the way we do the things. Once the technology brings a new and better solution, the change becomes permanent in our lives. Technology certainly has power to change human behavior. No one thinks to carry a map or stuck of CDs, memorizing phone numbers, finding information from an encyclopedia anymore. Most of the things which are done manually in the previous decade are digitalized and technological way became a part of human lives when the manual way is obsolete.

Rapid changes in the technology brought some consequences such as reducing human attention span or creating some addictions. A study conducted by Microsoft in 2015 shows, average human attention span has fallen to eight seconds from twelve seconds in one decade due to usage of digital technologies (Mcspadden, 2015). According to (Greenfield, 1999), technology especially computers and Internet can be easily overused

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and become addictive. Anywhere anytime connection concept provides ease of access, variable content, low cost, which attracts the users affecting many aspects of life.

ADDICTIVE SIDE OF THE TECHNOLOGY

The purpose of inventions is mainly to make life easier and more comfortable for people. But what if the technology is used irresponsibly? Unintentionally or intentionally technology can lead people into technological addiction. What if the technology can change the opinions, behaviors, feelings and decisions of people? Most of the people think that technology is neutral and can be used for good and bad or can be left (Harris, 2018).

Technological addiction is a type of behavioral addiction which is defined as "a form of addiction that involves a compulsion to engage in a rewarding non-drug-related behavior – sometimes called a natural reward – despite any negative consequences to the person's physical, mental, social or financial well-being" (Stein, Hollander, & Rothbaum, 2010). This type of addiction is also described as Digital Addiction in (Alrobai, Phalp, & Ali, 2014) as a dependent behavior that is triggered by software products. It leads to pleasure and relief of discomfort, but as the other addictions it can harm people socially, physically and psychologically.

Many people can notice that digital technology namely computers, smartphones, mobile handheld devices take a lot of time in our daily lives. The application Moment was developed, to measure how much time the user was spending on his/her phone each day, by tracking daily screen time, tallying how long the phone is used. After the distribution of the app, it was seen that 88 percent of the users were overusing their phones with an average of four hours per day by checking email, texting, playing games, surfing the web, reading articles, checking bank balances, and so on. When it was calculated, that amount corresponds to eleven years of an average lifetime (Alter, 2017). When we think that the users of this application were only the ones who were concerned about the time they spent; we can expect the others who are not aware of technological overuse would be even more engaged with their smartphones. This level of engagement raises the question: "whether this comes from the nature of the digital technologies or from the intentional addictive design of the applications". The use of social networking services on mobile applications is also a significant predictor of technology addiction (Schüll, 2012).

Schüll in her book (Schüll, 2012) describes how electronic gambling machines are designed in such a way that they encourage addiction, and explains that gambling machines are sophisticated versions of the classic three-reel slot machine. Their hardware, software, math, even seating components, all is carefully designed to keep players at the machine for a longer time. Play is simple and fast. The machines are programmed to encourage gamblers to continue. They induce players to gamble quickly and repeatedly, developing a sort of rhythmic flow. They're addicted, and they develop all the behaviors of an addict as a result. Further, she argues that it's not an accident; the machines are designed to urge users for playing faster, longer, and more intensively, that turns gamblers into addicts. She states that the public does not understand about how these machines are designed and there is no authority to control this. The same aspects may apply to computer games or applications.

There are some scientists who work on the persuasive technologies. Their main intention is to make applications more preferable, user friendly, simple so that they can find a better place in the market, also brings more profit. If people are motivated to use your application it is a success. But when it is argued from the other side, they can be addictive as they might be designed according to people's physiological status or weaknesses for the profit.

Design aspects of any product may change the user behavior. B.J. Fogg works on how computers might be used to influence the behavior of their users and perceptions and names the study of computers as persuasive technologies with the term "captology" (Fogg, 2003). He aimed that persuasive design could be used for good purposes such as educational software that can motivate students to study for longer or a financial-management program that encourage users to save money. Fogg focused on the design from psychological aspects and developed Fogg Behavior Model (Figure 1) which represents that a given behavior will occur when motivation, ability, and a trigger are present at the same time and in sufficient degrees. Motivation defines the level of desire to take the action. All humans are willing to seek pleasure, hope, and social acceptance, but avoid pain, fear, and rejection. When the person is motivated and the task is simple, a trigger can start an action very easily (Fogg, 2009).

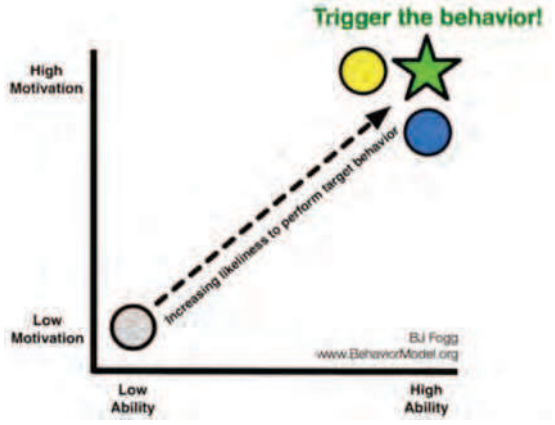

Figure 1. Fogg Behavior Model (Fogg, 2009)

Knowing the facts about users' psychological needs, social networking services have raised behavior design to sophisticated levels that could hardly be noticeable. Social media applications use the deepest wells of motivation. The human brain releases dopamine which is responsible for pleasure as a response to the triggers such as other people's likes or comments. This mainly happens when the user gets feedback from friends and uses the service longer.

The people who create technology, games, and interactive content run thousands of tests with millions of users to learn which tweaks work and which ones don't—which colors, fonts, and audio tones maximize engagement and minimize frustration. As an experience gives pleasure, it becomes irresistible and addictive. "In 2004, Facebook was fun; in 2016, it's addictive". (Alter, 2017)

Nir Eyal proposes habit testing to design habit-forming products. Habit Testing uses data to identify who the users are, what parts of the product are habit-forming, and why those aspects of the product are changing user behavior. First step is to collect the data to identify how people are behaving and using the product, second is to codify these findings in search of habitual users, to study the actions and paths taken by loyal users. Third step is to modify the product to make more users loyal to the product. By this way new interfaces provide behavior change and business opportunities (Eyal & Hoover, 2014). Eyal defines four steps to hook the customers: Trigger, Action, Reward and Investment.

Trigger: According to (Fogg, 2009), a behavior will not occur without a proper trigger. Triggers can be internal or external. Internal triggers are connected with the intrinsic motivation. External triggers in a learning system can be an e-mail, a notification or a reminder on the mobile device.

Action: By increasing the users' motivation and with the necessary trigger, users make the action.

Reward: Variable reward takes the attention of the users more, rather than predefined rewards. If the user already knows or can predict the reward, it would not create a motivation to perform an action.

Investment: It can be considered in terms of time spent on the product, data, effort or money.

HOW TO TURN DISADVANTAGES INTO ADVANTAGES?

Once the users become addicted to technology, the books and traditional education are not interesting for them. The biggest problem of the education can be considered as the students who are not interested with the content and do not want to learn. When the teacher tries to teach, the student resists to learning. The learning environment becomes open to every kind of negative behavior as there is no pleasure. Conflicts, bullying, violence, desire to harm, escape and avoidance, emptiness, indifference, and meaningless feelings are the most disturbing emotions that develop in such environments. The student only learns what he or she wants. With the behavioral design aware educational technologies, permanence, continuity and qualification can be granted to learning.

Behavioral design can be used ethically for the good of human beings, for instance to educate people by increasing the motivation and engagement levels of the learners, to form good habits by sending users remainders. The first step must be to create awareness on the users about the addictive design of the applications. Today, everyone can develop any application without a proper evaluation and put it on the store. If more people are aware of side effects of the applications, they will require control authorities or ask for ethical and legal responsibility from the tech companies / developers. Despite its impact on society and human well-being, companies or developers have not been charged with the responsibility for dealing with or reducing the effects of technological or digital addiction.

LEARNING ANALYTICS AND ADAPTIVE LEARNING SYSTEMS

Boredom and demotivation of the learners are the main problems with the classical learning systems. Adaptive Learning Systems which try to make a more intelligent environment for the learners address demographic variability of the learners by customizing course content or presentation according to differences in student skills (Brusilovsky & Millán, 2007).

With the help of Learning Analytics and Educational Data Mining we are already capable of identifying user. Learning analytics is already used in many studies to discover learners' online participation and navigational patterns like in (Poon, Kong, Yau, Wong, & Ling, 2017).

When behavioral design model is integrated into adaptive user modeling, the user experience would be more engaging. Figure 3 shows the framework for adaptive user modeling.

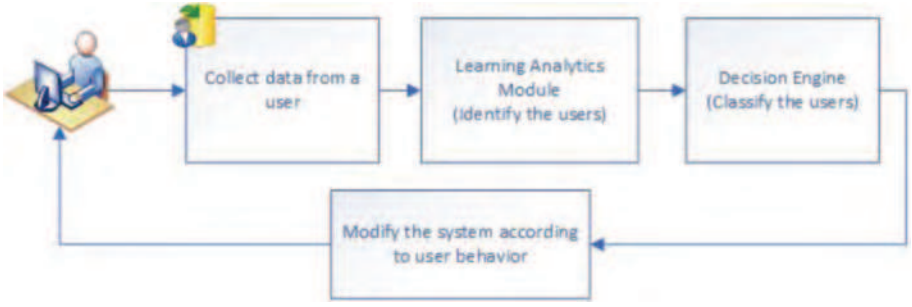

Figure 2. Adaptation Model for Learning Systems

CONCLUSION

In this paper we suggest integrating behavioral design and habit forming theories into e-learning systems, especially in Adaptive Learning Systems. Habit forming nature of some applications should be used in educational systems to engage users/learners. In future, Learning Management Systems also should contain more engaging and habit forming activities. Implementing behavioral design into learning systems may improve the motivation and engagement level of the learners and it would prevent drop-outs from the e-learning courses. For this, instructional designers need to compete with various interesting and engaging applications aiming at keeping learners' attention.

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Defining a Framework for ICT-Related Research Competencies across Young Scholars

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Abstract

Purpose of this study is to conceptualize the framework for ICT based research needs of academics. Study was conducted through semi-structured interviews with academics, faculty members and research assistants, in a Turkish state university. The qualitative data were analyzed by descriptive analysis method. It was deducted that academics from educational and social sciences had almost similar approaches to ICT usage in research. Life sciences also demonstrated similar approaches to literature review and reporting but differed in data collection and analysis stages of academic studies. Academics also shared a common concern regarding the ever-changing state of technologies and the constant need to stay up-to-date.

Keywords: *ICT, research process, ICT usage in research.*

INTRODUCTION

As the times change, so does the technologies and research methods. However, the basis of scientific research still relies on simple principles. Defining a problem, constructing and testing a hypothesis and reporting the results. Literature suggests academic research is conducted similarly under different disciplines yet they all can be summarized under literature review, data collection, analysis and reporting. Various ICT technologies are used to conduct scientific studies nowadays and being up to par with every technological advancement in research is almost a futile effort. Academics, on the other hand, should have at least a basic grasp of ICT usage in today's technology heavy research environments, as ICT offers engaging and fast-evolving learning environments, blurs the boundaries between formal and informal education and prompts teachers to develop new ways of teaching and enabling students to learn (UNESCO, 2011).

This study aims to determine the learning needs of ICT-based research competencies of researchers working at universities by defining ICT based research framework. Accordingly, the following questions were sought in the scope of the study:

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1. What are the views of different scientific disciplines regarding:
   a. Literature review
   b. Data collection
   c. Analysis
   d. Reporting
2. What is the state of of ICT usage according to research steps in different disciplines?

METHODS AND PROCEDURES

Participants

Study Data were collected from 6 faculty members and 7 research assistants at a Turkish state university. Purposeful sampling method was used to select participants. Six Faculty members were chosen among postgraduate thesis advisors from different educational, social and life sciences institutes. Research assistants participated the research were selected especially from the ones currently writing their dissertations, assuming that they will be acquainted to the various stages of academic research. All seven students were from different institutes and disciplines.

Data Collection and Analysis

The framework determination study was designed as a case study in which data was collected through semi-structured interviews (Creswell, 2003). An interview form consisting of open-ended questions was used for semi-structured interviews. Interviews were done face-to-face, and audio recordings of the interviews were transcribed soon after. The qualitative data collected within the scope of the research was analyzed by descriptive analysis method. Descriptive analysis is a type of analysis that includes summarizing and interpreting the obtained data according to predetermined themes (Yıldırım & Şimşek, 2003).

FINDINGS

Semi-structured interviews were conducted with 13 participants consisting of faculty members and research assistants within the scope of ICT based research framework structure determination studies. The findings of these interviews are supported by direct citations and presented below. Coding was for direct quotations from the participants. In this respect, "RA" was used as the abbreviation for research assistant participants and "FM" to define the faculty member participants.

Literature review is common in all science fields in the introduction phase of research. At this stage, the use of technology coincides with each discipline. Regarding literature review, RA1 shares his/her views as "*As you know, there's YOKSİS database, that collects all the thesis and subjects, and a postgraduate student can easily search for topics and studies conducted before in there.*". Other participants also expressed that they heavily use YOKSİS, Google Scholar and other academic databases to seek specific studies. Participants also asserted the importance of ICT technologies regarding literature review. RA2 stated *"As we know, the language of science is Latin and English, and if you want to do a literature review, you have to use online libraries or databases because you can not always obtain the source material you seek from physical libraries*".

ICT software and hardware usage are also mentioned by multiple participants and are expressed as quality of life improvements. Advanced options on academic search engines and indexes are also mentioned. Participants emphasize that ICT tools and environments are facilitating factors for academic research.

Views on ICT usage in data collection stage of academic research differs from discipline to discipline. Participants from life sciences and engineering departments seem to emphasize on quantitative aspect of data collection, such as accessing various statistical databases and technical equipment. Social and educational science researchers state that they are using online survey tools such as Google Forms, Surveymonkey etc. Multiple researchers indicate that online data collection tools make it easy to reach a large number of participants. Participants also state different views regarding online survey tools. While RA4 states "sometimes *students forget to mark their answers or skip questions on written forms, but online survey tools give instant feedback in situations like these, and this is really important*", FM3 expresses that he/she prefers to collect data face-to-face. Mostly, participants state that ICT usage makes collecting data easy for qualitative and quantitative studies.

Analysis stage, similarly, to data collection stage, stands out as a research process with interdisciplinary differences. Participants express various facilitating traits of ICT tools. RA1 tells that computer softwares are essential for quantitative data analysis processes and provide a failsafe environment. He also states that computers and software are almost mandatory for his research processes: "*I work both in theoretical and applied fields, and for some calculations there is too much data and I have to use nested loop codes to solve problems and they are almost impossible to do by hand.*". RA5 depicts the use of ICT in qualitative research processes as a quality of life improvement. Cataloging data is simplified by using ICT. Usage of data analysis softwares such as Lisrel, NviVo, SPSS, and electronic table software such as Excel is mentioned by multiple participants. Regarding analysis stage, findings show that different tools are utilized for quantitative and qualitative research methods.

Reporting is the stage that research is finalized. Reporting stage, like literature review, also coincides within disciplines. Participants state that they depend on ICT applications heavily during reporting phase of their research. Word processor software such as Microsoft Word, LaTeX and Mathtype and presentation software such as PowerPoint are mentioned by multiple participants. Academic plagiarism detecting software is mentioned as being used to protect researchers from negative consequences. Participants emphasize the benefits of ICT such as time saving, providing formatting options. Overall, different scientific disciplines share similar ideas regarding reporting stage of the research process.

Overall, the mandatory aspect of ICT usage through all stages of academic research can be derived from the interviews. Participants state they actively try to learn new skills and participate in educational activities to enhance their understandings of ICTs, and to be up to par with their colleagues.

DISCUSSION AND CONCLUSION

Findings show that while educational sciences and social sciences overlap in usage of ICT in research processes, life and applied sciences differ in data collection and analysis stages. However, these divisions also can be seen under mathematics and statistic departments, even though sharing theoretical and scientific basis. Participants also stated they are motivated to learn ICT skills as they are imperative for their personal and professional development. These finding is in par with the andragogic learning model presented by Knowles (2015).

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Evolution of Distance Education Theories in 21st Century

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Abstract

The history of distance education from correspondence to on-line learning has witnessed a remarkable progress. Current distance education applications include new and sophisticated communication technology. Accordingly, DE theories have also evolved from traditional to digital and it seems like future technologies will both change the way people learn and teach and form upcoming paradigms and theories indisputably. In this study, the theoretical framework of open and distance education was scrutinized in depth. The main purpose of this study is to investigate the transformation of open and distance learning theories in 21st century to form a clear model of this process. In the scope of this purpose, the ODL theories and approaches were analyzed and classified in line with digital transformation of open and distance learning experiences.

Key words: *open and distance learning theories, changing paradigms, shift from traditional to digital*

INTRODUCTION

Education has changed noticeably over the past century due to rapid progression of technology. Before the late 1800s, particularly in preindustrial Europe, education was available primarily to males in higher levels of society. The most effective form of instruction in those days was to bring students together in one place and one time to learn from one of the tutors. That form of traditional education remains the dominant model of learning today. This period of teaching learning was a distressed example of inequality of opportunity in education. With the arrival of the first major correspondence program in the United States, University of Chicago in the late 1800s, numerous people had a chance to get education which is envisaged to be basis of distance education (Spector, Merrill, Elen & Bishop, 2014).

Technology and distance education are inextricably linked. Use of technical media, separation of teacher and student and provision of two-way communication are there major characteristics of distance education (Keagen, 1983). Although distance education is not a new concept, the upheavals which took place in the last decade have changed the way people learn (Bates, 2014).

For instance, the delivery of the education starting with correspondence program changed when radio developed during the First World War and television in the 1950s. After the second half of 20th century, new technologies such as audio and computer teleconferencing influenced the delivery of instruction in public schools, higher education, the military,

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business, and industry (Spector., et al, 2014). According to Keegan, the revolution in electronic communications gave distance education new status (2005).

Ensuing the establishment of the Open University in UK in 1970, Charles Wedemeyer applied innovative uses of media in 1986 at the University of Wisconsin and developing technologies stipulated more effective distance education. With the development of synchronous technologies, such as audio teleconferencing, audio graphics conferencing, and videoconferencing, learners and instructors, who are geographically separated for real-time interaction, are linked to one another.

Throughout this process, theoretical constructs and research studies in distance education have been considered in the context of an educational enterprise that was entirely separate from the traditional model. To epitomize this phenomenon, theoreticians like Holmberg, Keegan, and Rumble investigated the fundamental assumptions that makes distance education different from traditional education. In order to justify the importance of this nontraditional kind of education, early theoretical approaches attempted to define the important and unique characteristics of distance education. Keegan (1986) categorizes three historical approaches to the development of a theory of distance education. Firstly, theories of autonomy and independence from the 1960s and 1970s, argued by Wedemeyer (1977) and Moore (1973), reflect the essential component of the independence of the learner.

Secondly, Otto Peter's (1971) work on a theory of industrialization in the 1960s reflects the attempt to view the field of distance education as an industrialized form of teaching and learning. The third approach integrates theories of interaction and communication conveyed by Badth (1982, 1987), and Daniel and Marquis (1979). Using the postindustrial model, Keegan (1986) presents these three approaches to the study and development of the academic discipline of distance education. It is this concept of industrialized, open, nontraditional learning that, Keegan says, will change the practice of education (AECT, 2001).

Another underlying concept of today's education is connectivist theory. Siemens' connectivist theoretical framework expounds the 21st century learning. According to connectivism, learning occurs through the interaction of individuals on the network. Much more than simply transferring knowledge, learning takes place through active interactions of learners with learning resources and networks. Contrary to earlier learning theories, it is argued that information in the digital age is shared with the network connections and learners are cyclic by switching between these networks (Downes, 2012).

To sum up, the history of distance education from correspondence to on-line learning has witnessed an awe-inspiring progress. Hence, DE theories have also evolved from traditional to digital and it seems like future technologies will both change the way people learn and teach and form upcoming paradigms and theories indisputably.

METHODOLOGY

This study is designed as systematic literature review. In scope of this study, a literature review process was conducted with specified search keywords of "distance education theor*", "open and distance education theor*" and "distance learning theor*". Thus, open and distance learning theories listed from literature review.

PURPOSE

The main purpose of this study is to investigate the transformation of open and distance learning theories in 21st century to form a clear model of this process. In the scope of this purpose, the ODL theories and approaches were analyzed and classified in line with digital transformation of open and distance learning experiences.

THEORIES AND APPROACHES OF OPEN AND DISTANCE EDUCATION

Contrary to common belief, there are many theories and approaches that are directly or indirectly related to open and distance learning. With the ultra-rapid development of technology in 21st century, new paradigms and digital theories have begun to replace traditional theories. As such, it is vital to start with significant theoretical background information and then provide an analysis and interpretation of the current state to have clearer picture of DE theories and approaches. Fırat (2019) proposes that theoretical studies of DE can be categorized into two; direct and indirect.

Indirect Theories and Approaches	Direct Theories and Approaches	Theoretician	Years
System Approach	Transactional Distance	G.Moore	1980
Andragogy	Theory of Independent Study	Charles Wedemeyer	1981
Hetagogy	Theory of Industrialization	O.Peters	1988
Self-determination Theory	A Synthesis of Existing Theories Perraton	Perraton	1988
Flow Theory	Community of Practice	Wenger	1991
	Theory of Interaction and Communication	Holmberg	1995
Connectivism	Equivalency Theory	Simonson	1995
	Community of Inquiry	Garrison, Anderson and Archer	2000
	Equivalency Theory	Anderson	2003
	Cooperative Freedom Theory	Paulsen M.F	2012
	Online Collaborative LearningTheory OCL dates back to (CMC 1980)	Harasim	

Table 1. Direct and Indirect Theories and Approaches in DE

Keegen (2013) supports the idea that the field mainly depends on applications and it lacks theory based approaches. For this reason, the field should now be reassessed within this rich theoretical diversity. This rich theoretical miscellany was also detected in the scope of this current study.

FINDINGS

The progress in technologies has promoted a constant growth in distance education both in the number of students enrolling in these programs and universities adding distance education to their program. Although the application of modern technologies has enhanced distance education, literature in the field reveals a conceptually fragmented framework lacking in both theoretical foundation and programmatic research.

Without a strong groundwork in theory, distance education has been tackled for recognition by the traditional academic community for years. Correspondingly, lack of researches to investigate the theoretical aspects of related literature on open and distance learning can be considered to be unheeded. The current study shows that there is a diversity of theories on distance education in the literature and transformation of open and distance learning theories is a continuing process. This study delineates the contours of this multifaceted discipline by forming a clear model.

DISCUSSION AND CONCLUSION

Traditional Theories	Digital Theories
centered	centerless
linear	hyper
accuracy	probability
Singularism	Multiplism
Learner	All stakeholders
Multi media	The network

Table 2. Traditional and Digital Theories

In the completed research, the ODL theories will be classified according to the key words. While classifying, these keywords and new concepts will be added and the classification will be made according to this detailed examination.

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Factors Affecting the Perception of Transactional Distance in the Online Learning Environments

Özlem UZUN[1], Elif TOPRAK[2]

Abstract

In the light of pioneering names Dewey and Moore, the concept of Transactional Distance (TD) has been adapted to distance education as the possibility of misunderstandings, psychological and communicational gaps in the flow of the messages between the learner and the teacher. As the theory evolved; structure, dialogue and learner autonomy have been accepted as the three components of transactional distance. The purpose of this paper is to discuss the correlation between structure, dialogue and learner autonomy components of Transactional Distance Theory and perception of distance as reported by the learners of Distance Education Online Masters Programs enrolled during the spring semester of the 2018-2019 academic year. In this case, the answers of learners were collected via a scale of 23 items, uploaded to their learning environment. Through analysis of the findings, it is concluded that structure and dialogue have a positive correlation with transactional distance, meaning that the more the learning environment is structured and provides room for interaction, less is the distance felt and experienced by learners. Since the learner autonomy and dialogue with tutors do not have a significant effect on the distance perceived, the research partially supports the Transactional Distance Theory. According to Moore, enrichment of media, enable learner-content and interface interaction and transactional distance reduces. This study contributes to the related literature revealing that each program and case need to be evaluated separately rather than making generalizations according to hypotheses of the theory.

Keywords: *Transactional distance, distance learning, online learning, learner autonomy, structure, dialogue, perception of distance.*

INTRODUCTION

Distance education, which started with correspondence, has become a worldwide practice in which printed materials and technological advances took their part in time (Cohen, 1999). With the Internet in our daily lives, distance learning improved fast and the changing learning environments and media removed the time and space barriers to education. Transactional distance concept was first used by Dewey and became a distance education theory with the contributions of Moore (1980). It has provided the basics of understanding and explaining the different dimensions of distance. Transactional distance felt by the learners is conceptualized to be related with three components; structure, dialogue and learner autonomy. According to Moore, in a structured learning environment, dialogue reduces and the feeling of

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*This paper is a short discussion of the findings reached through the first author's master's thesis.

distance increases. In a dialogue-rich learning environment, structure and the feeling of distance both reduce. Also, as transactional distance increases, learner autonomy does, too (Moore, 1991).

Problem

There are many studies on transactional distance in the Open and Distance Learning (ODL) field. These studies carried out in different learning environments have revealed the dimensions of distance and their varying relations with each other. Moreover, their effects on learning and the distance perceived change in different contexts. In order to make fruitful discussions and make continuous improvement of learning media, it is necessary to conduct new research. Each culture has its own expectations and requirements and the programs/courses are designed according to these changing needs as well. The challenge to meet different expectations and reduce the distance felt by learners persists.

Purpose of the Study

The purpose of this study is to find out the distance felt by the online graduate learners and the dimensions they point to, as the factors affecting their perception. Theoretical frame of the study is Moore's Transactional Distance Theory. The dimensions referred to are; structure, dialogue and learner autonomy and their reflection on transactional distance.

Importance

This study is important for improving the distance learning online programs according to the learners' needs and reducing the learners' perception of distance. Besides, the background of learners, the disciplines they have graduated from has been questioned as s factor.

Limitations

The data were collected through the voluntary participation of the 2018-2019 academic year spring semester Distance Education Online Masters' Programs students. The total number of learners enrolled was 1198 and 155 of them participated and marked the scale items. The scale link was shared with them in their online learning environment (Learning Management System- LMS).

METHODOLOGY

The quantitative data analysis techniques were applied for the relationship/correlation between the measured variables in the dataset through Exploratory Factor Analysis (EFA) to see the groupings of variables with strong correlation and Confirmatory Factor Analysis (CFA) to confirm the factor structure and see its consistency with the theory.

Structural Equation Model (SEM), statistical analysis technique was utilized to see the relation of structure, dialogue and autonomy with the transactional distance. This multivariate causal modeling lets the structural components to be examined simultaneously (Geffen, Straub & Boudreau, 2000).

Participants and Data Collection

The total number of learners enrolled at distance education online masters' programs was 1198 for the spring semester. The data was collected from students of 18 different programs via purposeful sampling. The number of participants who answered the survey was 155 and 149 of them could be analyzed.

Data Collection Tool

After a thorough literature review, data collection tool was selected and the research questions were organized. Huang (2015)'s "Measuring transactional distance in web-based learning environments: an initial instrument development" was decided to have the appropriate structure and items for the context and research questions. The items were adapted and translated to Turkish after written permission of the researcher who developed the original scale.

Context of the Study

To enroll at the distance education online masters' programs; a bachelor degree is necessary and the grade point average must be at least 2,00/4,00 or 50/100. Prior to the online lessons, where online and offline techniques are used, the learning materials are uploaded to the LMS. In order to fulfill the attendance requirements, it is enough to attend to half of the total number of classes. Through the LMS, the lessons are broadcast live, according to the calendars determined by the Graduate Schools and are recorded/archived in the system (Distance Education Online Masters' Programs Catalogue, 2019).

FINDINGS

According to descriptive analyses of demographic data; 43 % (64 learners) women and 57 % (85 learners) men participated in the study. 20 % (30 learners) are under age 29, 18.8 % (28 learners) are between ages 30-34, 26.2 % (39 learners) are between 35-39, 16.8 % (25 learners) are between 40-44, 18.1 % (27 learners) are over 45. The majority of the learners are over the age 35.

12.1 % (18 learners) graduated from numeric disciplines such as science, 59.1 % (88 learners) graduated from disciplines that are considered both numeric and linguistic, 18.8 % (28 learners) graduated from social sciences field and 10 % (15 learners) graduated from other fields. The learners have a profile coming from different backgrounds however the majority of them are from social sciences which are considered both numeric and linguistic fields.

26.8 % (40 learners) were in their first semester, 51.7 % (77 learners) were in their second semester, and 21.5 % (32 learners) were in their third semester and more. 30.2 % (45 learners) had previous online learning experience and 69.8 % (104 learners) did not. The majority of them were experienced users of the related LMS.

For women learners, the lessons are more structured than they are for men. Also, women reported that they had more dialogue with the other learners and the tutors than men. For the learners under the age of 29, the lessons are more structured than the learners of other age groups. The factors of transactional distance scale did not differ meaningfully for the other age groups. For the first and second term learners, the lessons are less structured and they had less dialogue with their tutors. Also, first and second term learners are more autonomous than the other learners. Previous online lesson experience affected the level of dialogue, so the learners who had online lessons previously, had more dialogue and interaction than the others. Women felt the social presence of the other learners and the tutors more than men.

In this study, structure of the learning environment (measured based on formality and flexibility of the environment) and dialogue with the other learners (measured based on level of interaction) show a positive correlation with the perception of decreasing transactional distance. However, dialogue with the tutors and learner autonomy as the remaining factors have not proved any positive or negative effect on the transactional distance.

DISCUSSION AND CONCLUSION

This research supports the Transactional Distance Theory partially. Structure and dialogue dimensions of the theory, have shown a positive correlation with the perception of decreasing transactional distance. Shearer et al. (2014) and Huang (2015) have also found a positive correlation between transactional distance and structure. For Huang (2015), in order to reduce transactional distance, only dialogue is not enough but also the level of the structure must be high. Under structure, the sub-factors formality and flexibility pointed to high scores in the Likert-type scale, based on interaction with participants and media in the learning environment hence resulted with a perception of less transactional distance.

This has proven that the learners felt the presence of other learners as real people. Social presence, aim of which is to create a flexible environment (Short, Williams & Christie, 1976), is the feeling of other people as real people (Gunawardena, 1995). In online environments increasing social presence motivates participation and sharing, so the feeling and perception of distance reduces. This has worked in this case, especially for the interaction among the learners.

According to Moore, media-rich environments enable learner-content and learner-interface interaction and transactional distance reduces. Under the structure factor, interaction with the course materials, flexibility, and the items of personalization had the highest scores. These items refer to the environments and materials that increase the room for dialogue. Under the dialogue factor, dialogue with the other learners has a statistically meaningful positive effect thus.

The hypotheses of Transactional Distance Theory and different studies on transactional distance reveal that each program and case needs to be evaluated separately. Generalizations are not preferred since results are not valid for every context (Chen & Willits (1998); Gorsky & Caspi (2005); Stein et al. (2005). In online masters' programs; learner interaction affects the perception of distance positively meaning that it reduces the distance. Learners receive guidance from each other besides their tutors since during the lessons and through the semester they are in a kind of cooperation, support, thus have a feeling of community. The online lessons could be considered as also a limited interaction with the tutor, because live classes may not be enough to perpetuate the interest or the learners might not need to have an interaction with the tutor. This also changes from tutor to tutor, the level of interaction, the length of the online class or the nature of the program/discipline.

Future studies may involve qualitative techniques such as interviews with students and tutors to further question the reliability of statistically measured data and reach solutions to meet the challenge of distance for both learners and tutors in online learning environments.

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The Turkish Journal of Online Education: A Content Analysis of Current Studies

Derya UYGUN[1]

Abstract

Content analysis of current articles published in the Turkish Journal of Distance Education (TODJE), which has published for 20 years, is needed. Based on this requirement, it is aimed to examine 97 articles published in TODJE in 2017 and 2018 through content analysis method. The most frequently used research method in the articles and source countries of the articles were studied. As a result, the most frequently used research method was quantitative (%53). When the source countries of the articles were examined, it was concluded that 29 articles were published from different countries. It can be stated that this study is extremely important in terms of enlightening the researchers who want to work in Distance Education.

Keywords: *TODJE, distance education, content analysis.*

INTRODUCTION

It can be stated that it is very crucial to use information and communication technologies today when the features such as accessing information, interpreting information, generating information and sharing it are prominent. In this context, education programs should provide alternatives to meet the needs of individuals. Today, distance education environments are platforms that will contribute to lifelong learning, where people can reach from anywhere at any time and can continue to study in parallel with their business lives. Simonson, Smaldino, Albright ve Zvacek (2006) talk about four basic elements in the definition of distance education. The first is that distance education is carried out formally by an institution. Second, the teacher and learners are separated from each other in space or time or space dimension. Third, the size of the interaction. Interaction with communication technologies is important. Fourth, learning is organized among learners, teachers and resources, and careful planning is required.

LITERATURE REVIEW

The need for and interest in distance education is increasing day by day. In a year the average of 300,000-400,000 students continues to enroll in the open and distance learning system. In the 2010-2011 academic year, nearly %50 of the more than three million students enrolled in higher education institutions receive education through open and distance learning (Aydın, 2011). 1,941,612 of these students study in the Anadolu University Open Education system in 2017-2018 school year.

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Distance learning is attracting interest and spreading all over the world. Therefore, current and reliable information is needed in the development of distance education understanding. To meet this need, the Turkish Online Journal of Distance Education (TODJE) is published internationally. TODJE is an open-access and peer-reviewed academic e-journal which is published in the field of open and distance learning. The journal can be scanned in large databases such as ESCI, ERIC, Google Scholar, SCOPUS, SOBIAD, Web of Science. The journal aims to develop a discipline that produces scientific thought in the areas of management, communication, learning, technology and evaluation of open and distance learning.

TODJE meets his readers four times a year with quarterly breaks. In its first two years, TOJDE had only been published twice a year, and there were only 6 or 8 articles in each number. However, it began to be published quarterly in 2002, including winter, spring, summer and autumn. The journal includes research articles. Book reviews, conference reports, literature reviews, news items, editors' notes, announcements of conferences and publications and letters to the editor are also welcomed.

As TODJE has published internationally in the field of distance education and contributed to the field, there have been previous researches on TODJE. The content analysis by Latchem (2009) was researched letters and articles to the editor published in TODJE between 2000 and 2008. The purpose of the research is to determine the source countries and research topics that are most frequently published in TODJE. 342 studies were examined for this purpose. In the study, it was stated that the most frequently published countries were Asian (%57) with 196 articles. The most published Asian countries were; Turkey (n=107), India (n=31), Malaysia (n=18), Pakistan (n=12). In the article, it was reported that Africa's 28, South America's 4, North America's 56, Europe's 44 articles were published. In the study, the most frequently used topics in the articles published in TODJE were collected under seven headings. Topics include philosophy and theory, organization, learning and teaching, technology and media, evaluation and quality issues, and the professional development of teachers. It can be stated that the research conducted by Latchem (2009) enlightened TODJE's first decade. However, in this study, only the research subjects and source countries of the articles published in TODJE were studied.

Uygun (2018) aimed to examine the articles published in TODJE in 2017 through content analysis method. The most frequently used research method in the articles, source countries, research areas, data collection tools, participant groups were studied. As a result, the most frequently used research method was quantitative (%55). When the source countries of the articles were examined, it was concluded that 18 articles were published from different countries. The most frequently used research topics are education technologies, learner characteristics, innovation and change, professional development and academic staff support, learner support services and distance education systems. The most frequently used data collection tool is questionnaire. The most preferred participant group is undergraduate students. This research covers the year 2017. It will be better to include the work published in 2018 to provide more detailed information on the subject.

The Statement of Search Problem

Computer and communication technologies bring new dimensions by changing the definition and scope of distance education (EBY, 2013). To understand and interpret the new dynamics in distance education, it is necessary to study the articles published in TODJE, which is published internationally and followed with interest in the field of distance education. As TODJE nears its twentieth year of publication, it is thought that it would be useful to determine the various profiles of research papers published in TODJE that are up to date. In this context, the research aims to identify the most frequently used research methods and source countries of the articles published in TODJE in 2017 and 2018.

METHOD

In this study, 97 research papers published in TODJE were examined considering specific procedures. The content analysis method was used from qualitative analysis methods to reach the concepts and relationships required to explain the data obtained. In content analysis, the trends and results of these studies are evaluated descriptively by addressing studies on a specific topic (Lin, Lin and Tsai, 2014). In this study, data showing similarities between each other in a variety of dimensions were gathered together within the framework of the criteria determined and interpreted in a way that the reader could understand (Lightning and lightning, 2000). Within the scope of this study, the method of content analysis was preferred to classify, compare and draw conceptual conclusions based on data (Cohen, Manion and Morrison, 2007).

The universe of the research are papers published in TODJE. As a sample, 97 articles published in TODJE in 2017 and 2018 were selected. Letters to the editor, literature review and book summaries were not included in the study, as they are not fit with the purpose of this research. Only research articles have been included in the study. The distributions of the articles by the years are given in Table 1.

Years	n	Percent
2017	41	%42
2018	56	%58
Total	97	%100

Table 1. Distribution of the Articles Examined in the Study by Years

Data Analysis

The data collected by considering the scan and selection criteria determined in the scope of the study has resolved a chart. Frequency and percentage analysis were used in the analysis of the data. The findings were interpreted considering the data obtained.

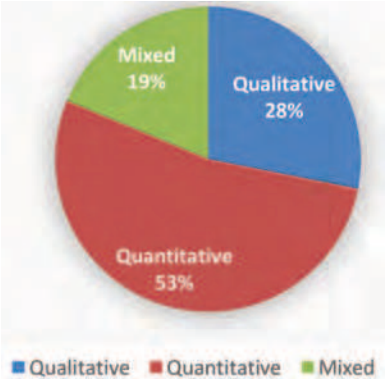
FINDINGS

In this section, the findings of the studies published in TODJE in 2017 and 2018 were examined in two categories. These categories are:

- Research methods,
- Source countries of the articles.

Findings about Research Methods

The themes related to the research method of the studies examined in the context of current content analysis were examined and the grouping related to the three basic methods were made. These methods can be listed as quantitative, qualitative and mixed. The percentage distributions of the studies grouped according to the methods used are presented in Graph 1.

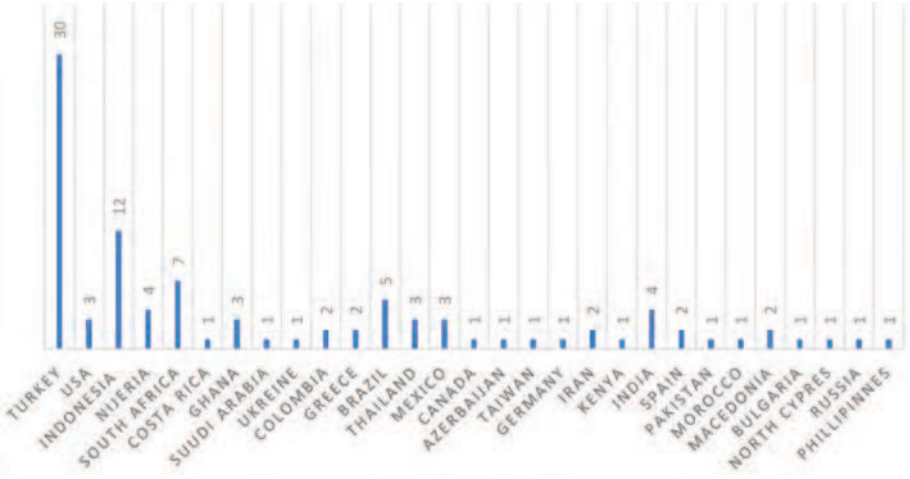


Graph 1. Research Methods

When Graph 1 is viewed, the most commonly preferred research method in research papers published in TODJE in 2017 and 2018 is the quantitative research method %53 (n=51). It was concluded that the mixed research method was used at a rate of %19 (n=18) and the qualitative research method was used at a rate of %28 (n=27). It can be said that researchers prefer the quantitative research method more often than other research methods.

Findings about Source Countries of the Articles Published in TODJE

The distributions of the research papers published in TODJE in 2017 and 2018 by country are seen in Graph 2. TODJE is an international journal and publishes researches from 29 different countries in total.



Graph 2. Source Countries of Articles

As shown in Graph 2, the most frequently published country is Turkey (n=30). Turkey is followed by Indonesia (n=12), South Africa (n=7) and Brazil (n=5). This finding proves that studies have been published in TODJE from various countries around the world. Considering this finding, it could be said that TODJE is an international journal.

DISCUSSION AND CONCLUSION

In this study, content analysis of the articles published in TODJE, which is internationally published in the field of Distance Education, has a worldwide reputation and importance. Only articles published in 2017 and 2018 were included in the study, as it was aimed at identifying current trends in TODJE. Within the scope of this aim, the most frequently used research methods and source countries of the articles published in TODJE in 2017 and 2018 were identified.

It was concluded that researchers preferred quantitative (%53) methods more often than mixed (%19) and qualitative (%28) methods as research methods. The determination of the research method varies according to the purpose of the research. However, researchers may have preferred the quantitative method because of the power to generalize their results to wider audiences.

The review study was done by Uygun (2018) found that among the 41 studies, quantitative approaches were preferred by the researchers. The result of the analysis of this study (Uygun, 2018) showed that the methods applied in more than half of the articles were quantitative. These researches utilized questionnaires to collect the data. Besides, a few of the studies applied qualitative methodologies through their research. It supports previous research (Uygun, 2018) as a result of the more frequent use of quantitative research. The other previous literature review-based study (Latchem, 2009) didn't include the search methods of the studies into his research.

In TODJE, researches from 29 different countries have been published in 2017 and 2018. This result proves that TODJE is an internationally published journal. This conclusion also supports the conclusion of the previous researches conducted by Latchem (2009) and Uygun (2018).

The study is likely to serve as a guide for future researchers in order to enlighten TODJE' s last years. However, there are some limitations of this study. The inclusion of only articles published in 2017 and 2018 in the study is a limitation of the study.

RECOMMENDATIONS

Considering the results of this study, some suggestions may be made for future researches.:

- In future studies, articles published in TODJE can be examined using different research methods. For example, the most frequently cited authors and the most frequently used references can be identified in research papers.
- This research covers 2017 and 2018. It may be better to include the work published in the last 10 years to provide more detailed information on the subject.
- Only research articles were included in this study. In later works, research can be carried out by including letters to the editor, literature reviews and book summaries in order to obtain more comprehensive data.

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A Content Analysis on the Studies In Open and Distance Learning: Doctoral Dissertations Published in 2018 in Proquest Database

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Abstract

In this study, it is aimed to analyze the doctoral dissertations published on ProQuest Dissertation and Theses Global database in 2018 and conduct a content analysis by using various parameters. An advanced search is conducted on ProQuest Dissertation and Theses Global database using the keywords "open and distance learning" and as a result, 177 doctoral dissertations are listed to be analyzed. In the content analysis, the doctoral dissertations are categorized using the following parameters: supervisor's name, university, keywords, research design, research method, data collection instruments, data analysis techniques, and type of the sample/participants. The results of the study are presented in consideration of the data collected via content analysis.

Keywords: *Open and Distance Learning, Content Analysis, Doctoral Dissertations, ProQuest*

INTRODUCTION

Distance education, in particular, and the teaching and learning process, in general, are complex matters (Zawacki, Backer & Vogt, 2009). Studies on open and distance learning are increasing day by day. The content of the studies in this field, the design and methods used in the research, data collection instruments, how to do the analysis raises the subject of curiosity. Therefore, studies on open and distance learning need to be closely monitored.

The purpose of this study was to examine supervisor's name, universities, keywords, research design, research method, data collection instruments, data analysis techniques,and type of the sample/participants of the doctoral dissertations published on ProQuest Dissertation and Theses Global database in 2018 by using content analysis. For this purpose, the following research questions were explored: (1) What are the names of the supervisors, the leading universities, frequently used keywords open and distance learning research? (2) Which research methods and designs have been applied in open and distance learning research? (3) Which data collection instruments and data analysis techniques have been used on open and distance learning research? and (4) What are the types of the sample and participants on open and distance learning research?

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METHOD

Qualitative research is the process of collecting, analyzing, interpreting, and writing the results of a study, while qualitative research is the approach to data collection, analysis, and report writing differing from the traditional, quantitative approaches (Creswell, 2002). In this qualitative study, for the selection of dissertations for analysis; ProQuest Dissertation and Theses Global database were reviewed. These database were selected because of their recognition among researchers as the most prominent in the open and distance learning field.

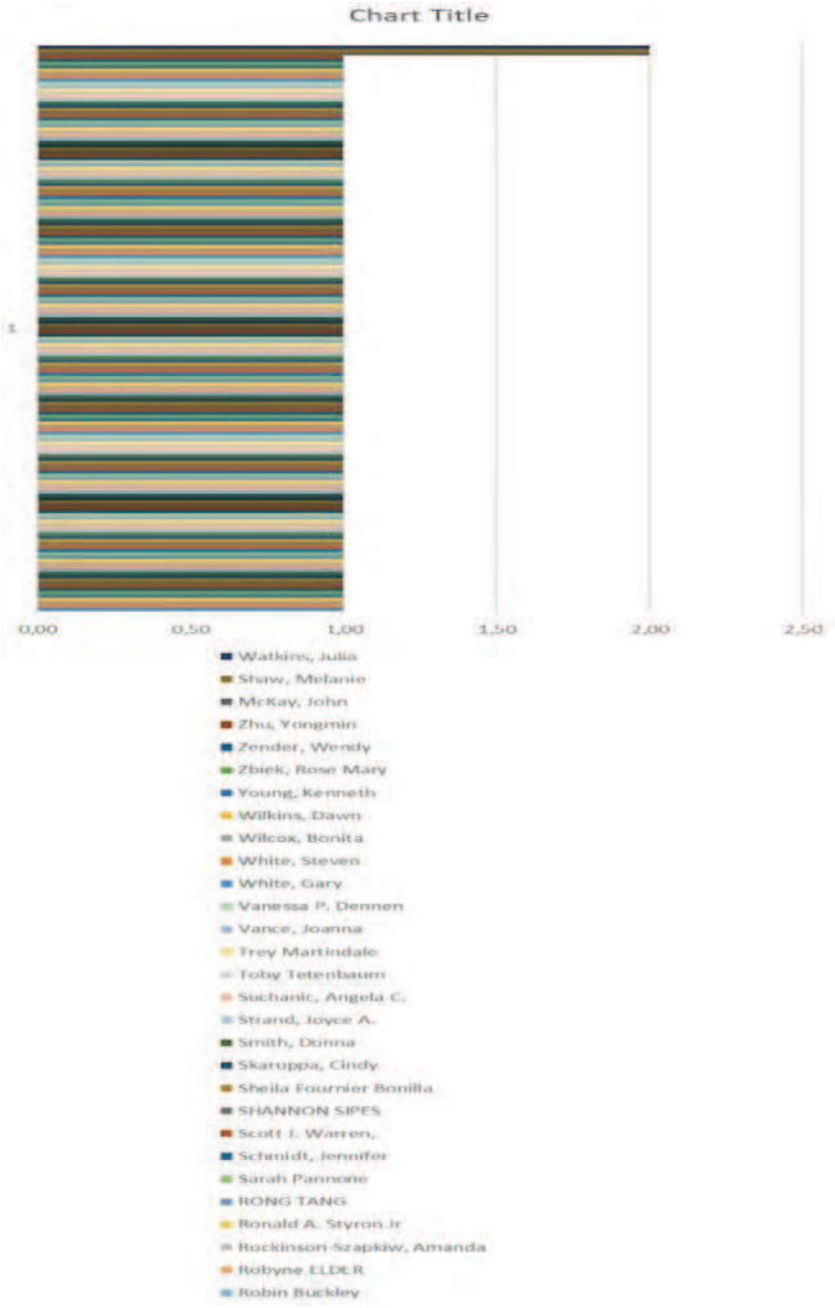
'There are many terms defining the distance education field. Even though they all look similar, they reflect unique aspects of the field. Thus, researchers need to select appropriate field specific terms that reflect the core of the study. However, it seems the term 'open and distance learning' is a better name for our field of study since it reflects the core assumptions of the field: openness, accessibility, flexibility, massiveness, and quality learning opportunities to all (Bozkurt et al., 2015). For this study is "open and distance learning" keywords used for searching doctoral dissertations on ProQuest Dissertation and Theses Global database and as a result, 177 doctoral dissertations are listed to be analyzed.

The content of the dissertations were coded according to certain parameters. After categorization, descriptive analysis was implemented for the qualitative research characteristics such as frequencies and percentages. The parameters for this study are supervisor's name, universities, keywords, research design, research method, data collection instruments, data analysis techniques,and type of the sample/participants on open and distance learning research in dissertations of ProQuest Dissertation and Theses Global database in 2018.

FINDINGS

Dissertation Supervisors

The figure shows that the name of supervisors. Only three supervisors' names were repeated twice. They are John McKay, Melanie Shaw, and Julia Watkins. The rest of the supervisors were used only once as shown in Figure 1.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White, Steven
White, Gary
Vanessa P. Dennen
Vance, Joanna
Trey Martindale
Toby Tetenbaum
Suchanic, Angela C.
Strand, Joyce A.
Smith, Donna
Skaruppa, Cindy
Sheila Fournier Bonilla
SHANNON SIPES
Scott J. Warren,
Schmidt, Jennifer
Sarah Pannone
RONG TANG
Ronald A. Styron Jr
Rockinson-Szapkiw, Amanda
Robyne ELDER
Robin Buckley

Figure 1

Universities

As depicted in Figure 2, another findings of this study is that 23 of the doctoral theses studied at the Northcentral University, 13 of them from the University of Capella, 9 of the Walden University, 8 of the Grand Canyon University and 5 of the Northeastern University was seen.

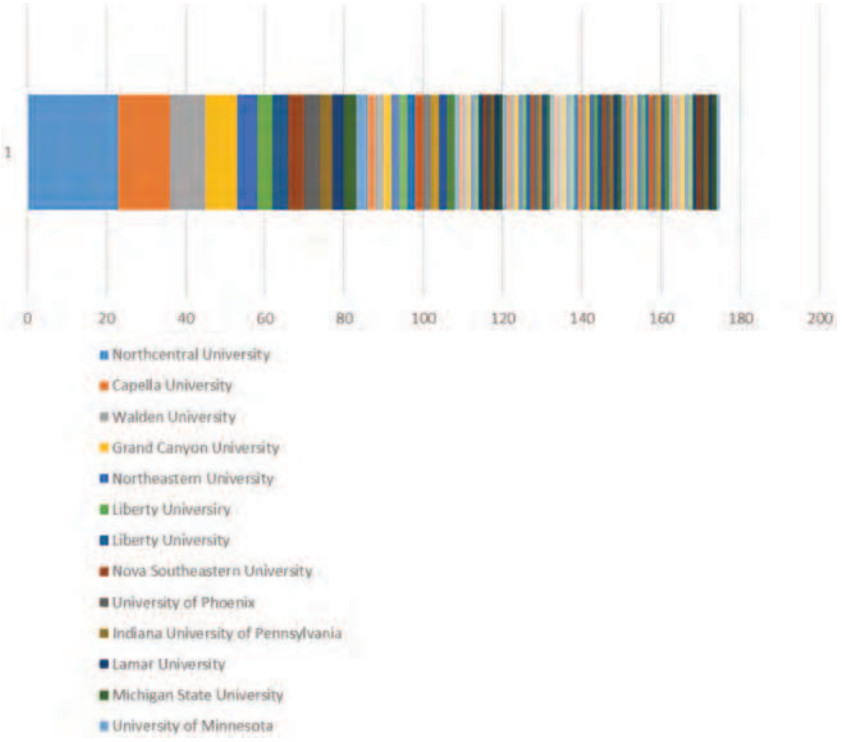

Figure 2

Keywords

One of the findings of this study is related to the descriptive keyword analysis in order to provide a holistic reflection of the topics that were studied in the dissertations. With this aim in mind, a total of 887 keywords were included in the study and they were all ranked according to their frequency. Figure 3 illustrates the top 30 most frequent keywords that were included in the dissertations.

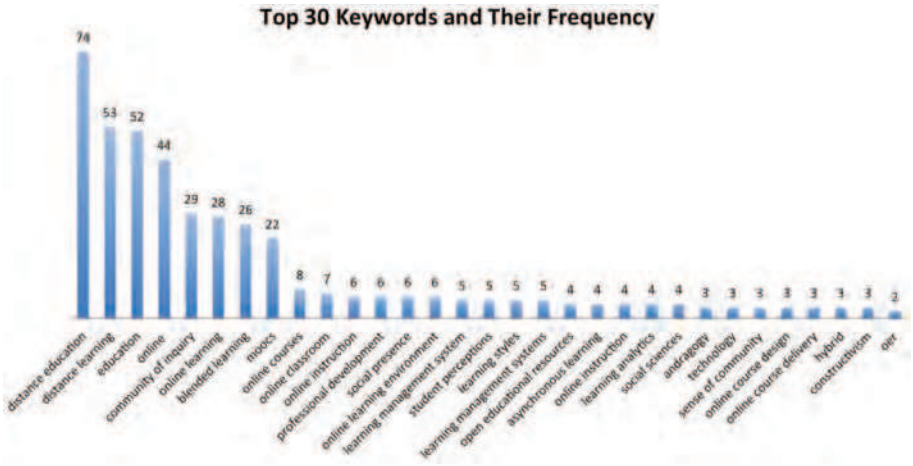

Figure 3

As can be seen from Figure 3, "distance education", "distance learning" and "education" are generic terms that are preferred to define most of the studies in this field. Another interpretation that can be made from the Figure is that the use of the term "online" frequently can be a sign of the increasing trend of integrating online technologies in distance education field. "Community of inquiry", "blended learning", "blended learning" and "moocs" are other trend topics that have been studied by various researchers. These four keywords also demonstrate that there is a shift to online technologies, and accordingly online technologies are mostly the focus of the studies in distance education field.

In addition, thanks to the descriptive analysis of the keywords, it is possible to detect the current movements, approaches and pedagogy in distance education field. According to the Figure 3, "moocs", "online courses" and "open educational resources" are the noteworthy movements. As a pedagogy, "blended learning", and as an approach "community of inquiry" were chosen as the focus in many studies.

Figure 4 below demonstrates the word cloud generated using all the keywords included in the study. This figure can give an overall understanding of the research topics that were investigated in doctoral dissertations in the field of distance education.

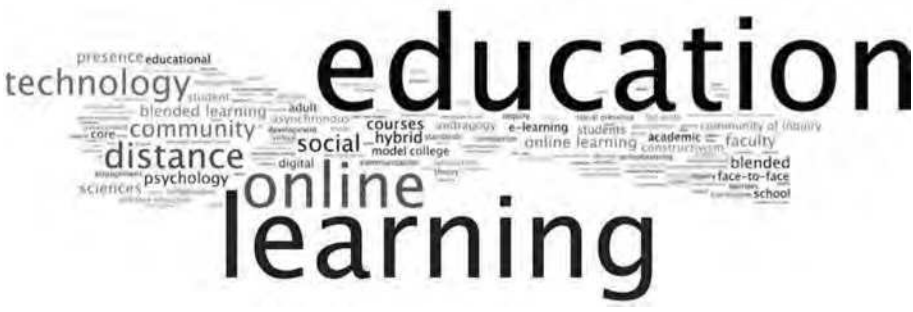

Figure 4

Research Design and Methods

The research designs used in doctoral thesis were examined in three categories: qualitative, quantitative and mixed. It was seen that 88 of them were designed in the qualitative design, 69 of them were designed in quantitative design and 19 of them in mixed research design. Figure 5 displays the distribution of these categories.

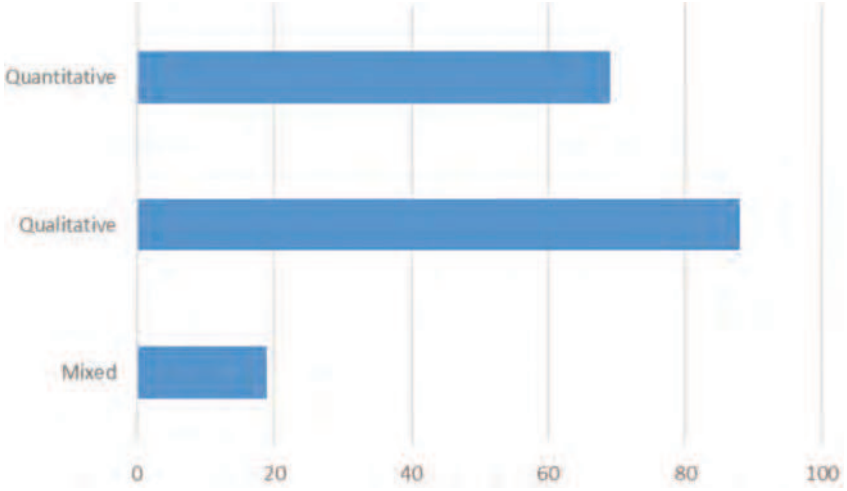

Figure 5

The research method used in the thesis studies is examined. Most commonly used method is case study method. One of the findings is that the five most commonly used methods in doctoral dissertations are case studies, correlation, phenomenology, survey, and experimental studies. Figure 6 shows the research methods used in doctoral thesis

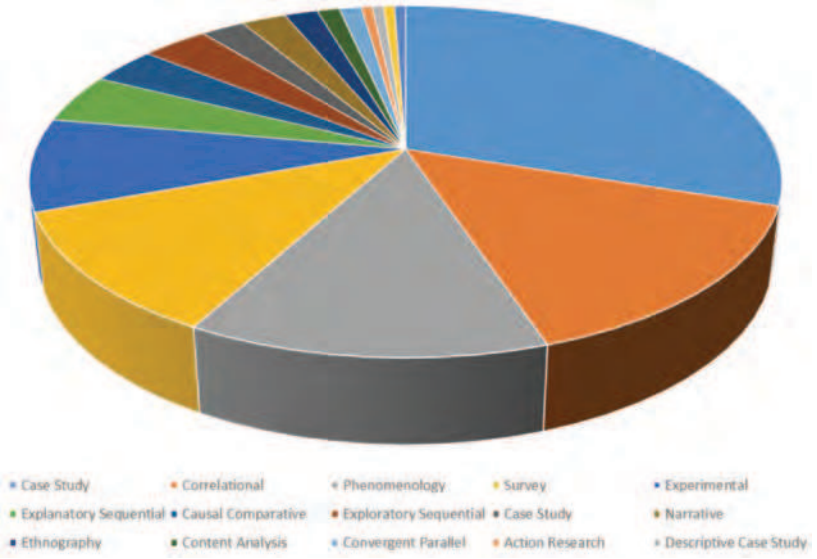

Figure 6

Data Collection Instruments

Another investigation in this study was implemented to find out the types of data collection instruments used in the dissertations. One of the findings of the analysis of data collection tools used in the studies showed that the researchers used more than one data collection instrument in their study. As can be easily understood from Figure 7; in 99 of the dissertations, the researchers preferred to use a single data collection instruments. However, in 54 studies, two different data collection instruments were used. In only 24 of the studies, three different data collection instruments were chosen to collect data.

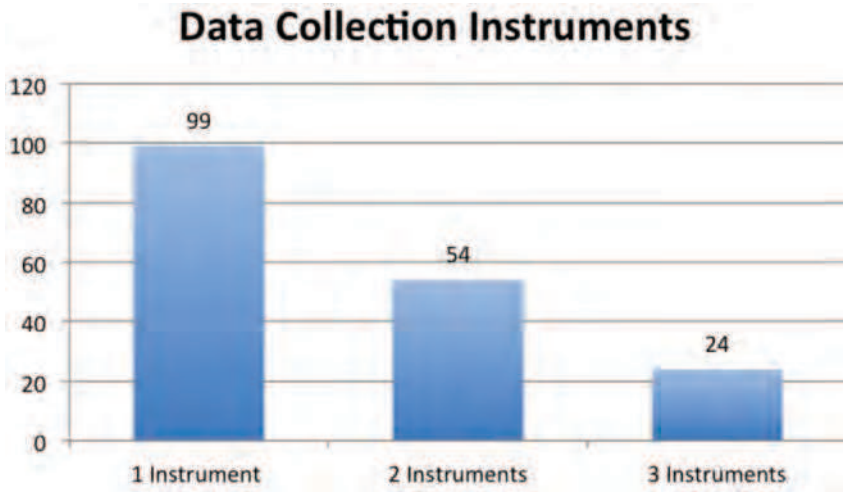

Figure 7

It can be inferred from Figure 7 that in 78 of the studies, the researchers sought ways to validate their data accurately and they used two instruments in 54 of the studies and preferred to use three instruments in 24 studies. It is obvious that the researchers aimed to verify their data and add credibility to their findings via data triangulation, which refers to the use of two or more different methods to gather data on the subject being studied.

Figure 8 below demonstrates the details of the data collection instruments that were chosen in the studies. It can be easily inferred that surveys and interviews were among the most frequent tools to collect data.

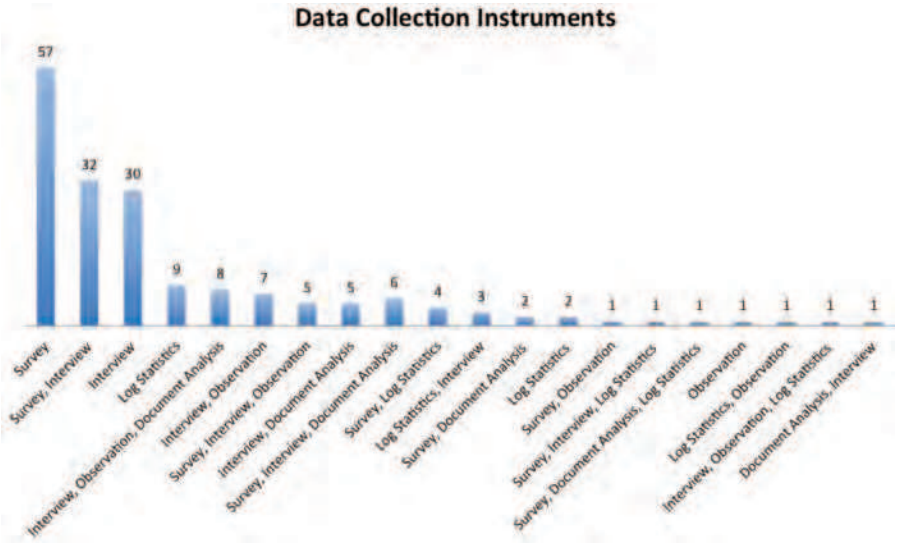

Figure 8

A further analysis of the data collection tools used has demonstrated that in quantitative studies the researchers frequently used surveys and log statistics. As shown in the figure, out of 177 dissertations, in 57 of them the researchers preferred surveys as a way to gather data. In qualitative studies, however, interviews and document analysis were the most preferred ways of data collection. According to the table, it can be said that in qualitative studies, the researchers opted for using other types of data collection tools along with interviews with the aim of verifying the data collected through interviews.

Data Analysis

Another investigation of this study is data analysis. As shown in the figure 9, parametric analyzes were used most in doctoral dissertations, then the researchers preferred thematic analysis, content analysis and descriptive analysis. According to the table, it can inferred that that in doctoral dissertations on distance education not only parametric but also nonparametric analses were used in the studies.

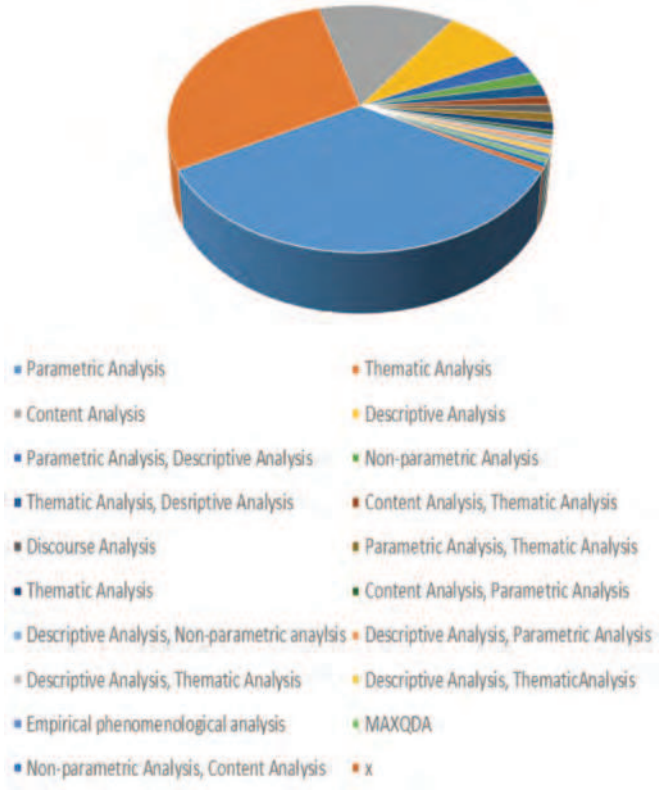

Figure 9

Participants

The analysis of the participants examined in the dissertations reveals some valuable information on the importance of distance education in higher education. As can be seen from *Figure 10* below, 130 out of 177 studies examined graduate & undergraduate students and faculty members & academicians. It can also be said that as the researchers generally work in higher education institutions, in order to facilitate the process of data collection, they may have chosen to work with undergraduate and graduate students as well as faculty members and academicians.

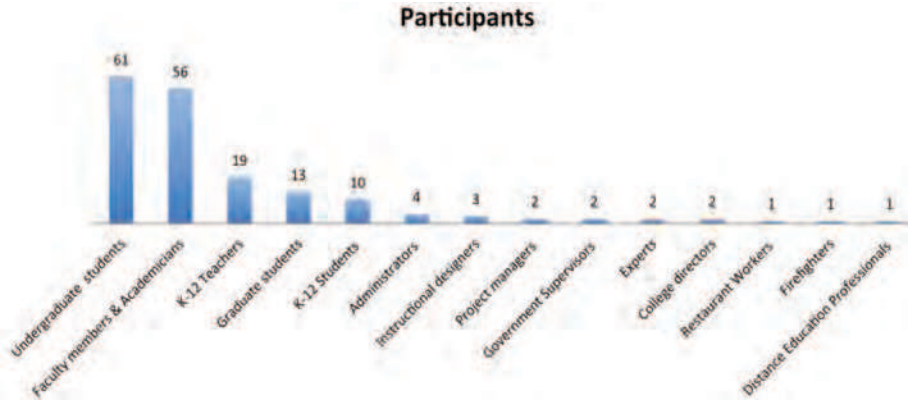

Figure 10

The data also reveals that the distance education practices are also adopted by high schools by 29 studies examining -12 students and teachers. It can be an evidence for the fact that "K- 12 is another setting in which DE is getting popularity" (Lips, 2010; Queen & Lewis, 2011).

Another interesting fact is that administrators and government supervisors are also examined in the dissertations and this accordingly demonstrates the role of the management in the distance education practices. Having examined the restaurant workers and firefighters also illustrates that distance education practices also prevail in the sectors other than education.

RESULTS

In this study 177 doctoral dissertation in the field of open and distance learning were analyzed and the results of the study reveals trend research topics and issues in 2018 in the USA. All the theses were done in various universities in the USA, which were retrieved from Proquest Global Theses Database. One of the interesting findings of this study was that Northcentral University became a pioneer in studies in open and distance learning as it was the university that published the most theses (23 doctoral dissertations) in 2018.

In terms of the trends and issues in open and distance learning field, thanks to the descriptive analysis of the keywords used in the dissertations, it was possible to define the current issues in the field. The terms "distance education", "distance learning" and "education" are generic terms that are preferred to define most of the studies in this field. In addition, the use of the term "online" frequently can be a sign of the increasing trend of integrating online technologies in distance education field. "Community of inquiry", "blended learning", and "moocs" are other trend topics that have been studied by various researchers. These keywords also demonstrate

that there is a shift to online technologies, and accordingly online technologies are mostly the focus of the studies in distance education field. Therefore, it may be said that the studies in open and distance learning field quickly respond to the emerging and developing technologies.

In terms of methodology, the analysis demonstrated that the researchers in this field usually preferred qualitative, quantitative, or mixed research designs. Most of the qualitative studies were designed as case studies, which was another noteworthy finding of this analysis. In most of the studies, researchers preferred to use more than one data collection tools and they mostly preferred data triangulation. In quantitative studies, surveys and questionnaires were the most preferred data collection tools. However, in qualitative and mixed studies, interviews were the most used way of data collection.

While analyzing data, in the quantitative studies, descriptive statistics was used the most. However, in the qualitative research, content and thematic analysis to interpret the data collected was used equally. The main participants of the studies were adult learners and faculty members. However, in certain studies, participants from other sectors such restaurants (not education) were chosen. Thus, it can be said that the research in this area mainly focuses on adult learners, undergraduate and graduate students as well as faculty members.

Considering the analysis and the findings of this study, the following implications can be made about the future of research in open and distance learning field:

- Developing technologies around the world easily affect the studies in this field and they will continue to change the trends and issues in distance and open education field.
- Most studied and least studied topics were presented in this study. The least studied topics may be neglected in the field of open and distance learning. The future research may well focus on these areas.
- The studies in this field can benefit from various research methods and designs as well as different participants from many different sectors. It can be implied from the findings that distance education research generally focuses on universities. However, in the future, it will be common in high school, middle school and even in primary school level. Other than educational institution, the research in this field may focus on the participants in different business fields and life-long learners.

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Examination of a Distance Education Course Through the Lens of Activity Theory[1]

Hulya DUZENLI[2], Nilgun OZDAMAR[3], Aras BOZKURT[4]

Abstract

Being a complex social process, open and distance learning includes many different dynamics and interaction elements. Activity theory provides a comprehensive framework for understanding complex human interactions and the lack of appropriate methods to address the complexity of online learning environments. The main purpose of this study is to define the seven elements of interaction (subject, object, tools, rules, community, division of labor and outcome) in an online course within the framework of activity theory. In order to reach this purpose, a qualitative study has been carried out by using exploratory case study model. As a result of this study, the general activity system of the online course was identified. According to the activity system, the subject refers to the learners who attend the online course, the tools are all learning materials, learning environments and instructors in the online course, the rules incorporate all lawfully restricting codes, regulations and guidelines in the course along with the community norms, network standards and the rules determined by the learners during the synchronous courses. The community in the course is made up of all the learners who attend the online course, the instructor, forum moderators, technical staff and OEF (Open Education Faculty) management. The division of labor has been observed to be scattered among the students, the instructor, the administration and the support staff. Ultimately, the object is to pass the course and the outcomes are the ones that the course offers in its educational plan.

Keywords: *open and distance education, activity theory, online learning environments, interaction*

INTRODUCTION

The developments in the field of technology contribute to the improvements and diversification of research topics in the field of Open and Distance Learning (ODL). Research topics shifting to the learner-centered approach have begun focusing not only on success but also on learner characteristics, perceptions and patterns of interaction and how they all contribute to the overall learning environment (Simonson et al., 2014). Especially in recent years, when ODL studies are examined, it is seen that studies on interaction in learning environments gain more importance (Xiao, 2017; Moore et al., 2016; Anderson et al., 2015; Huss et al., 2015; Wei et al., 2015; Croxton, 2014; Mozhaeva,

1 This is a revised version of Master Thesis entitled " ANALISIS OF AN ONLINE COURSE THROUGH THE LENS OF ACTIVITY THEORY IN THE SCOPE OF OPEN AND DISTANCE LEARNING" by Hülya Düzenli.

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2014). Online learning, which is one of the ODL models with learner, instructor, content and interface interactions, has become a widespread model after the development of computer networks and Internet. Currently, it is a model that is used at higher education institutions such as Anadolu University to deliver both face-to-face and distance education.

Serving more than one million distance learners, Anadolu University offers a wide range of learning materials combined with new technologies in addition to textbooks. Anadolum eKampus system, which presents the existing online learning materials on a single platform, was first offered to the distance learners in the spring term of 2015-2016. This system, which has the potential to provide learner-learner, learner-instructor and learner-content interactions at the highest level, facilitated by the learning management system called Blackboard.

The theories currently being used in the field of education to examine the interaction and the impact of this interaction on learners in online environments, may be incomplete in analyzing the unique structure and components of these environments. Based on the concept of "mediated action", which is rooted in Leontev (1978) and Vygotsky (1978) and later expanded by Engestrom (1987), activity theory provides a comprehensive framework for understanding complex human interactions and the problem of the lack of holistic methods to address the complexity of online learning environments. Activity theory, as a methodological tool, can be used to reveal key dynamics of the reality created in complex and technology mediated social environments, to point out conflicts and visualize the activity environment (Kaptelinin and Nardi, 2006). It is a sociocultural theory that allows researchers to examine individuals in a wide range of activities rather than examine them separately from their environment (Kuutti, 1996). Therefore, the framework of activity theory provides a useful perspective for understanding the social structure of online learning environments (Baran and Çagiltay, 2010; Engestrom, 1999; Baek, Evans and Barab, 2004).

Engestrom (2014) mentions three generations in the theory of activity. The first generation, which was inspired by Vygotsky's (1978) ideas, created the idea of "mediation". According to Vygotsky, the individual does not respond to his environment directly or with innate reflexes, cultural paths, tools and signs mediate the relationship between the individual and his environment. In the second generation, Leont'ev (1978) came up with "three layers of an activity" as *object/motive, goal* and *conditions* and added the community dimension to the theory. Third-generation activity theory has added elements of community, rules, and division of labor to this structural perspective (Engestrom, 2014). This extended activity theory is known as an activity system (Mwanza and Engestrom, 2003). Mwanza and Engestrom (2003) developed the activity system triangle model by focusing on the mediation-type relationships with other elements in the activity system (Figure 1.1).

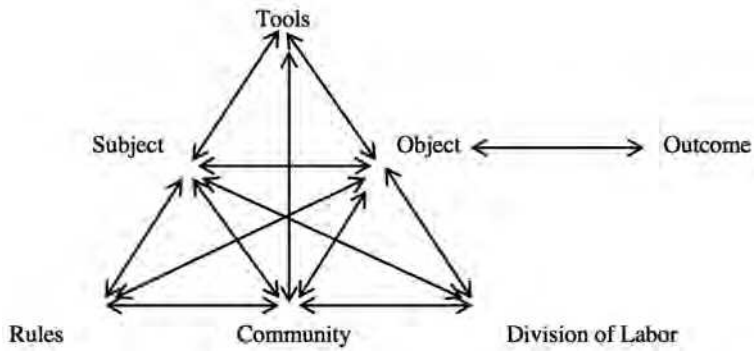


Figure 1. Third Generation Activity Theory (Engestrom, 1999)

In this model of activity system, artifacts are important for human performance and are integral parts of it (Kaptelinin and Nardi, 2006).

An *activity* refers to all efforts towards interdependent, stable, long-term, predetermined or natural, but identifiable goals and objectives (Rochelle, 1998, cited in Karakus, 2015, p.380). The basic elements of any activity system include seven elements. The *subject* of an activity system is the person or group whose perspective is taken in the analysis of the activity. The *object* is the situation or problem area that causes the subject to participate in the activity and motivates the partners of the activity. The object refers to meeting a requirement. It explains why an activity exists. What distinguishes one activity from another is its object. *Tools* include all abstract and concrete tools that the subject interacts with during the achievement of the object. These can be concrete tools such as a book or a computer, as well as internal, symbolic and psychological tools such as the language used. In an activity system, the subject is seen as part of a *community*. Yamagata-Lynch (2010, p.2) defines the community as "the social group to which the subject belongs during the activity". *Division of labor* is defined as the distribution of duties and roles, authorities and responsibilities among the members of the community. *Rules* refer to "open and confidential regulations" (Engestrom, 1990, p.79). In a way, the rules that can be perceived as social texture include both the rules that continue in the society and developed later (Karakus, 2015, p.382). Finally, *outcome* is abstract or concrete products that result from the activity system.

It is necessary to examine the interactions of the learners who have access to the courses they have taken on Anadolum eKampus system, with a holistic approach, in order to provide a better understanding of the system. In the context of open and distance learning, it is considered that the activity theory provides a fitting holistic approach in complex social settings of online learning environments.

The Purpose of the Study

The overall aim of this study was to define the seven interaction elements (subject, object, tools, rules, division of labor and community) in an online course offered by Anadolu University to distance learners within the framework of activity theory.

METHOD

This study has adopted a qualitative research approach. The case study model rather than other potential qualitative designs was the best to use to examine the complexity and nature of a learning environment in its natural setting (Farquhar, 2012). The exploratory case study approach allows the researcher to ask multifaceted questions as it is based on the design structure described by Yin (2014).

The Context of the Study

This study was conducted in the context of TBT I (Temel Bilgi Teknolojileri I - Basic Information Technologies I) course offered to open and distance learners on the platform of Anadolum eKampus system by Anadolu University Open Education Faculty in the fall semester of 2017-2018 academic year.

Data Collection

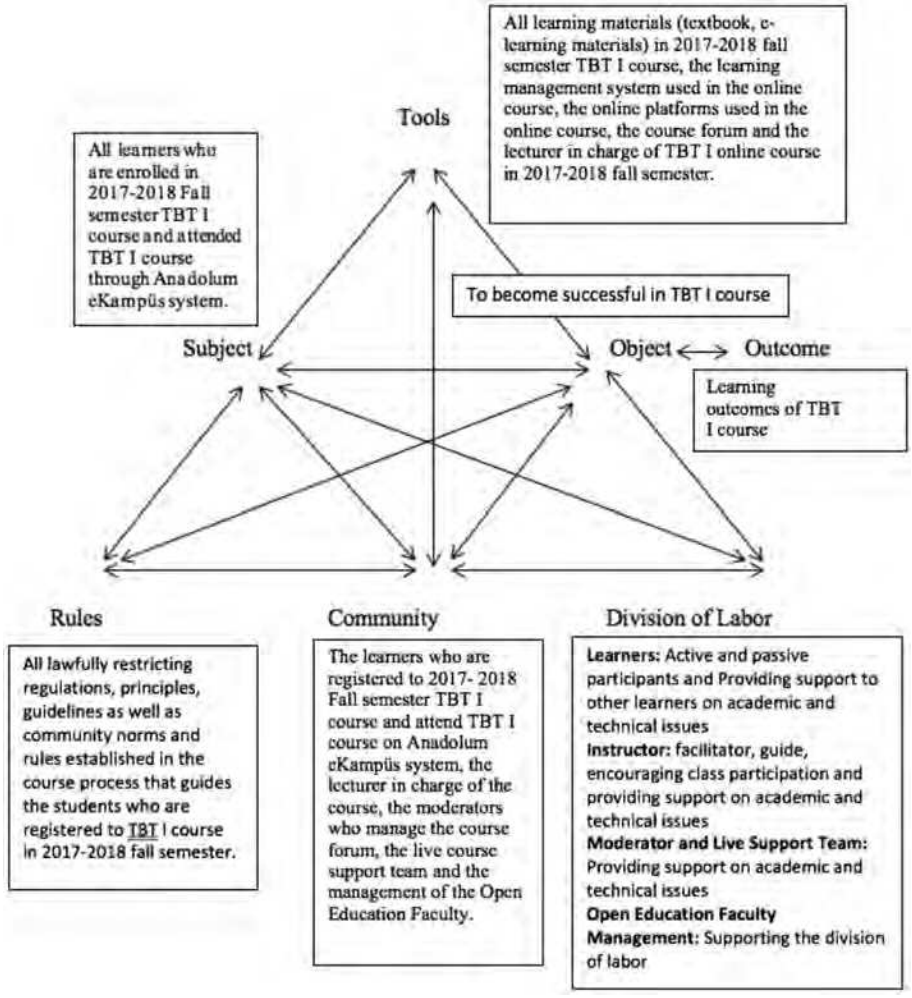
In order to identify the interaction elements in the online course according to the framework of activity theory document analysis and semi-structured interview have been employed. Therefore, there are two main sources of data. The first one is a cluster of documents including TBT I course content at Anadolum eKampus online system, Anadolu University Open Education Faculty official website, TBT I live course (e-seminar) videos, live course messaging transcripts, Learning Activities Reports of TBT I course. In order to collect data from the document sources, a document analysis form was used. The form was prepared according to the elements of activity theory. The second source is the semi-structured interview with the course instructor. The interview form included eight main questions and follow-up questions and devised according to activity theory elements.

Data Analysis

The documents were analyzed using activity theory framework. The analysis of the interview transcription was conducted using descriptive analysis method. The transcription was labeled after the predetermined coding scheme. The coding scheme included probable content for each activity theory element. When there was new or unforeseen data, new codes and labels were added.

FINDINGS

As a result of the examinations, the general activity system established for the 2017-2018 Fall Term TBT I learners is given below:



When the video recordings and messaging transcripts in live courses were analyzed, it was found that the learners have created rules to regulate their own learning environments by warning one another during the first weeks of live courses. However, it was also found that the learners help and support one another on academic and technical issues. These findings were in line with the findings of semi-structured interview with the instructor. In addition to this, it was observed that the main object of the learners participating in TBT I course was to pass the course instead of internalizing the course content. Additionally, it was found that the learners were trying to form sub-communities in the course. And the most remarkable finding from the learning analytics was that the rate of female students attending the course (61%) was higher than the rate of male students (49%).

DISCUSSION AND CONCLUSION

As a result of this study, the general activity system of the online course was identified. According to this activity framework the subject refers to students who attend the online course, the tools are all learning materials, learning platforms and instructors in the online course, the rules include all the legally binding codes, regulations and guidelines in the course alongside the network standards, principles and the rules dictated by the students during the synchronous courses. The community in the course is made up of all the learners who attend the online course, the instructor, forum moderators, technical staff and OEF management. The division of labor has been seen to be dispersed among the students, the instructor, the administration and the support staff. Ultimately, the object is to pass the course and the outcomes are the ones that the course offers in its educational plan.

In addition to the activity system, the fact that female students participated more in the online course is in accordance with the studies that reveal that women are more active and successful in online learning environments (Amparo, Smith & Friedman, 2018; Price, 2006).The most interesting finding about the rules is that the learners have created rules to regulate their own learning environments by warning each other during the first weeks of live courses. From this point of view, it is concluded that although in open and distance learning individuality and autonomous learning are emphasized, collectivist cultural characteristics such as group learning and progression have emerged in the context of TBT I online course. It was also concluded that the aim of the learners participating in TBT I course is to get passing grades from the course. In terms of object and outcome dimensions, it was seen that the learners participated in the live courses and the system in a target-oriented manner, and they cared more about whether the subjects would come up in the exam or not rather than using the information given in the course in their lives.

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Staying Motivated on Facebook: Supplementary Activities Enhancing Online Learners' Motivation and Engagement

Hasan UCAR[1], Nil GOKSEL[2]

Abstract

This study offers an explanatory case study research that reflected on how the supplementary activities used in a social network site, namely Facebook, affect online learners' process of learning. The participants consisted of 105 online learners who contributed to the study voluntarily. The data was gathered over three weeks through a web-based open-ended questionnaire. The findings of the study indicate that using supplementary activities given on Facebook had positive effects on distance learners' course interest, performance, and motivation. Besides, the supplementary activities swayed the learners to persist in and make an effort to reach the learning goals. Based on the findings collected in this study, the authors posit that Facebook, as a powerful social network site could be used for an open and distance learning course conducted for English Language Learning. In addition to the findings mentioned above, suggestions for future research directions and implications for practice discussed as well.

Keywords: *Facebook, motivation, English language learning, online learners, open and distance learning*

INTRODUCTION

Online learning supported by the internet, which has been continuing its development since the 90s is an indispensable element of our lives. Through the interactive environments that the 21st century information society has managed to realize within the scope of internet and web applications, learners share their existing and gained knowledge in micro-electronics network which is a structure strengthened with basic information and communication technologies (Castells, 2004). In these virtual communication environments with flexible content, distance education applications which are accepted as the most common method of education technologies provide convenience for participants living in different life conditions. In this connection, one of the results in the current literature research is that learner interactions in social network communication areas are positive (Camus, Hurt, Larson, & Prevost, 2016; Chugh & Ruhi, 2018; Sánchez, Cortijo, & Javed, 2014).

Almost every person in society is a member of a social networking community. This online communities are increasing in number day by day. Even though many new social network sites have appeared in recent years, Facebook still seems to be a very popular social media tool. As of June 2019, with 1.59 billion daily and 2.41 billion monthly active users, Facebook is the biggest social network site worldwide (Facebook, 2019).

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The widespread use of Facebook makes it appeal to online learners and instructors (Camus et al., 2016). Moreover, Facebook is still actively used as a social networking site among learners. The potential of Facebook in building a sense of community fosters learners' interactions and enhances the exchange of information (Blattner & Fiori, 2009).

For learners, motivation is the one of the most vital elements affecting the learning process (Keller, 2010; Li & Keller, 2018). If the learners' motivation is adequately promoted and engagement is enhanced, learners can be more active and thus more effective learning results can be obtained. Although many learners and educators get very excited about the possibilities offered by social network sites, the learners may not always be motivated to learn. However, many online learners want to take advantage of the Facebook to reinforce their learning process, but many others tend to procrastinate (Reinecke et al., 2018). Thus, the instructors can implement activities in social network sites to win and motivate the procrastination-prone learners. As underlined by Fryer and Bovee (2016), without motivational support of the instructors' in online learning environments, learners' motivation and engagement may decrease and their performance worsen.

Given all these challenges, there is a gap in literature about how the supplementary activities can stimulate and sustain learners' motivation and enhance learners' engagement in social network site, like Facebook. In this case study, instructor's supplementary activities pursued on Facebook, were evaluated according to the responses of the learners who study English in an e-seminar course. In this connection, the effects of instructor guided supplementary activities on Facebook will be divulged in relation to effective learning process.

METHOD

This qualitative study used an explanatory case study research design in order to understand how the supplementary activities used in a social network site, Facebook, affect online learners' process of learning. Explanatory case study designs aim to determine cause and effect relationships (Fraenkel & Wallen, 2009; Hancock & Algozzine, 2006; Yin, 2003). As connoted by Hancock and Algozzine (2006), the primary purpose of the explanatory design is to "determine how events occur and which ones may influence particular outcomes" (p. 33).

Research Setting and the Participants

This study was conducted in a closed Facebook group called 'Distance Learners'. Of these members, 105 volunteer participants accepted to take part in this study. The participants consisted of the students of Anadolu University Open Education Faculty who have taken e-seminar courses before. Of the participants, 28 were male and 77 were female. The age range of participants is between 19 and 66.

Data Collection

Within the context of this study, the data gathered through a web-based open-ended questionnaire. The participants, who study English on an online seminar lesson, evaluated their instructor's supplementary activities pursued on Facebook. The participants answered the following questions:

- How do you assess the effect of the instructor's posts on Facebook (messages, announcements, notes, etc.) on your focus?
- How did the sharing of your instructor (messages, announcements, notes, etc.) contributed to the learning process and success of the lesson during the learning process?
- How effective are your instructor's posts (messages, announcements, notes, etc.) when you are motivated?
- How effective are your instructor's posts (messages, announcements, notes, etc.) when you are distracted?
- When you evaluate your learning process, how do you see your current situation at the beginning and at the end of the semester?
- Can you compare yourself to the previous or the beginning of this semester?

The answers to the above given questions were collected over a period of three weeks.

Procedure

The participants in the Facebook group were Open Education Faculty learners who were learning English at A1 and A2 levels. These learners followed live classes, announcements and messages that are regularly shared on Facebook every week in parallel with their e-seminar courses. The instructor, also one of the researchers of this study, met the learners online once a week and tried to help them to understand the subject taught in more detail and answered the questions privately or in a group discussion messages when needed. Within the context of the study, live classes, announcements and messages are all accepted as supplementary activities.

Data Analysis

The following two research questions guided the analysis of the data:

- How do the supplementary activities (or whether) used in a social network site, Facebook, affect online learners' process of learning?
- Do supplementary activities make a difference in online learners' motivation and engagement?

The data were analyzed through the content analysis approach. Qualitative content analysis is a flexible and widely used research method in analyzing text data (Hsieh & Shannon, 2005). Content analysis, in this regard, is used to extract categories from collected data. In order to validate the categories extracted, two instructors other than the researchers of this study, checked the findings. So, the data were analyzed by four researchers.

FINDINGS

The study's main research question is "How do learners who study English on an online seminar course evaluate their instructor's supplementary activities pursued on social networking site namely Facebook?". While answering it, the open-ended questions were directed to the students to obtain detailed information. In this connection, the responses of each participant were analyzed and direct citations to the most referenced subthemes were all given in the following sections below. The real names of the participants are confidential in accordance with the ethical rules of the research; therefore, each participant is given a unique nickname. The analysis of the data uncovered five factors (interest, motivation, academic achievement, and volition) that affect learners' learning process positively. So, we can say that supplementary activities made a difference in online learners' motivation and engagement.

Maintaining interest in English Lesson

The main theme and the sub-themes determined according to the opinions of the learner responses are included in this part. As a result of the analysis, 3 sub-themes (positive effect, effective learning, personal support) have been identified under the main theme of "maintaining interest in English lesson". The answers given by the participants to the question *"How do you assess the effect of the instructor's posts on Facebook (messages, announcements, notes, etc.) on your focus?"* demonstrated that instructor's posts on Facebook have been found very useful for students to focus on the lesson. By this way, learners had a positive effect in connection with desire to learn, effectuate effective learning that triggered the belief of success and personal support that directs students to learn.

Motivation

As a result of the analysis, 4 sub-themes (teaching style, self-studying, reviewing, effect of the instructor) have been identified under the main theme of "motivation". The answers given by the participants to the question "*What do you think it depends on whether you are motivated or not?*" demonstrated that instructor's teaching style is an important factor for learners to get motivated. The learners who manage self-studying and do constant reviewing are also the ones who are highly motivated.

Volition

As a result of the analysis, 4 sub-themes (lifesaver posts, personal aims, attract attention, reminding messages) have been identified under the main theme of "volition". The answers given by the participants to the question "How effective are your instructor's posts (messages, announcements, notes, etc.) when you are motivated?" demonstrated that the posts and messages are seen as lifesavers by the learners. To keep track of volition, personal learning aims should be determined, and the course content should be attention grabbing.

Academic Achievement

As a result of the analysis, 4 sub-themes (being productive, knowledge increase, self-improvement, enhancing academic performance) have been identified under the main theme of "academic achievement". The answers given by the participants to the question "When you evaluate your learning process, how do you see your current situation at the beginning and at the end of the semester? Can you compare yourself to the previous semester or the beginning of this semester?" demonstrated that learners feel productive and believe that there is an increase in their knowledge. They also indicate that they improved themselves in time.

DISCUSSION AND CONCLUSION

According to learners' views, the supplementary activities used in the Facebook group maintained the learners' interest, increased confidence and academic achievement, enhanced motivation and volition. These findings are also supported by the studies in related literature (Aubry, 2013; Chugh & Ruhi, 2018). Aubry (2013) states that using Facebook in a course to deliver activities or as a communication tool enhance learners' motivation. In their study, Chugh and Ruhi (2018) suggests that integration of Facebook as a social media tool can engage learners' attention. Moreover, the study results also exhibited that the use of Facebook in English learning gives

an opportunity for interaction, effective learning, and engagement. These results are consistent with the findings of the other researches (Akbari, Pilot, & Simons, 2015; Buga, Căpeneaţă, Chirasnel, & Popa, 2014; Donlan, 2014).

However, the study has two limitations. The first one is the large sample size of 105 participants. Even though the authors had more divergent opinions on supplementary activities, this took a lot time and, maybe, they could not get deep perspectives on other related issues. The other limitation is that since the authors used the volunteer participants as a sample, the results may be general and superficial. The convenience sampling chosen by the researchers may give diverse results. The results of this study only suggest that supplementary activities enhanced online learners' motivation, learner interest, and academic performance. An essential area of future research would be to determine which supplementary activities are better in enhancing online learners' motivation and engagement. By exploring the preferences of online learners taking part in the supplementary activities may provide more detailed results regarding English language learning in online social network sites.

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A bibliometric Analysis on "Distance Education" Between 2000 and 2019

Büşra KÜÇÜK [1], Adile Aşkım KURT[2]

Abstract

The aim of this study is to make a bibliometric analysis based on the concept of distance education. The study includes articles in SSCI journals between 2000 and 2019. The data were obtained through a detailed search in the Web of Science-Core Collection database. Web of Science's Result Analysis and R software is used during the analysis. The basic demographic information was analyzed by using Web of science's Result Analysis part and the other graphs and networks are analyzed by using R especially Bibliometrix library and Biblioshiny interface. The results showed that distance education is a concept that has been developing continuously since the 2000s and The Open University, which is the UK's largest academic institution and a world pioneer in distance education, has made the most of the academic articles on distance education. John T. E. Richardson from Institute of Educational Technology of The Open University is the most referenced author with the highest number of publications in this field. When the Turkey focused examination, most academic articles on this subject was made by the Anadolu University, which is the first institution in Turkey that offers higher education through contemporary distance education model.

Keywords: *distance education, bibliometric analysis, bibliometrix.*

INTRODUCTION

Distance Education was first mentioned in the 1892 Catalog of the University of Wisconsin and it was used for the first time in an article written in 1906 by the director of the same university, William Lighty. The term was later introduced by the Germans in the 1960s, and it named the distance education institutions in France as Teleenseignement (Ryan, Scott, Freeman and Patel, 2000). Distance education is a term that combines distance teaching and distance learning elements (Keegan, 1996). Since distance education is formed with the change of education in almost every sense like physical and ideological, various definitions and names have been made on the concept of it. According to Ravi (2015), "Distance education is the method of learning at one's own pace, in one's own time, without the boundaries of the formal classroom and without the formal presence of a teacher." Distance education applications started with letter method, but over time radio, television, telephone, computer and internet were also used. Today, these tools are used actively in the distance education process and the newly developed multimedia technologies are also actively utilized like augmented reality and virtual reality. The concept of distance education is changing

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and developing day by day with the rapid development of technology and industry, and this study aims to provide a framework for researchers by considering all academic articles made in this field from a holistic perspective between 2000 and 2019.

METHOD

Bibliometric analysis is used in this study to understand the general view of distance education aspects of most effective sources, authors, journals, institutes, countries and most frequent keywords. In line with these findings, trends, changes and limitations can easily be understood. On July 1st, 2019, bibliographic information of the all used data were retrieved from Web of Science Core Collection database with the time interval between 2000 and 2019. "Distance Education" was used as keyword and only articles with SSCI property were chose. Total 420 results found, containing the specified properties. In the analysis process, descriptive statistics is gotten from Web of Science website and R software was used for data visualization. Analyzes and visualizations were done via bibliometrix library via RStudio. Moreover, biblioshiny, one of the R's web interfaces, was used to visualize the relationships between authors, words, and resources as network maps.

FINDINGS

The data and visuals obtained as a result of the analyzes are given below.

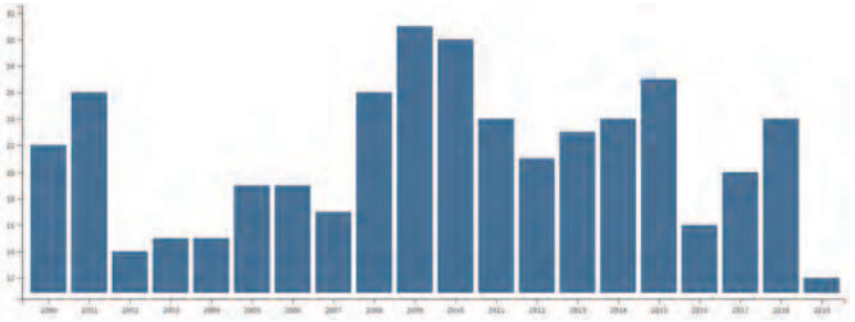

Figure 1. Sum of Publications per Year

Figure 1 shows the changes of the number of publications by year. When the graph examined, it is seen that there have been irregular increases and decreases since 2000. It was observed most of the studies were carried out in 2009, after that the number of studies declined and in 2015 it showed an increasing trend again. In 2001, 2009 and 2015, the number of articles increased compared to other years. In 2002 and 2016, the number of articles decreased significantly. The reason for the decline in 2019 is that the year has not yet been completed.

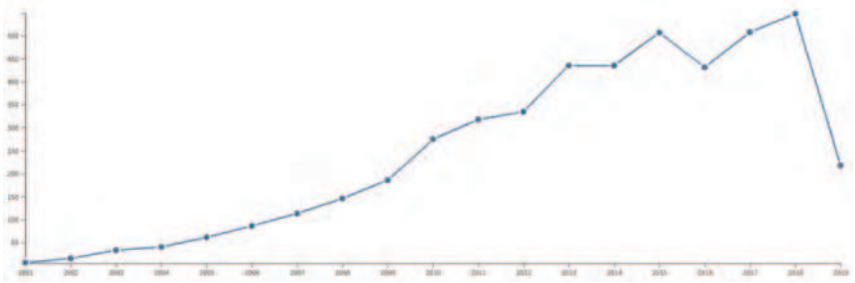

Figure 2. **Sum of Times Cited per Year**

Figure 2 shows the changes of the citations of publications by year. Similar to the increasing number of publications, there is a systematic increase in the number of citations in distance education studies. Just in 2016, there was a slight decline. Like the Figure 1, the reason for the decline in 2019 is that the year has not yet been completed.

Figure 3 visualizes the countries that worked on distance education on the world map with blue color. The increase in the number of articles is directly proportional to the intensity of the blue. Dark blue countries have published more articles and grey ones have any articles. North America, South America, Europe, China, Australia are seen as countries studied in this field. When we look at the region where Turkey is located, Turkey also contributes significantly to distance education compared to neighboring countries.

Figure 3. **Country Scientific Production**

Figure 4. **Country Collaborations**

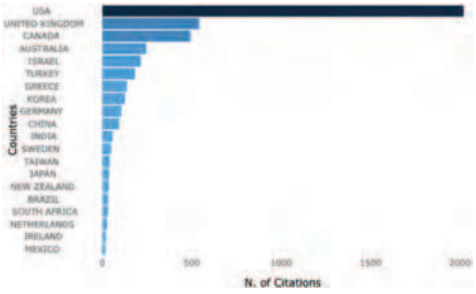

Figure 5. **Most Cited Countries**

As understood from Figure 2; Figure 3 and 4 also shows the contributions of countries. USA has the most citation rank and highest number of articles. In Figure 4, orange parts of bars indicate the multiple country productions and green parts indicate single country productions. USA, Chine, Canada and Germany seem to be more likely to collaborate with other countries. Additionally, Sweden, Israel and Greece do not seem prone to collaborate as much as these countries. Similar to Figure 4, Figure 5 also

has USA in the first rank because it has the highest number of citations. There are some changes in the order of other countries between the two figures, because article quality may impact the citation rate.

Figure 6 shows the relations of the countries based on both co-authoring and referencing. Considering Figure 6, it is seen that USA is a central country for distance education and other countries are mostly influenced by the publications of it. In addition, some countries have their own cliques like Netherlands-Finland and Brazil-Portugal-Mozambique.

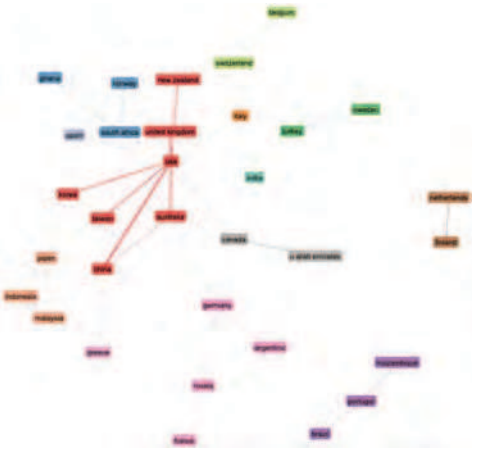

Figure 6. Countries' Network

Figure 7. Number of Publications with Supporting Organizations

Figure 7 shows that The Open University from United Kingdom has the highest number of articles on distance education. Then the list is followed by University of North Carolina and University of South Africa. When the Turkey focused examination, most academic articles on this subject was made by the Anadolu University.

Figure 8. Most Productive Authors

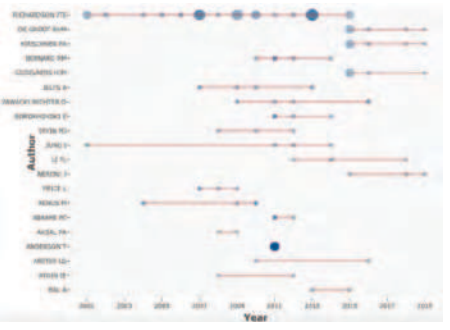

Figure 9. Authors' Production Over the Time

Figure 8 shows authors according to the number of articles and the most productive author is John T. E. Richardson with the highest number of publications on distance education. Figure 9 shows the top authors' production over the time, the sizes of nodes show the number of publications and colors show the impacts of published articles. The effect of Richardson JTE authors is also seen on this graph, he contributed to the field with many sources through 15 years and his most productive years are 2007 and 2013. Anderson T published some articles only in 2011 but his publications have high impact values like citation ranks.

Figure 10 shows the 420 articles' categorized version according to the Web of Science category titles. It is easily seen that more than half of these resources are in the field of education. Then, information & library science and nursing follow the order.

Figure 10. Number of Publications with Web of Science Categories

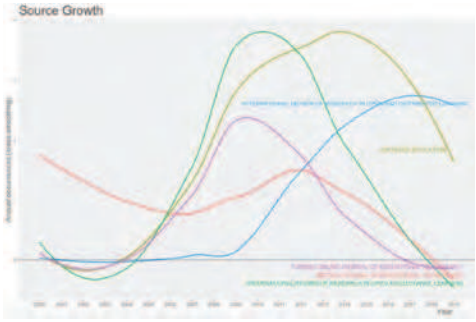

Figure 11. Most Relevant Sources (Journals)

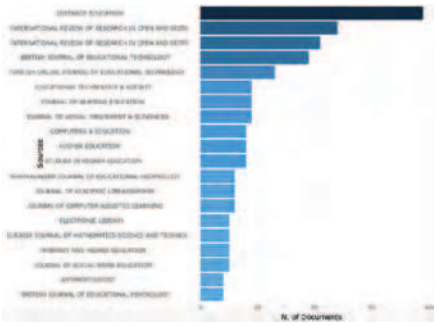

Figure 12. Related Sources' Growth

Figures 11 and 12 show the sources (journals) of the articles on distance education. Figure 11 shows how many articles are published in which source and figure 12 shows the change of these sources in terms of time. The journal "Distance Education" is the first with the highest number of articles. "International Review of Research in Open and Distance Learning" and "International Review of Research in Open and Distributed Learning" follow the list. When looking at Figure 12, there is a decrease in the number of publications of many journals. However, "International Review of Research in Open and Distributed Learning" journal continues to maintain and increase the number of publications consistently.

Figure 13 indicates the topic clusters in the view of distance education related concepts. It shows which concepts are worked together in the articles that are based on, and is important for the selection of the concepts that should be studied in this field in the future.

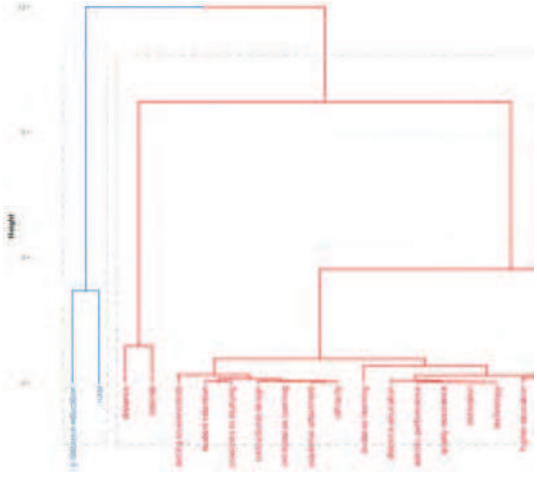

Figure 13. Topic Dendogram

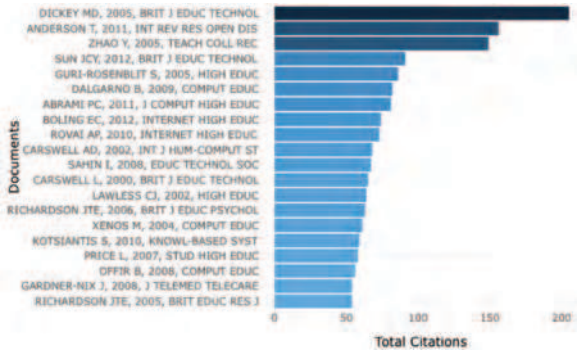

Figure 14. **Most Cited Documents**

Figure 14 shows that the most referenced article is written by M. D. Dickey with the title of "Three-dimensional virtual worlds and distance learning: Two case studies of Active Worlds as a medium for distance education" on May 2005 and published in the British Journal of Educational Technology-BJET.

Figure 15 shows the network of relationships between keywords entered by authors. When the relationship network is examined, the keywords used together with distance education are online learning, open & distance learning, distance learning, online distance education, e-learning and online education.

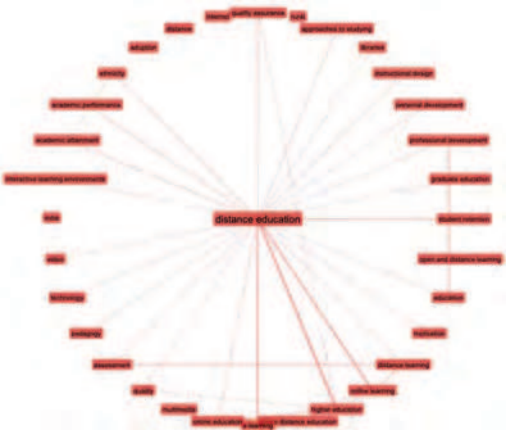

Figure 15. **Keyword Network**

When the abstracts and titles of the 420 articles on which the research was based were examined, the most used words were sized in direct proportion with their frequencies and the word cloud in the Figure 16 was formed. It shows that the most commonly used words are students, online, technology, model, quality and university in order.

Figure 16. **World Cloud**

DISCUSSION AND CONCLUSION

When the country cooperation network is examined, it is seen that countries exhibit different collaboration attitudes. There may be various reasons for this, but culture is thought to be one of the most important factors. At the same time, the necessity of writing a single-authored article supports this result, there was a period in Turkey with this requirement. It is also considered in the context of Turkey, in the case that the authors mentioned in the article do not contribute equally to the writing process, therefore, writing single author article is preferred more.

The main reason for Turkey's ranks, to take part successfully in these figures, is Anadolu University and its distance education opportunities. Anadolu University is the university with the largest number of students in Turkey. It has been offering various opportunities and platforms for years in terms of open and distance education.

Richardson JTE is the author with the most of publications and the highest number of citations in total, but the most cited source in distance education is written by Dickey MD. Richardson's impact from his multiple sources has taken him to the top of the graphs; however, the most cited article in the field and seen as the root source does not belong to him.

When the findings about journals in the field of distance education are examined, the journal of "Distance Education" is the first with the highest number of articles because it directly addresses to this field. The most important factors affecting the effectiveness of journals in the context of time are publication fees, editorial relations and their indexes. The reason for the publication decrease of the only Turkish journal, TOJET (Turkish Online Journal of Educational Technology), is most probably that it is removed from the SSCI index after the year 2009.

When the keyword relationship network is examined, the keywords used together with distance education are generally thought to have the same meaning as online learning, open & distance learning, distance learning, online distance education, e-learning and online education. These words are considered as synonyms of each other, so they may be preferred together as keywords.

The fact that the main word in the word cloud seen is "student", reflects directly the goal of distance education. The fact that the most centralized and largest word is "student" supports the student-centered approach which is one of the main objectives of distance education. It reflects the spirit of distance education ideology, student centered educational design that aims to move away from traditional methods and boundaries.

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MOOC's: Biometric Verification by Pulsations

Medina-Labrador[1], M. Gómez-Zermeño[2], M. Alemán-de la Garza, L[3].

Abstract

One of the problems that require a solution in Massive Open Online Courses (MOOC) is the lack of identification and authentication of the students. Different investigations have been carried out through several navigation, physiological, and behavioral methods, achieving different recognition scales. Biometric authentication by keystroke patterns (Ups&Downs) has been implemented in several MOOCs for the ease of the digital platforms of the offeror to solve the identification problem. The objective of this research is to analyze the independence of the keystroke tool of the other demographic, sociographic and behavioral variables within a MOOC, establishing an initial pattern, and two authentication measurements throughout the course. The results show that the keystroke is independent of the analyzed variables, and it is reliable to identify the students in qualitative tests with extension answers.

Keywords: *Biometrics, identification, MOOC, pulsations*

INTRODUCTION

Digital technology applied in education has changed teaching and learning methods. Its growth has been accelerated in the last decade and has managed to optimize variables such as time, location, content, interaction, and communication. The accessibility of digital platforms allows the integration of students of different age ranges, educational levels, motivations towards achievement and socio-cultural characteristics. Within this context, the MOOC (Massive Online Open Course) trend has become a learning model of the future allowing asynchronously relating two learning factors such as the teacher and the student. The MOOCs optimize variables such as: tuition costs, time availability, previous requirements, student coverage and flexibility (Gütl, Rizzardini, Chang & Morales, 2014; Zambrano, Cano & Presiga, 2017). Through MOOCs, universities and global institutions are responsible for offering and promoting courses so that people can access without restriction, creating opportunities to democratize education (Fernandez-Ferrer, 2017).

However, the disadvantages of the MOOC question the recognition of the identity of the student, to certify that the person receiving the learning and performing the evaluations is who claims to be (Sanna & Marciales, 2017). In this regard, the use of

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digital technology has allowed automate and improve these processes of biometric recognition, so that they have many applications and purposes, especially those related to security. Biometrics is a method of recognizing people based on their physiological or behavioral characteristics. It is a process similar to that usually performed by human beings recognizing and identifying their congeners by their physical appearance, their voice, their way of walking, among others. Biometric technologies are defined as automatic methods used to recognize people based on the analysis of their physical or behavioral characteristics. Depending on the biometric technique used, the parameters considered are different: grooves of the fingerprint, the geometry of the hand, voice, and facial image. From these parameters, a unique personal pattern is extracted, which will be the one used for later comparisons (Tapiador, 2005; INCIBE, 2016).

Learning management systems offer tools based on biometric technologies, which are usually applied in two phases: registration and authentication. Similarly, there are three modes used for the authentication of a person: physical element, knowledge of secret information, and biometrics. The physical element refers to the position of a key, smart card or digital passport. The knowledge of secret information is composed of an alphabetic, numeric or mixed password. Biometrics measures unique human characteristics or traits (Ali, Monaco, Tappert & Qiu, 2015). In the case of MOOCs, it is not only necessary to identify the student at the time of registration, but also in the development of the course, especially when making qualitative answers. There are different technologies for the administration and identification of students of a MOOC.

Biometric Technologies Applied in MOOCs

Currently, biometric technologies are applied in three different areas: (a) Learning management system (LMS), (b) Mobile applications, and (c) proprietary software. LMS (Learning Management System) focuses on the management of students, experiences during learning, and optimizes the time to create and distribute the courses with participants. Mobile applications allow students to manage and profile through different mobile systems such as tablets and smartphones. The proprietary software is developed by the course providers to create their learning platform and allows the inclusion of private biometric identification tools. The three student management technologies require to know with certainty that the students really did the academic tasks with qualitative answers assigned and that the selected tool achieves the objective of identification independently of the demographic characteristics of the students, technological tools of interrelation and that has sufficient reliability within the operating environment (Fenu, Marras & Boratto, 2017).

The biometric characteristics consider three features: physiological (retina, iris, facial or hand geometry), navigation (touch and mouse movements) and behavioral (signature, voice and dynamics in the keystrokes when writing) (Fenu, Marras & Boratto, 2017). These characteristics are difficult to reproduce and cannot be lost or forgotten. Mónaco, Stewart, Cha and Tapper (2013) have studied identification through facial recognition; the results indicate that they were able to identify the

students in real time, at low process costs and with a high degree of confidence. The characteristic of the voice was used to identify the presence of other subjects with the student while doing the learning or evaluative activity (Roth, Liu, Ross & Metaxas, 2013). Based on the dynamics of the keystroke, Monaco et al., (2013) incorporated the concept of stylometry, as linguistic characteristics that depend only on the syntax and hermeneutics of each subject.

Based on Monrose and Rubin (2000), the identification through the keystrokes, focuses on the student's writing style, contrasting a habitual typographic rhythm pattern, through one or more subsequent monitoring. Within the pulsations, two identification techniques are evident: static and continuous. The static technique makes the study within a certain time interval, and the continuous technique is carried out during the interaction. The continuous technique allows involving variables such as fatigue and attention, which normally appear within the process of student interaction. According to Deutshmann and Lindholm (2013) the continuous authentication systems consist of four parts: (1) Compilation of behavioral data gathered from the use of the mouse to the keyboard data (2) Classification of writing features, in different categories such as Ups and Downs, as their rate of change (3) Storage of the user profile and (4) Verification evaluation between the master profile and the digital behavior. In general, tactile capture algorithms include different gross gestures (time, manipulation, vibration, rotation, pressure, touch size and position) (Fenu, Marras & Boratto, 2017).

The main objective of this work is to know if the biometric measure, pressure, rise, and change between letters is independent of the variables presented in a digital course or is influenced by characteristics of the students and the experiences that a selected MOOC presents. To achieve the objectives of this research, was used the biometric recognition technology based on the typing dynamics exposed by Morales, Fierrez,Vera-Rodriguez and Ortega-García (2015). This keystroke dynamics technology analyzes and models the waiting time or time of pressing and releasing a key and the time of elevation or difference between the type of key pressed and the time of elevation of the previous key, through a sequence according to the number of characters the words have. Finally, a unique vector is determined for each individual that is related to the identity of the subject, this vector is stored as a template to be compared later between the moment of registration and the moment of evaluative cuts.

METHOD

This research presents a transactional and longitudinal quantitative analysis based on students of a MOOC during the first semester of 2018. Two stages were conducted: Stage 1, Descriptive and Stage 2, Relational. Confirmation of the identification of the subject was chosen as a dependent variable during two moments. The analyzes were performed with the IBM SPSS Statistics program version 25. To examine the results and find the independence of the Software regarding the way students are identified based on their writing profile, the independent variables used were: gender, age, educational level, amount of data lost at the time of registration, interest for the certificate, participation in the forum, participation in peer evaluation and enrollment status.

Sample

The population analyzed corresponds to the participants of a MOOC focused on Electrical Engineering (N=4.232). Those students under the age of 18 who preferred to perform the MOOC at their own pace were excluded from the study (outside of the stipulated dates for the planned activities), resulting 4.060 participants. The lost data of the participants at the time of registering presents an *M=2.55* and SD= .67, failing to report their complete information. 85.5% of the participants were Mexican and the rest from different parts of the world in small proportions (Table 1).

Gender	Female (23.6%), Male (76.2%)
Education level	Elementary (0.1%),bachelor (41.1%), Junior high school (22.4%), High school (5.5%), Associated (19 %), Graduate (1%), Master degree (8.5%), None (0.3%), Others (2.1%).
Age range	18 a 28 (54.9%), 28 a 38 (23.2%), 38 a 48 (11.3%), 49 a 58 (5.1%), 58 a 68 (1.3%), >68 (0.2%), Without reporting (4.1%).

Table 1. Demographic information of students registered in MOOC

Source: Own statement.

Data collection

The data collection was done through four forms: (a) Registration form with the demographic characteristics of the students (gender, age, country, and educational level); (b) Initial Comment Form, which presented the different interests of the participants in carrying out the course qualitatively; (c) Interest to obtain the Certificate form, which contained the question about whether they wanted to buy the course approval diploma digitally; (d) Evaluation form for qualitative questions for biometric authentication. This form was applied in two different weeks of the MOOC. The use of the keyboard was mechanical, and in the case of laptops, their one was used.

Process

The students were recruited through digital advertising for a period of two months. The cost of the certificate was 50 USD and the duration of the course was five weeks. The students knew a unique start date, after which no other student could be linked. The MOOC used the Keytrack biometric identification software, which measured the agreement between the initial pattern (form b) and the measurements in percentages (form d). The analysis protocol followed three phases: (1) Registration, each student at the time of registration answered the question: *What are the expectations you have*

about the course? This question served as a biometric pattern and did not the present time or character limits. (2) First-grade assessment, once week three arrived, students were presented with a qualitative question about the course material of block three. (3) Second-level assessment, at the end of the last week of the course, the students answered in an extensive way, a question about block five of the course. Both in the evaluation, a and b, the returns of the questions were recorded and contrasted against the pattern of phase one, to determine the concordance between the Ups and Downs on the keyboard, and the speeds between letters.

RESULTS

The analyses were carried out according to the stages and estimated phases and sought to provide an answer: (a) the percentages of identification in the first and second measurements, (b) the independence of biometrics recognition of independent variables and (c) the relationship between the two recognitions. For Stage 1, descriptive, recognition (a), had a participation of 225 students (*M=91.84*, DS=23.83) and the software identified the pattern with the answers in 89.8% with a coincidence between 80-100%. For recognition (b), 231 responses were received (M=89.24, DS=24.95) and the software results were consistent with the initial pattern at 87%, with a coincidence between the range 80-100% (Figure 1).

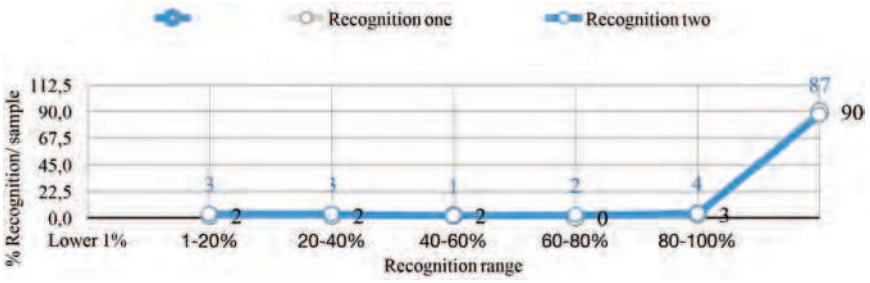

Figure 1. Percentage of recognition by sampling

Within the development of Stage 2, Relational, the possible association between the independent variables (gender, educational level, age range, amount of data lost at the time of registration, participation in the forum, participation in peer evaluation and certificate eligibility) was analyzed with the recognition (a) and (b); to identify if any variable had an impact on the identification, or on the opposite, to know if the recognition of the student identity only depended on the comparison with the initial patterns. The results indicate that the recognitions (a) and (b) are independent of the selected variables (Table 2). Likewise, the week of student abandonment is not associated with biometric recognition, for the first identification F (20, N = 224)=1.54, p=0.1 and for the second F(20,N = 230)=0.76, p=0.5.

Independent variable	Value of the test	
	Recognition 1	Recognition 2
Gender	χ^2 (4, N = 224) = 3.25, p=0.6	χ^2 (4, N = 230) = 2.94, p=0.7
Educational level	χ^2 (30, N = 225) = 28.97, p=0.7	χ^2 (30, N = 231) = 27.79, p=0.8
Lost data	F(5,N = 225)=0.50, p=0.7	F(5,N = 225)=0.25, p=0.9
Participación foro	χ^2 (5, N = 224) = 2.88, p=0.7	χ^2 (5, N = 231) = 4.58, p=0.4
Rango de edad	χ^2 (20, N = 224) = 18.66, p=0.5	χ^2 (20, N = 231) =0.82, p=0.7
Elegible para certificado	χ^2 (4, N = 224) = 3.25, p=0.6	χ^2 (4, N = 224) = 3.25, p=0.6

Table 2. Independence of recognition of student identity

Source: Author's compilation. % Recognition (1) week three and (2) week five.

Finally, the relationship between the two established biometric recognition was analyzed; were found associations between the identification percentage (80-100%) of the instant one with the identification percentage (80-100%) of the instant two; F (5, N = 178) = 1.40, p = 0.16. The above values indicate that the same subjects were identified within a high range of identification in the two measurements, that their identification was not random and that the passage of time or experiences within the space of the measurements are not related; on the contrary, they are independent.

CONCLUSIONS

This document explored the efficiency of the pulse identification tool in a MOOC. The results indicate that the Keytrack tool identified the participants in two different measurements between 80-100%. The identification in weeks three and four were autonomous in relation to the variables: gender, educational level, lost data, interest in the certificate, week of student desertion and age range; confirming the independent capacity of the algorithm. The work also showed that the two recognitions were related to each other with an average association, and the same subjects identified in the first measurement were identified in the last one. It is interesting to describe that regardless of the number of characters per words, the percentage of identification remains with low variation. These results allow establishing that the method and the biometric verification by pulsations (Keytrack), provides enough evidence to confirm the identification of students who take online programs.

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Video Aided Retention Tool for Enhancing Eecision-Making Skills Among Health Care Professionals.

Safinoor SAGORIKA[1], Shinobu HASEGAWA[2]

Abstract

This research proposes a technical framework for the Video Aided Retention Tool (VART) in the learning process for enhancing decision-making skills among the Health Care Professionals (HCPs). The VART consists of a combination of video tracking, analysis, filtering, and editing tools to aid in self-directed learning. During their professional career, HCPs need to deal with different critical situations and make the decision in a complex environment. For this, very often, they rely on self-directed learning by watching medical videos. However, in the traditional video learning system, it is difficult to determine which part of the video did the learner focus, including the duration and frequency of watching and what kind of videos are more helpful. In that case, if the system could know the retention process of each learner, it could change the way to show the video. In this proposed system, the VART will track learner's ID, record the watching duration, track most hunted part, and repetition of the video contents. Using such kind of data, attention, and retention will be determined and highlighted reels, recommendations, interactive videos will be provided through a decision-making cycle.

Keywords: *Video Aided Retention Tool (VART), Moodle LMS, Self-directed Learning, Decision-making Skills, Health Care Professionals (HCPs).*

Introduction

Health Care Professionals (HCPs) need critical thinking, situation judgment, problem-solving, decision making, communication skills, empathy and so on in professional practice which is considered as the soft-skills (Sagorika & Hasegawa, 2018). Among these skills, clinical decision-making is considered as one of the crucial skills for them. During professional life, HCPs try to upgrade their skills by watching a variety of medical video contents available on the web. Park & Park (2016) stated that clinical practice-related videos have trigged HCPs interests and help them to learn major medical subjects. However, the learning process based on only watching the videos may not be effective until learners can remember, reflect, and use it in a real situation (Shinobu Hasegawa & Dai, 2015). In addition, there are a variety of video contents on the same topic in different sources. Most of the existing web-based video contents indexes are equipped with What To Learn (WTL) point of view but not How To Learn (HTL) point of view (S. Hasegawa, Kashihara, & Toyoda, 2002). Very often, it is difficult for them to select the

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right video content based on their competency level. Besides, determining appropriate parts from the long video is also time-consuming and problematic. In this situation, there needs user-responsive video learning mechanism adopting 'HTL' strategies. This research aims to apply VART to overcome these issues. VART is one of the latest tools which can instantly conduct content moderation across a huge amount of data and more quickly and efficiently filter a user's viewing history and preferences, and provide the most hunted part of the video relevant to their attention ("Video AI," n.d.). Accordingly, this paper address attention and retention support in decision-making cultivation cycle with the help of VART during the video learning.

The main aim of this research is to integrate the VART with the Moodle LMS to cultivate decision-making skills among the HCPs. The other aim is to propose a local indexing tool for developing interactive video contents. To achieve these goals, first, the research proposes a decision-making cultivation cycle involving six basic phases which are not followed by existing LMS. Secondly, the research provides attention and retention through VART to assist in the web-based video learning environment. Such kind of function is also not available on the present LMS. Finally, we briefly discuss the content management on the platform using the local indexing tool.

To achieve the goals, the research mainly concerns with the following research questions:

(i) How can HCPs develop decision-making skills in self-directed learning?
(ii) How to provide attention and retention by integrating VART with the Moodle LMS? And
(iii) How to manage or develop video contents based on local indexing?

Related Literature

Learning from videos have gained popularity among different professionals. Previous studies investigated student use and perception of online clinical videos for learning clinical skills (Jang & Kim, 2014), suggested using YouTube for teaching and learning among nurses (Clifton & Mann, 2011), remarked anatomy and pathology to be taught with video-assisted technology (Park & Park, 2016) compared information remembrance and student involvement after live lectures and video podcasts (Schreiber BE. Fukuta J. Gordon, 2010). Studies also identified existing technologies as well as new tools to develop in collecting, archiving, evaluating, reporting, and sharing video contents (Derry et al., 2010); the impact of self-directed learning style on medical student's performance in multi-media aided learning environment (Romanov & Nevgi, 2007); learners' retention processes are needed in the video learning (van der Meij, 2017); effectiveness of audio-visual contents in surgery (Pape-Koehler et al., 2013; Friedl et al., 2006); multi-media learning tools enhance the retention of information and provide quick and high-quality instruction on the learning topics (Steedman, Abouammoh, & Sharma, 2012); video streaming teaching-learning facilities and its acceptance, enhanced the learners, of the "do it yourself" approach (Bétrancourt & Benetos, 2018). However, it is worth to mention that for the "do it yourself" or self-directed learning environment, learner's attention and retention process is very crucial.

Educational psychologist Albert Bandura stated that in observational learning approaches, learning can occur by watching others and then modeling what they do or say. According to his remark, during the learning process, a learner must concentrate on what the model does or focuses on the verbal instructions of the model or symbolic items (Bandura & Walters, 1977). This kind of learning is called attention. Numerous live, verbal, and symbolic instructional medical videos are available where attention could be determined for the learners from the video contents. On the other hand, retention is observed actions which are cognitively recorded as symbolic pictures in memory in order to utilize in future activities (Mun & Fred, 2003). Retention indicates that a learner must be able to retain or remember the steps in order to reproduce the activities later, based on his/her learning process. The way how a learner learns and remember is called retention process. The learning system needs to integrate both attention and retention for an effective learning process. In our system, attention will be provided from the video contents based on learner' preferred topics, and retention will be provided based on their learning process through VART.

Decision-Making Cultivation Cycle Among HCPs

Decision-making cycle is a cognitive process of observing the situation, identifying the core problem, judging related issues, and making the conclusion for solving the difficulties or issues. In our platform, this cycle involves six phases observation, reading, practice, assessment, discussion, and reflection. For decision making, HCPs need to understand the actual condition of patients, nature of the disease, importance, available treatments, tools, and environment to ensure safe care. In this case, decision-making cycle helps HCPs in the following ways:

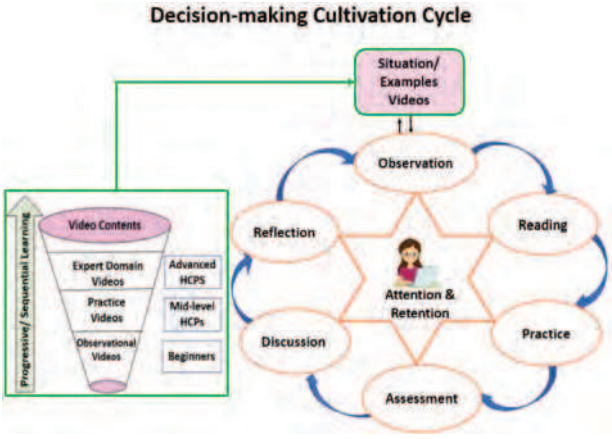

Figure 1. **Decision-making Cultivation Cycle**

Observation: Simply observation is learning by watching. In the LMS environment observation could be done by watching through miscellaneous live, verbal, and symbolic instructional audio-visual medical contents.

Reading: Learners can enrich their knowledge by going through much reading from the LMS contents. Nowadays, a good amount of reading resources is also included with the audio-visual contents. Moreover, thousands of medical journal articles, peer-reviewed articles, case studies, ontologies, facts sheets, handouts, etc. are available on the web.

Practice: The practice is the act of involving in an activity again and again, for the determination of improving or mastering it (Wikipedia, n.d.) In medical learning, the practice includes: i) learning by watching ii) retention/remember iii) practice after watching iv) practice again and again v) implement. In the practical phase, VART can help learners providing the actual part of the video content. i.e. which part he watched again and again, and which parts of the video are more important to learn the practical demonstration.

Self-assessment: Learner's self-assessment involves evaluating their own work and learning progress; such as to set realistic goals; identify their own skill gaps; see where to focus their attention to improve it; track their own progress and decide when to move to the next level of the course.

Discussion: Discussion is a dynamic way to ensure smooth learning in the LMS environment. Learners can take part in a collaborative discussion between experts and learners or among learners for sharing ideas, reflect on own ideas, learning outcomes, new knowledge, understanding, problem-solving, decision making, etc.

Reflection: Reflection is the meaning-making process that transfers learners from one step into the next, with a better understanding and connections. (Rodgers, 2002). In the reflection phase, learners need to take time and look back what they have gained in the whole learning process. Without such kind of support may be learners will move in the next step, but they forget their previous learning.

In the case of learner's adaption with the proposed decision-making cycle, they have options for developing their skills depending on their level of competency. For example, beginners can develop their skills through observation and reading. After gaining the required competencies, they can shift to the next phase. Accordingly, mid-level learners may start with reading or practice, and bit advanced learners can start by practicing. After completing the whole cycle, learners can proceed to a new situation or examples.

All phases are linked with one after another and crucial for learners to upgrade their decision-making skills in a cyclic way. At the same time, attention and retention processes are present in all the phases. Because in every phase, learners need to concentrate on their preferred topic, try to learn, and remember the learning outcomes. So, to keep proper motivation among the learners and make the learning meaningful, attention, and retention are necessary. Figure 1 represents the six basic phases of decision-making cycle as well as their connections with the attention and retention process in learning.

However, observation, reading, and practice phases basically include the contents which will mostly be covered by medical videos. In the local repository, fundamental example videos or observational videos will be categorized in the primary layer for the beginners. Practical course-oriented videos in the second layer for mid-level learners. Also, expert domain example videos will be included in the tertiary layer for the advanced learners. In this case, providing the support function for how to learn from the video contents is also very important.

VART Learning Technology

The VART is the combined tool which can track, analyze, filter edit and provide video contents based on learner's preferences. Moreover, it can enable a process for supporting attention and retention of learning from videos in the LMS environment. In our system, the VART tool can synchronize learners' centered videos from the content repository to provide better attention and retention for medical decision-making. So, integrating VART with the Moodle LMS could be a unique way to cultivate decision-making skills among the HCPs.

In the traditional LMS, a learner can simply access, use the given contents, learn and assess themselves within some given criteria. But most of the system does not have a clear description of providing contents based on learner's competency level and learning behavior. In addition, there is no technique to follow the cognitive behavior of a learner to know his learning process and how to assist the learner in that process. The process of learning occurs when learners interact with the systems. But anywhere if learning is considered as a vital criterion, the retention process of a learner should also be considered as a priority matter. In any system, skill retention technique should be the main criteria to improve learner's performance (Mun & Fred, 2003). To improve learner's performance, this research mainly focuses on the development of VART for enhancing decision-making skills among the HCPs.

In the proposed platform, first, we will integrate the VART with the Moodle. In figure 2, the blue color indicates the traditional learning system where LMS connects users and the contents. But in our proposed model we will integrate VART with the Moodle (red marked). The VART will first detect each learner's ID and then track what type of contents they are seeking. At the same time, it will follow learner's learning behavior which is considered as retention or remembering process. In the figure 3, the VART framework elaborates more clearly about the process. For example, what type of video contents a learner is seeking for or which part of the video he watched multiple times and which parts focused more. So, based on the watching duration and repetition of specific parts of video content, the system can recommend which part is important. Accordingly, it will filter contents based on learners' preferences, learning behavior and level, and suggest/provide the expected parts of the video contents.

Here learner's level indicates, for example, the basic video contents will be determined for the beginners. The detailed contents for mid-level and more expert contents will be provided for advanced HCPs. This way the proposed VART will assist in the skill retention process, reduce content browsing time and enhance the professional competency of HCPs.

Method

However, the technical part starts with a server setup with the Moodle environment. After that, we will develop the VART Moodle plugin. Moreover, the H5P interactive content plugin will be combined with Moodle to create, modify, rich and interactive video contents. We will also enable multimedia plugins within the course settings where it will be needed. Besides, we will customize by adding Moodle topics to represent six phases of the decision-making cycle in the proposed framework. Inside the phases, we will develop and upload different contents. Then develop a mechanism to adapt the contents according to learner's progress. The content repository will be linked with the Moodle platform using the Moodle repository plugin to monitor learner's progress on video data.

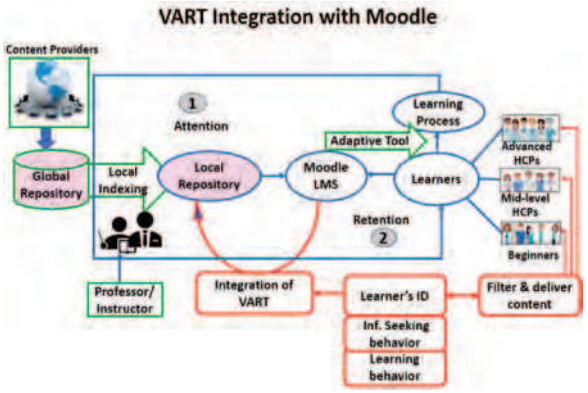

Figure 2. **VART Integration with Moodle**

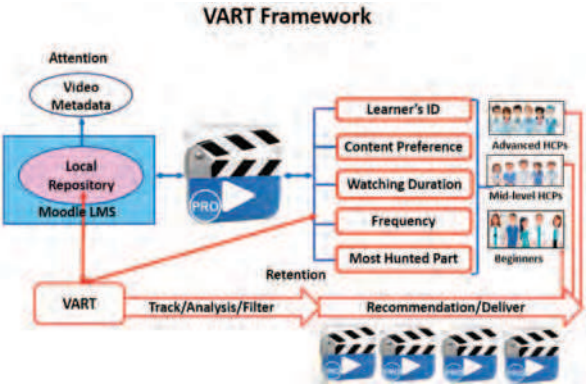

Figure 3. **VART Framework**

Content Management

In our platform, the content structure will be created and customized based on learner's level and learning process point of view. Accordingly, we have proposed to rearrange video contents with local indexes or special video-metadata representing the features of the videos, which consist of "How To Learn" indexes in addition to the existing "What To Learn" indexes (Shinobu Hasegawa, Kashihara, & Toyoda, 2003). In the proposed LMS, the provider will provide the contents. Here content providers may be medical schools, specialized hospitals, physicians or medical experts, clinical sites or clinical resource providers, etc. After receiving the video contents from the providers, the instructors can evaluate video indexes from their own point of view and classify based on the requirements of the targeted group of HCPs. Instructors will consider what type of specific video-metadata is required or can propose new metadata set for each phase in the decision-making cycle. For example, metadata for observation, reading, or practice phase point of view. This is called local indexing. This kind of learning phase index will help learners select more instructive contents according to their learning context.

However, in figure 2 the green line indicates the content administration, modification, adaptive tool, and local indexing guideline. In the platform, the local repository will filter and receive contents from the global repository. In the global repository, video contents are arranged based on general indexes given by different providers/sites based on WTL point of view. But for the local repository, instructors will first consider which global contents are fitted for the training or learner's need. Then apply local indexing or new metadata set and transfer or make a link with the local repository. Although in the case of local indexing, it is not possible for the instructors to go through a huge number of global video contents. Hence, we will integrate a support function or adaptive tool that system will automatically generate a list of features about video content which will help the instructors to determine new metadata for that content.

Conclusion

This research initiated VART as a new learning support tool. It is expected that the research will contribute to identifying the current strength and weakness of learning from the video contents as well as assist in video learning; develop an effective skill cultivation platform for the HCPs and provide attention and retention through VART to promote decision-making skills. The proposed VART will enhance the professional competency of HCPs while reducing their content browsing time on the internet. Besides, the VART techniques could be implemented also in other disciplines of studies.

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Açık ve Uzaktan Öğrenmede Video Analitikleri

Derya UYGUN[1], Mehmet FIRAT[2]

Özet

Bilişim teknolojilerinin öğrenme amaçlı kullanılmaya başlanmasından sonra en sık kullanılan materyallerden biri videolardır. Yaygın kullanımlarına rağmen video etkileşimlerine yönelik analitik verilerinin üretilmesi ancak yıllarda ortaya çıkmaya başlamıştır. Video izleme davranışlarının sayısal verilerle kayıt altına alınması ve analiz edilmesi sürecini içeren video analitikleri, öğrenenlerin eğitsel video etkileşimlerinin geliştirilmesinde kritik rol üstlenebilirler. Ancak alan yazında video analitikleri ile ilgili sınırlı sayıda çalışmaya rastlanmaktadır. Bu çalışmada, video analitiklerinin eğitim alanında kullanımına ilişkin daha önce yapılmış araştırmaların ve video analitiği imkânı sağlayan araçların incelenmesi amaçlanmıştır. Çalışma kapsamında video analitiği konusunda yapılmış araştırma bulguları ile birlikte güncel video analitik araçları ve kullanım alanları sunulmuştur.

Anahtar Kelimeler: *Video analitikleri, öğrenme analitikleri, açık ve uzaktan öğrenme.*

Giriş

Bilgi, tarih boyunca "güç" olarak algılanan bir kavram olmuştur. Günümüzde paranın, emeğin, hammaddenin veya enerjinin en önemli faktör olmaktan çıktığı ve yerine bilginin daha önemli bir faktör olduğu, yeni verimlilik paradigmalarının ortaya çıktığı görülmektedir. Örgütler ve ekonomiler yeniden yapılandırıldığı gibi, bilginin ve onu iletmekte kullanılan sembollerin üretim ve dağıtımı da bütünüyle yeniden örgütlenmektedir. Bu yeniden yapılanma çerçevesinde toplanan veriler, çok yönlü olarak birbirleriyle ilişkilendirilip zenginlik yaratmak için en gerekli kaynak niteliğini kazanmaktadır.

Teknolojideki gelişmelerle birlikte değişen öğrenci profili de bilgi çağında öğrenmenin yapısını etkilemektedir. Yeni nesil neredeyse bütün zamanlarını bilgi çağının teknolojik aletleri olan bilgisayarlar, cep telefonları, laptoplarıyla geçirmektedirler. Margaryan, Littlejohn ve Vojt (2010)'a göre eğitim kurumları bu gerçeği kabullenip fiziksel donanıma, teknik altyapıya ve profesyonel gelişime stratejik yatırım yaparak harekete geçmek zorundadırlar. Laptop, tablet, cep telefonları gibi teknolojik araçlar ve kaynaklar sayesinde öğretmenler öğrenciyi müfredat seçiminden değerlendirme aşamasına kadar dersin içine aktif bir şekilde katabilir ve öğrenmeyi ömür boyu ve herkese açık hale getirebilir.

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Günümüzde uzaktan eğitim ortamları bu amaçla insanların artık her an her yerden ulaşabilecekleri, iş hayatlarına paralel olarak mesai dışında sürdürebilecekleri, yaşam boyu öğrenmelerine katkı sağlayacak platformlar olarak karşımıza çıkmaktadır (Uygun, 2018). Uzaktan eğitime olan ilgi her geçen gün artmaktadır. 2010-2011 öğretim yılında yüksek öğretim kurumlarına kayıtlı üç milyondan fazla öğrencinin %50'ye yakını AvUÖ yoluyla eğitim almaktadır (Aydın, 2011). Bu kadar geniş bir hedef kitleye hitap eden bir eğitim sisteminde, kişilik tiplerinin, öğrenme stillerinin anketler aracılığıyla belirlenmesi gibi geleneksel yöntemlere başvurulması oldukça zahmetlidir ve öğrenen merkezli bir süreç için yeterli değildir. Bu sorunun çözümü olarak karşımıza öğrenme analitikleri çıkmaktadır.

Öğrenme Analitikleri

Teknolojide meydana gelen ilerleme sonucunda eğitsel kaynaklar elektronik ortamlara aktarılmıştır. Bu yeni ortamın sağladığı en önemli avantaj öğrenen etkileşimlerinin detaylı bir şekilde kayıt altına alınabilmesidir. Bu kayıtların görselleştirilmesiyle çevrimiçi ortamlardaki öğrenme süreci daha iyi anlaşılabilmektedir. Öğrenme analitikleri olarak adlandırılan bu süreç, öğrenene destekleyici bireysel öğrenme ortamları sağlamak ve eğitim sistemlerinin gelişimini ileriye taşımak için büyük eğitsel veri setlerinden yararlanarak yönelim veya yapılara ulaşmayı hedeflemektedir (Fırat, 2015). Bu sayede öğrencilerin davranışlarının, tecrübelerinin, bilgi düzeylerinin belirlenebilir, benzer öğrenci profilleri oluşturulabilir, uyarlanabilir ve kişiselleştirilebilir ortamlarda kullanılabilecek bilgilere ulaşılabilir (Bienkowski, Feng ve Means, 2012).

Öğrenme analitikleri üzerine çalışan araştırmacıların en çok önemsedikleri konulardan birisi öğrenenlerin akademik başarıları hakkında bilgi edinebilmektir (Macfayden ve Dawson, 2010). Bu durum sayesinde öğrenenlerin gösterecekleri performans önceden tahmin edilebilir ve zamanında yapılacak müdahalelerle olası başarısızlıkların önüne geçilebilir. Öğretenler, öğrenme analitikleri yoluyla öğrenenlerin gelişimini izleme ve buna uygun müdahaleler geliştirme konusunda önemli bilgiler edinebilirler. Öğrenme analitikleri, çevrimiçi öğrenme ortamlarının öğrenenlerin ilgi, yetenek ve ihtiyaçlarına göre uyarlanmasında önemli bilgiler sunabilir.

Macfadyen ve Dawson (2010) British Columbia Üniversitesinde biyoloji dersi için kullanılan Öğrenme Yönetim Sisteminden (ÖYS) elde edilen etkileşim verileri kullanarak öğrenci performansını tahmin etmeye yönelik bir araştırma yürütmüşlerdir. Çalışmada, ÖYS'den elde edilen veriler kullanılarak öğrencilerin geçme notlarıyla istatistiksel olarak anlamlı ilişki gösteren 15 adet değişken belirlenmiştir. Bu değişkenleri kullanarak öğrencilerin akademik performanslarını tahmin etmek amacıyla lojistik regresyon yöntemini kullanılmıştır. Tartışma ortamına gönderilen mesaj sayısı, gönderilen mail sayısı ve tamamlanan ödev sayısı dönem sonu notları tahmin etmede önemli değişkenler olarak tespit edilmiştir. Yapılan bu çalışma öğrenci etkileşimleri ile ilgili ÖYS'den elde edilen verilerden pedagojik olarak anlamlı bilgiler üretilebileceğini göstermektedir.

Video Analitikleri

Çevrimiçi öğrenme ortamlarında video tabanlı öğrenme materyallerinin kullanımının artması ile öğrenme analitikleri sürecinin önemli bir bölümü videolar üzerinden gerçekleşmeye başlamıştır. Video analitikleri; eğitimcilerin, araştırmacıların ve öğretim tasarımcılarının video tabanlı öğrenmeyi ve öğretmeyi daha iyi anlamalarını ve geliştirmelerini sağlayan videolarla öğrenci etkileşimi hakkındaki verileri toplamaya, analiz etmeye ve raporlamaya odaklanan öğrenme analitiklerinin bir alt dalıdır (Atapattu ve Falkner, 2018). Videoların analizlerinin gerçekleştirilmesiyle videolar ve öğrenen etkileşimi hakkında daha fazla bilgi edinilebilir ve bu durum videoların daha etkili, verimli ve çekici bir hale getirilmesine yardımcı olabilir.

Video izleme verilerinin kayıt edilmesi ve analizi ile etkili video derslerin tasarlanmasına ilişkin önemli ipuçları elde edilebilir. Ancak, bu tür analizlerin yapılabilmesi için ilk olarak öğrencilerin video izleme davranışlarına ilişkin verilerin elde edilmesi gerekmektedir. Video materyalleri yaygınlaşmasına rağmen öğrencilerin video izleme davranışlarına ilişkin veriye dayalı sınırlı sayıda çalışma bulunmaktadır (Bayazıt ve Akçapınar, 2018).

Video analitikleri ile ilgili eğitim alanında yürütülmüş çalışmalara bakacak olursak eğer Atapattu ve Falkner (2018) tarafından gerçekleştirilen araştırma göze çarpmaktadır. Araştırmada, videoyu sunan kişilerin video söyleminin, Kitlesel Açık Çevrimiçi Ders (KAÇD) videolarının etkileşim kalıpları ile ilişkisinin belirlenmesi amaçlanmıştır. Bu amaç kapsamında AdelaideX ve Cyber101X isimli KAÇD kurslarından 1440468 video seçilip analiz edilmiştir. Videoyu sunan kişilerin söylemlerinin öğrenenlerin video ile etkileşimleri üzerindeki etkisinin araştırıldığı çalışmada, 5 ve 10 saniye içinde durdurulan videolar seçilip kategorize edilmiştir. Öğrenenlerin izlemeyi durdurup sonra dönmedikleri videolar veri setine dahil edilmemiştir. Sonuç olarak videoları sunan kişilerin söylemlerinin öğrenenlerin video ile etkileşimleri üzerinde bir etkisinin olduğu rapor edilmiştir. Çalışmada; videoları sunan kişilerin uzun cümleleri azaltmaları, konuşma hızını yavaşlatmaları, soyut kelimeler yerine somut kelimeleri kullanmaları, anlamı bilinmeyen kelimeler yerine anlamı herkes tarafından bilinen kelimeleri kullanmaları yönünde tavsiyeler bulunmaktadır. Araştırmada video metinlerinin nasıl olması gerektiği ile ilgili değerli bilgiler yer almaktadır, bu nedenle bu araştırmanın oldukça önemli olduğu ifade edilebilir. Video analitikleri kullanılarak yürütülen bu çalışmada etkili video derslerin tasarlanmasına ilişkin önemli ipuçlarının elde edilebileceği belirtilebilir.

Bayazıt ve Akçapınar (2018) derin ve yüzey öğrenme yaklaşımı benimsemiş olan öğrenenlerin video izleme davranışlarını belirlemek amacıyla bir araştırma gerçekleştirmişlerdir. Araştırmada, derin öğrenme yaklaşımını benimseyen öğrenenlerin problem çözme, araştırma yapma gibi davranışlar sergiledikleri; yüzey öğrenme yaklaşımını benimseyen öğrenenlerin ise minimum çabayla dersleri geçme eğiliminde oldukları belirtilmiştir. Çalışma kapsamında katılımcı grubu olarak bilgisayar donanımı kursuna devam eden 31 tane öğrenci seçilmiştir. Deneklerden 10 dakika uzunluğunda bir

videoyu izlemeleri istenmiştir. Video, video analitiği imkânı sağlayan bir oynatıcıdan gösterilmiştir. Deneyin sonucunda yüzey öğrenenlerin videoyla daha az etkileşime geçtikleri belirlenmiştir. Bu araştırmanın, yüzey öğrenenlerin derin öğrenme yaklaşımını benimsemelerine yardımcı olabilecek video içeriklerinin oluşturulmasına katkı sağlaması açısından önemli olduğu belirtilebilir.

Video Analitik Araçları

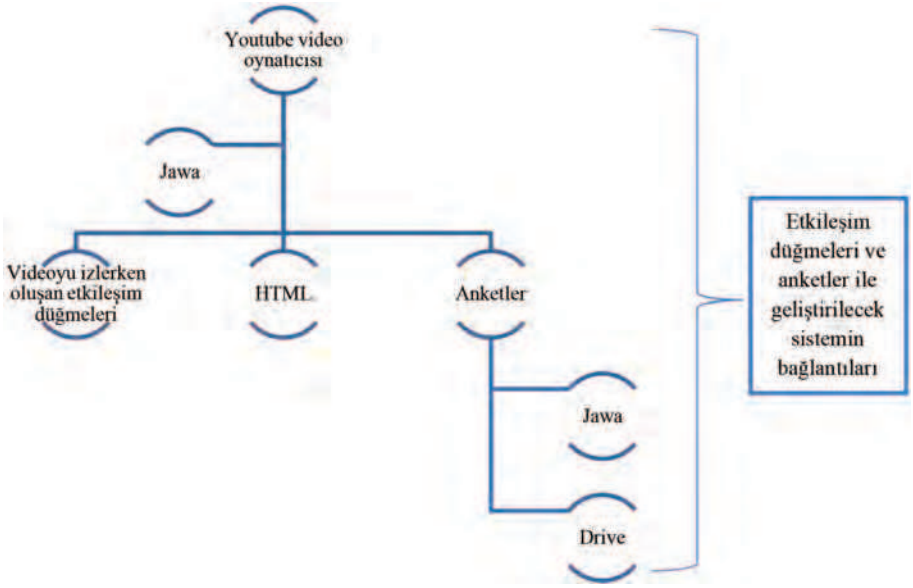
Eğitim öğretim sürecinde en sık kullanılan öğrenme materyallerinin videolar olduğu ifade edilebilir. Bu nedenle öğrenenlerin video izleme davranışlarının belirlenmesi, analiz edilmesi ve raporlaştırılması oldukça önemlidir. Bu bölümde öğrenenlerin video izleme davranışlarının izlenmesine olanak sağlayan araçlardan bahsedilecektir.

Bayazıt ve Akçapınar (2018) yürüttükleri çalışmada öğrenenlerin video etkileşimlerini kaydetmeye olanak sağlayacak VAT (Video Analytics Tool) isimli bir video oynatıcı geliştirmişlerdir. Çalışmada, geliştirilen video oynatıcının teknik özelliklerine ve araç sayesinde elde edilen etkileşim verileri ile ilgili bilgiler sunulmuştur. VAT, ÖYS olan Moodle'la entegre olarak çalışmaktadır. VAT; yorum ekleyebilmeye, alınan notların bulunduğu bölümlere işaret eklemeye, video yorumlarına cevap yazabilmeye olanak vermektedir. Böylece öğrenenler, videonun herhangi bir zamanında not alabilmekte, tartışma başlatabilmekte, sorular sorabilmekte veya sordukları sorulara ait cevapları görüntüleyebilmektedir. Video oynatma, durdurma, atlama yapma gibi birçok etkileşim verisi depolanabilmektedir. Aracın çalışma şeması Şekil 1'de verilmiştir.

Şekil 1. VAT çalışma süreci, (Bayazıt ve Akçapınar, 2018).

Geliştirilen video lisans düzeyinde bulunan öğrenciler üzerinde uygulanmış ve elde edilen veriler paylaşılmıştır. Ancak çalışmada, video analitiği imkânı sağlayan video oynatıcılarının öğrenme üzerine etkisine dair bir araştırma yürütülmemiştir. Araştırmacılara bir uygulama geliştirdiklerinde o uygulamanın öğrenenlerin akademik başarısı, motivasyonları gibi faktörler üzerindeki etkisine dair deneysel çalışmalar yürütmeleri önerilebilir.

Bir diğer video analitiği imkânı sağlayan araç Video Learning Analytics System (VLAS) olarak adlandırılmaktadır. VLAS, video analitik verileri üzerinde analizler yaparak görselleştirme ara yüzü aracılığıyla, öğrenen etkinliklerini raporlamak amacıyla geliştirilen bir araçtır (Giannakos, Chorianopoulos ve Chrisochoides, 2015). VLAS, açık kaynak kodlu bir video analitik aracıdır. Araç, Youtube'da bulunan eğitim videoları ile Google Drive ortamında bulunan sınavları bir araya getirerek öğrenenlerin video izleme davranışlarını analiz etmeyi amaçlamaktadır. Aracın özellikleri Şekil 2'de verilmiştir.



Şekil 2. VLAS yapısı, (Giannakos, Chorianopoulos ve Chrisochoides, 2015).

Giannakos, Chorianopoulos ve Chrisochoides (2015) tarafından geliştirilen sistemin denenmesi amacıyla bir araştırma yürütülmüştür. Araştırma üniversite öğrencileri için hazırlanmış bir okuma kursu kapsamında gerçekleştirilmiştir. Videolarla yürütülen ders 10 hafta boyunca sürmüştür. Veri toplama aracı olarak araştırmacılar tarafından geliştirilen okuma testi kullanılmıştır. Ön testlerin yapılmasının ardından uygulama sürecinde öğrenenlere eğitsel amaçlı geliştirilen videolar izletilmiştir. Öğrenenlerin video izleme davranışlarının kayıt edilip analiz edilmesinin ardından öğrenenlere konu hakkında geri dönüt sağlanmıştır. Araştırma sonunda öğrenenlerin ön test ve son test sonuçları arasından istatistiksel açıdan anlamlı bir farklılık olduğu rapor edilmiştir.

Öğrencilerin, video izleme davranışlarını kaydeden sistemlerden biri de edX'dir (Kim, Guo, Seaton, Mitros, Gajos ve Miller, 2014). Edx; tekrar izleme, oynatma, atlama, durdurma gibi etkileşimler hakkında bilgi sağlamaktadır. Kim ve diğerleri (2014) tarafından edX verileri kullanılarak yürütülen araştırmada; öğrencilerin, ders videolarını daha doğrusal bir şekilde eğitsel alıştırma videolarını ise daha fazla atlama yaparak izledikleri belirtilmiştir. Önemli bir konu ya da kuramın açıklandığı bölümlerde daha fazla geri dönüşlerin olduğunu tespit edilmiştir.

Kaltura; oynatma, durdurma, atlama, tam ekranda oynatma gibi birçok etkileşime ilişkin veri sağlayan ve Sakai ile entegre olarak kullanılabilen bir video analitik aracıdır. Sakai ise öğretme, araştırma ve iş birliğini desteklemek için tasarlanmış ücretsiz bir ÖYS'dir. Ozan ve Özarslan (2016) tarafından yürütülen araştırmada Sakai'de yayınlanan videoların analitiğinin yapılması hedeflenmiştir. Çalışmanın katılımcı grubu Sakai'de kayıtlı olan 2927 öğrenenden oluşmaktadır. Öğrenenlerin izlediği 18.144 video analiz edilmiştir. Araştırma sonucunda, röportaj tarzı video derslerinin daha çok izlendiği belirtilmiştir. Buna ek olarak, kısa videoların uzun süreli videolara oranla tamamen izlendiği sonucu rapor edilmiştir. Kadın öğretenlerin yer aldığı videoların tamamen ve tam ekran modunda (full screen) izlendiği ifade edilmiştir. Videoları sonuna kadar izleyen öğrenenlerin sınav sonuçlarının yüksek olduğu belirtilmiştir.

Sonuç

Bu çalışma kapsamında video analitiği tanımlanmış, eğitim alanında kullanımına ilişkin çalışmalar incelenmiş ve video analitiği imkânı sağlayan video oynatıcılardan örnekler sunulmuştur. Videoların uzaktan eğitim alanında en çok kullanılan materyaller olduğu düşünüldüğünde öğrenenlerin video izleme davranışlarının belirlenip analiz edilmesinin uzaktan eğitim alanına, öğrenme ortamlarının bireyselleştirilmesine, video içeriklerinin daha etkili, verimli ve çekici hale getirilebilmesine ve öğrenenlerin akademik başarılarının önceden tahmin edilip önlemler alınabilmesine fayda sağlayacağı belirtilebilir.

Video analitiklerinin AvUÖ alanına yararlı olma potansiyeline sahip olmasına rağmen video analitiklerine ilişkin araştırmalar sınırlı sayıdadır. Bu nedenle, AvUÖ alanında çalışan araştırmacılara yön vermesi açısından bu çalışma kapsamında, farklı araştırmacılar tarafından geliştirilmiş öğrencilerin video izleme davranışlarının kayıt edilmesine olanak sağlayacak video oynatıcılar hakkında bilgilere yer verilmiştir. Video analitik araçlarıyla ilgili genel bilgiler Tablo 1'de görülmektedir.

Araç	Etkileşim	ÖYS Entegrasyonu
VAT	Oynatma, durdurma, atlama, işaret ekleme, not alma	Moodle
VLAS	Oynatma, tekrar oynatma, atlama, işaret ekleme	Yok
edX	Oynatma, durdurma, atlama, tekrar izleme	edX
Kaltura	Oynatma, durdurma, atlama, tam ekran yapma	Sakai

Tablo 1. Video Analitik Araçları

Tablo 1'de öğrenenlerin video izleme davranışlarının belirlenmesine yönelik bilgi sağlayan video araçlarının kısa bir özeti verilmiştir. Bu çalışma kapsamında video analitik araçlarından VAT, VLAS, edX ve Kaltura hakkında yapılmış olan çalışmalar incelenmiş ve araştırmacılar tarafından bu araçlar kullanılarak yürütülmüş olan çalışmalara yer verilmiştir. Video analitikleri alanın yeni bir alan olduğu düşünülürse çalışma kapsamında incelenen bu araçların farklı ÖYS'lere uyumlu çalışmasının sağlanacağı ve araştırmacılara açık hale getirileceği öngörülebilir.

Öneriler

Bu çalışmanın sonuçları göz önüne alındığında, ileride yapılacak araştırmalara aşağıda sıralanan önerilerde bulunulabilir.

- AvUÖ aracılığıyla kitlelere eğitim verilmektedir. Dolayısıyla AvUÖ'de, kitlelerin içinde farklı kültürlerden bir araya gelmiş birbirinden farklı bireysel özelliklere sahip bireyler olabilir. Bu nedenle araştırmacılara, öğrenenlerin bireysel farklılıkları göz önüne alınarak bireyselleştirmeye uygun öğrenme fırsatlarının sunulması açısından, öğrenenlerin video izleme davranışlarını belirlemeleri ve analiz etmeleri önerilebilir.
- Öğrenenlerin video izleme davranışlarının analiz edilmesi AvUÖ alanında çalışan araştırmacılara önemli ve değerli bilgiler sunabilir. Araştırmacılara video analitikleri aracılıyla öğrenenlerin akademik başarılarını tahmin etme yönünde çalışmalar yapmaları önerilebilir. Bu durum akademik başarısı düşük olan öğrenenler için önlem alınmasına yardımcı olabilir.
- Video analitikleri kurumsal izleme ve ortamın değerlendirilmesi amacıyla kullanılabilir.
- AvUÖ alanında çalışan araştırmacılara ÖYS ile entegre edilebilen ve herkese açık bir video analitik aracı geliştirmeleri önerilebilir. Bu aracın öğrenenlerin akademik başarısı üzerine etkisi deneysel çalışmalarla kanıtlanabilir.

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Anadolu Üniversitesi Öğrenme Yönetim Sistemlerinin Kullanılabilirliğinin İncelenmesi

Nilgün ÖZDAMAR[1]

Özet

Çalışmanın temel amacı, kullanıcıların Blackbord tabanlı Anadolum e-Kampüs ve Anadolu Üniversitesi tarafından geliştirilen e-Öğren öğrenme yönetim sistemlerinde bilgiyi nasıl bulduklarını incelemektedir. Bunun için kullanıcıların yerine getirmeleri gereken görevleri ne kadar sürede, hangi başarı oranında ve bu süreçteki performansları ortaya çıkarılmıştır. Bu araştırmada kullanıcı temelli değerlendirme tekniklerinden biri olan kullanılabilirlik testi kullanılmıştır. Kullanılabilirlik testi ürüne ilişkin temsili bir son kullanıcı grubunun temsili bir görevi gerçekleştirirken ki performansına ilişkin deneysel veri toplanmasına dayanan bir tekniktir. Kullanılabilirlik testi göz izleme yöntemi teknolojilerinden Tobii Studio 3.4.8 yazılımı ve Tobii Pro X3-120 göz izleme cihazı ile Anadolu Üniversitesi İnsan Bilgisayar Etkileşimi laboratuvarında toplanmıştır. Bu çalışmanın sonucunda elde edilen bulgulardan yola çıkarak bir öğrenme yönetim sistemi arayüz tasarımı önerileri sunulmuştur.

Anahtar Kelimeler: *Açık ve Uzaktan Öğrenme, Öğrenme Yönetim Sistemi, Kullanılabilirlik, Göz İzleme Yöntemi*

Giriş

Öğrenme yönetim sistemleri, öğrenme materyallerini sunan, materyallere ilişkin tartışma ve geri bildirim sağlayan öğrenme ile ilgili tüm aktivitelerin yönetimini sağlayan yazılımlardır. Anadolu Üniversitesi Açıköğretim Sistemi Blackboard öğrenme yönetim sistemini kullanarak geliştirdiği Anadolum E-kampüs sistemi ile her sene yaklaşık bir milyon kişiye hizmet sunmaktadır. Anadolum e-Kampüs sisteminde kitap, ünite özeti, deneme sınavları, video, sesli materyaller gibi çeşitli ve etkileşimli öğrenme materyalleri sunulmaktadır. 2018 yılında Anadolu Üniversitesi kendi ihtiyaçları doğrultusunda öğrenenlerin farklı özellikleri ve öğrenme tercihlerini göz önüne alarak daha kullanılabilir bir öğrenme yönetim sistemi tasarlama çalışmalarını başlatmıştır. Ve 2019 yılı itibariyle Açıköğretim sistemindeki öğrenenlerin hizmetine açılması planlanmaktadır. Bu çalışmada Anadolu Üniversitesi Açıköğretim Sistemine kayıtlı öğrenenler için tasarlanan Anadolum e-Kampüs ve e-Öğren öğrenme yönetim sistemlerinin kullanılabilirliklerinin incelenmesi hedeflenmektedir.

Kullanılabilirlik, bireylerin verilen görevlere göre bir ürün veya sistem üzerindeki işlemleri ne kadar kolay tamamlayabildiğini gösteren bir ölçüttür. Kullanılabilirlik, Uluslararası Standart Organizasyonu (ISO, 1994) tarafından, bir ürünün ya da sistemin verimlilik, etkililik ve memnuniyet açısından değerlendirilmesi şeklinde tanımlanmaktadır (1994). Etkililik, görevleri başarma düzeyi; verimlilik, görevlerin

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başarılması için harcanan emek, zaman ve kaynaklar; memnuniyet ise katılımcıların görevleri yerine getirirken edindikleri olumlu tutumlar olarak değerlendirilmektedir (Çağıltay, 2011). Kullanılabilirlik araştırmalarında en yaygın kullanılan yöntemlerden biri göz izleme yöntemidir. Göz izleme, bireylerin ekranda içeriği takip ederken dikkat ettiği alanları, göz ardı ettikleri veya rahatsız oldukları öğeleri belirlemek amacıyla göz izleme verilerinin elde edildiği bir yöntemdir. Araştırma Anadolu Üniversitesi Açıköğretim Fakültesi İnsan Bilgisayar Etkileşimi (İBE) Araştırma ve Uygulama Laboratuvarında göz izleme yöntemi temel alınarak gerçekleştirilmiştir.

Araştırmanın Amacı

Bu çalışmanın temel amacı, kullanıcıların Anadolum e-Kampüs ve e-Öğren öğrenme ortamlarında bilgiyi nasıl bulduklarını incelemektedir. Bunun için kullanıcıların yerine getirmeleri gereken görevleri ne kadar sürede, hangi başarı oranında ve bu süreçteki performansları ortaya çıkarılmıştır. Bu çalışmanın araştırma soruları aşağıda listelenmektedir.

1. Blackboard tabanlı e-kampüs öğrenme yönetim sistemini kullanan uzman katılımcılar ile acemi katılımcılar arasında bilgiyi arama süreleri, başarı performansları, kaybolma puanları açısından anlamlı bir fark var mıdır?
2. Blackboard tabanlı e-kampüs öğrenme yönetim sistemini kullanan acemi katılımcılarla ve e-Öğren öğrenme yönetim sistemini kullanan acemi katılımcılar açısından bilgiyi arama süreleri, başarı performansları, kaybolma puanları açısından anlamlı bir fark var mıdır?

Yöntem

Bu araştırmada kullanıcı temelli değerlendirme tekniklerinden biri olan kullanılabilirlik testi kullanılmıştır. Kullanılabilirlik testi ürüne ilişkin temsili bir son kullanıcı grubunun temsili bir görevi gerçekleştirirken ki performansına ilişkin deneysel veri toplanmasına dayanan bir tekniktir. Kullanılabilirlik testi göz izleme yöntemi teknolojilerinden Tobii Studio 3.4.8 yazılımı ve Tobii Pro X3-120 göz izleme cihazı ile Anadolu Üniversitesi İBE laboratuvarında toplanmıştır.

Bununla birlikte gruplara sistem kullanılabilirlik ölçeği uygulanmıştır. Bu ölçek 1986 yılında Digital Equipment firmasında çalışan John Brooke tarafından kullanılabilirlik değerlendirmesi yapmak amacıyla geliştirilmiş basit ve hızlı bir ölçektir (Çağıltay, 2011).

Katılımcılar

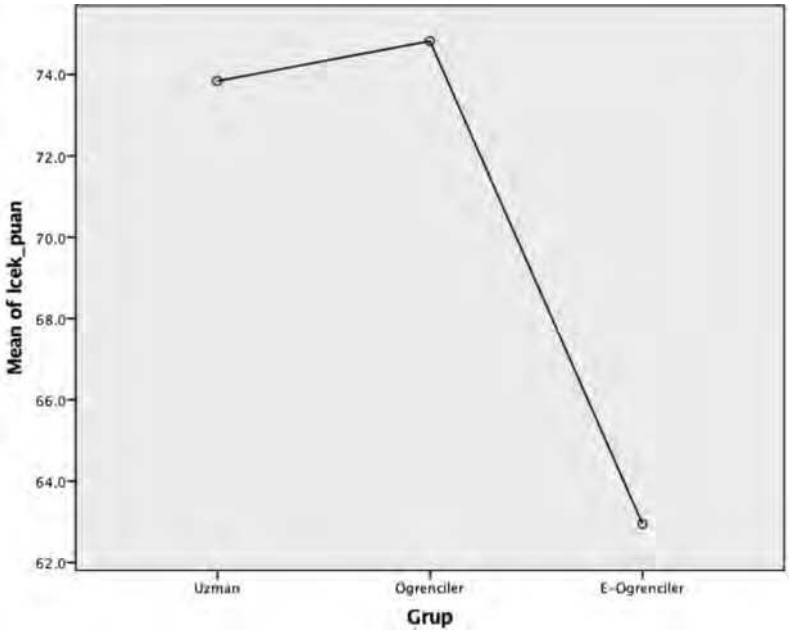
Bu araştırma kapsamında Anadolum e-Kampüs öğrenme yönetim sistemini kullanan uzmanların toplam sayısı 28'dir. Bu katılımcıların 13'ü erkek, 15'i kadın olup, 12'si lisans mezunu, 11'i yüksek lisans mezunu, 4'ü doktora, 1'i ise post-doktora eğitim seviyesine sahiptir. Bu uzmanlar e-kampüs sistemini neredeyse her gün kullanan, öğrenme yönetim sistemlerine ilişkin eğitim almış deneyimli katılımcılardır. Anadolum e-Kampüs öğrenme yönetim sistemini kullanan acemi katılımcıların toplam sayısı 28 kişidir. Bu katılımcıların 11'i kadın, 17'si erkek olup, 4'ü önlisans, 20'si lisans ve 4'ü yüksek lisans eğitim seviyesine sahiptir ve Anadolum e-Kampüs sistemini daha önce kullanmamış deneyimsiz katılımcılardır. Anadolu Üniversitesi tarafından geliştirilen e-Öğren sistemini kullanan acemi katılımcıların toplam sayı 28 olup, yarısı erkek, yarısı da kadındır. Bu katılımcıların 2'si önlisans, 25'i lisans ve 1'i yüksek lisans eğitim seviyesine sahiptir ve yeni geliştirilen öğrenme yönetim sistemine ilişkin hiçbir deneyimleri bulunmamaktadır.

Bulgular

Grup	N	Ort	Sd	Kareler Toplamı	Kareler Ort.	F	η2	P<	Anlamlı Fark
Uzman E-Kampüs (Grup1)	28	73.839	14.4254	2432.589	1216.295	4.439	0,098	.015	1-3 2-3
Acemi E-Kampüs (Grup2)	28	74.821	15.9995	22193.304	273.991				
Acemi E-Öğren (Grup3)	28	62.946	18.9181						

Tablo 1. Gruplar arası ölçek sonuçlarının karşılaştırılması (One-way Anova)

Tablo 1'de görüldüğü üzere yapılan tek yönlü Anova testine göre katılımcıların sistem kullanılabilirlik ölçek puanları açısından anlamlı bir fark olduğu gözlenmiştir. (F=4,439; p<0,05). Farklılığın nereden kaynaklandığını belirlemek için varyans eşteş testi yapılmış ve Levene testi sonucunda (Levene Değeri=0,986, p=0,337) varyansların eşteş olduğu görülmüştür. Varyansların eşteş olması durumunda kullanılan Benferroni testi ile farklılığın hangi gruplardan kaynaklandığı incelenmiştir. Benferroni testi sonucunda acemi katılımcıların e-Öğren sistemine verdikleri kullanılabilirlik puanlarının uzman katılımcıların e-Kampüs sistemine verdikleri kullanılabilirlik sistem puanlarından daha düşük, aralarındaki ortalama farkın 10,89 ve anlamlılık düzeyi 0,05'in altında olduğu görülmüştür (p= .042<0,05). Acemi katılımcıların e-Öğren sistemine verdikleri kullanılabilirlik puanlarının, acemi e-Kampüs sistemini kullanan katılımcılara göre daha düşük, aralarındaki ortalama farkın 11,86 ve anlamlılık düzeyinin 0,05'in altında olduğu görülmüştür (p= .026<0,05).



Şekil 1. Gruplar arasında karşılaştırma ortalama farklar grafiği

	Grup	N	Ort	Sd	df	t	p
Hata	Acemi E-Kampüs	16	.6413	.81623	26,129	-2.261	.032
	Acemi E-Öğren	16	1.4731	1.22479			
Performans	Acemi E-Kampüs	16	3.0200	1.06295	27.553	-1.170	.252
	Acemi E-Öğren	16	3.5450	1.44540			
Hata%	Acemi E-Kampüs	16	8.5669	8.22646	30	-3.499	.001
	Acemi E-Öğren	16	30.2138	23.33975			
Görev	Acemi E-Kampüs	16	7.0706	24.78147	30	1.031	.311
	Acemi E-Öğren	16	.6813	.29250			
Başarı%	Acemi E-Kampüs	16	82.8256	22.46382	28.149	1.588	.124
	Acemi E-Öğren	16	68.2025	29.20132			
Süre	Acemi E-Kampüs	16	19.4200	10.47972	29.898	.048	.962
	Acemi E-Öğren	16	19.2469	9.88416			

Tablo 2. Görev bazlı olarak e-kampüs ve e-öğren sistemlerinin karşılaştırılması

Tablo 2'de görüldüğü gibi, acemi kullanıcıların e-kampüs ve e-öğren sistemlerinde benzer görevleri gerçekleştirirken sergiledikleri performansa ilişkin alt değişkenlere göre anlamlı bir farklılık gösterip göstermediğini belirlemek amacıyla gerçekleştirilen bağımsız grup t testi sonucundan grupların aritmetik ortalamaları arasında hata performansları açısından istatiksel olarak anlamlı fark bulunmuştur (t=2,261, p<.05). E-Öğren sistemini kullanan acemi katılımcılar e-kampüs sistemini kullanan katılımcılardan hata yapma sayıları ve oranları anlamlı olarak daha yüksek olduğu görülmektedir. Acemi katılımcıların görevleri tamamlama süreleri değişkeni açısından gruplar arasında anlamlı farklılığa rastlanmamıştır. (t=29,898, p>.05)

	Grup	N	Ort	Sd	df	t	p
Başarı	Acemi E-Kampüs	25	14.12	1.563	48	5.379	.000
	Acemi E-Öğren	25	10.08	3.415			.
Hata	Acemi E-Kampüs	25	1.88	1.563	48	-5.379	.000
	Acemi E-Öğren	25	5.92	3.415			
Başarı%	Acemi E-Kampüs	25	88.2500	.000a	48	5.379	.000
	Acemi E-Öğren	25	63.0000	.000a			

Tablo 3. Katılımcı bazlı olarak e-kampüs ve e-öğren sistemlerinin karşılaştırılması

Tablo 3'de verilen gruplardaki katılımcıların toplam görevleri tamamlama ve kaybolma hatalarına ilişkin yapılan bağımsız t testi sonuçlarında grupların aritmetik ortalamaları arasında istatistiksel olarak anlamlı farklar bulunmuştur. e-Kampüs sistemini kullanan acemi katılımcılar e-Öğren sistemini kullanan acemi kullanıcılardan görevi tamamlama başarıları açısından istatiksel olarak anlamlı ve yüksek çıkmıştır ($t=5,379$, $p<.05$). Kaybolma hataları değişkeni açısından gruplar karşılaştırıldığında ise e-Öğren sistemini kullanan katılımcıların e-kampüs sistemini kullanan katılımcılara göre görevleri gerçekleştirirken daha çok hata yaptığı tespit edilmiştir.

Tartışma ve Sonuçlar

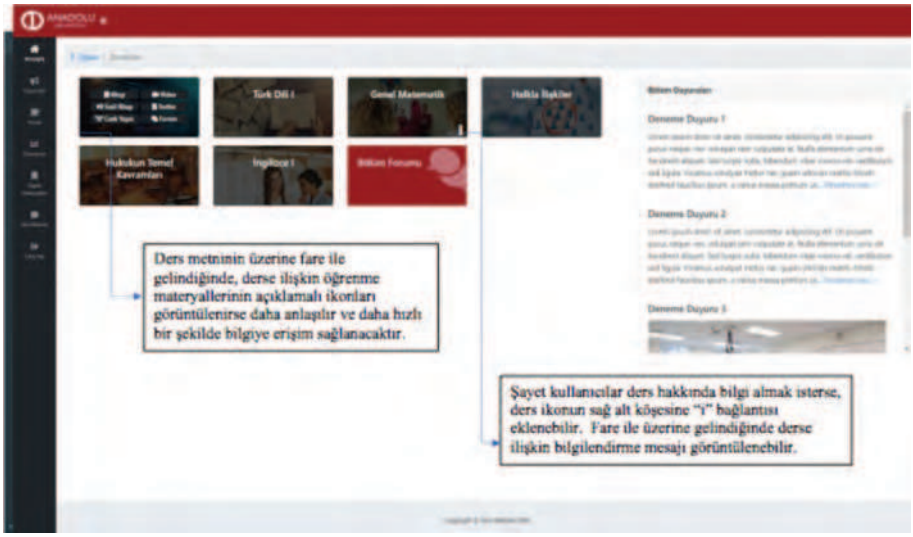
Yapılan çalışmanın sonuçlarına göre e-Kampüs sisteminde bilgiyi bulma performansı, e-Öğren sistemine göre daha yüksektir. Acemi kullanıcılar açısından e-Kampüs sisteminde verilen görevleri başarma oranı, e-Öğren sistemine göre daha fazla olmaktadır. E-Öğren sisteminde kaybolma performansı, e-Kampüs sistemine göre daha yüksektir. Acemi kullanıcılar açısından e-Öğren sisteminde verilen görevlerde hata oranı, e-Kampüs sistemine göre daha fazla olmaktadır. Acemi kullanıcıların görevleri gerçekleştirme süreleri açısından e-Kampüs ve e-Öğren sistemleri arasında anlamlı farklılığa rastlanmamıştır.

e-Öğren öğrenme yönetim sistemine ilişkin saptanan kullanılabilirlik hataları aşağıda listelenmiştir.

- İkonların anlaşılırlığı düşüktür.
- Önemli araçların fark edilebilirliği düşüktür.
- Ünite ve malzeme bazlı arama özelliği hiçbir katılımcı tarafından fark edilmemiştir. Sistemin arayüzünde bu özelliğinin yerinin verimsiz olduğu yani gözün bakış alanı dışında yer aldığı görülmektedir.
- Performansa bağlı olarak arayüzdeki renk değişimleri hiçbir katılımcı tarafından fark edilmemiştir.
- Katılımcılar tıkladıkları materyalle ilişkin bilgilendirici geribildirim alamadıkların daha fazla hata yapmışlardır.
- Katılımcılar verilen görevleri daha fazla karıştırmışlardır. Aynı ikonların farklı materyaller türü içinde kullanılması katılımcıların bilgiyi ararken hata yapmasına neden olmuştur.
- Genel tartışma forumu anlaşılmamaktadır. Hiçbir katılımcı kantin aracını tıklamamıştır.
- Ders materyallerinin gruplandırarak sunulmaması katılımcıların daha fazla hata yapmasına neden olmuştur.
- E-öğrenme sisteminde yer alan sorularla öğrenelim (pdf) en fazla hata yapılan görev olmuştur. Deneme sınavları, çözümlü sorular, sorularla öğrenelim farklı öğrenme materyalleri olmasına rağmen birbirine karıştırılmıştır.
- İngilizce 1 dersine ilişkin duyuruları bulma görevi hata oranı yüksek görevlerden biridir. Derse ilişkin duyuruların arayüzde daha uygun bir alana yerleştirilmesi önerilmektedir.
- Katılımcılar materyale ilişkin geri bildirim verme işleminde sıkıntı yaşamıştır.

Aşağıda e-Öğren sisteminin arayüzüne ilişkin tasarım önerileri görselleri yer almaktadır. Açıköğretim Fakültesi yönetimi, Şubat 2019 ayında gerçekleşen yönetim kurulu toplantısında verdiği bir kararla, araştırma sonucunda önerilen bu arayüzü yeni geliştirdikleri öğrenme yönetim sistemine entegre etmeye karar vermiş ve bu öğrenme yönetim sistemini e-Kampüs adı altında 2019-2020 güz döneminde tüm Açıköğretim sistemi öğrenenlerin hizmetini sunmuştur. Açıköğretim tarihinde ilk defa bir sistemin kullanılabilirlik çalışması son kullanıcıya varmadan göz izleme yöntemiyle gerçekleştirilerek test edilmiş, katılımcıların göz izleme davranışlarından yola çıkarılarak geliştirilen tasarım önerileri sisteme entegre edilmiştir.

Resim 1. E-Öğren Arayüzü



Resim 2. E-Öğren Derslere Erişim

Resim 3. **E-Öğren Malzeme Bazlı Arayüz**

Resim 4. **E-Öğren Ünite Bazlı Arayüz**

Yararlanılan Kaynaklar

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Açık ve Uzaktan Öğrenmede Video Materyalleri: Açıköğretim Sistemi YouTube Analitikleri

Can GÜLER[1]

Özet

Anadolu Üniversitesi Açıköğretim Sistemi önlisans ve lisans düzeylerinde öğrenenlere yükseköğretim imkanı sunmaktadır. Bu bağlamda farklı öğrenme alışkanlıkları olan öğrenenlerin bireysel öğrenme ihtiyaçlarını karşılamak üzere kitaplar, sorular, sesli materyaller, videolar ve çokluortam uygulamaları gibi birçok türde öğrenme materyali sunulmaktadır. Bu çalışmanın odağı ise video materyalleri üzerine yoğunlaşmaktadır. Çalışmada Anadolu Üniversitesi Açıköğretim Sisteminin resmi YouTube kanalındaki videoların izlenme analitikleri ile ilgili bilgi verilecektir.

Anahtar Kelimeler: *Açık ve Uzaktan Öğrenme, Video, YouTube Analitikleri.*

Giriş

Anadolu Üniversitesi Açıköğretim Sistemi kapsamında öğrenenlere sunulan temel öğrenme kaynağı ders kitaplarıdır. Bu bağlamda öğrenenler sınavlarda yalnızca kitap içeriklerinden sorumludurlar. Diğer öğrenme materyalleri ise öğrenme süreçlerini kolaylaştırması, zenginleştirmesi, erişilebilirliği ve kullanılabilirliği arttırması amacıyla üretilmiştir. Açık ve uzaktan öğrenmenin doğası gereği kendi öğrenme süreçlerinden sorumlu olan öğrenenler bu materyalleri öğrenme ihtiyaçları ve alışkanlıklarına göre Anadolum eKampüs (https://ekampus.anadolu.edu.tr) sistemi üzerinden erişerek kullanabilmektedirler. Anadolum eKampüs, öğrenme materyallerinin öğrenenlere sunulduğu bir platform olmanın yanında öğrenme analitiklerinin raporlaştırıldığı, öğrenen-içerik-öğreten etkileşimlerinin ve materyal dokümantasyonunun sağladığı bir öğrenme yönetim sistemidir. Öğrenme materyallerinden biri olan video içerikleri de YouTube platformu üzerinden öğrenenlere sunulurken bağlantıları da aynı zamanda Anadolu eKampüs'den sunulmaktadır.

Açık ve Uzaktan Öğrenmede Videolar

Video teknolojisi hemen hemen her alanda olduğu gibi açık ve uzaktan öğrenme alanında da görsel ve işitsel bir materyal olarak yaygın bir şekilde kullanılmaktadır. Video, metin ya da sesten çok daha zengin bir ortamdır; metin ve ses sunma yeteneğinin yanı sıra, dinamik ya da hareketli görüntüler de sunabilir (Bates, 2015).

Video materyallerinin eğitimde kullanılması ile ilgili olarak gerçekleştirilen ilk çalışmalar II. Dünya Savaşı yıllarına dayanmaktadır. Bir çalışmada (Hovland, vd., 1949: 3), askerin hareketli resimlerle eğitildiği ve yeteneklerinin gelişimi konusunda olumlu sonuçlar alındığı ifade edilmektedir. Videoların öğrenme ortamlarında kullanımı ile ilgili yapılan çalışmalarda; hem uygulamayı hem de öğrenmeyi geliştirebileceği (She-

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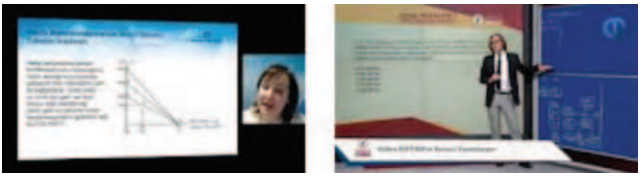
rin ve Han, 2004), motivasyonu arttırmada etkili olduğu (Willmot vd., 2012), mesleki gelişimde faydalı olduğu (Derry, vd., 2014), bilişsel, duygusal ve psikomotor gelişime katkı sağladığı (Cooper ve Higgins; 2015) gibi olumlu sonuçların elde edildiği çalışmalar alanyazında bulunmaktadır.

Anadolu Üniversitesi Açıköğretim Sistemi kapsamında öğrenmeyi desteklemek ve kolaylaştırmak amacıyla farklı türlerde video materyalleri üretilmektedir. Kapsamı, üretim aşamaları, süreleri gibi bağlamlarda farklılıklar gösteren bu video içerikleri farklı öğrenme alışkanlıkları olan öğrenenler tarafından tercih edilmektedir. Sunulan bu farklı video türleri şu şekilde sıralanabilir:

- Konu tabanlı videolar
  - Ders tanıtım
  - Konu anlatım
  - Yakın plan
  - Yüzyüze ders
  - Uzman anlatımı
  - Açık sınıf

Şekil 1. **Konu Tabanlı Videolar**

- Soru tabanlı videolar
  - 1 soru 1 cevap (1s1c)
  - Sınava doğru



Şekil 2. **Soru Tabanlı Videolar**

- Animasyon tabanlı videolar
  - Mikro animasyon
  - Animasyonlu anlatım

Şekil 3. **Animasyon Tabanlı Videolar**

Video materyalleri öğrenme ortamlarında anlayışın geliştirilmesi amacıyla etkileyici sonuçlar verebilmektedir. Bu bağlamda Bates (2015), videoların özellikle; deneyler ve buna bağlı olayları gösterme, bağlamında doğal ortamlarda gözlenmesi gereken durumları sunma, saha ziyaretlerini gözlemleme, gerçek durumlardan örnekler sunarak çözüm yolları geliştirme, alet ya da ekipman kullanımında doğru prosedürleri gösterme, performans, yöntem ya da tekniklerini gösterme gibi durumlarda faydalı olabileceğini belirtmiştir. Video teknolojisinin, özellikle durdurup hızlandırma ya da akışı başa sarma, performansın kaydedilip sonradan bunun gözlemlenmesi gibi yetenekleri mesleki becerilerin gelişimine (Derry, vd., 2014) katkı sağlayabilir. Bununla birlikte Bates (2015), öğrenenlerin bağlamında doğal olarak meydana gelen olayları ya da sınıflandırmaları (örneğin öğretme stratejileri, akıl hastalığı belirtileri, sınıf davranışı) tanımalarını sağlama, öğrenenlerin bir durumu analiz etmelerine olanak tanımada, soyut kavramların ya da genellemelerin gerçek dünya bağlamında uygulanabilirliğinin test edilmesinde videoların faydalı olabileceği belirtmiştir.

Bates (2015) bir ifadesinde, "teknolojiler çeşitli şekillerde kullanılabilecek araçlardır, önemli olan teknolojilerin nasıl uygulandığıdır" anlayışını savunarak süreçlerdeki benimsenecek stratejilere dikkat çekmiştir.

Video materyalleri, öğrenenlerin kendi öğrenme hızlarında tekrar tekrar kullanabilecekleri bir öğrenme ortamı sağlar. Bu bağlamda videolar bireysel öğrenmenin desteklenmesi konusunda öğrenenlere faydalı olabilmektedir. Öğrenenler kendi öğrenme ihtiyaçlarına ve yeteneklerine göre video materyallerini istedikleri kadar kullanarak öğrenme süreçlerinde gelişim gösterebilirler. Bununla birlikte yapılan bir çalışmada (Brame, 2015) videoların, öğrenme süreçlerinde uygun stratejilerin benimsenmesi ile daha etkili olabileceği belirtilirken video tasarımı ve uygulaması için üç unsura dikkat çekilmiştir. Bunlar; bilişsel yükü etkileyebilecek olan tasarım anlayışı, öğrenen katılımını teşvik eden unsurlar ve aktif öğrenme fırsatı yaratan olanaklardır.

Bilgi iletişim teknolojilerindeki gelişmelerle birlikte artık küresel ağ trafiğinin büyük bir bölümünü video içerikleri oluşturmaktadır. Öğrenme gereksinimi, yaygın mobil kullanımı, geniş bant ağ bağlantısı, video üretiminin kolaylığı gibi sebepler video kullanımını her geçen gün arttırmaktadır. Cisco' a göre küresel olarak, toplam internet video trafiği, 2017 (%70) 'den 2022'ye kadar tüm internet trafiğinin %80'i olması tahmin edilmektedir. Diğer bir tahmine göre ise 2022'de 3 trilyon dakika video içeriği her ay internetten geçmesi beklenmektedir. Bu, saniyede 1,1 milyon dakika video akışı anlamına gelmektedir. Tahmin edilen verilere video içerikleri bugün olduğu gibi gelecekte de görüldüğü üzere sıklıkla kullanılması beklenmektedir.

Yöntem

Bu çalışmada betimsel tarama modeli kullanılarak, Anadolu Üniversitesi Açıköğretim Sistemi resmi YouTube kanalında yayınlanan videoların izlenme analitikleri ile ilgili bilgi verilecektir. Tarama çalışmaları, bir çalışma grubunun eğilim, tutum ve görüşlerinin sayısal olarak açıklanmasına olanak sağlamaktadır (Creswell, 2013). Betimsel tarama modeli ise, mevcut bir durumun belirli bir zamanda var olan haliyle ortaya konulmasını sağlar (Karasar, 2002). Bu bağlamda öğrenenlerin, Anadolu Üniversitesi Açıköğretim Sistemi YouTube kanalındaki video içerikleri ile ilgili tüketim alışkanlıklarının betimlenmesine çalışılacaktır.

Bulgular

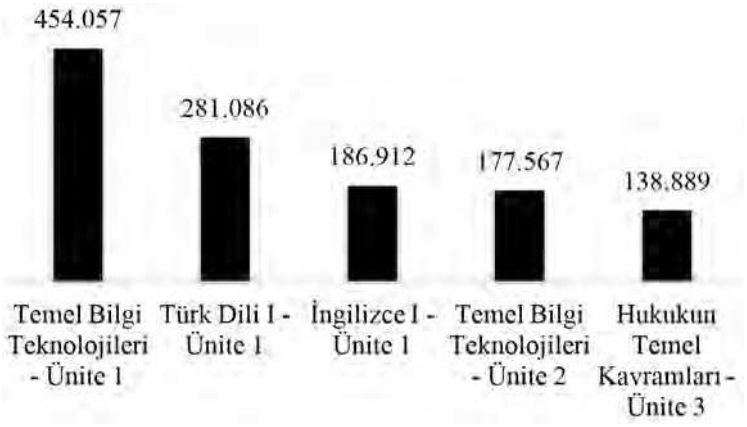
Açık ve uzaktan öğrenme kapsamında Anadolu Üniversitesi tarafından üretilen video içerikleri YouTube platformunda öğrenenlere Anadolu Üniversitesi Açıköğretim Sistemi kanalından sunulmaktadır (https://www.YouTube.com/c/AcikogretimSistemi). 8 Şub 2016 tarihinde açılan kanalın 8 Ekim 2019 tarihi itibari ile 147.385 abone kullanıcısı bulunmaktadır.

Kanalın açıldığı tarihten itibaren tüm video içerikleri 69.524.007 kez görüntüleme almıştır. Bu videoların izlenme süresi ise 292.517.664 dakikadır. Yayınlanan toplam video sayısı 28.700' e ulaşmıştır. Bu videolardan kullanıma açık olanların sayısı ise 17.107'dir. Video içeriklerinin temel öğrenme kaynağı olan ders kitapları ile tutarlılığının sağlanması konusunda bazı videoların süreç içerisinde yayından kaldırılması söz konusu olabilmektedir. Yanlış bilgilendirmenin önlenmesi, ders kitabı ile ilgili tutarsızlıkların giderilmesi, ya da video içeriğinin daha nitelikli hale getirilmesi için bazı videolar tekrar üretilip yayınlanmaktadır. Bu durumlarda bazı video içeriklerinin yayına kapatılması söz konusu olabilmektedir.

Genel	Toplam
Kanalın açılma tarihi	8.02.2016
Abone	147.385
Yayınlanan video	28.700
Kullanıma açık video	17.107
Görüntüleme	69.524.007
Kullanıma açık videoların görüntünmesi	46.982.215
İzlenme süresi (dak.)	292.517.664
Ortalama görüntüleme süresi (dak.)	4:12
Ortalama görüntüleme yüzdesi	43%

Tablo 1. YouTube Kanalı İstatistikleri

Eğitim videolarından en çok sırasıyla; Temel Bilgi Teknolojileri I (1.796.430 dak.), Türk Dili I (1.006.157 dak.), İngilizce I (912.866 dak.) ve Hukukun Temel Kavramları (701.611 dak.) derslerinin videoları izlenmiştir. Şekil 3.1' de bu ders videolarının görüntüleme oranları görülebilir.



Şekil 4. En çok izlenen videolar (görüntüleme)

Video içeriklerini görüntüleyenlerin yaş dağılımları Tablo 2' de verilmiştir. En fazla görüntüleme yapanlar 18-24 yaş aralığında (42,6%) olduğu görülmektedir. 65 yaş ve üstü ise en az görüntüleme (0,7 %) oranına sahiptir.

Görüntüleyenin yaşı	Görüntüleme	Ort. görüntüleme süresi	Ort. görüntüleme yüzdesi	İzlenme süresi (dak.)
18–24 yaş	42,60%	03:14	31,60%	36,90%
25–34 yaş	31,10%	03:57	39,40%	32,90%
35–44 yaş	16,00%	04:22	43,70%	18,70%
45–54 yaş	6,10%	04:26	44,70%	7,20%
55–64 yaş	1,50%	04:27	47,10%	1,80%
65+ yaş	0,70%	04:04	41,80%	0,80%

Tablo 2. Video Görüntüleyenlerin Yaşları

Video içeriklerinden faydalanan kullanıcıların cinsiyetleri karşılaştırıldığında erkek kullanıcıların 55,3%'lük kullanım oranı ile kadınlardan daha fazla video içeriklerini görüntüledikleri anlaşılmaktadır. Buna karşın kadın kullanıcıların görüntüledikleri videoları erkeklerden daha fazla izledikleri, Tablo 3' deki ortalama görüntüleme sürelerinden anlaşılabilir.

Cinsiyet	Görüntüleme	Ort. görüntüleme süresi	Ort. görüntüleme yüzdesi
Kadın	44,7%	03:43	36,3%
Erkek	55,3%	03:38	36,0%

Tablo 3. Video Görüntüleyenlerin Cinsiyetleri

Tablo 4'den anlaşılacağı üzere yaş ilerledikçe erkeklerin video görüntüleme oranları artarken kadınlarda ise bu durum farklılık göstermektedir. Bu verilere göre kadınların video görüntülemeleri ise yaş ilerledikçe azalma eğilimindedir.

Görüntüleyenin yaşı	Erkek	Kadın
18–24 yaş	49%	51%
25–34 yaş	59%	41%
35–44 yaş	55%	45%
45–54 yaş	56%	44%
55–64 yaş	65%	35%
65+ yaş	70%	30%

Tablo 4. Video Görüntüleyenlerin Yaş ve Cinsiyetleri

Video içerikleri 53,6% oranında masaüstü bilgisayarlardan izlenmektedir. Daha sonra bunu 39,3% ile cep telefonlarından izleme oranları takip etmektedir. Buna karşın en düşük izleme süresi de Tablo 5'den anlaşılacağı üzere cep telefonlarından olan izlemelere aittir. Bu da göstermektedir ki video içeriklerinin cep telefonlarından izlemeye daha elverişli hale getirmek için çalışmalar yapılmalıdır.

Cihaz türü	İzlenme süresi (dak.)		Görüntüleme		Ort. görüntüleme süresi (dak.)
Toplam	292.728.807	100,00%	69.584.607	100,00%	04:12
Bilgisayar	156.846.906	53,60%	36.617.151	52,60%	04:17
Cep telefonu	114.942.337	39,30%	29.053.411	41,80%	03:57
Tablet	16.055.416	5,50%	3.208.526	4,60%	05:00
TV	4.636.956	1,60%	661.265	1,00%	07:00
Oyun konsolu	137.353	0,00%	23.768	0,00%	05:46

Tablo 5. Videoların Görüntülendiği Cihaz Türleri

Video içerikleri 52,4% oranında Windows işletim sistemi üzerinden izlenmekte olduğu Tablo 6'den görülebilir. Daha sonra bunu Android (34,4%) ve IOS (10,2%) işletim sistemleri takip etmektedir. Bununla birlikte 6:58 (dak.) ile en uzun ortalama görüntüleme süresi Smart Tv işletim sistemleri üzerinden gerçekleşmektedir.

İşletim sistemi	İzlenme süresi (dak.)		Görüntüleme		Ort. görüntüleme süresi
Toplam	292.728.859	100,00%	69.584.607	100,00%	04:12
Windows	153.448.645	52,40%	35.823.665	51,50%	04:17
Android	100.776.861	34,40%	25.394.934	36,50%	03:58
IOS	29.952.129	10,20%	6.763.691	9,70%	04:25
Macintosh	3.051.903	1,00%	716.454	1,00%	04:15
Smart TV	2.394.481	0,80%	343.371	0,50%	06:58
Linux	621.796	0,20%	144.764	0,20%	04:17

Tablo 6. Videoların Görüntülendiği İşletim Sistemleri

Tartışma ve Sonuç

Açık ve uzaktan öğrenmenin doğası gereği kendi öğrenme süreçlerini yönetmekle sorumlu olan öğrenenler; öğrenen-öğrenen, öğrenen-öğreten ve öğrenen içerik etkileşimli yapılarından en çok öğrenen-içerik etkileşimli yapısına maruz kalırlar. Hem işitsel hem de görsel bir içerik türü olan videolar da Anadolu Üniversitesi Açıköğretim Sistemi kapsamında sıklıkla kullanılan öğrenme materyallerinden biridir. Dolayısıyla öğrenen-içerik etkileşimli yapısının bir örneği, öğrenenlerin video içerikleri ile olan etkileşimliliğinde görülebilir.

Anadolu Üniversitesi Açıköğretim Sistemi YouTube kanalından elde edilen verilerden video izleme alışkanlıklarının yaş değişkenine göre farklılık gösterdiği anlaşılmaktadır. En çok video izleyenlerin 42,6% ile 18-24 yaş aralığındaki öğrenenler olduğu ve yaş arttıkça bu oranın gittikçe azaldığı Tablo 2'de görülebilmektedir. Bununla birlikte ortalama video izleme süresinin de yaş arttıkça yükseldiği görülebilir. Tablo 4'deki verilerden ise yaş ilerledikçe erkeklerin video izleme oranları artarken, kadınların da yaşı ilerledikçe video izleme oranlarının azaldığı anlaşılmaktadır.

Tablo 5'de video görüntülemelerinin daha çok masa üstü bilgisayarlardan ve cep telefonlarından olduğu anlaşılmaktadır. Tablo 6'da bu cihazların işletim sistemlerinin, Windows (masaüstü bilgisayar) ve Android (cep telefonu) olduğu görülebilir. Bu oranın tablet ve televizyon cihazlarında azaldığı görülmektedir. Bu sonuçlardan video görüntüleyenlerin daha çok masaüstü bilgisayarları ve cep telefonlarını tercih ettiği anlaşılırken ihtiyaç duyulan tasarım iyileştirmelerinde bu sonuçların göz önünde bulundurulması öğrenenler için faydalı olabilir.

Bu çalışmada YouTube analitiklerinden öğrenenlerin video izleme davranışlarının bir özeti yapılmaya çalışılmıştır. Gelecekte yapılacak video tasarımlarında YouTube analitiklerinin ortaya koyduğu sonuçlar öğrenen profillerinin ve öğrenme ihtiyacının anlaşılmasında açık ve uzaktan öğrenme tasarımcılarına bilgilendirici ve destekleyici geribildirimler sağlayabilir. Bu da öğrenenlerin öğrenme süreçlerine olan katılımını arttırarak bireysel öğrenmenin desteklenmesi konusunda faydalı olabilir.

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Oyun Merkezli Öğrenme Ortamlarında Kavram Karmaşası: Oyunlaştırma, Ludifikasyon, Oyun Tabanlı Öğrenme, Ciddi Oyunlar

Sezan SEZGİN[1]

Özet

Oyun felsefesini merkeze alan öğrenme yaklaşımları gerek çevrimiçi gerekse de yüz yüze öğrenme ortamlarında sıklıkla kullanılmaya çalışılmaktadır. Bu çabanın altında yatan neden, oyunların insanların çevrelerini algılamalarında ve öğrenmelerinde doğal bir güdüleyici olmasıdır. Oyunu merkeze alan öğrenme yaklaşımları ile ilgili alanyazın incelendiğinde, kavramlar ve yaklaşımların çeşitli boyutları ile ilgili bir kavram karmaşası gözlenmektedir. Bu kavram karmaşası, oyunsal düşüncenin etrafında yapılandırılmış araştırmalar için kuramsal bir altyapı tehdidi oluşturmaktadır. Bu çalışma oyunu merkeze alan öğrenme yaklaşımları ve kullanılan kavramlar arasındaki farklılıkları açığa çıkarmayı amaçlamaktadır. Bu amaç doğrultusunda oyunlaştırma, oyun tabanlı öğrenme, ludifikasyon ve ciddi oyunlar kavramları detaylı bir alanyazın taramasıyla karşılaştırmalı olarak incelenmiştir. İnceleme doğrultusunda bu kavram ve yaklaşımların baskın özellikleri açıklanmış, kullanımları ve ayırt edici özellikleri belirtilmiştir. Çalışmayla birlikte eğitsel ortamlarında oyunların öğretimsel potansiyelini kullanmak isteyen araştırmacılar için temel düzeyde kavramsal bir rehber oluşturulmuştur.

Anahtar Kelimeler: *Oyunlaştırma, oyun tabanlı öğrenme, ludifikasyon, ciddi oyunlar*

Giriş

Teknoloji ve internet yönelimli yaşam ve bunun bir uzantısı olan yeni öğrenme ortamlarında, öğrenenlerin ilgi, dikkat, devamlılık gibi konularda olumsuzluk yaşamaması için gerekli koşullar giderek zorlaşmıştır. Bu, tüm öğrenenler için geçerli bir durum olarak gözüksede özellikle yoğun olarak teknolojiyle büyüyen nesiller için daha belirgin olarak gözlenmektedir. Yeni nesil öğrenenler kablosuz internet ve interaktif web teknolojilerinin domine ettiği bir dünyada büyümektedir. Bu süreçte teknolojinin etkisi, öğrenenlerin beyinlerinde görsel algılama becerisinin payını arttırmış, görsel sunumların öğrenmede zamanla daha etkili hale gelmesine neden olmuştur (Rothman, 2016). Yeni nesil öğrenenlerin genellikle görsel anlatımlar, dokunsal kullanım kolaylığı, hızlı hareket etme (Annetta, Folta ve Klesath, 2010) becerilerine ve çevrimiçi öğrenmeye (Tîrziu ve Vrabie, 2016) dayalı bir öğrenme yatkınlıkları bulunmaktadır. Ancak bununla birlikte, teknoloji ve medya destekli yeni öğrenme ortamlarının tüm öğrenenlerin öğrenme karakteristiklerini dönüştürmeye başladığı da söylenebilir.

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İçerik sunum hızının çok arttığı multimedya araçları, dikkat, odaklanma, motivasyon gibi bireysel öğrenme güçlüklerini de beraberinde getirmektedir. Yeni nesil öğrenme ortamlarında eğitimciler, öğrenmeye zorluk çıkarabilecek bu güçlükler karşısında yeni ortamların özelliklerine adapte olmak ve uygun öğrenme-öğretme yaklaşımlarını işe koşmak zorundadır (Goldie, 2016). Oyun merkezli yaklaşımlar, sahip oldukları çok çeşitli bileşen yardımıyla hıza ve görselliğe dayalı yeni öğrenme ortamlarının ihtiyaçlarını karşılayabilecek nitelikte olup yeni nesil öğrenenlerin özellik ve yönelimlerine uygun öğrenme deneyimleri sunabilmektedir. Bu yaklaşımlar güçlerini oyunlardan, dahası insana ait en temel içgüdülerden biri olan "oynamak" eyleminden almaktadır. Bu içgüdü, insanların en etkili öğrenme şeklini temsil eder. Oyunlar günlük normal yaşamdan daha farklı bir kategoride değerlendirilir (Raessens, 2014). Buna göre oynama eylemi, sadece oynanan basit eğlence süreçlerini ifade etmekten öte gerçek hayatı yansıtan kurguların içinde rol almayı ifade eder (Sezgin, 2018). Oyunun yarattığı dünyadan alınan zevk, tatmin ve eğlence hisleri oyuncuları yani öğrenenleri öğrenme akışının içinde tutar.

Oyunu merkeze alan öğrenme-öğretme yaklaşımlarının gerek yüz yüze gerekse de çevrimiçi ortamlarında her yaş öğrenen grubunda etkililiği alanyazındaki birçok çalışmada ortaya konulmuştur. Bu kuramsal çalışma, oyun temelli öğrenme yaklaşımlarında sıklıkla kullanılan ancak farklılıkları net olarak ortaya konulmamış veya iç içe geçmiş kavramları açıklamayı amaç edinmiştir. Bu doğrultuda oyunlaştırma, oyun tabanlı öğrenme, ludifikasyon ve ciddi oyunlar kavramları detaylı bir alanyazın taramasıyla karşılaştırmalı olarak incelenmiştir. İnceleme doğrultusunda bu kavram ve yaklaşımların özellikleri açıklanmış, kullanımları ve ayırt edici özellikleri belirtilmiştir.

Oyunlaştırma (Gamification)

Oyunlaştırma kavramı ilk olarak 2000'li yılların hemen başında oyun tasarımcısı Nick Pelling tarafından kullanılmış olsa da, oyunların farklı iletişim süreçlerinde kullanılması fikri yeni değildir. Oyunlaştırmayı açıklamaya çalışan farklı tanımlar oyunlaştırmanın gerçekte ne olduğu ile ilgili ortak bir tanım oluşturabilir. En genel tanımıyla oyunlaştırma oyun tasarım unsurlarının oyunsallık içermeyen durumlarda kullanılması şeklindedir. Bir diğer tanımda oyunlaştırma oyunsallık, oyun içi etkileşimler, oyunsu tasarım unsurlarının bir arada kullanılması olarak belirtilmiştir (Deterding, Dixon, Khaled, ve Nacke, 2011). Kapp (2012) oyunlaştırmayı; oyun mekanikleri, oyunsal düşünme, estetik unsurlarının bir toplamı olarak görmüş ve bu unsurların bireylerin motivasyon ve adanmışlıklarını sağlama amacıyla kullanılması olarak tanımlamıştır. Zichermann ve Cunningham (2011) oyunlaştırmanın mekanikler, dinamikler ve estetik unsurunun bir araya gelmesiyle oluştuğunu ve bu oluşumun problem çözme ve adanmışlığa etkisi olduğunu belirtir. Bu tanımlar oyunlaştırmanın yapısal bileşenlerini ve temel hedeflerini vurgulamaktadır. Oyunlaştırmanın nasıl bir süreç olduğunun belirlenmesine ilişkin tanımlarda mevcuttur. Bunlar oyunlaştırmanın; bir "oyunsu deneyim yaratma süreci" (Koivisto ve Hamari, 2014), "merak uyandıran deneyim sunma süreci" (Kin, 2011), veya oyunsal tüm süreçler düşünüldüğünde bir "motivasyonel tasarım süreci" (Zhang, 2008) olduğunu belirtir. Oyunlaştırmanın bir öğrenme sürecindeki ana hedefi ise motivasyon ve adanmışlık sağlamaktır. Bu iki değişken ise öğrenme performansına etki edecek diğer birçok değişken için katalizör görevindedir.

Oyunlaştırmanın bileşenlerinin ne olduğu ile ilgili, alanyazında ortak bir payda bulunmamakla birlikte, en sık kullanılan yapısal çerçeve; mekanikler, dinamikler ve estetik (MDE) olarak belirtilir. Bu yapı ise oyunsal düşünme felsefesi etrafında şekillendirilebilecek bir inşaa sürecini açıklamaya çalışır. Bu bileşenler kısaca aşağıdaki şekliyle açıklanabilir.

1.1.1. Oyun Mekanikleri: Mekanikler bir oyunlaştırma süreci tasarlanırken kullanılan basit oyun bileşenleridir. Mekanikler kısaca, oyunlaştırmanın veya oyun tasarımının alet kutusu olarak da nitelendirilebilir. Ödüller, liderlik cetveli, sanal eşyalar, avatarlar, rozetler, puanlar, seviyeler, şans faktörü, meydan okuma alanı, oyun içi istekler, sosyal alanlar, takımlar vb. gibi oyun parçaları oyun mekanikleri olarak bilinir. Mekanikler kullanılarak bir oyun veya oyunlaştırılmış bir süreç tasarlanabilir.

1.1.2. Oyun Dinamikleri: Dinamikler bir oyunu ya da oyunlaştırılmış süreci meydana getiren temel öğeler ile oyuncuların etkileşimini tanımlayan eylemlerdir. İlişkiler, mücadele, kurtarma eylemi, geribildirim, destek ve yardım, ilerleme, kısıtlamalar, alışveriş, iş birliği vb. oyun dinamikleri arasında yer alır.

1.1.3. Estetik: Bireylerin oyunlaştırılmış süreç içerisindeki hissi deneyimleri ifade eden bir bileşendir. Statü kazanma, başarma hissi, gurur, sosyal tanınırlık, romantizm, utanma, hırslanma, kavga vb. gibi bileşenler oyunlaştırma sürecinde oyuncuların yaşayabilecekleri estetik unsurlardan bazılarıdır. Estetik, oyunsal ortamda hissi deneyim ile beraber görsel deneyimi de içerir.

1.1.4. Oyunsal Düşünme: Oyunlaştırılmış ortamların ilk tasarım adımını oluşturan oyunsal düşünme veya oyunsal bakış açısı, günlük veya eğitsel yaşamdaki oyunsallık içermeyen durum veya öğrenme-öğretme süreçlerini yarışma, keşif, senaryolaştırma veya iş birliğine dayalı eylemlere dönüştürmeye dayalı düşünme biçimidir (Kapp, 2012).

Ludifikasyon (Ludification)

Ludifikasyon (ludification) kavramı latince "ludic" ve "-ification" tamlamasının birleşiminden oluşan bir kavramdır. Latincede "ludus" ve "ludere kelimelerinden ileri gelen ludik (ludic) kavramı ise, oynamak ile ilgili, oyunsal anlamındadır. Ludifikasyon, oyunsallaştırma işlemi olarak tanımlanabilir (Bouça, 2012). Buradaki anahtar nokta, oyun konusundaki önemli düşünürlerden olan Caillois'in "*In Man, Play and Games*" adlı eserinde olduğu gibi, "ludus" ve "paidia" arasındaki kavramsal geçişin anlaşılmasıdır. Buna göre ludus oynamaya ilişkin daha yapılandırılmış süreçleri (oyunları) ifade ederken, paidia ise spontane, özgürce, kuralların net olmadığı oynamak eylemini anlatır (Woodcock ve Johnson, 2018). Ludifikasyon, oyunların önemli bir rol oynadığı ve toplumun eğitim, politika, sosyal yardımlaşma, iş hayatı gibi önemli gereksinimlerin de dahi, oyunların önemli bir aktör olduğu kültürel bağlamı açıklar (Bouça, 2012).

Ludifikasyon, oyunları konu edinen akademik literatürde (ludoloji) kullanılır ve oyunlaştırmadan daha kapsamlı bir kavram olarak karşımıza çıkar (Thomas ve Lupton, 2015). Ludik akım, oyunların gücünün toplumun tüm alışkanlık ve günlük rutinlerinde kendini hissettirmesi olarak da tanımlanabilir. Ludik etkinliklerin kültür ve toplumun rutinleri arasında önemli rol almasının altında yatan neden, oyunların

özellikleridir. Oyunlar en genel haliyle, ölçülebilir bir çıktıya sahip, oyuncuların belirli kurallar çerçevesinde hareket ettikleri bir sistem olarak tanımlanır. Bu sistemde karar verme eylemi ön plandadır (Sezgin ve Yüzer, 2017). Bu açıdan bakıldığında, toplumsal mekanizma ve sistemlerin öğeleri ile oyunların öğeleri benzerlik gösterir. Ludifikasyonun, bağlam/durum temelli bir yaklaşım olan oyunlaştırma veya diğer oyun merkezli öğrenme/öğretme süreçlerinden en belirgin farkı, kapsamıdır. Ludifikasyon bir inanıştır. Bu inanışa göre oyunlar ve oyunsal felsefe, insana ait tüm süreçlerde teknolojinin de etkisiyle baskın yaklaşım haline gelecektir.

Oyun Tabanlı Öğrenme (Game-Based Learning)

Oyun tabanlı öğrenme; bir içerik, durum veya konunun geleneksel ya da dijital bir oyun aracılığıyla öğretilmeye çalışılması yaklaşımıdır. Bu yaklaşım, oyunun içerdiği öğeler ve oynanış dinamikleri ile öğrenenlerdeki bilgi ve beceri edinimini zenginleştirmeye çalışırken, sağladığı problem çözme basamakları ve meydan okumalarla öğrenenleri motivasyonel öğelerle birlikte başarıya ulaştırmaya çalışır (Connolly, Boyle, MacArthur, Hainey, ve Boyle, 2012; Li ve Tsai, 2013). Oyun tabanlı öğrenme söz konusu olduğunda genellikle dijital oyunların aracılık ettiği süreçler ön plana çıksa da oyun tabanlı öğrenme, geleneksel/dijital her iki oyun türünü de kapsayacak şekilde kullanılabilmektedir. Zor veya karmaşık öğrenme konularının öğrenene aktarılması, benzer şekilde öğrenilmesinde güçlük yaşanan araçların öğretimi, neden sonuç ilişkilerine dayalı çözümler, karmaşık ilişki ağları bulunan öğrenme süreçlerinde karşılaşılan sorunlar, oyun tabanlı öğrenme ile aşılabilir. Oyun tabanlı öğrenme yaklaşımı gücünü, gerçeğin daha güvenli bir ortamda taklit edilmesinden ve böylelikle öğrenme içerikleriyle rahat şekilde etkileşim sağlatabilmesinden alır (Erhel ve Jamet, 2013). Oyun tabanlı öğrenmede bir eğitsel hedef vardır. Amaç bu hedefe en eğlenceli ve öğreneni akıştan ayırmayan bir şekilde ulaşmaktır. Bu doğrultuda oyunun iç yapısı ve öğrenme amaçları arasında bir denge kurulur (Nussbaum ve Beserra, 2014).

Ciddi Oyunlar (Serious Games)

Türkçeye ciddi oyunlar olarak çevrilebilecek "serious games" kavramı, asıl amacı eğlence olmayan, bir öğretimsel hedef doğrultusunda oynanan oyunlardır. Bu oyunlar spesifik bir bağlam kapsamında özel olarak tasarlanır. Ciddi oyunlar, belirli bir düşünce yapısı veya plana göre özel olarak tasarlanan dijital oyunlardır (Breuer ve Bente, 2010; Michael ve Chen 2006; Raessens, 2014). Ciddi oyunlarda diğer dijital oyunlara göre problem çözme ve strateji geliştirme daha ön plandadır. Ciddi oyunlar, bilgi inşasına dayalı beceri gelişini sağlamaya çalışır. Bir başka deyişle ciddi oyunları ciddi yapan özellik "pedagoji" içermesidir (Zyda, 2005). Eğitsel amaç, ciddi oyunlarda ortaya çıkan en baskın ortak özelliklerden biri olsa da sanat ile ilgili alanlarda veya sağlık terapilerinde kullanılan ciddi oyunlarda bulunmaktadır. Bunun yanında çeşitli sanal gerçeklik uygulamaları (VR gözlükleri ile ay yüzeyinde yürüyüş vb.) veya simülasyonlar da (uçuş simülatörü vb.) ciddi oyun örnekleri olarak karşımıza çıkmaktadır. Ciddi oyunlar eğitimden askeriyeye, reklam ve pazarlamadan finansa, sağlık uygulamalarından devlet organlarına birçok alanda kullanılmakta olup bu oyunlarla birlikte bireylerin tutum ve davranışlarında farklılaşma beklenir.

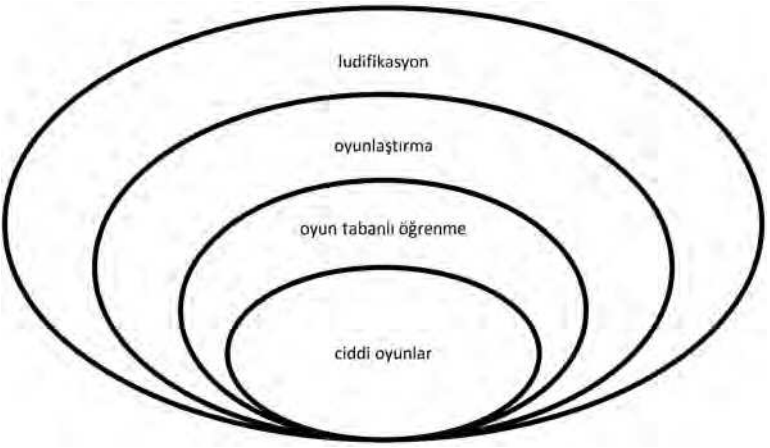
Ciddi oyunlar profesyonel tasarım ekiplerince oluşturan gerçek dünya durumlarına oldukça benzer içerikler sunabilen oyunlardır. Ciddi oyunları anlamak için uçak simülatörlerini incelemek faydalı olabilir. Pilot adaylarının formal eğitim müfredatlarının bir bölümü uçuş simülatörü uygulamalarında gerçekleştirilir. Gerçeğe oldukça benzeyen bu oyun uygulamaları ciddi oyunların yalnızca bir türüdür. Daha öncede belirtildiği gibi asıl amaç eğlence değil spesifik bir konuda eğitimdir. Bu eğitimin gerçeğe yakın bir temsille ve güvenli bir ortamda sağlanması kritik öğrenme süreçleri için oldukça önemlidir.

Tartışma ve Sonuç

Oyun merkezli öğrenme-öğretme yaklaşımlarıyla ilgili alanyazın incelendiğinde, kavramlar ve yaklaşımların çeşitli boyutları ile ilgili bir kavram karmaşası gözlenmektedir. Daha çok oyunlaştırma ve oyun tabanlı öğrenme arasında gözlenen bu karmaşa, ludifikasyon ve oyunlaştırma, oyun tabanlı öğrenme ve ciddi oyunlar arasında da gözlenebilmektedir.

Oyunlaştırma yaklaşımında, bir öğrenme sürecine oyunsallık katılır ve bu oyun mekanikleri yardımıyla yapılır. Oyunlaştırma ilkeleri uygulanan bir ortam veya sürecin bütünüyle bir oyun haline geldiği söylenemez. Bunun yanında oyunlaştırma yaklaşımı, oyun tabanlı bir uygulamayı veya bilinen bir oyunu öğrenme sürecinde kullanabilir (Kahoot vb). Oyun tabanlı öğrenmede ise bir içerik veya konunun oyun aracılığıyla öğretilmeye çalışılması söz konusudur. Örneğin bir geometri konusunun öğrenenlere bir geometri oyunu aracılığıyla gösterilmesinde içeriğin aktarılmasına geometri oyunu aracılık eder. İki kavram arasındaki ayrımı anlamak için verilebilecek bir diğer örnek ise öğrenenlerin sıkıcı buldukları bir matematik ödevinin oyunlaştırılmasına ilişkindir. Bu ödevde öğrenenlere farklı bölümleri tamamlamaları karşılığında puanlar veya yıldızlar verilebilir. Bu ödev, bir oyun tabanlı öğrenme yaklaşımına uygun olarak düzenlendiğinde ödev ile ilgili öğrenenlere yine yıldız veya puanlar verilebilir. Ancak bu matematik ödevi artık belirli bir sistem içerisinde, kuralları olan, ölçülebilen bir çıktı sağlayabilen şekilde yeniden tasarlanmalıdır (Plass, Homer, ve Kinzer, 2015). Kısacası bir "oyun" haline gelmelidir. Bu bağlamda oyunlaştırma ve oyun tabanlı öğrenme arasındaki en temel ayrım, oyun olma ve oyunsal olma durumudur. Bununla birlikte oyunlaştırmanın asıl amacı öğreneni eğitsel bir hedefe ulaştırmak değil, motivasyon ve adanmışlık sağlamaktır. Ancak oyun tabanlı öğrenmede bir eğitsel hedef bağlamında spesifik bir oyun kullanılır.

Ludifikasyon ve oyunlaştırma da alanyazında birbirlerinin yerine kullanılabilen kavramlardır. Ancak ludifikasyon oyunlaştırmaya göre daha genel bir kavramdır. Bu kavram gündelik hayatta gerçekleşebilen eylemlerin giderek daha oyunsal veya oyun merkezli hale geleceğini vurgulayan düşünsel bir anlayıştır. Bu bağlamda oyunlaştırma ile ortak felsefeye sahip olsa da oyunlaştırma ludifikasyonun spesifik bir konuda uygulanmış hali olarak düşünülebilir.



Şekil 1. Ludifikasyon, Oyunlaştırma, Oyun Tabanlı Öğrenme ve Ciddi Oyunlar İlişkisi

Oyun tabanlı öğrenme ve ciddi oyunlar kavramları arasında belirtilmesi gereken önemli bir ayrım olmasa da bazı yaklaşım ve süreç farklılıkları bulunabilmektedir. Oyun tabanlı öğrenmede, öğrenmeye bir oyun aracılık etmektedir. Ancak bireyin öğrenmesi tamamen oyun tabanlı öğrenme ile değerlendirilmez. Ciddi oyunlar ile öğretim süreci söz konusu olduğunda ise tüm öğrenme sürecinin değerlendirilmesi ve kontrolü bu oyunlarda öğrenenin gösterdiği performans ile değerlendirilebilir. Bunun dışında ciddi oyunlar ile gerçekleştirilen öğrenme süreci de esasen oyun tabanlı öğrenme sınıflaması içindedir.

Oyunu merkeze alan yaklaşımlar eğitsel süreçler için oldukça güçlü araçlardır. Açık ve uzaktan öğrenmeden, yüz yüze eğitime, özel eğitimden, sağlık eğitimine kadar birçok alanda kullanılan oyun merkezli yaklaşımlar teknolojinin gelişmesi ve yaygınlaşmasıyla genellikle dijitalleşmiş halleriyle karşımıza çıkabilmektedir. Önemli olan nokta oyun tabanlı öğrenmede maliyet ve iş gücünü, oyunlaştırmada ise yeterli öğrenme tasarımı ve oyunlaştırma becerisini ortaya koyabilmektir. Bu yaklaşımların eğitsel negatif yönleri, bu değişkenlerle açıklanabilir. Ancak teknoloji sarmalıyla çevrilmiş olan gündelik yaşam ve eğitim dünyasında giderek daha da önemli hale gelen oyun felsefesi/uygulamaları özellikle eğitim alanında doğru kuramsal çerçeveler yardımıyla yapılandırıldığında oldukça verimli öğrenme çıktıları sağlanmasına yardımcı olacaktır.

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Açık ve Uzaktan Öğrenmede Güncel Uygulamalar ve Eğilimlerin İncelenmesi

Hakan ALTINPULLUK[1], Hakan KILINÇ[2], T. Volkan YÜZER[3]

Özet

Bu çalışmada, Howell, Williams ve Lindsay'in (2003) Thirty-two Trends Affecting Distance Education An Informed Foundation for Strategic Planning makalesi merkeze alınarak aradan geçen yıllarda açık ve uzaktan öğrenme alanında eğilimlerin ne ölçüde gerçekleştiği karşılaştırılmış ve mümkün olan en güncel kaynaklarla belirlenmeye çalışılmıştır. Çalışmada Dünya'da açık ve uzaktan öğrenmede son değişimler irdelenmiş; yaygın uygulamaların ve eğilimlerin neler olduğu ortaya konmuştur. Bu bağlamda öğrenen-kayıt eğilimleri, fakülte eğilimleri, akademik eğilimler, teknolojik eğilimler ve ekonomik eğilimler başlıklar halinde incelenmiştir.

Anahtar Kelimeler: *Açık ve Uzaktan Öğrenme, Eğilimler, Raporlar.*

Giriş

Gerçekleştirilen bu çalışmada açık ve uzaktan öğrenme alanında yaşanan gelişmelere yer verilmiştir. Bu kapsamda Dünya'daki eğilimler incelenirken güncel araştırmalara, raporlara ve anketlere yer verilmiştir. Mevcut durum en güvenilir biçimde saptanmaya çalışılmıştır. Bu bağlamda, açık ve uzaktan öğrenmede dünyada yaşanan gelişmeleri incelemek için Howell, Williams ve Lindsay'in (2003) Thirty-two Trends Affecting Distance Education An Informed Foundation for Strategic Planning adlı makalesindeki sınıflandırma düzenlenerek temel alınmıştır.

Howell vd. (2003) 16 yıl önce yaptıkları çalışmada bugüne de uyarlanabilecek şekilde açık ve uzaktan öğrenme alanındaki eğilimleri öğrenci ve kayıt eğilimleri, fakülte eğilimleri, akademik eğilimler, teknolojik eğilimler, ekonomik eğilimler ve açık ve uzaktan öğrenmedeki genel eğilimler olarak ayırmıştır. Bu çalışmada da bu sınıflandırma uyarlanarak kullanılmış ve 5 alt başlık şeklinde son eğilimler incelenmiştir. Bu kapsamda, aradan geçen 16 yılda açık ve uzaktan öğrenme alanında yaşanan gelişmelerin ve değişimlerin neler olduğu açıklanmaktadır.

Öğrenen ve Kayıt Eğilimleri

Akademik programlara olan talep, program düzeyi, konum, hedef kitle, rekabetçi doygunluk ve işgücü piyasası eğilimleri gibi çeşitli faktörlere bağlıdır (Hanover Research, 2018). Howell vd. (2003) 10 yıl önceki saptamalarında üniversite çağındaki öğrenci sayısının artmasına karşın, mevcut yükseköğretimdeki altyapı eksikliklerinin daha

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fazla açık ve uzaktan öğrenme programının açılmasını zorunlu kıldığı, öğrencilerin kredi transferi, not dönüşümü gibi konularda desteklenmesi ve programlarının tam zamanlı işlerine ve aileleriyle vakit geçirebilmesi yönünde düzenlenmesi gerektiği ve yükseköğretimdeki öğrenen profilinin (çevrimiçi, dijital çağ ve yetişkin öğrenenler) değişmekte olduğunu belirtmektedir. Horizon Report'a (2019) göre öğrenenlerin öğrenme süreçlerinde yaşadıkları sıkıntıları aşabilmek için; açık eğitim kaynakları, dijital öğrenme platformları ve kişiselleştirilmiş öğrenme yolları işe koşulmalıdır. Açık ve uzaktan öğrenme ortamlarında öğrenenlerin öğrenme süreçlerinde yaşadıkları sıkıntıları aşabilmek için kullanılan açık eğitim kaynaklarının kullanılmasının nedenleri Instructional Technology Council (ITC) (2019) tarafından şu şekilde sıralanmaktadır:

- Kaynakları bulmak ve değerlendirmek için gereken zaman
- Fakülte farkındalığı eksikliği
- Yardımcı malzeme eksikliği
- Kaynakların güvenilirliği
- Açık ve uzaktan öğrenme kurumlarında görev yapan idarecilerin kararları

Açık eğitim kaynaklarının kullanım nedenlerinin yanı sıra yine ITC (2019) raporunda bu kaynakların 3-5 yıl içinde göstereceği etki %59 oranında önemli, %39 oranında çok az ve %2 oranında hiç yok olarak tahmin edilmektedir. Ayrıca raporda, çevrimiçi kursların gerçekleştirildiği ortamların uygun olup olmadığı sorusuna öğrenenlerin %75'i bazı ortamlar uygun seçeneğini, %25'i ise çoğu ortamlar uygun seçeneğini işaretlemişlerdir. Bu noktadan hareketle açık ve uzaktan öğrenme ortamlarında, açık eğitim kaynaklarının kullanımının öğrenenler açısından faydalı olacağı bununla beraber bu ortamlarda daha fazla öğrenene hitap edecek etkileşimli malzemelerle birlikte açık ve uzaktan öğrenmenin ruhuna uygun davranılması, öğrenme ortamlarının daha uygun hale getirilmesi gerektiği ifade edilebilir.

Raporda incelenen diğer bir unsur ise öğrenenler ile ilgili yaşanan sorunlar olmuştur. ITC (2019) raporuna göre bu sorunların başında öğrenenlerin çevrimiçi kurs alma konusunda hazırlıksız olmaları ve oryantasyon süresi gerektirmesi gelmektedir. Diğer bir sorun ise tüm öğrenenlere, eş değer sanal öğrenen hizmeti sağlama konusunda meydana gelmektedir. Bu noktada öğrenenlerin sistemde kalabilmeleri için tüm öğrenenlere gerekli hizmetler sunulmalıdır. Raporda sunulan diğer bir sorun ise çevrimiçi ortamda öğrenenlerin öğrenmesini ve performansını değerlendirmek olarak gösterilmiştir. Bu bağlamda öğrenmenin ölçülmesi noktasında çalışmaların sürdürülmesi gerektiği söylenebilir.

Howell vd. (2003) yetişkinlerin, kadınların ve azınlıkların açık ve uzaktan öğrenmeyi daha fazla tercih etmeye başladığını belirtmekteydi. Bu durum ITC'nin 2019 yılında yayınladığı raporda da doğrulanmaktadır. Buna göre, erkeklere göre daha fazla kadın çevrimiçi eğitimi tercih etmektedir. Bu oran %62 kadın, %38 erkek şeklindedir. Bu rapor kapsamında gerçekleştirilen ankete katılan açık ve uzaktan öğrenenlerin yaş aralıkları ise %57 18-24, %40 25 yaş ve üzeri şeklindedir. Ankete katılanların %3 ü ise yaş durumlarını rapor etmemişlerdir.

Öğrenenlerin açık ve uzaktan öğrenmeyi tercih etmesi üzerine Owusu-Boampong ve Holmberg (2015) tarafından gerçekleştirilen başka bir çalışmada ise öğrenenlere neden açık ve uzaktan öğrenmeyi tercih ettikleri sorusu yöneltilmiştir. Öğrenenlerden alınan yanıtların %32'si "Mesleğimle birlikte açık ve uzaktan öğrenme sürecine ka-

tılmak daha kolay" seçeneğini belirtirken, %18'lik dilimi oluşturan iki yanıt sırasıyla "Açık ve uzaktan öğrenme, kendi hızımda çalışmama izin veriyor" ve "Açık ve uzaktan öğrenme evimden ayrılmadan çalışmama izin veriyor" seçeneklerini kapsamaktadır. Öğrenenlerden gelen yanıtların %15'ini ise "ailevi görevlerim ile açık ve uzaktan öğrenmeyi bir arada götürmek daha kolay" seçeneği kapsamaktadır. Geri kalan %2'lik kısım ise "diğer" seçeneğini işaretlemiştir. Bu noktadan hareketle açık ve uzaktan öğrenmenin öğrenenlerin ihtiyaçlarına daha uygun hale geldiği ifade edilebilir.

Yine Owusu-Boampong ve Holmberg (2015) tarafından gerçekleştirilen çalışmada öğrenenlere açık ve uzaktan öğrenme süreçlerinde yaşamış oldukları engeller de sorulmuştur. Öğrenenlerden alınan yanıtların %29'unu ücretler, %22'sini zaman, %16'sını önceki öğrenmelerin tanınması, %14'ünü açık ve uzaktan öğrenme teknolojileri, %11'ini yerel dilin dışında yabancı bir dilin kullanılması oluştururken %8'i ise diğer seçeneğini oluşturmaktadır. Bu bağlamda öğrenenlerin yaşamış oldukları sorunları araştıran çalışmalara ağırlık verilmesi ve bu çalışmalardan elde edilenler ışığında çözüm yollarına gidilmesi gerektiği söylenebilir.

ABD'deki Üniversiteden ayrılma oranları, %50 ila %60 arasında olduğundan dolayı, üniversite öğrencileri, dört yıllık eğitimlerinde başarılı olmaları ve zamanında tamamlamaları için yardımcı olabilecek herhangi bir ek kaynak bulma konusunda oldukça istekli davranmaktadır (eLearning Industry, 2019). Ağustos 2016'da, ABD'deki üniversite öğrencilerinin % 43'ü dijital çalışma teknolojilerini kullanmanın ev ödevlerini tamamlamada son derece yararlı olduğunu belirtmiştir. Bunu %41 ile, test ve sınavlara hazırlanmak, %40 ile, farklı sınıflarda araştırmalar yapmak, %38 ile, takvimi organize etmek, %31 ile öğretim üyeleriyle işbirliği ve etkileşime girmek ve %22 ile sınıfta sorular sormak izlemektedir (Statista, 2016a).

Statista (2018a) verilerine göre, ABD'deki üniversite öğrencilerinin % 56'sı, sınıfta dizüstü bilgisayar kullandıklarını belirtmiştir. ABD'deki çevrimiçi üniversite öğrencileri arasında çevrimiçi derslerle ilgili etkinliklerde mobil cihaz kullanımı bağlamında, ankete katılanların yüzde 51'i telefon veya tablet telefonlarını gerekli malzemeleri okumak için kullandıklarını belirtmiştir.

2016 (b) yılındaki Statista verilerine göre, ABD'deki üniversite öğrencilerinin % 43'ü dijital öğrenme teknolojilerinin notlarını yükseltmelerine yardımcı olduğunu belirtmiştir. eLearning Industry (2019) göre, çevrimiçi öğrenmeye katılan öğrenciler akranlarından daha iyi şekilde çalışmaktadır. 2016 yılında, ABD'deki öğretmenlerin % 41'i, dijital bilgi eksikliğinin sınıflarında eğitim teknolojisinin kullanımını artırmada en büyük engel olduğunu belirtmiştir. Statista (2018b) yılındaki raporda, katılımcıların % 82'si, çevrimiçi eğitim programlarının, devamsızlıktan sonra okula dönen yetişkin öğrencilere yönelik olduğunu belirtmiştir. Bunun yanı sıra Owusu-Boampong ve Holmberg (2015) tarafından açık ve uzaktan öğrenmede yer alan öğrenenler üzerine gerçekleştirilmiş olan raporda uzaktan öğrenenlerin büyük kısmının çalışmakta olduğu görülmektedir. Dünya çapındaki öğrencilerin % 49'u önceki 12 ay içinde çevrimiçi bir kurs aldıklarını belirtirken; aynı yıl, dünya çapındaki öğrencilerin % 9'u bir önceki yıl bir "kitlesel açık çevrimiçi ders"e katılmıştır. Statista (2015) bulgularına göre, öğrenenlerin %74'ü kitlesel açık çevrimiçi derslerin varlığından habersizdir. Aynı raporda, bu dersleri bilen ancak henüz bir tane bile almayan %17, başarıyla dersleri tamamlayan %5 oranında öğrenci bulunmaktadır.

Açık Üniversite tarafından yapılan bir çalışmada, e-öğrenme dersi üretmenin, yüz yüze eğitimden kişi başına % 90 daha az enerji tükettiği ve kişi başına % 85 daha az CO2 emisyonu ürettiği bulunmuştur. Bu bağlamda, e-öğrenme dersi üretmenin daha verimli, daha yeşil ve iklim değişiklikleriyle daha iyi savaştığı sonucuna ulaşılabilmektedir. Yine verimlilik bağlamında düşünüldüğünde, e-öğrenme ile öğrencilerin her eğitim saati için beş kat daha fazla malzeme ile öğrenmeleri sağlanmaktadır (eLearning Industry, 2019).

ITC (2019) raporunda, çevrimiçi programlara kayıtların arttığından söz edilmektedir. Rapora göre, 2016-2017 güz döneminde çevrimiçi öğrenen sayısı %8 oranında artarken, 2017-2018 güz döneminde ise bu oran %4.5 oranında artmıştır. Açık ve uzaktan öğrenme hizmeti sunan Açık Üniversitelerde de, öğrenci sayılarına ilişkin veriler incelendiğinde (Wikipedia, 2019), Açık Üniversitelerin dünyanın en kalabalık öğrenci popülasyonuna sahip olan üniversiteleri olduğu bulgusu dikkat çekicidir. Bu üniversitelerin genel olarak kamu/devlet üniversitesi olduğu, çoğunluğunun Asya kıtasında nüfusu kalabalık ülkelerde bulunduğu ve kuruluş tarihi açısından köklü üniversiteler olduğu sonucuna ulaşılmaktadır (Tablo 1).

Kurum	Ülke	Tür	Kıta	Kuruluş Tarihi	Kayıt
Indira Gandhi Ulusal Açık Üniversitesi	Delhi, Hindistan	Kamu	Asya	1985	4,000,000+
Allama Iqbal Açık Üniversitesi	Islamabad, Pakistan	Kamu	Asya	1974	3,305,948
Anadolu Üniversitesi	Eskişehir, Türkiye	Kamu	Asya	1958	1,974,343
Bangladeş Açık Üniversitesi	Gazipur, Bangladeş	Kamu	Asya	1992	650,000
Terbuka Açık Üniversitesi	Jakarta, Endonezya	Kamu	Asya	1984	646,467
Dr. B R Ambedkar Açık Üniversitesi	Telangana, Hindistan	Kamu	Asya	1982	450,000
Iran Payame Noor Üniversitesi	İran	Kamu	Asya	1987	400,000+
Güney Afrika Üniversitesi	Pretorya, Güney Afrika	Kamu	Afrika	1873	355,240

Tablo 1. Açık üniversitelerdeki öğrenci kayıt sayıları (Wikipedia, 2019)

Fakülte Eğilimleri

Horizon Report (2019)'a göre eğitimcilerin rollerinde de değişimler meydana gelmektedir. Bu bağlamda, artık doğrudan bilgiyi vermekten ziyade, bir rehber konumuna gelen ve bilginin kendisini değil, bilgiye ulaşma ve bilgiden yararlanma yollarını gösteren eğitimcilerin rolleri hem geleneksel eğitimde, hem de açık ve uzaktan öğrenmede değişmektedir. Aynı zamanda eğitim kurumlarının daha fazla endüstri kurumları ile işbirliği içinde olması gerektiğine değinilmiştir.

Bu noktada, Howell vd. (2003), geleneksel fakülte rollerinin değişmekte ve ayrıştırılmakta olduğunu, fakültenin gelişimi desteklenmesi ve eğitilmesi konularında ihtiyacın arttığını, bazı fakülte üyelerinin teknolojik araçlarla ders verilmesi konusunda direnç gösterdiğini, ancak tam tersine açık ve uzaktan öğrenmeyle derslere katılan fakülte üyelerinin teknoloji ve açık ve uzaktan öğrenmeye olumlu tutumlar geliştirmekte olduğunu belirtmişlerdir. Ayrıca, açık ve uzaktan öğrenmede öğretenlerin kendilerini izole ve sınırlandırılmış hissettiğini ve fakülte üyelerinin açık ve uzaktan öğrenmeyle ders verme sürecinde, daha az iş yükü ve daha fazla ücret talep ettiğini belirtmişlerdir. Bu noktada, günümüzde fakülte eğilimleriyle ilgili çalışmalarda özellikle, fakülte üyelerinin teknik ve pedagojik anlamda desteklenmesi ve eğitilmesi konularına üniversitelerin ağırlık verdiği görülmektedir.

eLearning Industry (2019)'a göre, yöneticilere göre, çevrimiçi eğitim yüz yüze geleneksel eğitimden daha değerlidir. Diğer bulgular incelendiğinde, Devlet Üniversitelerinin çevrimiçi öğrenmeye daha büyük bir bağlılık bildirdiği ve en saygın üniversitelerin çevrimiçi öğrenme hizmeti vermeye eğilimli olduğu görülmektedir.

Açık ve uzaktan öğrenme süreçlerinde fakültelerin yaşamış oldukları zorluklar ise ICT (2019) raporunda yer almıştır. Buna göre fakülteler ile ilgili yaşanan en büyük sorunlar; çevrimiçi pedagojinin verilmesinde fakültenin sürece katılımı, fakültenin değerlendirilmesi ve iş yükü sorunları şeklinde sıralanmaktadır. Dolayısıyla çevrimiçi öğrenme süreçlerinde fakültelerin iyi bir şekilde yapılandırılması, kalite kuruluşlarınca değerlendirilmeleri ve gerekli görülen eksikliklerin giderilmesi gerektiği söylenebilir. Ayrıca fakültede yaşanan iş yükü sorunları konusunda öğretim üyelerinin/elemanlarının üstlenmesi gereken sorumluluklar belirtilmeli ve bu sorumluluklar eşit bir şekilde paylaşılmalıdır. Fakültelerin bu süreçte üzerine düşen görevleri yerine getirebilmesi için bağlı bulunduğu kurumun desteğine ihtiyacı vardır. Bu kapsamda kurumlar öğrenme süreçlerinde yeni teknolojilere uyum sağlayacak ve öğrenenlerin ihtiyaçlarını karşılayacak eylemlerde bulunmalıdırlar. Bu kapsamda öğrenenlerden gelen taleplerin de göz önünde bulundurulması gerekmektedir. Lisans tamamlama analizi, istihdam projeksiyon analizi, iş ilanları analizi ve program karşılaştırma analizi gibi bütünsel, sağlam analizler yapan kurumlar, kayıtlara katılma ve başarılı bir akademik program yürütme konusunda başarılı olabilmektedir (Hanover Research, 2018).

Hanover Research (2018)'e göre, kurumlar öğrenenlerine mezun işlemleri ve öğrenen iklimi yakalama gibi konularda destek vermelidirler. Bu kapsamda mezun önerileri ve başarı öyküleri ile öğrenenlerin bir kuruma neden kaydolmaları gerektiği konusunda kılavuzlar hazırlanabilir. Ayrıca mezunların mezuniyet sonrası istihdam takibi yapılarak çeşitli hikâyeler elde edilebilir. Öğrenen iklimi yakalama noktasında ise dinamik, çeşitli ve misafirperver bir ortam yaratılmalı ve öğrenenlerin yaşamını etkileyen çok çeşitli unsurlar hakkında öğrenenlere geri bildirimler sağlanmalıdır.

Akademik Eğilimler

Horizon Report'a (2019) göre yükseköğretimde teknoloji kabulünü hızlandıran başlıca eğilimler şunlardır:

- Kurumların nasıl işlediği kapsamlı bir şekilde yeniden ele alınmalı ve bu doğrultuda modüler bir yapıya geçilmelidir.
- Yükseköğretim kültürünün yeniliklere ayak uydurması gerekmekte ve bu doğrultuda öğrenme süreçlerinde kullanılan yöntemler güncellenmelidir.
- Öğrenme analitiklerinden faydalanarak öğrenenlerin ilerlemesini görmek ve öğrenmeyi ölçmek gerekmektedir.
- Öğrenme alanları güncel gelişmeler takip edilerek yeniden düzenlenmeli ve harmanlanmış öğrenme tasarımına geçilmelidir.

Günümüzdeki bu eğilimlere bakıldığında Howell vd. (2003) öngörülerinin devam ettiğini yorumlamak mümkündür. Howell vd. (2003) göre, eğitim daha öğrenen merkezli, doğrusal olmayan ve özerk hale gelmekte, bilgi sürekli, katlanarak artmakta ve yükseköğretimde kurumsal manzara değişmektedir. Geleneksel kampüsler azalmakta, kamu ve özel kurumlar birleşmektedir. Bu akademik eğilimler günümüzde de kuşkusuz geçerlidir.

Howell vd. göre (2003), yükseköğretimde kurum dışı kaynak desteği ve ortaklıklar artmaktadır. Bu durumun aynen devam ettiği, kurumların birbiriyle ortaklıklar kurduğu, bölgesel stratejik işbirlikleri oluşturduğu, birbirlerine kaynak yarattığı, akreditasyon ve karşılaştırmalı değerlendirme (benchmarking) süreçlerine son yıllarda daha fazla yoğunlaştığı görülmektedir.

Akademik eğilimler yönünden karşılaştırmalı çalışmalara tekrar bakarsak, Sloan-C, 2010 ve 2011 raporları karşılaştırıldığında çarpıcı bazı sonuçlar karşımıza çıkmaktadır. Örneğin, 2010 raporlarında eğitim kurumu yöneticileri, çevrimiçi eğitimi uzun dönem stratejilerinde önemli bir bileşen olarak görmekteydi. Bu durum 2011 raporlarında da paralellik göstermektedir. 2011 raporlarında kurumların %65'i çevrimiçi eğitimi, kurumları için önemli bir bileşen olarak görmektedir. Bu oran 2010 yılında %63'tü. Bu serideki raporlara bakıldığında, eğitim kurumları yöneticileri, öğrenme çıktıları bakımından çevrimiçi eğitimi yüz yüze eğitimden çok daha iyi olarak nitelendiriyordu. Bu anlayış devam ediyor gibi görünmektedir. 2003 yılında bu alanda yapılan ilk raporda, akademik liderlerden %57'si çevrimiçi eğitimdeki öğrenme çıktılarının, yüz yüze eğitimdekiyle aynı veya daha iyi olduğunu belirtmişlerdi. Bu oran 2011 yılında %67'ye çıkmış, dikkat çekici bir artış sağlanmıştır. Akademik liderlerden üçte biri hala çevrimiçi eğitimdeki öğrenme çıktılarının yüz yüze eğitimdekine oranla daha düşük olduğuna inanmaktadır. Akademik liderler ayrıca, çevrimiçi eğitim olanakları olan üniversitelerdeki öğrenme çıktılarının, çevrimiçi ders ve program uygulamayan üniversitelere göre çok daha olumlu sonuçlar elde ettiklerini belirtmişlerdir.(Allen ve Seaman, 2011).

Horizon Report (2019) bulgularına göre, uzun vade, orta vade ve kısa vadede gerçekleşmesi beklenen öngörüler aşağıdaki gibidir (Şekil 1):

Şekil 1. Yükseköğretimde teknolojinin benimsenmesini hızlandıran anahtar eğilimler (Horizon Report, 2019)

Tablo 2'de görüntülenen 2015-2019 yılları arasında Horizon Raporlarında Yükseköğretimde teknolojinin benimsenmesini hızlandıran anahtar eğilimlerin 5 yıllık periyottaki değişimine bakıldığında Horizon Raporlarının öngörülerinin büyük ölçüde uygunluk gösterdiği görülmektedir. Bir eğilimin sırayla uzun vadeden orta vadeye, orta vadeden de kısa vadeye tutarlı bir biçimde gerçekleştiği dikkat çekmektedir.

Tahmini Gerçekleşme Süreleri	2015	2016	2017	2018	2019
Uzun vade	Gelişen Yenilik (İnovasyon) Kültürleri	Gelişen Yenilik (İnovasyon) Kültürleri	Gelişen Yenilik (İnovasyon) Kültürleri	Gelişen Yenilik (İnovasyon) Kültürleri	Kurumların Nasıl İşlediğini Yeniden Düşünmek
	Kurumlar Arası İşbirliğinin Artırılması	Kurumların Nasıl İşlediğini Yeniden Düşünmek	Derin Öğrenme Yaklaşımları	Kurumlar arası ve Sektörler Arası İşbirliği	Modüler ve Ayrıştırılmış Dereceler
Orta vade	Öğrenmeyi Ölçmeye Odaklanmak	Öğrenme Alanlarını Yeniden Tasarlama	Öğrenmeyi Ölçmeye Odaklanmak	Açık Eğitim Kaynaklarının Yaygınlaştırılması	Gelişen Yenilik (İnovasyon) Kültürleri
	Açık Eğitim Kaynaklarının Yaygınlaştırılması	Daha Derin Öğrenme Yaklaşımlarına Geçiş	Öğrenme Alanlarını Yeniden Tasarlama	Yeni Disiplinler arası Çalışma Formlarının Yükselişi	Öğrenmeyi Ölçmeye Odaklanmak
Kısa vade	Harmanlanmış Öğrenmenin Kullanımının Artırılması	Öğrenmeyi Ölçmeye Odaklanmak	Harmanlanmış Öğrenme Tasarımları	Öğrenmeyi Ölçmeye Odaklanmak	Öğrenme Alanlarını Yeniden Tasarlama
	Öğrenme Alanlarını Yeniden Tasarlama	Harmanlanmış Öğrenmenin Kullanımının Artırılması	İşbirlikçi Öğrenme	Öğrenme Alanlarını Yeniden Tasarlama	Harmanlanmış Öğrenme Tasarımları

Tablo 2. 2015-2019 yılları arasında Horizon Raporlarında Yükseköğretimde teknolojinin benimsenmesini hızlandıran anahtar eğilimler

Tablo 3'de görülebileceği gibi, Yükseköğretimde kurumların teknolojiye adaptasyonunu yavaşlatan bazı zorluklar da Horizon Raporlarında çözülebilir zorluklar, önemli zorluklar ve çok ciddi zorluklar şeklinde sınıflandırılmaktadır. Son iki raporda, çözülmesi en ciddi zorlukların ekonomik ve politik baskılar, eğitimci rollerindeki problemleri, dijital eşitsizlik ve öğretim uygulamalarındaki sıkıntılar olarak sıralanmaktadır.

Tahmini Gerçekleşme Süreleri	2015	2016	2017	2018	2019
Çözülebilir Zorluklar	Formal ve İnformal Öğrenmenin Harmanlanması	Formal ve İnformal Öğrenmenin Harmanlanması	Dijital Akıcılığı Artırma	Otantik Öğrenme Deneyimleri	Dijital Akıcılığı Artırma
	Dijital Akıcılığı Artırma	Dijital Akıcılığı Artırma	Formal ve İnformal Öğrenmenin Entegrasyonu	Dijital Akıcılığı Artırma	Dijital Öğrenme Deneyimi ve Öğretim Tasarımı Uzmanlığı Talebini Artırma
Önemli Zorluklar	Öğrenmeyi Kişiselleştirme	Rekabetçi Eğitim Modelleri	Başarı Aralıkları	Organizasyonel Tasarımları Geleceğin Çalışmalarına Uyarlamak	Eğ. Tek. Stratejileri ile Gelişen Fakülte Rolleri
	Karmaşık Düşünme Öğretimi	Öğrenmeyi Kişiselleştirme	Dijital Eşitlik	Dijital Eşitlik	Başarı Aralıkları
Çok Ciddi Zorluklar	Rekabetçi Eğitim Modelleri	Bağlantılı ve Bağlantısız Yaşamları Dengelemek	Eskimiş Bilginin Yönetimi	Ekonomik ve Politik Baskılar	Dijital Eşitlik
	Ödüllendirici Öğretim	Eğitimi İlgili Tutmak	Eğitimcilerin Rollerinin Yeniden Düşünülmesi	Eğitimcilerin Rollerinin Yeniden Düşünülmesi	Öğretim Uygulamalarını Yeniden Düşünmek

Tablo 3. 2015-2019 yılları arasında Horizon Raporlarında Yükseköğretimde teknolojinin benimsenmesini yavaşlatan önemli zorluklar

Teknolojik Eğilimler

Howell vd. göre (2003) teknolojik araçlar çok yönlü hale gelmekte ve aynı anda her yerde bulunan bir yapıya bürünmektedir. İnternet kullanımında büyük artış gözlenmekte ve teknolojiyi kullanma yeterlilikleri önemli hale gelmektedir. Bu bağlamda internet kullanımının Dünya'da büyük bir hızla arttığı gerçeği günümüzde yadsınamaz. Bunun yanı sıra mobil teknolojilerin de giderek yaygınlaştığı ve öğrenme süreçlerinin önemli bir parçası haline geldiği görülmektedir. Bu durum Horizon Report (2019)'da da belirtilmiştir.

Açık ve uzaktan öğrenme teknolojik ilerlemelerden doğrudan etkilenen bir alandır. Bu bağlamda düşünüldüğünde açık ve uzaktan öğrenmenin teknoloji boyutu büyük bir önem arz etmektedir. Bu noktada, son yıllardaki dijital eğilimlerden söz etmemiz yararlı olacaktır.

Teknolojik gelişmeler ve açık ve uzaktan öğrenme ilişkisi ve ilgili eğilimlerin ve sorunların belirtildiği Horizon Raporlarının son 5 yılı (2015-2019) tek tek incelenerek, bu raporlarda öngörülen teknolojik eğilimler Tablo 4'de belirtilmiştir.

Tahmini Gerçekleşme Süreleri	2015	2016	2017	2018	2019
1 Yıl	Kendi Cihazını Getir	Kendi Cihazını Getir	Mobil Öğrenme	Analitik Teknolojiler	Mobil Öğrenme
	Ters yüz edilmiş sınıflar	Öğrenme Analitiği ve Uyarlanabilir Öğrenme	Uyarlanabilir Öğrenme Teknolojileri	Maker Atölyeleri	Analitik Teknolojiler
2-3 Yıl	Giyilebilir teknolojiler	Artırılmış ve Sanal Gerçeklik	Nesnelerin İnterneti	Uyarlanabilir Öğrenme Teknolojileri	Karma Gerçeklik
	Maker Atölyeleri	Maker Atölyeleri	Yeni Nesil LMS	Yapay Zeka	Yapay Zeka
3-5 Yıl	Uyarlanabilir Öğrenme Teknolojileri	Duygusal Hesaplama	Yapay Zeka	Karma Gerçeklik	Blok Zincir
	Nesnelerin İnterneti	Robotik	Doğal Kullanıcı Arabirimleri	Robotik	Sanal Asistanlar

Tablo 4. Horizon Raporlarında 2015-2019 yılları arasındaki 5 yıllık süreçte eğitimin teknoloji entegrasyonundaki eğilimler

Teknolojik eğilimlere bakıldığında mobil teknolojilerin önemli bir noktada olduğu görülmektedir. Bu da mobil teknolojilerin ve dolayısıyla mobil öğrenmenin gelecekte de önemini koruyacağı anlamına gelmektedir. 2015 yılında listeye giren ve 1 yıl içinde önemini artıracağı öngörülen kendi cihazını getir uygulaması 2016 yılında da aynı şekilde listeye giren bir uygulama olarak göze çarpmaktadır. Ancak bu uygulama daha sonra listeden çıkmıştır. Bu bağlamda kendi cihazını getir uygulamasının güncelliğini kaybettiği söylenebilir. Öğrenme analitikleri konusu ise 2016 yılında kısa vadede önemi artan bir teknoloji olarak listeye girmiş ve ilerleyen dönemlerde önemini korumuştur. Önemini koruyan diğer bir teknoloji ise yapay zekâ olarak öne çıkmaktadır. Öğrenme alanlarını yeniden tasarlama konusu ise teknolojinin gelişmesiyle birlikte

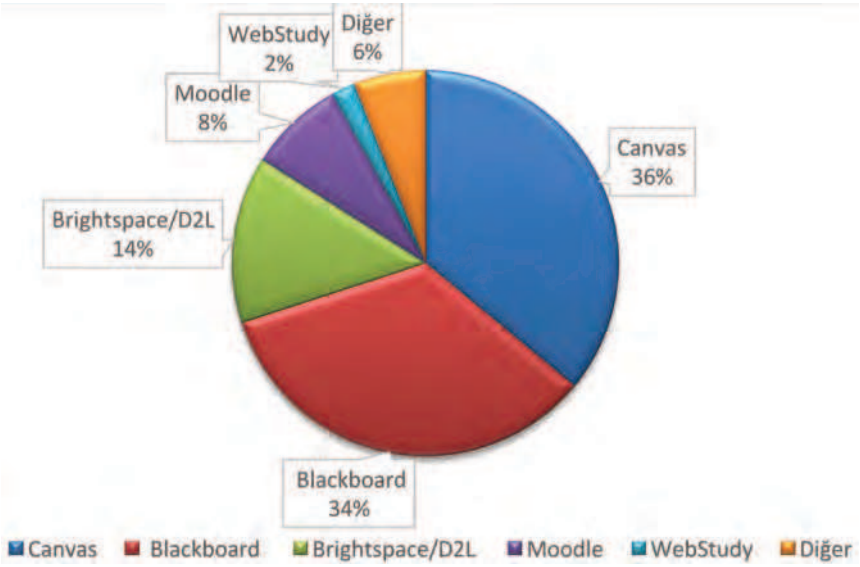
kendine yer bulmuştur. Bu bağlamda mevcut öğrenme alanları gelişen teknolojilere ayak uydurarak sürekli bir şekilde gözden geçirilmelidir. Aynı zamanda öğrenme ortamlarında yeni kültürlerin oluşmasıyla birlikte kurumlar ve sektörler arası işbirliği yapılabilmesi de önümüzdeki dönemlerde yaygınlaşacak bir durum olarak görülmektedir. Bununla birlikte nesnelerin interneti teknolojisi de düşüş eğiliminde olan diğer bir uygulama olarak göze çarpmaktadır. Karma gerçeklik, blok zincir ve sanal asistanlar teknolojilerinin ise gelecek dönemlerde daha yaygın bir şekilde kullanılacağı öngörülmektedir.

Teknolojik eğilimlerle ilgili her yıl öngörülerini açıklayan Gartner kuruluşu da Hype Cycle (2019) ile teknolojik eğilim döngüsünde bazı öngörüler sunmuştur. Bu öngörülerle ilgili olarak, açık ve uzaktan öğrenmeyi etkileyebilecek teknolojiler aşağıda Şekil 2'de sıralanmaktadır:

Şekil 2. Hype Cycle (2019)'da açık ve uzaktan öğrenmeyi etkileyebilecek teknolojiler

Doğrudan açık ve uzaktan öğrenme süreçlerinde kullanılan, öğrenme yönetim sistemleri (Learning Management Systems-LMS), kişisel öğrenme ortamları (Personal Learning Environment-PLE), kitlesel açık çevrimiçi dersler (Massive Open Online Courses-MOOCs), açık ders kaynakları (Open Educational Resources-OER) ve sanal sınıflar (Adobe Connect, Open Meetings uygulamaları) ise ayrı bir şekilde incelenmesi gereken ve açık ve uzaktan öğrenmenin en revaçta teknolojik bileşenlerindendir. Bunların dışında, web tabanlı derslerin ve etkileşimli video derslerinin açık ve uzaktan öğrenmede yoğun bir şekilde kullanılma eğiliminde olduğu söylenebilir.

Kurumlar özellikle geleneksel kampüslerin dışına çıkma noktasında öğrenme yönetim sistemlerini kullanmaktadırlar. Bu sayede öğrenenler kurumun kendilerine sağladıkları tüm öğrenme malzemelerine tek bir noktadan ve istedikleri anda, istedikleri yerden erişebilmektedirler. Kurumlar tarafından tercih edilen bu öğrenme yönetim sistemlerinin isimleri ve kullanım oranları ise Şekil 3'te gösterilmektedir.



Şekil 3. Kurumlar tarafından tercih edilen öğrenme yönetim sistemlerinin isimleri ve kullanım oranları (ICT,2019)

Ekonomik Eğilimler

Howell vd. (2003), açık ve uzaktan öğrenmenin ekonomisine yönelik olarak ekonomideki durgunluğun ve geleneksel eğitimde artan maliyetlerin açık ve uzaktan öğrenmeyi cazip hale getirdiğini, kaynak yaratma zorlukları ve maliyet problemlerinin açık ve uzaktan öğrenme kurumlarını zorladığını ve eğitimin ticari bir yapıya bürünmekte olduğunu belirtmektedir. Bu durum bu kurumların işlevlerini yerine getirememesine neden olmaktadır. ITC'ye (2012) göre, 2011'de yaşanan ve ABD ve tüm dünyayı etkileyen "büyük ekonomik durgunluk" geleneksel yükseköğretim kurumlarını etkilediği gibi, açık ve uzaktan öğrenme programlarının da bütçe ve maliye politikasında büyük problemlerin oluşmasına neden olmuştur. Üniversitelerin kaynak yaratmadaki problemleri, diğer kronik problemler olan öğrencilerin programı tamamlama oranları, ders kalitesi, fakülte eğitimi, öğrenci hazır bulunuşluğu ve akreditasyon tabanlı değerlendirme süreçlerini olumsuz yönde etkilemiştir.

Bu olumsuzluklara göğüs germek adına, açık ve uzaktan öğrenme kurumları bazı politikalar ve stratejiler yürüterek bu çıkmazdan kurtulma yoluna gitmektedir. Örneğin, açık ve uzaktan öğrenmenin pazarlaması (marketing) son yıllarda kurum yöneticilerinin en çok üzerinde durduğu konuların başında gelmektedir. Afrika ve Hindistan gibi eğitim altyapısı olmayan ama eğitime ihtiyacı olan birey sayısının yüksek olduğu yerler bir pazar haline gelme eğilimindedir (Hanover Research, 2011). Günümüzde pazarlama açık ve açık ve uzaktan öğrenme sistemlerinde gittikçe artan bir öneme sahiptir. Öğrenen ihtiyaçlarına göre şekillendirilen, yüksek kalitede öğrenme materyalini en hızlı ve kolay bir şekilde sunan, destek hizmetleri veren kurumlar öğrenenleri kendilerine çekmek için müthiş bir yarış içindedirler. Bu bakımdan pazarlama stratejileri bir kurum için bu rekabetçi ortamda olmazsa olmaz bir öneme sahiptir.

eLearning Industry (2019)'da yer alan ekonomik eğilimler şu şekilde sıralanmaktadır:

- 2015 yılında Dünya çapında 107 milyar dolar olan e-öğrenme pazarının 2025 yılında 325 milyar dolar değerinde olacağı tahmin edilmektedir.
- E-öğrenme endüstrisi, yüzyılın başından beri % 900 büyümüştür. 2017'de, ABD şirketlerinin yaklaşık % 77'si çevrimiçi öğrenmeyi kullanmıştır.
- Kapsamlı açık ve uzaktan öğrenme programları, çalışan başına % 218 daha yüksek gelir sağlamaktadır.
- 2017 yılında, ABD şirketlerinin % 67'si akıllı telefonlar üzerinden öğrenme fırsatları sunmuştur.
- E-öğrenme, ABD kuruluşlarının % 42'si için gelirde bir artışa yol açmıştır.
- IBM, e-öğrenmeye geçtikten sonra yaklaşık 200 milyon dolar tasarruf etmiştir.
- ABD'de, kendi öğrenme hızında öğrenme tabanlı çevrimiçi öğrenme pazarının 2021'de 15.86 milyar dolar olacağı tahmin edilmektedir.
- 2016 yılında, ABD Federal Hükümeti, kendi kendine e-öğrenme ürünleri yoluyla yaklaşık 2.59 milyar dolar gelir elde etmiştir.
- E-öğrenmeye harcanan her bir dolar şirketlere verimlilikte 30 dolar olarak geri dönmektedir.
- Kuruluşların % 72'si e-öğrenmenin onlara rekabet avantajı sağladığına inanmaktadır.

Poulin ve Straut (2018), yüz yüze geleneksel derslerin son yıllarda açık ve uzaktan öğrenme derslerine oranla daha az maliyetli olduğunu belirtmişlerdir. Daha fazla teknoloji ve yazılımın kullanılması, daha fazla teknik destek, öğretim malzemelerin geliştirilmesinde kullanılan teknoloji ve yazılımlar, öğrenci kimlik doğrulama sistemleri ve öğretim tasarımına yapılan harcamalar gibi maliyet bileşenleri de açık ve uzaktan öğrenmenin ekonomik açıdan daha pahalı olduğu sonucunu ortaya koymaktadır. Yapılan çalışmada elde edilen bulgulara göre, katılımcıların %57,1'i yüz yüze ve uzaktan derslerin maliyet açısından herhangi bir fark içermediğini belirtirken, %42,9'u ise, uzaktan derslerin daha maliyetli olduğunu söylemektedir.

Açık ve uzaktan öğrenme kurumları için en önemli boyutlardan biri ekonomi boyutu haline gelmektedir. Son yıllarda maliye politikalarına önem veren ve yeni kaynaklar yaratma peşine düşen kurumlar, maliyet etkinliği (cost effectiveness) gibi kavramlar üzerinde daha fazla yoğunlaşma eğilimine girmektedir.

Önceki yıllardaki sorunlar da incelendiğinde açık ve uzaktan öğrenme kurumlarının yaşadığı ekonomik darboğazların, maliyet sorunlarının ve kurumsal bürokratik engellerin açık ve uzaktan öğrenmenin önünde en ciddi sorunlar olduğu görülmektedir. Bu anlamda, açık ve uzaktan öğrenme kurumlarının mali yapılarının düzenlenip, kaynak ayrılması, ayrıca kurumsal engellerin de bertaraf edilmesi açık ve uzaktan öğrenmenin önünü açacak çözümler olacaktır.

Hanover Research (2018) göre, özgün bir çevrimiçi pazarlama deneyimi yaratarak öğrencilerin kurum hakkında daha fazla bilgi edinmesine yardımcı olmak gerekmektedir. Etkileşimli web sitesi ve e-posta optimizasyonunun da ötesinde geçerek, daha gelişmiş artırılmış ve sanal gerçeklik deneyimlerine kadar pazarlama, marka bilinirliğini ve rekabetçi farklılaşmayı teşvik etmek giderek önem kazanmaktadır. Ayrıca, kurumların, aday öğrencilerle fiyat hassasiyetini ele alarak harç azaltma stratejileriyle öğrenci kazanma stratejilerini uygulamaları gerekmektedir. Kurumların, hangi harç

fiyatlandırma modelinin en iyi olduğunu, seçtikleri modelin öğrenciler üzerindeki etkisini anlamaları açık ve uzaktan öğrenmenin ekonomik boyutunun yönetilmesi açısından çok önemlidir.

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İlkokul Dönemindeki Çocukların Mobil Öğrenmeye Adaptasyonu: Oyunlaştırma ile Eğitim

Semih DELİL[1]

Özet

Günümüz teknolojisinin eğitime katkısı çok büyüktür. Gerek sınıf içi gerekse sınıflar dışında olsun teknolojinin eğitime desteği çoğu alanda karşımıza çıkmaktadır. Lise ve sonrası eğitimde uzaktan ve mobil öğrenme için geliştirilmiş eğitim modelleri her geçen gün sayılarını arttırmaktadır. Söz konusu erken yaşlardaki bireyler olduğu zaman uzaktan eğitim gerekliliği olan bilgisayar kullanımı, bu tarz bir modelin kullanımını zorlaştırmaktadır. Bu yüzden ilkokul çocuklarına uzaktan eğitimin planlandığı gibi verilebilmesi için çocuklarının temel bilgisayar kullanabilme becerisine sahip olması gerekmektedir. Çocukların erken yaşlarda bilgisayarı etkili olarak kullanması zordur. Bunun sonuncunda çocukların sınıf içindeki eğitim modelinden farklı bir eğitim görmesi pek mümkün değildir. Bilgisayarlardan farklı olarak mobil cihazlar çocukların kullanımı ve adaptasyonu için daha doğru bir yaklaşımdır. Çoğu zaman bir oyalama aracı olarak çocukların kullanımına sunulan bu cihazlar gelişen teknoloji ve sayılarının artması ile daha erişilebilir cihazlar olmuşlardır. Cihazların bu yaygınlığı ve çocuklar tarafından kullanımının basit olması birçok yazılım geliştiricinin de dikkatini çekmiştir. Bu sayede bahsi geçen cihazlar için hazırlanan çocuklara yönelik eğlence amaçlı yazılımların sayıları artmıştır. Geliştirilen yazılımlar çoğu zaman eğlence amaçlı olmuştur ve çocukların okul eğitimi için özelleştirilmiş bir uygulama çoğu zaman geliştirilmemektedir.

Tüm bu bilgiler ışığında bu çalışmanın amacı, ilkokul çocukları için hedeflenen bir mobil eğitim programı geliştirirken yazılımların çocuklar için geliştirilmesi gerektiği üzerinde durmaktır. Buna ek olarak artık klasikleşen uzaktan eğitim yaklaşımına bir alternatif olarak çocuklar için hazırlanan uzaktan eğitim içeriklerinin oyunlaştırma yaklaşımı ile hayata geçirilmesinin faydaları üzerinde durmaktır. Ayrıca bu çalışma içinde hazırlanan örnek ile eğitim içeriklerinin ne şekilde oyunlaştırılması gerektiğine dair ışık tutmaktır.

Anahtar Kelimeler: *Mobil Öğrenme, Oyunlaştırma, Uzaktan Eğitim, Çocuklar İçin Eğitim.*

GİRİŞ

Düşünce yapılarımız ve kapasitelerimiz her geçen yılla birlikte gelişmektedir. Buna paralel olarak artan nüfus ile birlikte bulunduğumuz çağda gereksinimlerimiz de artmaktadır. Bu gereksinimler çoğu zaman öznel olmayan ve kalabalıkları ilgilendiren gereksinimlerdir ve bulduğumuz çözümler de buna yöneliktir. Özellikle eğitim alanını incelediğimizde bu gereksinimler artık eskisi gibi tek katlı bir bina içine sığmamaktadır. Artan nüfus eğitimin gerekliliğini arttırmış, bununla birlikte eğitimde farklı materyal ve yöntemlerin gelişmesine neden olmuştur. Bu gelişimler çoğu zaman olumlu olsa da genel olarak artan eğitim alma gereksiniminin çözümü geçmişe dayalı ve gelişime kapalı

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eğitim modelleridir. Geliştirilen bu eğitim modelleri çoğu zaman başarılı gibi görünse de günümüz eğitimine baktığımızda başarılı olamadığı görünmemektedir.

Eğitim ve Teknoloji

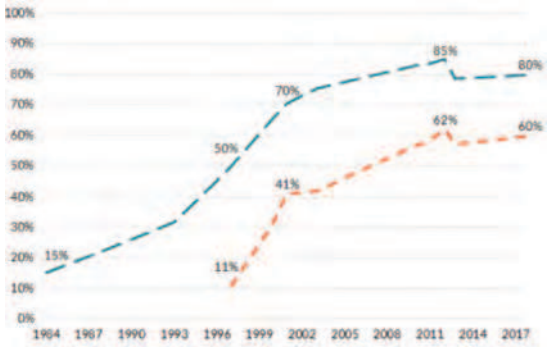
Yakın çağımıza baktığımızda bilim ve teknolojinin hızlı gelişmesi edindiğimiz bilginin de gelişmesine ve artmasına neden olmuştur. Bu kadar yoğun bilginin ne kadarının gerekliği olduğu ya da yetiştirilen nesillere ne kadarının aktarılması gerektiği hala bir tartışma konusudur. Teknolojiyi anlamak kesinlikle önemlidir, ancak güçlü ve zayıf yönlerini gerçek uygulamaları açısından anlamak daha da önemlidir (Bates A. W. 2005, s.10). Artan nüfus, gelişen teknoloji iyi gibi görünse de artan öğrenci sayısına bağlı olarak öğrenim giderlerinin artması çoğu ülke için başlı başına bir sorun olmaktadır. Nüfusun çoğalmasına paralel olarak artan eğitim ihtiyacının karşılanması da toplumların çözmesi gereken önemli eğitim sorunlarından biridir (İşman A. 2011, s.5). Eğitim ile ekonomik büyüme arasındaki ilişkiyi inceleyen çok sayıdaki ampirik çalışmada, eğitimin ekonomik büyümeyi pozitif yönde etkilediği sonucuna ulaşılmıştır (Telatar O. M. ve Terzi H. 2010, s.270). Sonuç olarak ekonomik zorluklarla uğraşan ülkeler eğitim ve nüfus alanında gerekli atılımları ve mali destekleri sağlayamamaktadır.

Bilinen bu sorunlara karşı geliştirilen çözümlerin en başında uzaktan eğitim ya da mobil eğitim gibi kişinin kendi kendine yeri ve mekânı kendi seçtiği, herhangi bir eğiticiye ihtiyaç duymadan kendi başına çalışabildiği eğitim modelleri geliştirilmeye çalışılmıştır. Öğrenenin istediği yer ve zamanda öğrenme sürecini başlatıp, istediği anda sürece müdahale edebilmesi gerçekten çok büyük özgürlüktür (Bulun M. ve diğerleri, 2004, s.166). Ayrıca mobil öğrenme, didaktik öğretmen merkezli eğitimden katılımcı öğrenci merkezli öğrenmeye pedagojik bir geçişi teşvik etmek için mobil cihazların taşınabilirliğini ve çok yönlülüğünü kullanmaktadır (Boticki ve diğereri 2015, s. 120). Fakat bu model çok fazla sorunu da beraberinde getirmiştir. Sorunlardan kısaca bahsetmek gerekirse eğitim içeriklerinin birebir kitaplardan aktarılması, mobil içeriklerin mobil cihazlara uygun olmadan tasarlanması, cihaz ve içerik geliştirme maliyetleri gibi sorunlardan bahsedebiliriz. Ek olarak uzaktan eğitimde öğrenen aslında kendi kendine öğrenen bireydir ve uzaktan öğrenen çoğu zaman yalnızdır (Moore M. G. 1973 s.661-679). Bununla beraber mobil öğrenme ya da uzaktan öğrenim modelleri bir elektronik cihaz üzerinden bağımlı olarak yapılan bir eğitim modelidir.

Mobil Öğrenme

Artan eğitim ya da eğitimi pekiştirme giderlerini çözme biçimi mobil ya da uzaktan öğrenme modeli olarak doğru olsa da eğitim içeriklerinin ya da sahip olduğumuz büyük bilgi havuzunun bu eğitim modellerine aktarılması teknolojinin gelişimi kadar hızlı olamamıştır. Bu eğitim yaklaşımları, girişimde bulunmuş çoğu ülkede hala emekleme aşamasındadır. Bazı ülkelerde ise bu durum tamamen olduğu yerde saymaktadır. Özellikle ilkokul dönemini incelediğimizde teknolojiyi eğitim alanında kullanıyor olmak hala zihinlere yerleşmemiştir. Çünkü bu cihazlar çoğu çocuk ve ebeveyn için hala eğlence aracı olarak kullanılmaktadır ve aile, çocukların ve hatta eğiticilerin aklında öyle tanımlıdır. Fakat mobil eğitim alanı geniş bir uygulama alanını ve yeni öğretme-öğrenme tekniklerini içermektedir (Sönmez F. 2010 s.33). Mobil öğrenme ya da uzaktan öğrenmede çoğu girişimin yaptığı hata kitaplardaki verinin birebir mobil cihazlara aktarılması olmuştur. Günümüzdeki mobil cihazların yetenekleri düşü-

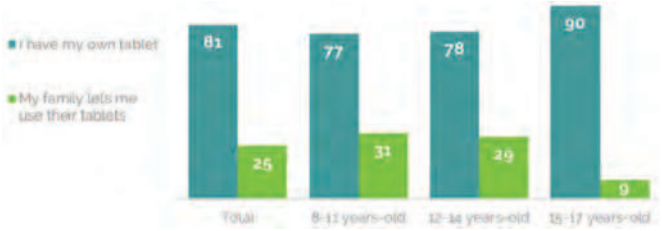
nüldüğünde sadece bir kitap olarak kullanılabilir hale getirilmeleri kitap mı ekran mı sorusunu gündeme getirmiştir. Söz konusu çocuklar olduğu zaman eğlence amaçlı kullanılan mobil cihazların eğitim amaçlı kullanılma fikri çoğu çocuk tarafından benimsenememektedir. Akıllarında eğlence amaçlı olarak tanımlanan cihazların eğitim materyaline dönüşmesi erken yaşlarda zor olduğu bir gerçektir. Fakat bu cihazların onların zihnindeki tanımı ile kullanılması doğru bir yaklaşım olabilmektedir. Bir konuyu bazen farkında olmadan çocuğa öğretmek çok akılcı bir eğitim yaklaşımı olabilmektedir. Erken yaşlardaki çocukları ele aldığımızda bir tablet ya da telefon sahibi olmak ya da yakınlarında bulunması eskisi kadar zor değildir. Çoğu ülke çocuklarını incelediğimizde artık daha kolay edinilebilir olan bu teknoloji çocuklar için genellikle oyun, sosyal medya ve içerik tüketme aracıdır. Çoğu çocuk bu cihazlarla birlikte sınırsız internete de erişebilmektedir.



Şekil 1. Evde bilgisayarı olan ve interneti evde kullanan 3 ila 17 yaş arası çocuklar 1984-2015

Bu bilgilere baktığımızda uzaktan eğitimi bir sınıfa sığdırmaktansa mobil cihazlar ile kişisinin kendi ev ortamında yapabileceği bir hale getirmekle eğitim masraflarının azalacağını öngörmek olasıdır. Ayrıca bu cihazlar yalnızca çocukları yalıtmakla kalmaz, aynı zamanda sosyal etkileşimlerinde bir katalizör görevi görür ve çocuklara, yaşlarına bakılmaksızın, büyüme özelliklerine uygun zengin öğrenme fırsatları sunar (Zaranis N. 2013, s.1). Özellikle tabletler akıllı telefonlar çocuklar için alışılmış ve kullanımı deneyimlenmiştir. Bu bağlamda çocukları uzaktan eğitime taşırken mobil cihazları özellikle de tabletleri kullanmak birçok sorunun önüne geçebilmektedir. Tablet ergonomisi ve sunduğu çoklu ortam özellikleri ile masaüstü ya da dizüstü bilgisayarların önüne geçebilmektedir. Masaüstü bilgisayarlar adlarından da anlaşılacağı üzere bir masaya ya da bir yere ihtiyaç duyar. Bu durum aynı zamanda kullanıcıları da masa başına bağlı hale getirir. Dizüstü bilgisayarlar ise gerek şarj problemleri gerekse tam anlamıyla taşınabilir olmamaları ile yine insanın mobilleşmesine engel olabilmektedir. Ek olarak tabletin kullanımı tüm dünyada özellikle çocuklar arasında hızla artmaktadır.

Şekil 2. **Düzenli olarak tablet kullanıyor musunuz?**



Şekil 3. **Tabletiniz var mı?**

Ergonomi problemleri bilgisayarların eğitim alanında kullanımını sekteye uğratabilmektedir. Bu bağlamda tabletler özellikle de çocuklar için mobil eğitimin daha ergonomik bir şekilde yürütülmesine olanak tanımaktadır. Mobil eğitim dünyada teknolojiye bağlı olarak eş oranlı gelişme göstermiştir. Cihazların gelişmesi buna ön ayak olmuştur. Mobil cihazlar tasarıları gereği çoklu ortam özelliklerini de beraberinde getirmektedir. Her ne kadar geçmişten günümüze tasarlanan uzaktan ya da mobil eğitim örnekleri çoklu ortam özellikleri barındırsa da çoğu eğitim içeriği bu cihazların çoklu ortam özelliklerini tam olarak kullanamamaktadır. Bir eğitimin uzaktan eğitim olarak tanımlanmasında konu anlatımları okuma parçaları testler gibi adımların önemi büyüktür. Gerek okullar gerekse özel eğitimde eğitimin başarısı için bu ve benzeri adımlar önemlidir. Bu adımlar için çoklu özellikleri barındıran bir eğitim arayüzü geliştirmek ve bunu ilkokul çocuklarının algı kapasitelerine göre tasarlamak çok önemlidir. Bu bağlamda yeni keşifler yapmaktansa çocukların zaten aşina olduğu bir yoldan gitmek daha akılcı olacaktır. Bahsi geçen akılcı yol ise oyunlardır. Bilgisayar oyunları özellikle de mobil oyunlar günümüzde çocuklar için vazgeçilmez bir vakit geçirme etkinliğidir. Tamamen isteyerek ve keyifle geçirdikleri bu etkinlik çoğu zaman ebeveynler tarafından endişe ile izlense de çocuk gelişiminde oyun oynamanın birçok yararlı etkisi vardır. Bu olumlu etkilerin başında problem çözme yetisi geliştirme, tarih ve kültür üzerine merak arttırma, arkadaş edinme, egzersiz yapmayı tetikleme, rekabetten keyif alma ve de yaratıcılığı arttırma sayılabilir (Olson C.).

OYUNLAŞTIRMA

Oyun oynamanın ve eğitimin gerekliliklerini birleştirdiğimizde eğitimi oyunlaştırma sonucu kaçınılmaz olmaktadır. Oyunlaştırma tipik olarak oyun oynama unsurlarının (oyun kuralları, puanlama, diğerleriyle rekabet etme) diğer faaliyet alanlarına, özellikle de kullanıcıların problem çözme sürecine dahil olmalarının uygulanması olarak tanımlanmaktadır (Hall M. 2014). Oyunlaştırma, oyun olmayan bir şeyi almak, etkileşimi, mutluluğu ve sadakati artırmak için oyun mekaniklerini uygulamakla ilgilidir (growt-

hengineering.co.uk). Her ne kadar oyunlaştırma terimi ve vardığı noktalar oyunlaştırma ile eğitimi yansıtmasa da hedefleri ve kazanımları incelediğimizde çocukların yetişmesindeki beklentilerimizi karşılaşmaktadır. Basitçe istediğimiz her eylemi oyun oynatarak yapmak ve bu oyunun kurallarının olması eğitim için doğru bir yaklaşımdır. Çünkü eğitimde de ezbercilikten çok problem çözme yaklaşımı doğru bir yaklaşımdır. Konuyu kavramak tecrübe etmek ve problemi çözmek aslında bir oyun içerisinde yaptığımız eylemlere benzemektedir. Ayrıca oyunlaştırma sadece dijital ekran üzerinden değil kartlar yazılar ya da sınıf içi etkinliklerle de olabilmektedir. Fakat çalışmanın sınırları sadece mobil cihazlar üzerindeki oyunlaştırma yaklaşımları ile sınırlıdır.

Oyunlaştırmanın ilk hedefi oyuna dahil etmektir. Bunun için oyunlaştırma uygulamaları kullanıcıya sonuca ulaşmaları için onlara bir şeyler vadeder. Bu bir tebrik, ekstra kazanımlar ya da diğer aşamaya geçebilme gibi ödüller olabilir. Oyunlaştırma uygulamalarının içerisine dahil olan kullanıcının belirli adımları tamamlaması istenir ve tamamlaması sonrası oyuncu bir kazanım elde eder. Bu durum tıpkı bir bilgisayar oyunu oynadıktan sonra geçilen aşamadan sonra diğer aşamaya geçmek ya da oyunda kazanmak gibi açıklanabilir. Eğitim için oyunlaştırmada ise hedef bir konuyu kavratmaksa önce oyunlaştırarak konunun adımları kavratılır. Burada yaklaşım 2+2'nin 4 olduğunu söylemektense bir senaryo oyun içi uygulama ile onu göstermektir. Daha sonra eyleme geçmesi beklenen kullanıcı öğrendiği adımları sahada uygular. Eğer kullanıcı senaryoyu iyi izlemiş ve kavramışsa sonraki adımlardaki soruları da cevaplamakta zorlanmayacaktır. Kazanımlarını oyun içerisinde deneyimleyerek konuyu kavrayan kullanıcı kalabalık bir sınıfta öğreneceğinden çok daha hızlı öğrenme ve uygulama fırsatı bulabilmektedir. Dünya üzerinde oyunlaştırma kavramı çok yeni bir kavram değildir. Mobil cihazlar ve bu cihazlar için geliştirilen yazılımlarla kendini daha belirgin bir hale getirmiştir. 2010'lu yıllar ve sonrasında yapılan yazılımlar ile kendini iyice popüler hale gelmiştir. Bu yazılımların çoğu tabi ki eğitim amaçlı değildir. Yapılan oyunlaştırma uygulamaları çoğu zaman belirli marketlerde pazarlama stratejisi olarak kullanılmıştır. Birkaç önemli örnekten bahsetmek gerekirse Duolingo, SuperBetter ve Strabucks uygulamaları sayılabilir.

Duolingo: Duolingo bir yabancı dil öğrenme programıdır. İçerisinde barındırdığı görev ve görsellerle öğrenmek istediğiniz yabancı dildeki yapıları ve kelimeleri pekiştirmenize yardımcı olur. Oyun yapısı gereği bunu oyun oynatarak öğretir.

Şekil 4. **Duolingo ekran görüntüleri**

SuperBetter: SuperBetter mental olarak esneklik geliştiren bir uygulamadır. Kullanıcılarına değişim ve zor engeller karşısında bile güçlü, motive ve iyimser kalma yeteneği sunmayı hedefler.

Şekil 5. SuperBetter ekran görüntüleri

Oyunlaştırma eğitim uygulaması örneği: Basit bölme işlemlerini öğretmeyi amaçlayan bir uygulama. Uygulama bildiğimiz ve mobil uygulama olarak çok bilinen Fruit Ninja üzerine entegre edilerek tasarlanmıştır. Meyveleri bölerek ilkokul çocukları için basit bölme işlemlerinin mantığını öğretmeyi hedeflemiştir.

Şekil 6. Oyunlaştırma ile eğitim için prototip olarak düşünülen uygulamanın ekran görüntüleri

SONUÇ

Eğitim için teknolojiyi kullanmak her zaman doğru bir yaklaşım olmuştur. Teknolojinin cihazlar ve yazılımlar alanındaki gelişimi hayatımızı çoğu alanda kolaylaştırmaktadır. Eğitimi ekranlara taşımanın maliyet ve etki açısından yararı büyüktür. Bu yöntemi hali hazırda kullanan birçok ülke bulunmaktadır. Fakat bu yaklaşım sadece lise ve üstü okullarda yaygın olarak kullanılmaktadır. Söz konusu ilkokul öğrencileri olduğunda sınırlamalar daha fazla olmaktadır. Bu yüzden ilkokul öğrencilerin kapasitesine uygun yazılımlar geliştirmek önemlidir. Bu bağlamda ilkokul öğrencilerinin cihaz kullanım yetileri ve yazılım kullanım becerileri göz önünde bulundurarak yapılan mobil eğitim modelleri tasarlamak önemlidir. İlkokul çocukları için yapılan eğitim uygulamalarında oyunlaştırma yazılımlarını kullanmak günümüzde etkili ve doğru bir yaklaşım olabilmektedir.

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Şekil 1: Home Computer Access and Internet *Use https://www.childtrends.org/indicators/home-computer-access*

Şekil 2: Three-quarters of kids between ages 8 and 11 regularly use a tablet *https://today.yougov.com/topics/education/articles-reports/2018/04/16/three-quarters-kids-between-ages-8-and-11-regularl*

Şekil 3: Three-quarters of kids between ages 8 and 11 regularly use a tablet *https://today.yougov.com/topics/education/articles-reports/2018/04/16/three-quarters-kids-between-ages-8-and-11-regularl*

Şekil 4: Duolingo ekran görüntüleri

Şekil 5: SuperBetter ekran görüntüleri

Şekil 6: Oyunlaştırma ile eğitim için prototip olarak düşünülen uygulamanın ekran görüntüleri

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Dijital Bir İletişim Alanı Olarak Kişiselleştirilmiş Açık ve Uzaktan Öğrenme Ortamlarının Tasarımına İlişkin Kuramsal Bir Çerçeve

Tülay GÖRÜ DOĞAN[1]

Özet

Bu çalışmanın amacı, dijital bir iletişim alanı olarak kişiselleştirilmiş açık ve uzaktan öğrenme ortamlarının nasıl daha etkin ve verimli olarak tasarlanabileceği sorusuna yanıt aramaktır. Bu kapsamda, çalışmanın kuramsal temelini, Kişiselleştirilmiş Öğrenme Yaklaşımı ve dijital iletişim ortamlarının tasarımına ilişkin önemli unsurlara işaret etmesi bakımından Öğrenme İçin Evrensel Tasarım (ÖİET) ilkeleri oluşturmaktadır. Çalışma kapsamında, kişiselleştirilmiş açık ve uzaktan öğrenme ortamlarının Öğrenme İçin Evrensel Tasarım (ÖİET) çerçevesinde nasıl tasarlanabileceğine yönelik bir alanyazın taraması yapılarak elde edilen veriler geliştirilen 7X3'lük bir dizeyin satır ve sütunlarının kesiştiği her bir hücresine karşılık gelecek bir biçimde ilgili alanlara yerleştirilmiştir. Kişiselleştirilmiş açık ve uzaktan öğrenme ortamlarının tasarımında ÖİET'nin üç temel ilkesinden yararlanılarak oluşturulan dizey kapsamında geliştirilen kuramsal çerçeve: (1) katılım, (2) sunuş ve (3) eylem ve ifade ilkelerine yönelik adımları içermektedir. Söz konusu çerçevenin, açık ve uzaktan öğrenme konusunda araştırma ve uygulama yapan araştırmacılara, kurumlara ve ders yürütücülerine bir örnek niteliğinde olması bakımından katkı sağlayabileceği öngörülmektedir.

Anahtar Kelimeler: *Dijital İletişim, Açık ve Uzaktan Öğrenme, Kişiselleştirilmiş Öğrenme, Öğrenme için Evrensel Tasarım.*

GİRİŞ

Dijital iletişim teknolojilerinin sunduğu olanaklar sayesinde, öğrenme anlayışlarında değişim ve dönüşümler yaşanmaktadır. Söz konusu teknolojiler, bilginin temel kaynağı olarak öğreticinin görüldüğü, öğrenme eyleminin okul duvarları ve okul zamanı ile sınırlandırıldığı geleneksel eğitim anlayışına farklı bakış açıları getirmektedir. Bu bağlamda, öğrenme süreçlerinde, ders yürütücüsü, tasarımcı, yönetici vb. rolleri üstelenen kişiler, örgün öğrenme süreçlerinde öğrenmenin etkililiğini artıracak ve öğrenenleri bu konuda cesaretlendirecek yeni öğrenme yaklaşımları, modelleri ve stratejileri geliştirmektedirler. Kişiselleştirilmiş öğrenme (Personalized Learning) bu yeni öğrenme yaklaşımlar arasında gösterilebilir.

Çalışma kapsamında, herkes için öğrenmenin en iyi şekilde gerçekleşmesinde öğrenme süreçlerinin geliştirilmesi ve uygun hale getirilmesinde kişiselleştirilmiş açık ve uzaktan öğrenme ortamlarının Öğrenme İçin Evrensel Tasarım (ÖİET) çerçevesinde tasarlanması amaçlamaktadır. Bu kapsamda, kişiselleştirilmiş açık ve uzaktan öğrenme ortamlarının ÖİET çerçevesinde nasıl tasarlanabileceğine yönelik bir alanyazın ta-

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raması yapılarak elde edilen veriler doğrultusunda kuramsal bir çerçeve geliştirilmesi amaçlanmıştır. Bu bağlamda, araştırmanın kuramsal yapısını Kişiselleştirilmiş Öğrenme Yaklaşımı ve Öğrenme İçin Evrensel Tasarım (ÖİET) çerçevesi oluşturmaktadır. Kişiselleştirilmiş açık ve uzaktan öğrenme ortamlarının tasarımında ÖİET'nin üç temel ilkesinden yararlanılmıştır: (1) katılım, (2) sunuş ve (3) eylem ve ifade.

Bu bağlamda, araştırmanın sorusu ve alt soruları şu şekilde yapılandırılmıştır:

1. Kişiselleştirilmiş çevrimiçi öğrenme ortamları ÖİET çerçevesinde nasıl tasarlanabilir?
   1.1. Katılım ilkesine göre kişiselleştirilmiş çevrimiçi öğrenme ortamları nasıl tasarlanabilir?
   1.2. Sunuş ilkesine göre kişiselleştirilmiş çevrimiçi öğrenme ortamları nasıl tasarlanabilir?
   1.3. Eylem ve ifade ilkesine göre kişiselleştirilmiş çevrimiçi öğrenme ortamları nasıl tasarlanabilir?

Yukarıda sıralanan araştırma soruları kapsamında, çalışmanın kuramsal temelini oluşturan Kişiselleştirilmiş Öğrenme ve Öğrenme İçin Evrensel Tasarım (ÖİET) ilkelerinden yararlanılarak kuramsal bir çerçeve sunulmuştur.

ARAŞTIRMANIN KURAMSAL TEMELLERİ

Araştırmanın kuramsal temelleri bağlamında, ilgili alt başlıklarda, Kişiselleştirilmiş Öğrenme (Personalized Learning) Yaklaşım ile Öğrenme İçin Evrensel Tasarım hakkında bir literatür taraması yapılarak ilgili alt başlıklarda ayrıntılı olarak sunulmuştur.

Kişiselleştirilmiş Öğrenme (Personalized Learning)

Kişiselleştirilmiş öğrenme kavramında yer alan kişisel sözcüğü, yalnızca öğrenenlerin benzersizliklerini ortaya koyma girişimi anlamına gelmediği gibi (Rickabaugh, 2015, s.2), aynı zamanda onların, öğrenme eyleminin merkezinde yer almalarını sağlamak anlamına geldiği (Grant ve Basye, 2014, s.10) söylenebilir. Kişiselleştirilmiş öğrenme, öğrenme sürecinin hedef kitle için olabildiğince ilgili ve etkili hale getirilmesi (Powell ve Kusuma-Powell, 2011, s.7) ve her bireye yönelik öğrenme gereksinimlerinin karşılandığından emin olunması (Conole, 2010, s.2) olarak tanımlanabilir. Bu emin olma durumu ise ancak geribildirim (feedback) ile sağlanabilir. Sık geribildirim alma, kişiselleştirilmiş öğrenmenin amacına ulaşıp ulaşmadığını anlamada en önemli unsurdur (Kim, 2012; Redding, 2014). Benzer şekilde, Özarslan (2010), etkili öğrenme amacına ulaşma sürecinde önemli bir olgu olan kişiselleştirme kavramı için, kişinin sosyal ve profesyonel etkinliklerini destekleyen, gereksinimlere göre uyarlanabilen içerik, etkinlik ve araçları bünyesinde barındıran ortamlara gereksinim duyulduğunu ifade etmektedir.

Kişiselleştirilmiş öğrenme ortamının başarılı bir şekilde yürütülebilmesi için öğrenenlerin de belirli rolleri ve sorumlulukları üstlenmesi gerekmektedir. Bunların başında, öğrenme sürecinin sonunda ulaşılması gereken standartların amacının ve yararlarının anlaşılması ve içselleştirilmesi gelmektedir. Bu durum, öğrenenlerin motivasyonunun artmasına ve aktif katılım göstermelerine katkı sağlamaktadır (Rickabaugh, 2012; Redding, 2014). Ayrıca, öğrenenlerin ustalaşma/uzmanlaşma için spesifik hedefler

koyması ve bu hedeflere ulaşabilmek için ders yürütücüleri ile birlikte gerekli aktiviteleri, kaynakları, deneyimleri ve öğrenme gereksinimlerini içeren bir plan hazırlamaları gerekmektedir. Bu plan doğrultusunda, ders yürütücüsü yine öğrenenle birlikte, kişinin öğrenme hedefine ulaşmak için kendine özgü izlemesi gereken yolu tanımlayabilir. Bunlara ek olarak, öğrenenlerin konuyu öğrendiklerinin nasıl gösterilebileceği veya ispat edilebileceği konusunda yine öğrenenlerin de karar verebilmelerinin sağlanması gerekmektedir.

Öğrenme İçin Evrensel Tasarım (Universal Design for Learning – UDL)

Öğrenme İçin Evrensel Tasarım (ÖİET), temeli Evrensel Tasarım İlkelerine (Universal Design Principles) dayanan bir kavramdır. İlk kez 1997 yılında North Caroline State Üniversitesi tarafından tanımlanan Evrensel Tasarım İlkeleri kavramı, mimarlık alanında engelli bireyler için daha kullanışlı yapılar tasarlamak amacıyla kullanılmaktadır (NCSU, 2016). Evrensel Tasarım İlkeleri yedi temel öğeden oluşmaktadır: (1) kullanımda eşitlik, (2) kullanımda esneklik, (3) basit ve sezgisel kullanım, (4) anlaşılabilir bilgi, (5) hata toleransı, (6) düşük fiziksel çaba, (7) yaklaşım ve kullanım için gerekli boyut ve alan. Bu yedi temel öğe, ürünlerin, çevrenin, programların ve hizmetlerin özel bir tasarıma veya uyarlanmaya gerek duyulmaksızın, mümkün olduğunca herkes tarafından kullanılabilecek şekilde tasarlanmasına katkı sağlamaktadır (Aydın Akkurt, 2016).

ÖİET kavramı, herkes için öğrenme ve öğretme süreçlerinin geliştirilmesi ve uygun hale getirilmesinde en iyi öğrenmenin nasıl gerçekleştiği ile ilgili bilimsel anlayışlara dayanan bir çerçeveden oluşmaktadır (CAST, 2016). Bu çerçeve, her öğrenen için tek bir öğretim programı anlayışının aksine, her bir öğrenenin bireysel farklılığına yönelik esnek amaçlar, teknikler, materyaller ve değerlendirme yöntemlerinin seçimini işaret etmektedir. Bu yönüyle, yalnızca özel gereksinimi (fiziksel engel, vb.) olan bireyler için değil, öğrenme sürecine ilişkin farklı yeterlikleri, öğrenme geçmişleri, deneyimleri ve motivasyonları olan her bir öğrenen için eşit fırsatlar sunmaktadır (Burgstahler, 2012; Dell, Dell ve Blackwell, 2015, s. 167).

ÖİET çerçevesinde tasarımların gerçekleştirilebilmesi için ders yürütücülerinin öğrenen gereksinimlerini bütünüyle ele almaları gerektiği yeniden vurgulanabilir. Bunun için, ÖİET'in sunduğu daha kişiselleştirilmiş bir yaklaşımın kullanılması ve konu üzerine daha çok tartışmanın yapılması gerektiği söylenebilir (Abell, Jung ve Taylor, 2011, s. 183). ÖİET çerçevesi, her öğrenen için kişiye özel ayarlanabilen (customizable) ortamların tasarımını desteklemektedir (UDL, 2016). Bu özelliğiyle kişiselleştirilmiş öğrenme ortamlarının amacıyla uyum göstermektedir. Bu uyum nedeniyle araştırma kapsamında, kişiselleştirilmiş açık ve uzaktan öğrenme ortamlarının tasarımı konusunda ÖİET ilkelerinden yararlanılması tercih edilmiştir.

YÖNTEM

Araştırmanın kuramsal yapısını oluşturan Kişiselleştirilmiş Öğrenme Yaklaşımı ve ÖİET çerçevesi arasındaki ilişki Tablo 1'de yer alan 7X3'lük dizeyde (matris) gösterilmiştir. Söz konusu dizeyin oluşturulmasında, kişiselleştirilmiş açık ve uzaktan öğrenme ortamları ve ÖİET kavramlarına ilişkin literatürün işaret ettiği ifadelerden yararlanılmıştır. Bu bağlamda, çalışma kapsamında önerilen kuramsal çerçeve, literatür doğrultusunda geliştirilen 7x3'lük dizeyin temeline dayanmakta ve kişiselleştirilmiş

açık ve uzaktan öğrenme ortamlarının ÖİET çerçevesinde tasarımına yönelik önemli ipuçlarını içermektedir.

		Öğrenme İçin Evrensel Tasarım		
		Katılım (Neden?)	**Sunuş (Ne?)**	**Eylem ve İfade (Nasıl?)**
Kişiselleştirilmiş Öğrenme Ortamlarının Tasarımı	**İçeriğin yapılandırılması**	Amaç ve hedeflere dikkati çekmek	Birden çok ortam (görsel-işitsel) aracılığıyla sergilenmesi	Planlama ve strateji geliştirme
	Ders yürütücüsünün rolü	Motivasyonun sağlanması	Bireysel seçimler ve kişiye özgü ayarlamalar için seçeneklerin sağlanması	Tehditleri ve dikkatin dağılmasını en aza indirmek
	Öğrenenlerin rolü	Kişisel yeterliklerin ve becerilerin geliştirilmesi	İlgi, değer ve özgünlüğe uygun hale getirme	Kendi kendini düzenleme
	Teknolojinin entegrasyonu	Kişiye özgü ayarlanabilen yollar (ortamlar) önerilmesi	İletişim için birden çok medya ortamının kullanılması	Erişilebilirliğin en uygun hale getirilmesi
	Yeterliliklerin gösterilmesi	Yansıtma (reflection) becerilerinin geliştirilmesi	Bilginin görüntülenmesinde kişiye özgü ayarlanabilen yollar önerilmesi	İzleme (monitoring) işlemleri için kapasitenin iyileştirilmesi
	Değerlendirme	Amaçların en uygun şekilde belirlenmesi	Uygulama ve performans için belirlenmiş destek ile yetkinliklerin sağlanması	Saptanan zorlukların üstesinden gelebilmek için kaynak ve gereksinimlerin çeşitlendirilmesi
	Deneyimlerin paylaşılması	İş birliğinin güçlendirilmesi	Yapılandırma ve biçimlendirme için birden çok aracın kullanılması	Uzmanlık odaklı geribildirimin artırılması

Tablo 1. Kişiselleştirilmiş Açık ve Uzaktan Öğrenme Ortamlarının ÖİET Doğrultusunda Tasarımı

BULGULAR

Bir dijital iletişim alanı olarak, Kişiselleştirilmiş açık ve uzaktan öğrenme ortamlarının Öğrenme İçin Evrensel Tasarım (ÖİET) ilkeleri kapsamında tasarımına yönelik kuramsal bir çerçeve geliştirilmesinin amaçlandığı çalışmaya ilişkin bulgular (1) katılım ilkesine ilişkin bulgular, (2) sunuş ilkesine ilişkin bulgular ve (3) eylem ve ifade ilkesine ilişkin bulgular olmak üzere üç başlıkta sınıflandırılabilir. *Katılım ilkesine ilişkin bulgular*, içeriğin yapılandırılmasında amaç ve hedeflere dikkatin çekilmesi, ders yürütücüsünün motivasyonun sağlanması konusuna yönelik rolü, öğrenenlerin kişisel yeterliklerin ve becerilerin geliştirilmesi konusuna yönelik rolü, kişiye özgü ayarlanabilen teknoloji entegrasyonu, yansıtma becerilerinin geliştirilmesi, değerlendirme amaçlarının belirlenmesi ve işbirliğinin güçlendirilmesi konularını kapsamaktadır.

Benzer şekilde, *sunuş ilkesine ilişkin bulgular* ise içeriğin birden çok ortam aracılığıyla sunulması, bireysel seçimler ve kişiye özgü ayarlamalar için seçeneklerin sağlanması konusuna yönelik ders yürütücüsünün rolü, ilgi, değer ve özgünlüğe uygun hale getirme konusuna yönelik öğrenenlerin rolü, iletişim için birden çok medya ortamının kullanılması, bilginin görüntülenmesinde kişiye özgü ayarlanabilen yollar önerilmesi, uygulama ve performans için belirlenmiş destek ile yetkinliklerin sağlanması ve yapılandırma ve biçimlendirme için birden çok aracın kullanılması gibi konulara odaklanılmaktadır. Son olarak, *eylem ve ifade ilkesine ilişkin bulgular*, içeriğin yapılandırılmasında planlama ve strateji geliştirme, dikkatin dağılması veya diğer tehditler konusuna yönelik ders yürütücüsünün rolü, kendi kendini düzenleme konusuna yönelik öğrenenlerin rolü, teknolojiye erişilebilirliğin en uygun hale getirilmesi, yeterliliklerin izlenmesinde kapasitenin iyileştirilmesi, saptanan zorlukların üstesinden gelebilmek için kaynak ve gereksinimlerin çeşitlendirilmesi ve deneyimlerin paylaşılmasında uzmanlık odaklı geribildirimin artırılması konularını içermektedir.

TARTIŞMA VE SONUÇ

Bu araştırma, dijital bir iletişim alanı olarak kişiselleştirilmiş açık ve uzaktan öğrenme ortamlarının Öğrenme İçin Evrensel Tasarım ilkeleri kapsamında tasarlanmasına ilişkin kuramsal bir çerçevenin geliştirilmesine odaklanmaktadır. Söz konusu kuramsal çerçeve, kişiselleştirilmiş açık ve uzaktan öğrenme ortamlarının tasarlanmasında, (1) katılım, (2) sunuş ve (3) eylem ve ifade ilkelerine yönelik literatür taraması ile elde edilen bulgularla sınırlıdır. İlgili yapının, açık ve uzaktan öğrenme konusunda araştırma ve uygulama yapan araştırmacılara, kurumlara ve ders yürütücülerine kişiselleştirilmiş açık ve uzaktan öğrenme ortamlarının tasarımı konusunda bir örnek niteliğinde olması bakımından katkı sağlayabileceği öngörülmektedir. Bununla birlikte, söz konusu kuramsal çerçevenin çeşitli uygulamalar kapsamında deneyimlenmesi ve geliştirilmesi gerekmektedir. Bundan sonraki araştırmaların, konuyla ilgili uygulama temelli çalışmalara yönelmesi önerilebilir.

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Ölçeklenebilir Öğrenme Yönetim Sistemi Kurulumu: Eskişehir Osmangazi Üniversitesi Örneği

Erkan YETIK[1], Murat BALTA[2] Zeynep YURTSEVEN AVCI[3]

Özet

Bu çalışmamızda, Eskişehir Osmangazi Üniversitesi Uzaktan Eğitim Uygulama ve Araştırma (ESUZEM) Merkezi bünyesinde yürütülen lisans ve lisans üstü dersler ve tezsiz yüksek lisans programlarının yürütülmesinde işe koşulan öğrenme yönetim sistemimizin yapısı ve işleyişinde yapılan değişiklikler özet olarak sunulmaktadır. Eskişehir Osmangazi Üniversitesi Uzaktan Eğitim Uygulama ve Araştırma (ESUZEM) Merkezi 2012 yılından bu yana lisans ve yüksek lisans düzeyinde pek cok öğrenci ve eğitmene hizmet sunmaya devam etmektedir. 2019-2020 güz dönemi ve sonraki dönemlerde halen yüzyüze yürütülmekte olan bazı lisans ve yüksek lisans derslerinin uzaktan eğitime aktarımı, yeni tezsiz yüksek lisans programlarının öğretime başlaması ve ileriki dönemlerde yeni programların açılmasının planlanması öğrenme yönetim sistemimizin yeniden yapılandırılması ihtiyacını doğurmuştur. Yapılan değişiklik ile fazla RAM kullanımının önüne geçilmiş, uygulama sunucusu üzerinde birden fazla Canvas App`inin kullanımı ile öğrenme yönetim sisteminin ölçeklenebilir bir yapıya geçişi sağlanmış, daha yönetilebilir ve daha güvenli bir öğrenme yönetim sistemi yapısı oluşturulmuştur.

Anahtar Kelimeler: *Ölçeklenebilir öğrenme yönetim sistemi, sanal sunucu, kitlesel eğitim, açık ve uzaktan öğrenme.*

GİRİŞ

Dünya çapında, yükseköğretim kurumlarında uzaktan eğitime olan talep artmaktadır (Balaban, 2012; Seaman, Allen ve Seaman, 2018). Bu talep, gelişmekte olan bir ülkede çok sayıda öğrencinin okula gitmesini engelleyen maddi engellerden kaynaklanabileceği gibi başka bir yerde yoğun bir programla çalışan biri için zaman esnekliği sağlamasından da kaynaklı olabilmektedir. Uzaktan eğitim, daha fazla eğitim fırsatına ulaşmak isteyen birçok kişi için başka şekilde mümkün olmayan, önemli çözümler sunmakla birlikte, arka planda ciddi bir planlama gerektirir (Moore ve Fodrey, 2018; Simonson, Smaldino ve Zvacek, 2015; Sultana ve Kamal, 2002; Süral, 2015).

Dünyada ve Türkiye'de uzaktan eğitim çalışmaları yürütülürken birbirinden farklı teknolojiler kullanılmaktadır. Balaban (2012) bir uzaktan eğitim sisteminin bileşenlerini: 1. Yazılım teknolojileri (a) öğrenme yönetim sistemi, (b) içerik yönetim sistemi, (c) sanal sınıf sistemi; 2. Öğrenciler; 3. Eğitmenler, 4. Donanım ve Ağ Altyapısı; 5. Ölçme ve Değerlendirme şeklinde sıralamaktadır. Bu bileşenlerin birbirini desteklemesi, birbiriyle uyumlu olması ve eş zamanlı olarak gelişimi; sağlıklı uzaktan eğitim faaliyetleri açısından büyük önem taşımaktadır.

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Eskişehir Osmangazi Üniversitesi Uzaktan Eğitim Uygulama ve Araştırma (ESUZEM) Merkezi 2012 yılından bu yana lisans ve yüksek lisans düzeyinde pek cok öğrenci ve eğitmene hizmet sunmaya devam etmektedir. Halen mevcut programlara ait işlemlerin yürütülmesinde üniversitemiz Bilgi İşlem Merkezi bünyesinde ESUZEM'e ait bir sunucu bilgisayar kullanılmaktadır. Ölçme ve değerlendirme faaliyetleri ise ilgili derslerin eğitmenliğini yürüten öğretim üyeleri ile koordinasyon halinde çalışılarak, merkezimizin katkılarıyla gerçekleştirilmektedir. Öğrenme yönetim sistemi ve sanal sınıf sistemi için açık kaynak kodlu (ücretsiz) yazılımlar kullanılmakta, içerik yönetim sistemi için ise mevcut bir lisanslı yazılım kullanılmaktadır.

Öğrenme Yönetim Sistemleri

Açık ve uzaktan öğrenme altyapısında temel bileşenlerdendir. Öğrenme materyali sunma, içeriğin ve katılımcıların yönetimi, dersler, duyurular ve mesajlar, tartışma grupları, ödev yükleme, geribildirim sağlama gibi pek cok hizmeti eğitmen ve öğrenenlere sağlamaktadır (Aydemir ve Kandemir, 2013; Süral, 2015). Bir sunucu üzerine kurulması ya da Web ortamından hizmet sunmasına durumuna göre teknik alt yapı bakımından, açık kaynak kodlu ve ticari olma durumuna göre lisanslama bakımından öğrenme yönetim sistemleri farklılık göstermektedir (Aydemir ve Kandemir, 2013). ESUZEM tarafından, bir açık kaynak kodlu öğrenme yönetim sistemi olan *Canvas* öğrenme yönetim sistemi kullanılmaktadır.

Açık kaynak kodlu yazılımlar, ücretsiz olarak paylaşılabilen ve üzerinde değişiklik yapılabilen yazılımlardır. Yazılımda kullanılan kodlar erişimine açık ve değiştirilebilir niteliktedir. Ancak, yapılan değişikliklerin Open Source Initiative (OSI) tarafından belirlenen tanımlarla uyumlu olmasına dikkat edilmelidir (Simonson, Smaldino ve Zvacek, 2015). ESUZEM tarafından, açık kaynak kodlu bir öğrenme yönetim sistemi kullanılması maliyet ve esneklik açısından tercih edilmiştir.

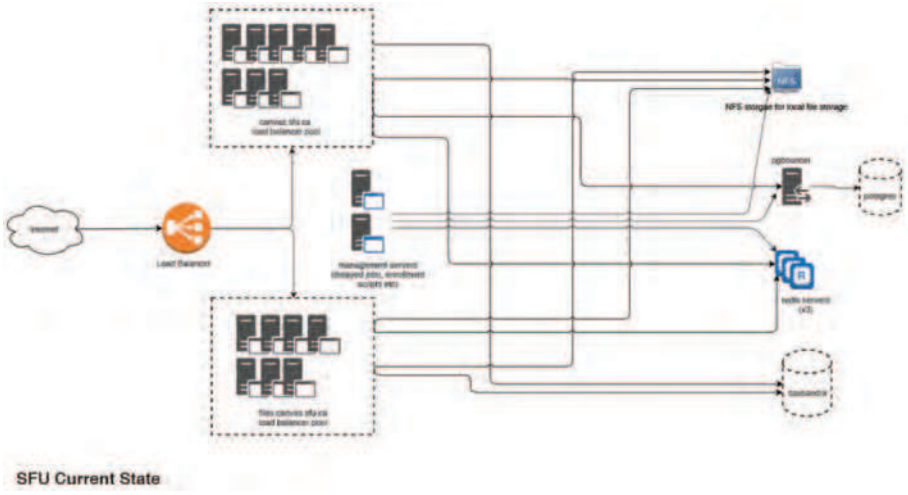
Problem Durumu ve Çalışmanın Önemi

Üniversitemiz Eğitim Bilimleri Enstitüsü bünyesinde, 2018-2019 öğretim yılında uzaktan eğitim yoluyla öğretime devam eden yüksek lisans programında 300 öğrenci ve ortak zorunlu dersler kapsamında Çevrimiçi Yabancı Diller'de 5000 öğrenci kayıtlı iken, 2019-2020 güz dönemi ve sonraki dönemlerde halen yüzyüze yürütülmekte olan bazı lisans ve yüksek lisans derslerinin uzaktan eğitime aktarımı, yeni tezsiz yüksek lisans programlarının öğretime başlaması ve ileriki dönemlerde yeni programların açılmasının planlanması öğrenme yönetim sistemimizin yeniden yapılandırılması ihtiyacını doğurmuştur. Açılacak yeni programlarla birlikte; daha esnek, ölçeklenebilir ve kolay yönetilebilir bir öğrenme yönetim sistemine ihtiyaç duyulmuştur.

YÖNTEM

Üniversitemiz, ESUZEM bünyesinde derslerin yürütülmesinde ise koşulan öğrenme yönetim sistemimizin yapısı ve işleyişinde yapılan değişiklikler için halen Kanada`da Simon Fraser Üniversitesi (SFU) tarafından kullanılan yapının işlevsel ve üniversitemiz ihtiyaçlarına uygun olduğu düşünülerek, örnek alınmasına karar verilmiştir. Aşağıda, Şekil 1, mevcut öğrenme sistemimizin yapısını, Şekil 2 ise model alınan öğrenme yönetim sistemi yapısını göstermektedir.

Şekil 1. **Mevcut öğrenme yönetim sistemi yapısı**



Şekil 2. **Model alınan SFU öğrenme yönetim sistemi yapısı**

BULGULAR

Merkezimiz tarafından yürütülen sistem kurulumu, ihtiyaca uygunluk değerlendirmesi ve yapılan stres testleri sonucunda, öğrenme yönetim sistemimiz için oluşturulan yeni yapı Şekil 3`de verilmektedir. Öğrenme yönetim sistemimizin yeni yapıya (Şekil 3) geçişi ile;

- Anahtar değer deposu (redis) ve veri tabanının tek sunucuda bulunmasından kaynaklanan fazla RAM kullanımının önüne geçilmiş,
- Uygulama sunucusu üzerinde birden fazla Canvas App`inin kullanımı ile öğrenme yönetim sisteminin ölçeklenebilir bir yapıya geçişi sağlanmış,
- Daha yönetilebilir ve daha güvenli bir öğrenme yönetim sistemi yapısı oluşturulmuştur.

Yeni yapıda yer alan her bir bileşenin görevi/kullanım amacı aşağıda açıklanmaktadır:

Yük dengeleyici (Load Balancer): Kullanıcıları, sırayla uygulama sunucularına yönlendirir ve bu sayede bütün uygulama sunucularına eşit yük binmesini sağlar. Uygulama sunucuları arttıkça sunucu başına düşen yük miktarı azalır.

Uygulama sunucuları: Kullanıcıların yaptıkları işlemleri işleyerek tarayıcılarında görmelerine, yapılan işlemleri veri tabanına yazmaya yarar. Bütün işlemler burada yapılır.

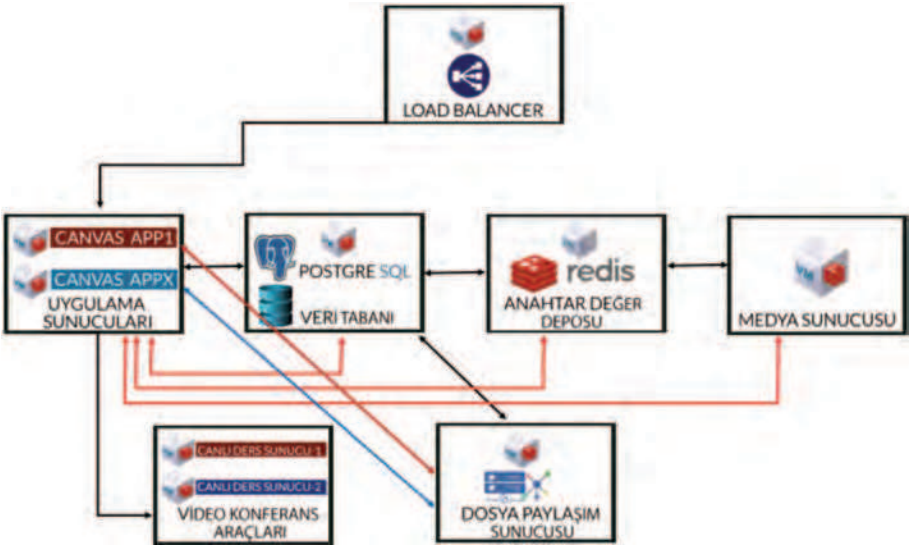
Veri Tabanı: Bütün uygulama sunucuları tek bir veri tabanına bağlıdır.

Redis Sunucu: Uygulama sunucularının anahtar değerlerini RAM de tutarak uygulama sunucuları işlemcilerine ekstra yük binmesini engeller.

Medya sunucusu: Derslere ait hazırlanmış sesli ya da videolu içerikleri barındırır.

Video konferans aracı: Öğretmen ve öğrencilerin anlık sesli ve görüntülü olarak etkileşimini sağlar. ESUZEM olarak, açık kaynak kodlu olan BigBlueButton video konferans aracını kullanıyoruz. Yeni sürümüyle birlikte pure html5'e geçtikleri için her türlü cihazda çalışabilmektedir. Uygulama sunucularına LTI (learning tool interoperability) üzerinden bağlanmıştır. Bu sayede istenildiği kadar video konferans aracı sisteme entegre edilerek öğrenci sayısına göre ölçeklendirme yapılabilmektedir.

Dosya paylaşım sunucusu: NFS file server sayesinde uygulama sunucularında yapılan değişiklikler diğer uygulama sunucularında da yansır. Böylelikle disk alanından tasarruf edilirken büyük oranda hız artışı da sağlanmaktadır.



Şekil 3. Öğrenme yönetim sistemimizin yeni yapısı

TARTIŞMA VE SONUÇ

Merkezimiz tarafından bu çalışmada özet olarak sunulan sistem değişikliği, büyümekte olan diğer eğitim kurumlarına örnek olabilir. İhtiyaca yönelik olarak darboğazların olduğu alanlara ilave sanal sunucular eklenerek darboğaz ortadan kaldırılabilir ve kitlesel eğitime geçiş yapılabilir. Daha az maliyetle daha yüksek kullanıcı sayılarına ulaşılabilir. Hızlı bir sistem olacağından kullanıcı memnuniyet oranı artırılabilir. Sınırlılık olarak, bant genişliği oranında sınırlı büyüme yapılabilir. Daha fazla büyüme için internet hızıyla orantılı olacağından internet hızının da artırılması gerekir. Sistem ne kadar hızlı olursa olsun internet hızında yavaşlamalar var ise kullanıcılara giden veriler de o kadar yavaş olur.

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Açık ve Uzaktan Öğrenmede Açıklık: Anadolu Üniversitesi Açıköğretim Sistemi Örneği

Abdullah SAYKILI[1], Hakan ALTINPULLUK[2], Salih GÜMÜŞ[3]

Özet

Bilgi ve iletişim teknolojilerinin günümüzde daha erişilebilir olması ve ayrıca bu teknolojilerin sunduğu çoklu ortam ve bağlantı olanakların artması Açık ve Uzaktan Öğrenmeye (AUÖ) duyulan ilginin de artmasına yol açmıştır. Bu nedenle, dünya çapında AUÖ yoluyla verilen derslerin sayısında son on yılda katlanarak artmıştır. Türkiye'deki serüvenine ise ülke genelinde kitlesel çapta Anadolu Üniversitesiyle birlikte başlayan AUÖ günümüzde yükseköğretimde öğrenim gören tüm öğrencilerin yaklaşık %48'ini oluşturmaktadır. Bu çalışmada, öncelikli olarak AUÖ'nin dünyadaki ve Türkiye'deki serüveni özetlenerek AUÖ'de özellikle son yıllarda artan "açıklık" vurgusuna değinilecektir. Buna ek olarak, AUÖ'nin sağladığı üstünlüklere yer verilecektir. Son olarak, Türkiye'de AUÖ uygulamalarında öncü yükseköğretim kurumu konumunda bulunan Anadolu Üniversitesi'nin AUÖ sistemi, kısa tarihçe ve güncel durumu bağlamında ele alınacaktır. Sonuç olarak, Türkiye'de AUÖ uygulamalarının "açıklık" durumu tartışılarak Anadolu Üniversitesi AUÖ sistemlerinin yükseköğretime öğrenen kabulünde daha "açık" hale getirilmesi gerektiği gerekçelendirilecektir.

Anahtar Kelimeler: *Açıklık, açık ve uzaktan öğrenme, Anadolu Üniversitesi, Açıköğretim Sistemi.*

AÇIK VE UZAKTAN ÖĞRENMENİN SERÜVENİ

Açık ve Uzaktan Öğrenme (AUÖ) öğrenenlerin bilgi ve iletişim teknolojilerine dayalı olarak zaman ve/veya mekândan bağımsız bir biçimde öğrenme kaynaklarına erişim sağlayabildiği esnek bir eğitim biçimidir. AUÖ, öğrenenlerin nitelikli eğitime erişimini kolaylaştırmakta ve öğrenenlerin kendi öğrenme süreçlerinde daha fazla sorumluluk ve kontrol sağlamalarına yardımcı olmaktadır (Aydın, 2011). Her ne kadar AUÖ yeni bir eğitim yaklaşımı ve yöntemiymiş gibi algılansa da, AUÖ'nin tarihi 19. yüzyıla, Mektupla Eğitime kadar dayanmaktadır. İlk ortaya çıkışında basılı öğrenme materyallerinin posta yoluyla gönderilmesine dayanan Mektupla Öğrenme modelinden 21. yüzyılda bilgi ve iletişim teknolojilerine dayalı Akıllı ve Esnek Öğrenme modeline evrilmiştir. Her dönemin önde gelen teknolojilerinin baskın rolleri, AUÖ'nin tarihsel serüveninde farklı evrelerden geçmesine neden olmuştur. Bu nedenle, basılı öğrenme malzemelerine dayalı olan birinci nesil AUÖ, sırasıyla radyo ve televizyon gibi kitlesel yayın teknolojilerine dayalı AUÖ modeline, daha sonra bilgisayar ve çoklu ortam teknolojilerine dayalı modele ve son olarak bilgisayar ağları ve çevrimiçi teknolojilere dayalı akıllı sistemler tabanlı yeni nesil AUÖ modeline evrilmiştir. Tüm bu süreçler

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boyunca, AUÖ'de eğitimin sunulduğu ortam ve teknolojilerin gelişiminin yanı sıra, öğrenme olgusuna dair artan bilgi birikimi ve anlayışa dayalı olarak AUÖ kuramsal çerçevelerinde de gelişim ve değişim söz konusu olmuştur. 21. yüzyılda bir bilim dalı olarak gelişen AUÖ'nin dayandığı kuramsal çerçeveler geliştirildikleri dönemin tekno-pedagojik yönelimlerinin yansıtacak şekilde AUÖ'ye özgü farklı öğrenme kuramlarının geliştirilmesine zemin hazırlamıştır. AUÖ kuramları bu tarihsel serüven içinde Bağımsız Çalışma Kuramından, Transaksiyonel Uzaklık Kuramına, Öğretimin Endüstrileşmesi Kuramından, Etkileşim ve İletişim Kuramına, AUÖ'de öğrenen profilini yansıtan Yetişkinlerin Öğrenmesi Kuramından, Eşdeğerlik Kuramına ve son olarak Bağlantıcı Öğrenme Kuramlarına uzanan bir çerçevede gelişmiştir.

Ortaya çıkışından bu yana AUÖ'nin etkililiğini araştıran pek çok araştırma geleneksel yüz yüze eğitimle AUÖ yoluyla verilen eğitim arasında anlamlı bir fark olmadığı sonucunu vurgulamaktadır. Bir başka deyişle, AUÖ yoluyla verilen eğitimin yüz yüze verilen eğitim kadar etkili olduğu bilimsel olarak kanıtlanmıştır (Dean, Stahl, Sylwester, & Peat, 2001, s. 252). AUÖ ile yüz yüze eğitimi kıyaslayan bu araştırmalara ek olarak, Amerika Birleşik Devletleri (ABD) Eğitim Bakanlığının yayınladığı, binden fazla ampirik çalışmayı içeren meta-analiz çalışmasında (US Department of Education, 2010) öğrenme çıktıları noktasında öğrenme materyalini AUÖ yoluyla öğrenenlerin aynı materyali yüz yüze eğitim yöntemiyle öğrenenlere kıyasla daha başarılı oldukları sonucuna erişilmiştir (s. xiv). Sonuç olarak, AUÖ'nin imkân ve fırsatlarından faydalanılarak daha geniş kitlelere eş düzey kalitede eğitim sunmak mümkün olmaktadır.

AÇIK VE UZAKTAN ÖĞRENMEDE AÇIKLIK KAVRAMI

Açık ya da açıklık kavramı, son 10-15 yılda çevrimiçi öğrenme konusundaki araştırma ve tartışmaların merkezinde olmuştur. Açık Eğitim Kaynakları (OER) hareketi ile başlayan ve bugün Kitlesel Açık Çevrimiçi Derslerle (MOOC) devam eden tartışmalarda açıklık kavramı hala gündemdeki yerini korumaktadır. Açıklık için pedagojik motivasyonları araştırmak için, 20. yüzyılın başlarından itibaren John Dewey'in fikirleri ve vizyonunu irdelemek gerekmektedir (Dalsgaard & Thestrup, 2015). Dewey (1907) - kendi terminolojisiyle - "okul sistemini açmak" fikri ile bugünkü açıklık konusundaki tartışmalara da başlangıç noktası olmuş ve yön vermiştir. Dewey'e göre, açıklığın ön şartı eğitimle yaşamı ve toplumu birbirine bağlamaktı. Bu bağlamda, öğrenenlerin okuldaki deneyimlerinin günlük hayatta uygulanmaması, okullarda özgür eğitim ortamlarının olmaması okulun toplumdan kopmasını ve öğrenenin de yaşamdan izolasyonunu doğurmaktadır.

Eğitimde açıklık kavramı "insanlara, mekânlara, yöntemlere ve fikirlere açık olmak" şeklinde nitelendirilebilir (Lane, 2009). Açıklık, öğrenmeye erişimi genişleten ve yeni öğrenme biçimlerini doğuran bir yaklaşımdır (McAndrew, Scanlon & Clow, 2010). Açıklık ilkesi, sadece var olanın erişime açılmasıyla ilgilenmemekte; aynı zamanda toplumla etkileşime giren yeni eğitsel uygulamaları geliştirmekle ve desteklemekle de ilgilidir (Dalsgaard & Thestrup, 2015).

Açık ve uzaktan öğrenme, yükseköğretimin ileri bir formu olarak, "açıklığı" bireylerin günlük yaşamlarına indirgemektedir (Alraimi, Zo & Ciganek, 2015). Açık ve uzaktan öğrenmedeki açıklık hareketi, eğitim materyallerinin hem görünürlüğünün hem de erişiminin artması, daha fazla seçenek sunulması ve esneklik kavramı üzerine yo-

ğunlaşmıştır (Iiyoshi & Kumar, 2008). Açıklık ilkesi ile açık ve uzaktan öğrenmede kurumsal sınırların ötesine geçerek, öğrenmeye yenilikçi yaklaşımlar sunulmaktadır. Ayrıca, geleneksel öğretmen ve öğrenen rollerine meydan okuyan pedagojik fırsatlar da açıklık ilkesi ile yakalanmaktadır (Yuan, Powell & Olivier, 2014).

Dalsgaard ve Thestrup'a (2015) göre, açıklık kavramının açık ve uzaktan öğrenme bağlamında üç pedagojik boyutu bulunmaktadır: Şeffaflık, iletişim ve katılım. Şeffaflık, öğrenenlere birbirlerinin etkinlikleri hakkında fikir edinmelerini sağlamak için öğrenen çalışmalarının, düşüncelerinin, faaliyetlerin ve ürünlerin açılması ile ilgilidir. İletişim, bir kurumun eğitim faaliyetleri ile çevresindeki uygulamalar arasında etkileşim kurmayı amaçlar. Katılım ise, dünya genelindeki tüm eğitim kurumları ve dış uygulamalar arasında birbirine bağımlı, işbirliğine dayalı ve açık ilişkiler kurmayı amaçlamaktadır.

Açık ve uzaktan öğrenmeye yönelik açıklık hareketi, öğrenenlerin eğitim imkanlarına erişimlerinin kolaylaştırılmasının yanı sıra, öğrenen, öğretici ve eğitim kurumları gibi eğitimle ilgili farklı paydaşlar arasında işbirliği olanaklarının artırılmasına da katkı sağlamaktadır. Açık ve uzaktan öğrenme programlarında öğrenenler, öğrenme gereksinimlerini karşılamak amacıyla kitlesel çevrimiçi açık dersler ve açık öğrenme kaynakları gibi farklı öğrenme kaynak ve etkinliklerini bir arada kullanabilmektedir. Açık platformlar ve açık öğrenme kaynakları, öğretici ve öğrenenler için açık öğrenme toplumundaki etkileşimi ve dinamikliği desteklemektedir (Ekren & Genç Kumtepe, 2018). Açık eğitsel kaynakların, yükseköğretim programlarına uygulanmasında yer alan zorlukların üstesinden gelmek için eğitimde açıklık stratejisinin tüm kurumlarda ve programlarda uygulanması gerekmektedir (Judith & Bull, 2016). Sonuç olarak, alanın adında da önemli bir yere sahip olan 'açıklık' kavramı eğitimde gözlenen yönelimleri de yansıtacak şekilde programlara kabulde yükseköğretim kurumlarının daha açık olmalarını gerektirmektedir.

AÇIK VE UZAKTAN ÖĞRENMENİN AVANTAJLARI

Erişim Kolaylığı

Anadolu Üniversitesi Açıköğretim Sistemi dünyanın farklı yerlerinde yaşayan öğrenenlere açık ve uzaktan öğrenme olanağı sunmaktadır. Öğrenenler, çevrimiçi derslere ve ders kaynaklarına internet erişimi olan her konumdan erişebilmektedir. Farklı yaş grupları ve sosyoekonomik düzeyleri temsil eden öğrenenler basılı ve çevrimiçi kaynaklara kolaylıkla erişebilmektedir. Buna ek olarak, çeşitli nedenlerle yükseköğrenime devam edemeyen bireylere, engelli bireylere ve hükümlü bireylere yükseköğretime erişim imkanı tanımasıyla eğitimde fırsat eşitliğinin sağlanmasına katkı sağlamaktadır.

Açıklık

Anadolu Üniversitesi Açıköğretim Sistemi eğitimin önündeki engelleri kaldırmayı amaçlamaktadır. 21. yüzyılın çok kültürlü öğrenme ortamlarında, teknolojinin olanaklarından faydalanarak açıklık sağlamak eğitimin temel hedeflerinden biridir. Açık öğrenme kaynakları dünyada eğitim politikaları, programları ve akreditasyonu konusunda ciddi değişikliklere yol açmaktadır ve Anadolu Üniversitesi bu değişim sürecinde gerekli girişimlerde bulunarak önemli bir rol üstlenmektedir.

Esneklik

Anadolu Üniversitesi Açıköğretim Sistemi, öğrenenlere istedikleri yerde, istedikleri zaman ve istedikleri hızda ders çalışma ve öğrenme olanağı sunmaktadır. Esneklik, büyük ölçüde, tamamen çevrimiçi ortamda yer alan öğrenme kaynaklarıyla sağlanmaktadır. Öğrenenlerin bu kaynakları mobil cihazlarına indirerek çevrimdışı kullanmaları da mümkün olmaktadır.

Uzmanlık

Dünyanın en büyük açık ve uzaktan öğrenme kurumlarından biri olan Anadolu Üniversitesi Türkiye'de ve dünyada milyonlarca öğrenene eğitim olanağı sunarak uzmanlığını da günden güne geliştirmektedir. Öğrenenler, Açıköğretim Sisteminde sunulan ön lisans, lisans ve lisansüstü programlara veya e-sertifika programları ve kitlesel açık çevrimiçi derslere kaydolarak Üniversitenin uzmanlığından faydalanabilirler.

Anadolu Üniversitesi Açıköğretim Sistemi Türkiye'de ve 19 ülkede eğitim olanağı sunmaktadır. 2018-2019 akademik yılında Açıköğretim, İktisat ve İşletme Fakültelerinde toplam 58 lisans ve önlisans programına öğrenen alınmıştır. Anadolu Üniversitesi Açıköğretim Sistemi, Türkiye'de ülkenin eğitim ihtiyaçların karşılanması konusunda kırk yıla yaklaşan deneyimiyle önemli katkılar sağlamaktadır. Nitelikli insan kaynağı ve teknik altyapısıyla ülkemizde yükseköğretim alanında birçok ilki ve yeniliği uygulamaya koymaya devam etmektedir.

NEDEN AÇIK VE UZAKTAN ÖĞRENME?

Açık ve uzaktan öğrenme sistemleri zaman ve mekândan bağımsız, esnek ve öğrenen merkezli yaklaşımları içermektedir. Geleneksel öğrenme ortamlarına kıyasla, teknolojilerin etkin kullanılması sonucu bilgiye daha kolay erişilebilmektedir. Erişilen bilginin niteliği sürekli güncel tutulması nedeniyle yüksektir. Öğrenenler arası ve öğrenen-öğreten arası iletişim ve etkileşim olanakları zengindir. Bu durum, işbirliğine dayalı öğrenme süreçlerine zemin hazırlamaktadır. Öğrenme süreçleri eşzamanlı ve eşzamansız olabilmektedir. Böylece, öğrenenin bireysel zaman planlamasında esneklik sağlar. Çalışan bireyler için de uygun bir öğrenme sistemidir. Bireyler çalışmalarına devam ederken öğrenme süreçlerinden de yararlanabilmektedir.

Açık ve uzaktan öğrenme süreçleri mekân bağımsız olduğu için maliyet etkilidir ve ekonomiktir. Ayrıca yine maliyet açısından düşünüldüğünde, herhangi bir fiziki ortama ihtiyaç duyulmadığı için kurumları mali yönden rahatlatmaktadır. Fiziki ortam gereksinimi ortadan kalktığı için çok sayıda öğrenene eşit şartlarda öğrenme ortamı oluşturmak mümkündür. Alanında en yetkin kişilerin çok sayıda öğrenene ulaşıp eğitim vermesi de geleneksel öğrenme ortamlarına olan üstünlüklerindendir. Ayrıca, yalnızca kurumlar için değil, konaklama, ulaşım gibi ücretleri içermemesi nedeniyle öğrenenler açısından da ekonomiktir.

Açık ve uzaktan öğrenme bireysel farklılıklara saygılıdır. Her öğrenenin kendi hızında çalışmasına uygundur. Uyarlanabilir öğrenme ortamlarıyla, öğrenenlerin gereksinimlerine göre güncellenebilmektedir. Öğrenenin öz düzenlemeli (self-regulated) öğrenme süreçlerini uygulaması için uygun ortamlar sağlamaktadır.

Açık ve uzaktan öğrenme her bireye öğrenme erişimi sunabilmektedir. Bu bağlamda, toplumdan yalıtılmış, mahkûm, engelli ve diğer dezavantajlı birey ve gruplara eğitimde fırsat eşitliği sunmaktadır. Bu noktada geleneksel yüz yüze eğitime erişimi bulunmayan bireyler için uygun ortamlardır.

Zaman ve mekân bağımsız olduğu gibi açık ve uzaktan öğrenme, öğrenenin yaşından ve coğrafik, sosyal, kültürel, ekonomik özelliklerinden de bağımsızdır. Bu noktada yaşam boyu öğrenmeyi de desteklemektedir.

ANADOLU ÜNİVERSİTESİ AÇIK VE UZAKTAN ÖĞRENME SİSTEMİ

Anadolu Üniversitesi açık ve uzaktan öğrenmede 1982 yılından bu yana önce yurt içinde, 1983 yılından bu yana KKTC'de ve 1986 yılından bu yana da Batı Avrupa ülkeleri başta olmak üzere günümüzde dünyada 30'dan fazla ülkede kayıtlı öğreneni bulunan bir üniversitedir. Aynı zamanda Avrupa'da birçok ülkede Milli Eğitim Bakanlığı ile işbirliği yaparak ilköğretim ve lise öğretimi hizmetlerini yürütmektedir. Anadolu Üniversitesi Açıköğretim Sisteminde yer alan Açıköğretim, İktisat ve İşletme Fakültelerinde yer alan programlarında yaklaşık 1 milyon öğrenene öğrenme fırsatı sunmaktadır.

1982 yılında yaklaşık 30 bin öğrenenle eğitime başlayan Anadolu Üniversitesi Açıköğretim Sistemi 2019 yılına gelindiğinde 1 milyondan fazla öğrenen sayısına erişmiş durumdadır. Bu süreçte Açıköğretim Sistemi sadece yurt içinde değil, yurt dışında da bürolar ve sınav merkezleriyle dünyanın farklı bölgelerindeki öğrenenlere hizmet vermeye başlamış, farklı ölçme-değerlendirme araçları ve yöntemlerinden faydalanmış ve çeşitli öğrenme ortamlarından faydalanmıştır. Açıköğretim Sistemini oluşturan tüm bileşenlerin ve verilen eğitimin kalitesi ayrıca farklı akreditasyon kuruluşlarınca onaylanmıştır.

Öğrenme Ortamları

Anadolu Üniversitesi Açıköğretim Sisteminde kayıtlı öğrenenlerin öğrenme süreçlerinin çevrimiçi teknoloji ve ortamlarla desteklenmesi 2000'li yılların başına kadar dayanmaktadır. 2000'li yılların başında çevrimiçi deneme sınavlarıyla başlayan bu süreç günümüzde öğrenenlerin öğrenme izlerinin takip edildiği büyük veriye dayalı öğrenen analitiklerinin toplanmasına imkan tanıyan ve çeşitli ölçme-değerlendirme araçlarının entegre edilebildiği komplike öğrenme yönetim sistemleriyle öğrenenlerin öğrenme süreçlerinin desteklenmesi sürecine evrilmiştir. Bu bağlamda Anadolu Üniversitesi Açıköğretim Sistemi, AUÖ alanında gözlenen tekno-pedagojik gelişmeleri Türk yükseköğretimi özelinde uyarlayarak eğitim uygulamalarına yansıtmaktadır. Açıköğretim Sisteminde dersler malzemelerinin sunumunda kullanılan öğrenme yönetim sistemi Anadolum eKampüs sistemidir.

Anadolu eKampüs Öğrenme Yönetim Sistemi

Anadolum eKampüs Sistemi; AUÖ teknolojilerine odaklanan ve öğrenen-içerik, öğrenen-öğretici ve öğrenen-öğrenen etkileşimlerini üst düzeye çıkarmayı ve öğrenen motivasyonunu ve başarısını artırmayı amaçlayan bir projedir.

Anadolum eKampüs sisteminde öğrenenlere öğrenme süreçlerinde destek olacak bir dizi öğrenme malzemeleri sunulmaktadır. Öğrenen-içerik etkileşimini üst düzeylere çıkarmayı hedefleyen öğrenme malzemelerine ek olarak, öğrenen-öğretici ve öğrenen-öğrenen etkileşimine olanak tanıyan bir takım eşzamanlı ve eşzamansız ortam desteği de bu sistemde sağlanmaktadır.

2018-2019 akademik yılı güncel verilerine göre toplamda 1 milyon 120 binin üzerinde öğrenen Anadolum eKampüs sistemi üzerinden sağlanan öğrenme hizmetlerinden faydalanmaktadır. Bu öğrenenler söz konusu dönemde 18 milyon 650 binden daha fazla sayıda bu sistemi ziyaret etmiş ve toplamda 140 milyon 700 binden fazla ziyaret etmişlerdir. Ayrıca, öğrenenler her oturumda ortalama olarak yaklaşık 9 dakika geçirmiş ve ortalamada yaklaşık 8 sayfa ziyaret etmiştir.

Öğrenme Malzemeleri

Anadolu Üniversitesi Açıköğretim Sisteminde çeşitli öğrenme malzemeleri Anadolu Üniversitesi Öğrenme Yönetim Sistemi olan Anadolum eKampüs üzerinden öğrenenlere sunulmaktadır. Bu sistemde dersler, ünite tabanlı olarak tasarlanmaktadır. Öğrenenlerin farklı özelliklere ve öğrenme tercihlerine sahip olmaları göz önüne alınarak Anadolum eKampüs üzerinden farklı türlerde öğrenme malzemeleri öğrenenlere sunulmaktadır. Çalışma bağlamında bu öğrenme malzemeleri yazılı, sesli ve görsel-işitsel malzemeler olmak üzere ele alınmaktadır. Anadolum eKampüs'te sunulan öğrenme malzemeleri aşağıda açıklanmıştır.

Yazılı Öğrenme Malzemeleri

Anadolu Üniversitesi Açıköğretim Sisteminde çeşitli öğrenme malzemeleri Anadolu Üniversitesi Öğrenme Yönetim Sistemi olan Anadolum eKampüs üzerinden öğrenenlere sunulmaktadır. Bu sistemde dersler, ünite tabanlı olarak tasarlanmaktadır. Öğrenenlerin farklı özelliklere ve öğrenme tercihlerine sahip olmaları göz önüne alınarak Anadolum eKampüs üzerinden farklı türlerde öğrenme malzemeleri öğrenenlere sunulmaktadır. Çalışma bağlamında bu öğrenme malzemeleri yazılı, sesli ve görsel-işitsel malzemeler olmak üzere ele alınmaktadır. Anadolum eKampüs'te sunulan öğrenme malzemeleri aşağıda açıklanmıştır.

- Ders Kitabı: Ders kitapları, her ders için konu uzmanları tarafından hazırlanan ve ana kaynak olarak öğrenenlere sunulan öğrenme malzemeleridir. Ders kitapları PDF, ePUB, MOBİ ve HTML5 olmak üzere dört farklı formatta öğrenenlere sunulmaktadır. Buna ek olarak, ders kitabından parçalanmış ünite metinleri de ünitelerin altında öğrenenlere sunulmaktadır.
- Ünite Özeti: Öğrenenlerin ünitelere hazırlanmalarını ve önemli noktalar üzerinden tekrar yapabilmelerini sağlayan malzemelerdir.
- Sorularla Öğrenelim: Ünite bazlı olarak hazırlanan Sorularla Öğrenelim malzemesinde, ilgili ünitenin önemli noktaları açık uçlu soru olarak hazırlanmakta ve yanıtlarıyla birlikte sunulmaktadır.
- Çözümlü Sorular: Ünite bazlı olarak hazırlanan Çözümlü Sorular malzemesi, çoktan seçmeli sorulardan ve bu soruların çözümlerinden oluşmaktadır.
- Yaprak Test: Ünite bazlı olarak hazırlanan yaprak testler, ilgili üniteye yönelik çoktan seçmeli sorulardan ve yanıt anahtarından oluşmaktadır.

- Deneme Sınavı: Ara sınava ve dönem sonu sınavına yönelik olarak iki farklı şekilde hazırlanan deneme sınavları, öğrenenlerin sınavlarda sorumlu oldukları üniteler ile ilgili sorulardan ve yanıt anahtarından oluşmaktadır. Deneme Sınavları, Anadolum eKampüs Sisteminde ders bazlı olarak ara sınav sorumluluk ünitelerini kapsayan Deneme Sınavı (Ara Sınav-PDF) ve ünitelerin tamamını kapsayan Deneme Sınavı (Dönem Sonu Sınavı-PDF) olarak yer almaktadır.
- Çıkmış Sınav Soruları: Sistemde yer alan tüm derslere ait geçmiş sınavlardaki sorulardan oluşmaktadır.
- Deneme Sınavları: Öğrenenlerin çevrimiçi ortamda kendi deneme sınavlarını oluşturmalarına ve çözmelerine olanak sağlayan öğrenme malzemesidir. Bu malzeme, Anadolum eKampüs Sisteminde ara sınav sorumluluk ünitelerini kapsayan Deneme Sınavı (Ara Sınav) ve tüm üniteleri kapsayan Deneme Sınavı (Dönem Sonu) olarak yer almaktadır.
- Alıştırmalar: Ünite tabanlı olarak hazırlanan ve beş sorudan oluşan çevrimiçi alıştırmalardır. Öğrenenler, ünite ile ilgili bilgi düzeylerini her defasında değişen sorulardan oluşan alıştırmalar ile değerlendirebilirler.

Sesli Öğrenme Malzemeleri

- Sesli Kitap: Ders kitapları seslendirilerek üretilen öğrenme materyalidir. İnsan sesi, makine sesi ve Daisy olmak üzere üç sesli kitap biçimi öğrenenlere sunulmaktadır.
- Sesli Özet: Ünite özetlerinin seslendirilmesiyle oluşturulan öğrenme malzemeleridir.

Görsel-İşitsel Öğrenme Malzemeleri

- Canlı Ders: Canlı dersler, alan uzmanlarının ve öğrenenlerin eş zamanlı olarak sanal sınıf üzerinden etkileşim kurmalarına dayanan öğrenme malzemeleridir. Bu dersler aynı zamanda video olarak kayıt edilmekte ve Canlı Ders kayıtları Anadolum eKampüs Sisteminden ders sonrasında da izlenebilmektedir.
- Ünite Anlatım Videosu: Alan uzmanları tarafından hazırlanan ve üniteyi özetleyen anlatımlardan oluşan videolardır.
- Animasyon Videolar: Animasyon teknikleri kullanılarak konuların çizgi film olarak tasarlanmasıyla oluşturulan videolardır.
- Etkileşimli Video: Ders videolarına etkileşim unsurları eklenerek hazırlanmış, konu anlatımından ve sorulardan oluşan videolardır.

Anadolum eKampüs Sisteminde yazılı, sesli ve görsel-işitsel malzemelerin yanı sıra insan-bilgisayar etkileşimine olanak sağlayan malzemeler de bulunmaktadır. Bu malzemeler etkileşimli e-Kitap ve etkileşimli e-Derstir:

- Etkileşimli e-Kitap: Ders bazında hazırlanan ve özel etkileşim türlerini içeren malzeme türüdür. Öğrenenler; Etkileşimli e-Kitaplarda yer alan sesleri dinleyebilir, videoları izleyebilir, konu ile ilgili ek internet kaynaklarını inceleyebilirler.
- Etkileşimli e-Ders: Etkileşimli e-Ders; ünite tabanlı olarak hazırlanan bir senaryonun tasarlanması, tasarıma etkileşimlerin ve görsellerin eklenmesi sonucunda elde edilen ürünün yayına hazırlanması ile oluşturulmaktadır.

Ortamlar

- Tartışma Forumları: Öğrenenlerin diğer öğrenenler ve ders moderatörleri ile iletişim kurabildikleri ve soru sorabildikleri bölümlerdir.
- SoruKüp Oyun Uygulaması: SoruKüp, öğrenenlerin Facebook üzerinden erişebildikleri bir oyundur. Oyun; öğrenenlerin ders bazlı olarak soru çözebildikleri, diğer öğrenenlerle yarışabildikleri ve etkileşim kurabildikleri, oyunlaştırma öğelerini barındıran bir bilgi yarışmasıdır.
- eKantin: eKantin aynı programa kayıtlı olan öğrenenlerin kendi aralarında görüşlerini, deneyimlerini ve önerilerini paylaşabildikleri bir sosyalleşme ortamıdır.
- Çevrimiçi Öğrenci Toplulukları: 2016-2017 öğretim yılı Güz döneminde faaliyete geçen Çevrimiçi Öğrenci Topluluklarından Açıköğretim Sistemine kayıtlı bütün öğrenenler ücretsiz kaydolarak yararlanabilmektedirler. Kitap Topluluğu, Sinema Topluluğu, Fotoğraf Topluluğu, Müzik Topluluğu ve Tarih Topluluğu olmak üzere 5 topluluk öğrenenlere sunulmuştur.
- Gönüllü Kalite Elçileri: 2016-2017 öğretim yılı Bahar döneminde faaliyete geçen Kalite Elçileri Projesi, Açıköğretim Sisteminde kayıtlı öğrenenlerin, öğrenme deneyimlerini doğrudan paylaşabilmelerini, öğrenme materyallerine ilişkin geri-bildirim sağlayabilmeleri ve öğrenme yaşantılarının kalitesinin artırılmasına katkı yapabilmelerini hedefleyen bir proje olarak hayata geçirilmiştir. Ek olarak, öğrenenler daha iyi öğrenebilmek ve diğer öğrenenlerin öğrenmesine katkıda bulunabilmek adına geliştirdikleri kendi öğrenme malzemelerini de sistemde paylaşabilmelerine olanak sağlamaktadır.

ÖLÇME-DEĞERLENDİRME

Anadolu Üniversitesi Açıköğretim Sisteminde öğrenen başarısı ölçme ve değerlendirme yöntem ve stratejileri çağdaş AUÖ ölçme-değerlendirme yaklaşımlarını yansıtacak şekilde devamlı olarak revize edilmekte ve uygun bağlam ve programlarda yeni ölçme-değerlendirme yöntem ve stratejileri test edilmektedir.

AUÖ Değerlendirme Stratejileri

Anadolu Üniversitesi Açıköğretim Sisteminde öğrenen başarısının değerlendirilmesinde farklı türlerde ölçme-değerlendirme araçlarından (sınavlardan) faydalanılmaktadır. Aşağıda bu ölçme-değerlendirme türleri verilmektedir:

Çoktan Seçmeli Sınavlar

Açıköğretim Sistemi bünyesindeki derslerde arasınav ve final sınavları çoğunlukla çoktan seçmeli sorulardan oluşan sınavlarla gerçekleştirilmektedir. Sorular konu alanı uzmanları tarafından hazırlanır ve Test-Araştırma birimince kontrolden geçirilir.

Açık Uçlu Sınavlar

2016-2017 öğretim yılı bahar döneminden itibaren uygulanan ve öğrenenlerin üst düzey öğrenme becerilerini ölçmeyi hedefleyen açık uçlu sorular Açıköğretim Sisteminde 4 programın 4 dersinde pilot olarak uygulanmaktadır. İki türde açık uçlu soru öğrenenlere yöneltilmektedir: kısa cevap ve uzun cevaplı sorular. Bu soruların hazırlanmasında ve değerlendirilmesinde alan uzmanı öğretim görevlileri görev almaktadır.

Proje Ödevleri

Tarih, Sosyoloji, Felsefe ve Türk Dili Edebiyatı olmak üzere 4 bölümün 4 dersinde uygulanan proje ödevlerinde öğrenenin derse ilişkin bir konu hakkında derinlemesine araştırma yaparak bir makale yazmasını gerektiren ödevlerdir. Bu soruların hazırlanmasında ve değerlendirilmesinde alan uzmanı öğretim görevlileri görev almaktadır.

Staj ve Uygulama Sınavları

Açıköğretim Sistemi bünyesinde uygulama gerektiren 21 bölümde staj ve uygulama dersleri yer almaktadır. Staj ve uygulama dersleri üniversitenin ilgili birimleri veya ilgili protokoller kapsamında kamu kurumlarıyla iş birliği içinde yüz yüze yapılmaktadır.

SINAV ORGANİZASYONU

Anadolu Üniversitesi Açıköğretim Sisteminin en güçlü olduğu bileşenlerden biri Değerlendirme Sürecinde gerçekleştirdiği Merkezi Sınavlardır. 1982 yılından beri Türkiye'de ve 1983 yılından beri yurt dışında gerçekleştirdiği sınav organizasyonun başarısı ile güvenirliğini ispatlamış eş zamanlı sınavlar gerçekleştirmektedir. Ülkemizde tüm illerde 129 sınav merkezinde 424 binden fazla görev alan personel değerlendirme sınavlarını gerçekleştirmektedir. 2 gün ve dört oturumdan oluşan sınavlarda yaklaşık 3 milyon sınav yaklaşık 136 bin sınav salonunda yapılmaktadır. 210 Cezaevinde 7 bin öğrenen, 5.200 salonda dezavantajlı öğrenen sınava katılmaktadır. Yurt içindeki sınav merkezlerine ek olarak, Anadolu Üniversitesi 17 farklı ülkede 30'dan fazla sınav merkezinde sınav yapabilme kapasitesine sahiptir.

SONUÇ

Açık ve Uzaktan Öğrenmenin (AUÖ) geçmişi 200 yıl öncesine kadar dayanmaktadır. Bu süreçte AUÖ çeşitli evrelerden geçmiş ve tekno-pedagojik gelişmelerin yansımasıyla, kuramsal temelleri olan sağlamlaşan bilim alanı haline dönüşmüştür. AUÖ, geleneksel yüz yüze eğitime kıyasla öğrenenler açısından çeşitli fırsat ve olanaklar sunmaktadır. Öte yandan, alanyazında yapılan çalışmalar öğrenen başarısı bakımından AUÖ yoluyla verilen eğitimle yüz yüze verilen eğitimler arasında anlamlı fark olmadığını göstermektedir.

Ortaya çıkışından itibaren AUÖ eğitim uygulamalarının odağında olan açıklık kavramı son on yılda eğitim alanında gözlemlenen 'açıklık' vurgusuyla paralellik göstermektedir. Öyle ki; dünyanın önde gelen yükseköğretim kurumlarından olan MIT ve Harvard gibi üniversiteler öğrenme kaynaklarını Açık Ders Yazılımları (open courseware) yoluyla Açık Ders Kaynağı (Open Educational Resource) olarak tüm dünyaya açmış durumdadır. Türk yükseköğretimi de benzer eğilimlerden etkilenerek TÜBA Açık Ders Malzemeleri gibi projeler geliştirmiştir. Açık Ders Kaynakları yönelimine ek olarak, eğitimde açıklık kavramının ortaya çıkardığı başka bir oluşum ise Kitlesel Açık Çevrimiçi Dersler (Massive Open Online Courses) olarak karşımıza çıkmaktadır.

Açık ve Uzaktan Öğrenme kavramında önemli bir yere sahip olan açıklık kavramı öğrenme kaynaklarına erişimde açıklığın yanı sıra eğitim programına kabulde de açıklığı ifade etmektedir. Bu nedenle, eğitimde açıklık yöneliminin yansıması olarak, örgün AUÖ programlarda da öğrenen kabullerinin de daha 'açık' hale getirilmesi uygun

olacağı değerlendirilmektedir. Başka bir deyişle, program kontenjanlarının artırılması ve ilerleyen dönemlerde kontenjan uygulamasından vazgeçilmesi eğitimde açıklık yönelimine uygun olarak daha fazla sayıda bireyin yükseköğretime erişmesine imkân tanıyacaktır. Türkiye'de alandaki geçmişi, uzmanlığı, operasyonel kabiliyetleri ve çeşitli kurumlarca onaylanmış verdiği kaliteli eğitimiyle Anadolu Üniversitesi bu talebi karşılayacak imkân ve olanaklara sahiptir.

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E-öğrenme Materyali Olarak Videolarda Kullanılan Yüz İfadelerinin Öğrenen Motivasyonuna Etkisi

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Özet

Bu çalışmada açık ve uzaktan öğrenenlerin videolar yoluyla aldıkları derslerde konu anlatıcısının yüz ifadelerinin öğrenen motivasyonuna olan etkisi incelenmiştir. Bu bağlamda Açıköğretim Fakültesi e-kampüs üzerinden Medya ve İletişim dersinin ilk ünitesi video yoluyla açıköğretim sisteminde kalite elçileri adıyla anılan öğrenen kitlesine sunulmuş ve onlardan bilgi toplanmıştır. Bu çalışmada öğrenme malzemelerinden video incelendiğinden sözü geçen ders videosu, araştırmacı tarafından belirli saniyeler arasında anlatıcının yüz ifadelerine göre nötr, enerjik, sıkılmış, samimi, öfkeli ve düşünceli olarak gruplanmıştır. Herbir yüz ifadesinin kullanıldığı aralık sonunda videoda öğrenenler videoyu izlemeye devam etme isteklerini ölçen bir cetvelle karşılaşmışlardır. Böylece öğretenin kullandığı yüz ifadelerine göre öğrenen motivasyonunda nasıl bir değişiklik olduğu gözlemlenmiştir. Öğrenen motivasyonunu olumlu etkileyebilecek yüz ifadelerinin videoya devam etme isteği yüzdelerine göre sırayla enerjik (%73), samimi (%72) ve nötr (%71) olduğu sonucuna ulaşılmıştır.

Anahtar Kelimeler: *Sözsüz İletişim, Açık ve Uzaktan Öğrenme, Öğrenen Motivasyonu*

GİRİŞ

Sözsüz iletişim bireyler arasında konuşma dışındaki araçlarla gerçekleşen iletişimdir (Mutlu, 2004). Sözsüz iletişim kişinin gerçek duygu, düşünce ve amaçlarını ortaya çıkarır. Sözsüz iletişim unsurlarını gözlemleyerek karşımızdaki kişinin duygularını, amaçlarını ya da davranışlarını anlamlandırdığımızda karşımızdaki kişiyi başarılı bir şekilde çözümlemiş ve sözsüz iletişimi kullanmış oluruz (Navarro, 2015).

İletişim teknolojilerinin gelişmesinden eğitim sektörü de nasibini almış ve açık ve uzaktan öğrenme ortamlarını daha ilgi çekici hale getirme gerekliliği doğmuştur. Ancak çevrimiçi ortamlardaki sözsüz iletişim öğelerinin yalnızca yukarıda bahsi geçen ikonlar, simgeler veya resimlerle kısıtlı tutmak yanlıştır. Özellikle ülkemizde açık ve uzaktan öğrenenler ders videolarından sıklıkla faydalanmaktadır. Ancak videodaki ders anlatıcısının kullandığı yüz ifadelerine göre öğrenen motivasyonun değişkenlik gösterip göstermediği üzerinde yeterince çalışılmamış olup aslında açık ve uzaktan öğrenenler için kritik bir konudur.

Yüz ifadelerinin incelenmesinde kullanılan çeşitli yazılımlar olmasına rağmen hiçbiri bizim kültürümüzden çıkmadığından yüz ifadelerinin farklı kültürlerce farklı anlaşılma ihtimaline yer vermemek için bahsi geçen yüz ifadelerinin belirli saniyeler arasın-

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da sunulduğu video sadece araştırma amacı için özel olarak çekilmiş; ve ders anlatıcısı devlet konservatuarı mezunu bir tiyatrocu tarafından canlandırılmıştır. Her duygudurumun yoğunlukla kullanıldığı saniye aralığı sonunda öğrenenler motivasyonlarını ölçen bir cetvelle karşılaşmışlardır. Böylece öğretenin hangi duygudurumu gösteren yüz ifadesini çoğunlukla kullandığında öğrenen motivasyonunda nasıl bir değişiklik olduğu gözlemlenmiştir.

Tüm bu bilgiler ışığında yapılan çalışmada "E-öğrenme ortamlarında sözsüz iletişim öğelerinin etkili kullanımının öğrenen motivasyonuna etkisi var mıdır?" sorusunun cevabı aranmaktadır. Bu çalışmanın amacı hem Dünya hem de Türkiye'deki açık ve uzaktan öğrenme kurumlarının gelişen teknolojilerden faydalanarak oluşturdukları öğrenme malzemelerinde de sözsüz iletişim öğelerini göz önünde bulundurmalarının öğrenci motivasyonuna bir etkisi olup olmayacağını veya ne ölçüde olacağını ortaya koymak ve bu konuya gereken önemi vererek açık ve uzaktan öğrenenlerinin motivasyonlarını artırmaktır.

Bu çalışma, özellikle son zamanlarda artarak yaygınlaşan ders videolarında anlatıcının yüz ifadelerini etkin kullanmasının öğrenci motivasyonunu ne derece etkilediğinin incelenmesi bakımından önemlidir. Bu çalışma ile açık ve uzaktan öğrenmede sözsüz iletişim öğelerinin öğrenen motivasyonuna olan etkisinin incelenmesiyle hem dünyada hem de Türkiye'de faaliyet gösteren açık ve uzaktan öğrenme kurumlarına öğrenme malzemesi hazırlanırken yol gösterebilecek ilkelerin belirlenmesi ve bir model önerisi sunarak ulusal ve uluslararası alanyazına katkı sağlayabileceği ve araştırma sonucunda edinilen bulguların öğretim tasarımcıları ve ders anlatıcıları için yararlı olabileceği düşünülmektedir. Ayrıca sözsüz iletişim öğelerinden yüz ifadelerinin e-öğrenme ortamlarında kullanılabilirliği hususunda araştırmacılar için yeni uygulama alanlarının ortaya çıkabileceği beklenmektedir.

ALANYAZIN

Sözsüz İletişim

İletişimin önemli bir boyutu da sözsüz iletişimdir. Özellikle günümüzde iletişimin sadece "dil" üzerinde gerçekleşen bir süreç olmadığı, gerisinde duran diğer faktörlerin de dikkate alınması gerektiği anlaşılmıştır. Diğer bir deyişle, herhangi bir sözlü iletişimde saklı olan anlam sadece kelimelerin içinde değil, bireylerin birbirleri ile olan ilişkileri ve iletişimin gerçekleştiği ortam ve koşullarında da aranmalıdır. Bunun yanı sıra, birçok kişinin sözlü iletişimi yazılı iletişime tercih ettiği düşünüldüğünde, beden dilini okuma, ses tonunu algılayabilme gibi sözsüz iletişim unsurlarını anlayabilmenin öneminin daha da arttığı söylenebilir (Poon Teng Fatt, 1998).

İnsanlar iletişim kurduklarında sözel mesajların yanında, sözsüz mesajlar da gönderirler. Kişilerarası iletişiminde kullanılan beden hareketleri (jestler), yüz ifadeleri (mimikleri) ve ses özellikleri sözsüz iletişimin temel unsurlarıdır (Dinçer,2016; Gökçe, 2006; Tutar, 2000; Zıllıoğlu, 2014).

Sözsüz iletişim, yüz yüze iletişim içerisinde konuşma ya da yazı olmadan insanların birbirlerine bir takım mesaj göndermesi veya almasıdır. Bu iletişim türünde, insanların "ne söyledikleri" değil sadece "ne yaptıkları" ön plana çıkmaktadır (Dökmen,

2009). Kısacası sözsüz iletişim; sözcüklerle değil, hareket ve davranışlar ile gerçekleşen bir iletişim türüdür. Sözsüz iletişim daha çok sözlü iletişimi pekiştirmek amacıyla kullanılmaktadır (Işık, 2017). Böylece sözsüz iletişim, sözlü iletişimin anlamlarını güçlendirir (Mısırlı, 2008).

E-öğrenme Ortamlarında Sözsüz İletişim

Örgün eğitim ortamlarında öğretenin sözsüz iletişim öğelerini etkin kullanmasının öğrenen motivasyonuna etkisi konusu sıklıkla çalışılmış olup anlamlı sonuçlar ortaya çıkmıştır. Haneef vd. (2014) çalışmalarında sözsüz iletişim öğelerinin öğrenme üzerine etkisini, öğretmenin sözsüz iletişimi etkili kullanıp kullanmadığını araştırmıştır. Araştırma sonucunda sözsüz iletişim öğelerinin öğrenci katılımı ve performansını artırmak için iyi bir yöntem olduğu, öğretenin beden dili, yüz ifadeleri, ses tonu ve göz temasını etkili kullandıklarında öğrenen katılımı ve performansının arttığı ortaya çıkmıştır.

Ancak e-öğrenme ortamlarında sözsüz iletişim, çoğunlukla ikonlar (emoticons) ve yan dil (paralanguage) ile sözsüz işaretlerin eksik kaldığı yerleri telafi etmek için kullanılan küçük bir araç olarak ele alınmış olup e-öğrenme materyallerinden videolardaki ders anlatıcısının sözsüz iletişim öğelerini etkili kullanmasının öğrenen üzerindeki etkilerini çalışan çok az araştırma yapılmıştır. Tu (2002), olumlu sözsüz davranışların kullanılmasının, öğretmen izlenimini ve öğrencilerin etkili öğrenmesini büyük ölçüde artırabileceğini belirtmiştir.

Öğrenen Motivasyonu

Motivasyon, bireyin yaşamı boyunca kendini idame ettirebilmesi, kendi hedeflerini belirleyebilmesi ve doyum noktasına ulaşabilmesi için içsel gücünü dışsal enerjiye çevirebilmesini sağlayan en önemli olgulardan biridir (Baygüz, 2011). Çünkü motivasyon bireyi harekete geçirir, bireyin algılama gücünü artırır, düşünsel çabalarının gelişiminde katkıda bulunur, faaliyetlerin devamlılığını ve düzenini sağlar (Sabuncuoğlu ve Tüz, 1998).

Motivasyon, insan ve insan davranışlarını konu edinir. Dolayısıyla motivasyonun temel amacı, insanı kazanmaktır. İnsanları kazanabilmek için ise insan isteklerinin, beklentilerinin ve ihtiyaçlarının karşılanması gerekmektedir (Şahin, 2004). Öyle ki Clarence Francis motivasyon ile ilgili şöyle demektedir. *"Bir insanın zamanını ve belirli bir ölçüde mahareti gerektiren bedeni faaliyetlerini saat üzerinden veya günlük olarak satın alabilirsiniz hatta belirli bir yerde insanın fiilen hazır bulunmasını sağlayabilirsiniz fakat bir insanın inisiyatifini, sadakatini; kalben, zihnen ve ruhen bağlanabilmesini satın alamazsınız. Bunlar satın alınamazlar, ancak kazanılabilirler"* (Baykal, 1974).

Motivasyon, bireylere karşı nasıl davranıldığıyla ve bireylerin yaptıkları iş hakkında neler hissettikleriyle ilgilidir (Keenan, 1996). Bu da öğretenin sözsüz iletişim öğelerini etkili kullanmasıyla yakından ilişkilidir.

Açık ve Uzaktan Öğrenme Ortamlarında Motivasyon

Açık ve uzaktan öğrenme ortamlarında motivasyon, öğrenenlerin öğrenme düzeyini, yaklaşımını ve sürecini etkilemektedir (Hartnett, George ve Dron, 2011; Keller, 2010). Araştırmalar açık ve uzaktan öğrenme ortamlarında motivasyonu yüksek olan öğre-

nenlerin daha kolay başarıya ulaştıklarını, öğrenme sürecinde mutlu olduklarını, etkili ve verimli bir öğrenme deneyimi yaşadıklarını göstermektedir (Deimann ve Bastians, 2010; Hodges, 2004; Keller, 2010). Motivasyon, açık ve uzaktan öğrenme ortamlarında son yıllarda sıkça araştırılan bir konudur. Motivasyonun açık ve uzaktan öğrenme ortamlarında öğrenenlerin başarılarıyla ilişkili çok önemli bir faktör olduğu birçok araştırmada vurgulanmaktadır (Bonk ve Khoo, 2014; Deimann ve Bastians, 2010; Keller, 2010; Moore ve Kearsley, 2012). Ayrıca bu tür öğrenme ortamlarında karşımıza çıkan derse karşı ilgi eksikliği, enerji düşüklüğü, başarısızlık korkusu, zaman planlamasında yaşanan sorunlar vb. birçok olumsuz durumun nedeni olarak da motivasyon ile ilgili engeller gösterilmektedir (Keller, 2015). Açık ve uzaktan öğrenme ortamlarında motivasyonun artırılması için öğretim sürecinde bazı ilkeler uygun tasarım modelleriyle birleştirildiğinde öğrenenlerin motivasyonunu artıracağı belirtilmektedir (Bonk ve Khoo, 2014).

Tüm bu bilgiler ışığında, insanın kendini gerçekleştirmesi ve mutluluğunu sağlayabilmesi için gerek toplumsal yaşamda gerekse iş yaşamında insanlar tarafından motivasyon kavramının benimsenmesi ve çok iyi bir şekilde yönetilmesi gerekmektedir (Baygüz, 2011).

Bu çalışmada da öğrenenlerin videolarda kullanılan her bir yüz ifadesine göre dersi nasıl algıladıkları ve dolayısıyla öğrenme motivasyonu düzeylerinin ortaya çıkacağı ve ders anlatıcılarının öğrenme sürecinin değerini sözsüz iletişim bağlamında nasıl artırabileceği konusunda yol gösterici sonuçlar edinileceği beklenmektedir.

YÖNTEM

Veri toplama aracı olarak bu araştırmaya özel olarak bir video çekilmiş ve bu videonun farklı saniyelerinde öğrenenlerin videoyu izlemeye devam etmeye karşı motivasyonlarını ölçen sorularla karşılaşmaları sağlanmıştır. Öncelikle alan uzmanlarıyla birlikte sözsüz iletişim öğelerinden yüz ifadeleri kullanılırken araştırma kapsamında hangi yüz ifadelerinin kullanılması gerektiğine karar verilmiştir. Farklı yüz ifadelerine karşı videoyu izleyenin tepkisini ölçen ve hali hazırda var olan farklı yazılımlar incelenmiş, ancak bu yazılımların yurtdışında üretilmesinden dolayı doğabilecek kültürel farklılıkların önüne geçebilmek için bizim kültürümüzle uyumlu yüz ifadelerinin seçilmesine karar verilmiştir. Öncelikle Ekman (2003)'ın çalışmasında yer alan mutluluk, üzüntü, korku, şaşırma, kızgınlık, aşağılama, iğrenme ve gurur ifadeleri incelenmiş ve konu ile ilgili görüşü alınmak üzere alan uzmanlarının yanısıra ders anlatıcısı olarak da görev alacak konservatuar tiyatro bölümü mezunu bir uzmana da danışılmıştır. Ortak alınan karara göre açık ve uzaktan öğrenme öğrencileri için çekilen videolarda nötr, enerjik, sıkılmış, samimi, öfkeli ve düşünceli yüz ifadelerinin kullanımının öğrenen motivasyonuna olan etkilerinin incelenmesinin daha anlamlı olacağına karar verilmiştir.

Öğrenenlere sunulacak dersin ise farklı yüz ifadelerini kullanmaya en elverişli ders olması gerektiğinden yola çıkılarak "Medya ve İletişim" dersine karar kılınmıştır.

Bu bağlamda sözü geçen ders videosu, araştırmacı tarafından belirli saniyeler arasında anlatıcının yüz ifadelerine göre nötr, enerjik, sıkılmış, samimi, öfkeli ve düşünceli olarak gruplanmıştır. Herbir yüz ifadesinin kullanıldığı aralık sonunda videoda öğrenenler videoyu izlemeye devam etmek isteyip istemediklerini ölçen bir cetvelle karşılaşmışlardır. Böylece öğretenin hangi duygudurumu gösteren yüz ifadesini çoğunlukla kullandığında öğrenen motivasyonunda nasıl bir değişiklik olduğu gözlemlenmiştir.

Nicel verilerin analizi için Microsoft Office Excel ve SPSS (Statistical Package for the Social Sciences) yazılımları kullanılmıştır. Veriler kalite elçilerine video izleterek toplanmış ve Excel'e aktarılmıştır. Excel yazılımında veriler "Devam etmek istiyorum=1", "Devam etmek istemiyorum=2" ve "Kararsızım=3" olarak kodlanmıştır. Daha sonra bu veriler SPSS yazılımına aktarılmıştır. Verilerin analizi için betimsel analiz (yüzde, frekans) ve tek örneklem ki-kare (Chi-Square Test for One Sample) analizi yürütülmüştür. Tek örneklem ki-kare testi, tek gruplu araştırmalarda tek değişkenin incelendiği çalışmalarda değişkenin kategorilerine ilişkin dağılımlar arasında anlamlı bir farklılığın olup olmadığı belirlemek amacıyla kullanılır (Büyüköztürk, 2005).

BULGULAR VE YORUM

Videonun farklı duygudurumlarla çekilmiş bölümlerinde videoyu izlemeye devam etme isteği ile ilgili bulgular Tablo 1'de verilmiştir.

		n	%
Duygu Durumu 1: Nötr	İzlemeye devam etmek isteyen	221	98,2
	İzlemeye devam etmek istemeyen	4	1,8
Duygu Durumu 2: Enerjik	İzlemeye devam etmek isteyen	194	86,2
	İzlemeye devam etmek istemeyen	31	13,8
Duygu Durumu 3: Sıkılmış	İzlemeye devam etmek isteyen	175	77,8
	İzlemeye devam etmek istemeyen	50	22,2
Duygu Durumu 4: Samimi	İzlemeye devam etmek isteyen	165	73,3
	İzlemeye devam etmek istemeyen	60	26,7
Duygu Durumu 5: Öfkeli	İzlemeye devam etmek isteyen	163	72,4
	İzlemeye devam etmek istemeyen	62	27,6
Duygu Durumu 6: Düşünceli	İzlemeye devam etmek isteyen	153	68,0
	İzlemeye devam etmek istemeyen	72	32,0
Toplam		225	100

Tablo 1. Videoyu izlemeye devam etme isteği yüzdeleri

Tüm duygu durumları ile öğrenen motivasyonu arasındaki ilişkiye dair bulgular ise Tablo 2'de sunulmuştur.

	sd	χ^2	p
Duygu Durumu 1: Nötr	2	144,688	.000
Duygu Durumu 2: Enerjik	2	135,536	.000
Duygu Durumu 3: Sıkılmış	2	32,789	.000
Duygu Durumu 4: Samimi	2	111,855	.000
Duygu Durumu 5: Öfkeli	2	40,650	.000
Duygu Durumu 6: Düşünceli	2	28,745	.000

Tablo 2. Tüm duygu durumlarına ait ki kare testi sonuçları

Tablo 2 incelendiğinde tüm duygu durumları için video izleme davranışları istatistiksel olarak anlamlı bulunmuştur.

SONUÇ

Bu çalışma sonucunda öğrenen motivasyonunu olumlu etkileyebilecek yüz ifadelerinin videoya devam etme isteği yüzdelerine göre sırayla enerjik (%73), samimi (%72) ve nötr (%71) olduğu; olumsuz etkileyebilecek yüz ifadelerinin videoya devam etme isteği yüzdelerine göre ise sırasıyla öfkeli (%44), düşünceli (%46) ve sıkılmış (%48) olduğu sonucuna ulaşılmıştır. E-öğrenme ortamlarında kullanılan videolarda ders anlatıcısı olan kişilerin kullandıkları sözsüz iletişim öğelerinin bu çalışmada çıkan sonuçlara göre tekrar şekillendirilmesinin öğrenen motivasyonunu artırması öngörülmektedir.

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Dijital Öyküleme Yönteminin Sosyal Bilgiler Eğitiminde Kullanımı: Farklılıklara Saygı Değeri Örneği

Uğur CANPOLAT[1]

Özet

Bu araştırma 2019 yılında Eskişehir ili, Çifteler İlçesi, Atatürk Ortaokulu'nda 48 öğrenci üzerinde uygulanmıştır. Çalışmanın amacı ortaokul 5. ve 6. sınıf öğrencilerinin Sosyal bilgiler dersi içerisinde değerler eğitiminde yer alan "farklılıklara saygı" değeri bağlamında araştırmacı tarafından geliştirilen dijital öykü ile öğrencilerin ilgili değeri kazanmalarını sağlamaktır. Bir diğer alt amacı ise ileride yapılacak dijital öyküleme çalışmalarına öneriler getirebilmektir. Nitel araştırma yöntemlerinden durum çalışması metoduna göre araştırma desenlenmiş, kolay ulaşılabilir durum örneklemesine göre katılımcılar seçilmiştir. Uzman senarist ve konu alan uzmanı desteği ile geliştirilen dijital öykü Youtube üzerine gömülmüş ve öğrenciler ile paylaşılmıştır. Dijital öykü uzaktan eğitim aracı olarak kullanılmıştır. Araştırma gönüllü olan ve veli izin belgesi alınan öğrenciler ile yürütülmüştür. Veriler yarı yapılandırılmış görüşme formları ile toplanmış verilerin analizi sırasında uzman incelemesi metodu ile araştırmanın inandırıcılığı arttırılmıştır. Araştırma sonuçlarına bakıldığında dijital öyküleme yönteminin araştırmaya katılan öğrencilerin düşünceleri üzerinde olumlu etkisinin olduğu görülmüş öğrencilerin empati kurma becerilerini arttırdığı sonucuna varılmıştır. Ayrıca öğrenciler dijital öyküleme yönteminin kullanımına yönelik düşüncelerini ifade etmişlerdir.

Anahtar Kelimeler: *Açık ve Uzaktan Öğrenme, Değerler Eğitimi, Dijital Öyküleme, Sosyal Bilgiler, Uzaktan Eğitim*

GİRİŞ

Araştırmacı Türkiye'de devlet okulunda görev yapan bir öğretmendir. Çalıştığı kurumda özellikle parçalanmış ailelerin çocukları ile göçmen çocukların bazı toplumsal değerleri kazanamadıklarını ve bazı sorunlar yaşadıklarını gözlemlemiştir. Durum okul rehberlik hizmetleri ile paylaşılmış ve bazı çalışmalar yapılmıştır. Zaman içerisinde bu çalışmaların yeterli olamadığı devam eden olaylarla görülmüş çocukların toplumsal değerleri kazanabilmeleri ve içselleştirebilmeleri için bazı ek faaliyetlerin yapılmasına ihtiyaç duyulmuştur.

Bu araştırmanın amacı, ortaokul 5. ve 6. sınıf öğrencilerinin Sosyal bilgiler dersi içerisinde değerler eğitiminde yer alan "farklılıklara saygı" değeri bağlamında araştırmacı tarafından geliştirilen dijital öykü ile öğrencilerin ilgili değeri kazanmalarını sağlamaktır. Bu doğrultuda iki alt amaç irdelenecektir.

- Öğrencilerin dijital öyküden sonra 'farklılıklara saygı' değerine ilişkin düşünceleri neler olmuştur?
- Öğrencilerin dijital öykülemenin geliştirilmesine ilişkin önerileri nelerdir?

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Dijital Öyküleme

Dijital öyküleme [DÖ] geleneksel öykü anlatımının çeşitli yazılımlar aracılığıyla metin, ses, resim, animasyon gibi çoklu ortam araçlarının işe koşularak birleştirilmesi ile oluşan bir üründür (Robin, 2008). 1994'te Lambert, Atchley ve Mullen Kaliforniya'da Dijital Öyküleme Merkezi'ni [DÖM] kurdukları ve yaygınlaşması için bazı çalışmalar yaptıkları görülmektedir (DSC, 2019). Bu doğrultuda DÖM, DÖ ile ilgili çalışmalarda kullanılması için yedi bileşen geliştirmiştir (Robin 2008, s.223). Tablo 1' de DÖ bileşenlerine yer verilmektedir.

Dijital Öykü Bileşeni	Açıklaması
1. Bakış Açısı	Dijital öykülemede asıl anlatılmak istenen noktaya odaklanılması
2. Dramatik soru	İzleyicinin dikkatini çekecek çarpıcı bir soruya yer verilmesi
3. Duygusal içeriğin seçimi	Resim, metin veya müzik gibi araçlarla izleyicinin duygularının harekete geçirilmesi
4. Seslendirme	Kurguyu oluşturan kişinin kendisinin öyküyü seslendirmesi
5. Öyküde müziğin gücü	Konuya ilişkin doğru müziğin seçilmesi
6. Ekonomiklik (sade içerik)	Yeteri kadar zaman diliminde ayrıntıya girmeden az ve öz şekilde içeriğin sunulması
7. İlerleme hızı	Seçilen konunun hedef kitleye göre hızının ayarlanması

Tablo 1. Dijital Öykülemenin Bileşenleri

Bu çalışma Holmberg (1995) tarafından ortaya konulan 'Etkileşim ve iletişim' kuramının üzerine oturtulmuştur. Bu kuram öğrencilerin öğrenmek istedikleri konuları özgürce seçebilmelerine ve serbestçe çalışabilmelerine olanak tanımaktadır. Materyaller eğitmenler tarafından önceden hazırlanır. Bu kuram bilişsel bilgilerin yanı sıra duyuşsal özellikleri de göz önünde tutmaktadır. Değerler eğitiminin doğası gereği bu yönü oldukça önemli olduğu düşünülebilir. Ayrıca Holmberg (2008) öğrenmenin kalıcılığının sağlanması için öğrenen-içerik etkileşiminde çeşitliliklerin arttırılıp birlikte sunulmasının öğrenme hedeflerine ulaşmayı kolaylaştıracağına da değinmiştir. Bu durum araştırmacıyı DÖ yöntemini işe koşmaya itmiştir.

Robin (2008) çalışmasında kendi dijital öykülerini yaratan öğretmenlerin derslerine yönelik ilgiyi çekebileceklerini, oluşturulacak tartışma ortamı ile de soyut ve kavramsal bilgilerin anlaşılır hale gelmesini kolaylaştıracağını ifade etmiştir. Ayrıca DÖ ile öğrencilerin araştırma yapabilme, organizasyon kurabilme, sunum yapabilme, takımla çalışabilme, gerçek hayatta karşılaşılabilecek problemleri çözebilme, dijital yetkinlik kazanma ve bilgiyi yönetebilme gibi becerilerinin gelişimine katkı sağlayabileceğini ve özgüvenlerini arttırabileceklerini ifade edilmektedir (Hull ve Kantz, 2006; Kajder, 2004; Robin, 2006; Sadık, 2008). Yapılabilecek DÖ çalışmaları ile öğrencilere fırsat ve imkân eşitliği sağlanabilir (Ohler, 2008; Miller, 2009).

DÖ alanındaki çalışmalar eğitim, sağlık, iletişim, turizm gibi alanlar başta olmak üzere genellikle ABD ve Avustralya'da gerçekleşmiştir. Çalışmaların çoğunluğu öğrenciler ve öğretmenler üzerinde yürütülmüştür (Çıralı ve Usluel, 2015). Pazarlama ve reklamcılıkta (Göbel, Salvatore, ve Konrad, 2008) hatta mülteci kadınların göç hikayelerinin aktarımında (Lenette vd., 2019) DÖ yönteminden yararlanılmaktadır.

Alanyazında DÖ yönteminin Türkiye'de yeni gelişen bir öğretim materyali olduğu, eğitim sürecinde ilgi çekiciliği ve motivasyon arttırıcı yönünün dışında yaratıcılık, problem çözme, empati kurma, eleştirel düşünme, dijital okur-yazarlık, üst düzey düşünme becerileri gibi birçok becerinin gelişimine katkı sağlayabileceği ifade edilmiştir (Tatlı ve Aksoy, 2017; Turgut ve Kışla, 2015; Yılmaz, Üstündağ ve Güneş, 2017; Yüksel, 2011; Yüzer ve Kılınç, 2015). Ayrıca uzaktan eğitim alanında DÖ yönteminden yararlanılmadığı görülmektedir. Bu bağlamda eğitim-öğretim sürecinde etkili bir araç olabilecek DÖ yönteminden uzaktan eğitimde yararlanılabilir. Bu çalışmada Sosyal bilgiler dersi kapsamında yer alan farklılıklara saygı değerlerinin aktarımında bir uzaktan eğitim aracı olarak DÖ yönteminden yararlanılmıştır.

Alanyazında DÖ yöntemine ilişkin birçok çalışmaya rastlanılsa da eğitsel bir materyal olarak DÖ' nün kullanılmasına ilişkin çok az sayıda çalışmanın olduğu görülmektedir. Hem alandaki boşluğu doldurması hem de araştırma kapsamında geliştirilen DÖ ile öğretenlerin bir öğretim materyali olarak kullanabilmelerine olanak sağlayabilmesi açısından bu çalışmanın katkı sağlayacağı umulmaktadır.

YÖNTEM

Bu çalışma nitel araştırma yöntemlerinden durum çalışması modeline göre desenlenmiştir. Belli bir konu veya durum hakkında detaylı olacak şekilde incelenmesine olanak sağlayan durum çalışmasında araştırmacılar, belli bir konu üzerinde bütüncül bir bakış açısıyla çalışma yapmakta ve çıkarımlarda bulunmaktadır (Bogdan ve Biklen, 2003; Creswell, 2015; Glesne, 2002; Yıldırım ve Şimşek, 2013). Çalışmada DÖ yönteminin değerler eğitiminde kullanılabilirliği irdelendiğinden durum çalışması modeline göre desenlenmiştir.

Bu çalışmada değerler eğitiminin bir parçası olan farklılıklara saygı değeri işlenmiştir. Farklılıklara saygı değeri; farklı ekonomik seviyelere, cinsiyetlere, cinsiyet yönelimlerine, engellilik durumlarına, ırk ve etnik kökenlerine, tercihlere yönelik saygı duyabilmeyi gerektirir. Farklılıklara saygı değeri empati kurularak kazanılan bir değerdir (Çatlak ve Yiğit, 2017).

Katılımcıların Belirlenmesi

Çalışmada amaçlı örnekleme yöntemlerinden kolay ulaşılabilir durum örneklemesinden yararlanılmıştır. Kolay ulaşılabilir durum örneklemesi araştırmacının yakın çevresinden mekan, zaman ve maliyet açısından ulaşması kolay katılımcı gurubuyla çalışmasını sağlayan bir yöntemdir (Creswell, 2015). Araştırmacı bakanlıkta öğretmen olarak çalışmaktadır. Seçtiği çalışma alanını dersine girdiği öğrencilerden gönüllü katılım sağlayanlar ile uygulamıştır. Ayrıca öğrencilerin yaşça küçük olması, sınıf dışından katılım sağlamaları mekân, zaman ve maliyet açısından araştırmanın yürütmesini güçleştiren etmenlerdir. Bu nedenlerle kolay ulaşılabilir durum örneklemesinden yararlanılmıştır. Katılımcılara ait veriler Tablo 2'de yer verilmektedir.

Öğrencilerin bulunduğu sınıf düzeyi	Öğrencilerin cinsiyeti	Toplam öğrenci sayısı
5.sınıf	2 Erkek-21 Kız	23
6.sınıf	8 Erkek-17 Kız	25

Tablo 2. Katılımcılar

Verilerin Toplanması

Bu çalışmada veri toplama araçları öğrenci görüşme formudur. Araştırmacı araştırma konusuna ilişkin görüşme soruları oluşturmuştur. Bu formların geçerlik ve güvenirliğini artırmak için formları biri konu, biri yöntem alanında uzman iki öğretim üyesi ile paylaşmış aldığı dönütlere göre gerekli düzenlemeleri yapmış ve son halini vermiştir. Yöntem uzmanının katkısı ile ayrıca öğrenci ön görüşme formu da veri toplama araçlarına dahil edilmiştir. Araştırmacı veri toplama araçlarını kullanmak için Eskişehir İl Milli Eğitim Müdürlüğünce gerekli yasal izinlerini almış ve çalışmasına başlamıştır.

Çalışma belli bir çalışma takvimine göre yürütülmüştür. Buna göre araştırmacı çalışmasında 2019 yılı içerisinde Şubat ayından itibaren konu hakkında alan taraması yapmaya başlamıştır. Nisan 2019'da ise biri konu biri senaryo uzmanı desteği ile çalışmasında kullanacağı dijital öykünün senaryosunu hazırlamış, içerik uzmanı önerileri ile açık kaynak kodlu *PowToon* uygulaması üzerinde dijital öyküsünü oluşturmuş Youtube uygulamasına https://www.youtube.com/watch?v=j_UdnwqX2II uzantısı ile gömmüştür. Mayıs ayında araştırma iznini alan araştırmacı Mayıs-Haziran ayları içerisinde çalışmasını okulunda gönüllü olarak katılım sağlayan 5. ve 6. sınıf öğrencileri üzerinde uygulamıştır.

Verilerin Analizi

Patton (2014) veri analizi aşamasını araştırmadaki ham verilerin "ortaya çıkarılması ve keşfedilmesi" süreci olarak ifade etmiştir. Araştırmacı gönüllü olarak katılım sağlayan öğrencilerin görüşme formlarına verdiği yanıtların dökümünü oluşturmuştur. Verilerin analizi aşamasında her öğrenciye bulunduğu sınıfı ifade edecek ve kişisel bilgilerini yansıtmayacak şekilde öğrenci *5ö1*, öğrenci *6ö8* şeklinde kod isimler verilmiştir. Bu kodlamanın başında yer alan beş ve altı rakamları öğrencinin ait olduğu sınıfı belirtirken ö1 ve ö8 ise öğrenci numarasını ifade etmektedir. Araştırmacı veri toplama aracından elde ettiği verileri dökümlemiş, kodlara ve temalara ayırmıştır. Daha sonra kod ve temaların %10'u araştırmaya katılan yöntem uzmanı öğretim üyesi ile paylaşılmış 'uzman incelemesi' metodu uygulanmıştır. Uzmanın verdiği dönütler doğrultusunda görüş ayrılığı yaşanan kodlar ve temalar üzerinde tekrar görüşülmüş ve gerekli düzenlemeler yapıldıktan sonra görüş birliğine varılmıştır. Ardından bulgular başlığına geçilmiştir. Bu durumun araştırmanın inandırıcılığını artırdığı söylenebilir.

BULGULAR

Çalışmada öncelikle öğrencilere ön görüşme formları uygulanmıştır. Yapılan uygulamada araştırmaya katılan öğrencilerin altısı farklılıklara saygı değerine ilişkin bilgiler verirken geriye kalan öğrencilerden ya bilemedikleri, ilgili değerin kavramsal olarak içini dolduramadıkları ya da yanlış bilgi verdikleri görülmüştür. Örneğin 5ö3: "Farklılıklara saygı denilince aklıma herkese eşit davranmak herkesin farklı bir yönünün olabileceğini düşünmek geliyor" şeklinde ifade ederken 5ö6: "Saygılı olmak geliyor. Başka bir şey aklıma gelmiyor" ve 6ö2: "Farklılıklara saygıyı bilmiyorum" şeklinde görüşlerini ifade etmişlerdir.

Diğer taraftan çalışmaya katılım sağlayan öğrencilerin tamamı DÖ yöntemini bilmediklerini dile getirmiştir. Ön görüşmenin ardından öğrenciler sosyal medya aracına gömülen videoyu izlemiş ve yarı yapılandırılmış görüşme sorularını yanıtlamıştır. Verilen yanıtlar iki alt başlık altında irdelenmiştir. Bu başlıklar şöyledir:

Öğrencilerin Farklılıklara Saygı Değerine İlişkin Düşünceleri

Yarı yapılandırılmış görüşme sorularına öğrencilerin verdiği dönütlere göre bazı verilere ulaşılmıştır. Bu verilere bakıldığında öğrencilerin farklılıklara saygıya ilişkin *ayrımcılık yapmamak, eşit davranmak, kişilere ait özellikleri kabullenmek, önyargılı olmamak, iyi bir insan olmak, dışlamamak, alay etmemek* gibi farklı düşüncelere sahip oldukları görülmektedir.

Örneğin 5ö16: "Hepimiz farklı ülkelerde yaşasak bile dil, din, ırk, cinsiyet ayrımı yapmamalıyız." şeklinde ayrımcılık yapmama ile ilgili görüşünü dile getirirken 5ö15: "Bireysel farklılıklara saygı deyince aklıma başka ülkeden gelen arkadaşlarıma iyi davranmak geliyor. Örneğin Afganistan'dan gelen birçok arkadaşım var ve bu arkadaşlarıma daha iyi davranacağım." ifadesi ile iyi bir insan olmanın gerekliliğine vurgu yapmıştır.

6ö21: "Bu dijital öykü sayesinde insanlara saygılı olmayı ve yardımsever olmayı öğrendim." ifadesi ile yardımsever olmaya, 5ö4: "Farklılıkları olan insanları olduğu gibi kabul etmek gerektiğini ve onları tanımam gerektiğini anladım" ifadesi ile kişileri olduğu gibi kabul etmek gerektiğine, 6ö21: "Farklı özelliği olan arkadaşlarımla dalga geçmeyeceğim bundan sonra." ifadesi ile alay etmenin doğru bir davranış olmadığına, 5ö12: "İnsanları anlamak için empati kurmak önemlidir." ifadesi ile empati kavramlarına değinilmiştir.

Öğrencilerin Dijital Öykülemenin Geliştirilmesine Yönelik Önerileri

Öğrenciler dijital öykülemeye ilişkin önerilerini hem geliştirilmesi hem de zenginleştirilmesi için *eğitim, çevre sorunları* başta olmak üzere *sosyal hayata ilişkin sorunlarda* ve *hayvan hakları* ile ilgili dijital öyküleme yönteminden yararlanılması gerektiğini dile getirmişlerdir. Ayrıca 6ö24: "Her öğrenci kendi hayat hikayesini dijital öykü ile anlatsa onu daha iyi anlayabiliriz" şeklinde görüşünü dile getirmiştir.

Örneğin 5ö9: "Dijital öyküleme tekniği bence yararlıydı. Bence her alanda kullanılabilir." şeklinde görüşünü dile getirirken 5ö14: "Başka konularda mesela engelli arkadaşlarımızın sorunları ile ilgili de yapılabilir." şeklinde önerisini dile getirmiştir.

Ayrıca 5ö17: "Mesela dersimizde ki ilk çağ uygarlıkları konusunda da yapılabilir." ifadesi ile eğitim alanın ki kullanımına, 5ö4: "Bence çok yararlı ve daha başka yaşanan sorunlarda kullanılabilir. Yani çevre sorunu gibi." ifadesi ile çevre sorunları konusunda ve 6ö4: "Hayvan hakları konusunda da böyle bir çalışma yapılabilir" ifadesi ile hayvan hakları konularına vurgu yapmışlardır.

TARTIŞMA VE SONUÇ

Öğrencilerin ön görüşme formları ile son görüşme formlarına verdikleri yanıtlar arasında anlamlı bir fark olduğu görülmüştür. Katılımcı öğrencilerin dijital öykülemenin geliştirilmesi için önerilerine bakıldığında ise her alanda kullanılabileceği dile getirilmiştir. Bunun yanı sıra sosyal hayata ilişkin konularda örneğin; engelliler hakkında farkındalığın sağlanmasında, yardımlaşma ve dayanışmayı özendirmede, cinsiyet ayrımcılığına karşı çalışmalarda, toplumsal sorunlarda kullanılması gerektiği; eğitimde, çevre sorunlarında, hayvan haklarına yönelik çalışmalarda kullanılması gerektiği ifade edilmiştir.

Bu doğrultuda araştırmaya katılım sağlayan öğrencilerin dijital ortamları kullanabilmeleri, eleştirel düşünebilmeleri, empati kurabilmeleri ve içerik ile bağ oluşturmaları açısından çalışmanın, alanyazın ile örtüştüğü söylenebilir (Turgut ve Kışla, 2015; Robin, 2008; Yıldırım, Üstündağ ve Güneş, 2017; Yiğit ve Erdoğan, 2008; Yüksel, 2011; Yüzer ve Kılınç, 2015). Yapılan araştırma sonucunda örneklem üzerinde anlamlı bir farklılık olmadığı gözlemlenmiştir. İçerik üzerine sosyal ağ üzerinden yapılan öğrenci yorumları ve beğenileri, içeriğin öğrenciler tarafından faydalı bulunduğunu da ifade etmektedir. Ayrıca DÖ yönteminin uzaktan eğitim aracı olarak kullanılabilirliği görülmüştür.

Araştırmaya ilişkin öneriler şu şekildedir:

- Türkiye Cumhuriyeti Milli Eğitim Bakanlığına bağlı, Eğitim Bilişim Ağı platformunda dijital öykülemeye yer verilebilir. Bu konuda araştırmalar yapılarak içerik üretilebilir.
- Sınıf içerisinde veya uzaktan eğitimde bir araç olarak bu materyalden yararlanılabilir.
- Öğretmen-öğrenci eşgüdümlü dijital öyküleme atölyeleri kurulabilir.
- Çocuk istismarını azaltmada, kendini ifade etmede zorluklar yaşayan mağdurların iletişime geçebilmelerine olanak sağlaması bakımından dijital öykülere yer verilebilir. Bu konuda araştırmacılar çalışmalar yürütebilir.
- Nitel bir bakış açısı ile yaklaşılmış bu çalışmanın farklı desenler ile de çalışılması sonucunda etkililiği ortaya çıkarılabilir.

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Çevrimiçi Eğitim Ortamlarında Sınıf Yönetimi ve Sınıf Topluluğu Hissi Arasındaki İlişkilerin İncelenmesi

Ceyhun KAVRAYICI[1],

Özet

Eğitim ortamlarının sanal sınıflara taşınmasına yönelik inançların bilim ve teknolojideki gelişmelerle birlikte değişmeye başladığı belirtilmektedir. Çevrimiçi eğitim ortamlarında kendini yalıtılmış hisseden bireylerin çevrimiçi eğitim ortamlarındaki derslere yönelik ilgilerinin azaldığı ifade edilebilir. Sanal sınıfların fiziksel olarak yüz yüze gelinen sınıfların sınırlılıklarının ötesinde öğrenme öğretme olanakları sunan sınıflar olduğu, bu sınıflarda kurulan etkileşimin bireylerin yalıtılmışlık duygusunu azalttığı vurgulanmaktadır.. Araştırma ilişkisel tarama modeliyle desenlenen nicel bir araştırmadır. Araştırmanın örneklemini olasılıklı örnekleme yöntemlerinden basit tesadüfi örnekleme yöntemiyle belirlenmiş 224 lisansüstü öğrenci oluşturmaktadır. Araştırmada veriler Polat (2016) tarafından geliştirilen Sınıf Yönetimi Ölçeği, Rovai (2002) tarafından geliştiren ve Öztürk (2009) tarafından Türkçe'ye uyarlanan Sınıf Topluluğu Hissi Ölçeği ile toplanmıştır. Tezsiz yüksek lisans programlarına uzaktan eğitim yoluyla devam eden öğrencilerin görüşlerine göre sanal sınıf yönetimi ve sanal sınıflarda topluluk hissi orta düzeydedir.

Anahtar Kelimeler: *Sanal sınıf yönetimi, sınıf topluluk hissi, uzaktan eğitim.*

GİRİŞ

Bilim ve teknolojideki gelişmeler ile 21. yüzyılın gereklilikleri temelinde bireylerin öğrenmenin sürdürülebilirliğine yönelik görüşlerindeki değişimler, eğitim ortamlarının sanal sınıflarda gerçekleşmesine ilişkin görüşlerde de değişikliklere neden olmaktadır. Çevrimiçi ortamlarda kurulan etkileşimin yalıtılmışlık duygusunun ortaya çıkmasına neden olabileceği ifade edilmektedir (Morgan ve Tam, 1999). Çevrimiçi eğitim ortamlarında kendini yalıtılmış hisseden bireylerin derslere olan ilgilerinin azaldığı ifade edilmektedir (Rovai, 2002).

SANAL SINIFLARIN YÖNETİMİ

Sanal sınıflar fiziksel olarak yüz yüze gelinen sınıfların sınırlılıklarının ötesinde öğrenme öğretme olanakları sunan sınıflardır (Hsu, vd., 1999). Sanal sınıfların aktif öğrenme ortamlarında kolaylık sağlayacak olanaklar sunduğu ifade edilmektedir. Sanal sınıf ortamları öğrenenlere sadece materyal sağlamakla kalmaz, canlı, interaktif öğrenme ortamları sunar ve öğretmenler geleneksel sınıflarda olduğu gibi öğrenme öğretme süreçlerini kontrol edebilirler (Yang ve Liu, 2007).

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SINIF TOPLULUĞU HİSSİ

Topluluk hissi bireylerin birbirlerine veya bir gruba ait olduklarına yönelik hisler ve bir araya geldiklerinde gereksinimlerinin karşılanacağına yönelik ortak bir inanç olarak tanımlanabilir (McMillan ve Chavis, 1986). Bireylerin yüksek düzeyde topluluk hissine sahip olmaları durumunda, kendilerini daha fazla desteklenmiş hissedecekleri, içinde bulundukları duruma daha fazla uyumlu hissedecekleri, kendi sınırlı hedeflerinden daha fazlasını hedeflemeye başlayabilecekleri ifade edilmektedir (Fisher, Sonn ve Bishop, 2002).

Bu araştırmada sanal sınıf ortamlarında sınıf yönetiminin, sınıf topluluk hissiyle olan ilişkisinin incelenmesi amaçlanmaktadır. $\overline{x}$

YÖNTEM

Araştırma, nicel araştırma paradigması temelinde ilişkisel tarama modeliyle desenlenmiştir. İki ya da daha fazla değişken arasındaki ilişkinin tespit edilmesini amaçlayan, insan davranışlarını açıklamaya ya da muhtemel çıktıları tahmin etmeye çalışan araştırma modeli ilişkisel tarama modeli olarak tanımlanmaktadır (Freankel, Wallen ve Hyun, 2012).

Evren ve Örneklem

Araştırmanın evrenini Anadolu Üniversitesi Sosyal Bilimler ve Eğitim Bilimleri Enstitüleri bünyesinde açılmış uzaktan eğitim tezsiz yüksek lisans programında öğrenim gören lisansüstü öğrenciler oluşturmaktadır. Araştırmaya yedi farklı uzaktan eğitim tezsiz yüksek lisans programında öğrenim gören lisansüstü öğrenciler katılmıştır. Araştırmanın örneklemini olasılıklı örnekleme yöntemlerinden basit tesadüfi örnekleme yöntemiyle belirlenmiş 224 lisansüstü öğrenci oluşturmaktadır.

VERİ TOPLAMA ARAÇLARI

Sınıf Yönetimi Ölçeği: Polat (2016) tarafından geliştirilen Sınıf Yönetimi Ölçeği 46 maddeden oluşmaktadır. Ölçeğin toplam Cronbach alfa iç tutarlık katsayısı 94'tür. Sınıf yönetimi ölçeğinin toplamda ise % 65.07 varyans açıkladığı ifade edilmektedir.

Sınıf Topluluğu Hissi Ölçeği: Rovai (2002) tarafından geliştirilen ve Öztürk (2009) tarafından Türkçe 'ye uyarlanan Sınıf Topluluğu Hissi Ölçeği 13 maddeden oluşmaktadır. Söz konusu faktörlerin ölçeğin toplamına ilişkin açıkladığı toplamı varyans %50.62'dir. Ölçeğin toplamı için belirlenen Cronbach alfa iç tutarlık katsayısı ise .85'dir.

BULGULAR

Lisansüstü uzaktan eğitim alan öğrencilerin görüşlerine göre sanal sınıflarda sınıf yönetiminin gerçekleşmesi ($\overline{x}$ = 2,70) orta düzeydedir. Lisansüstü uzaktan eğitim alan öğrencilerin görüşlerine göre sanal sınıflarda oluşan topluluk hissinin de ($\overline{x}$ = 3,22) orta düzeyde olduğunu ifade etmek mümkündür. Araştırmanın sonuçlarına göre uzaktan eğitim ortamlarındaki sınıf yönetimiyle topluluk hissinin arasında ise pozitif yönde ve orta düzeyde bir ilişkinin olduğunu ifade etmek olanaklıdır.

TARTIŞMA VE SONUÇ

Araştırmanın bulguları lisansüstü öğrencilerin görüşlerine göre sanal sınıf yönetiminin ve sınıf topluluğu hissinin orta düzeyde olduğunu göstermektedir. Sanal sınıfların yönetim sürecinde öğrencilerin motive edilmesi, gereksinimlerine yönelik liderlik edilmesi, çevrimiçi derslerde zamanın etkili kullanılması, ve çevrimiçi eğitim ortamlarında öğrenci davranışlarının amaçlar doğrultusunda yönetilmesinin, öğrenmeye yönelik öğrenci istekliliğinin ve öğrencilerin öğrenme ortamına bağlılığının sağlanmasında önemli olduğu düşünülmektedir.

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Açık ve Uzaktan Öğrenmede Öğrenen Destek Hizmetleri: eKampüs Sistemi

Emel GÜLER[1], **Abdulkadir KARADENİZ**[2]

Özet

Anadolum eKampüs, Açıköğretim Sistemi'nde 2015 yılında itibaren öğrenme yönetim sistemi olarak öğrenenlere farklı içerikler sunmak amacıyla geliştirilmiştir. Bu çalışmada 2016-2018 yılları arasında Açıköğretim Sistemi'nde öğrenenlerin eKampüs sistemine yönelik öğrenen destek sayfasına yönelttikleri sorular incelenerek, içerik analizi gerçekleştirilmiştir.

Anahtar Kelimeler: *öğrenen destek hizmetleri, açık ve uzaktan öğrenme*

GİRİŞ

Açık ve uzaktan öğrenmede öğretim süreç ve yönetiminin önemli bileşenlerinden biri öğrenen destek hizmetlerinin sunulmasıdır. Öğrenenlerin zaman ve mekandan uzak olmasıyla birlikte kendilerini, öğrenme ortam ve süreçlerine karşı aidiyet duygusu geliştirmelerinde destek hizmetleri de etkili bir faktördür. Paier (2007)'e göre açık ve uzaktan öğrenmede öğrenenlere yönelik destek hizmetlerinin temel amacı, düzenli yüz yüze öğrenmenin olmamasına karşı, öğrenenler arasında bireysel ve bağımsız bir çalışma ortamı sağlamaktır. Öğrenenler destek hizmetleri ile yalnızca öğrenme ortamları ve süreçleri ile ilgili değil, akademik, sosyal ve farklı konular hakkında da bilgilendirilmek istemektedir.

Berge (1995), çevrimiçi ortamlarda öğrenenlere verilen destek hizmetlerini dört başlık altında toplamıştır: *Eğitsel destek, sosyal destek, yönetsel destek, teknik destek*. Tait (2000) ise çalışmasında destek hizmetlerini, *bilişsel* (akademik ve teknik), *duyuşsal* (sosyal) ve *yönetsel* olarak üç bölümde incelemiştir.

Bilişsel Destek (Akademik ve teknik): Bireysel öğrenenlerin desteklenmesi için ders materyallerinin uygun biçinde geliştirilmesi ve yapılandırılması.

Duyuşsal Destek (Sosyal): Öğrenenleri destekleyecek, onların aidiyet ve özgüvenini geliştirmeye yönelik ortamların sağlanması.

Yönetsel Destek: Etkili, şeffaf ve öğrenen dostu bilgi yönetim sistemleri ve idari süreçlerin oluşturulması.

Zawacki (2004), açık ve uzaktan öğrenmede öğrenen destek hizmetlerinin önemini şu şekilde açıklamıştır:

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- Açık ve uzaktan öğrenme, yüz yüze öğrenmenin aksine, öğrenenlere kendi öğrenmelerini yönetme konusunda daha fazla sorumluluk yükler.
- Çevrimiçi öğrenme, farklı yeterlilik (medya okuryazarlığı gibi) ve beceriler gerektirir ve bunların geliştirilme ihtiyacı vardır.
- Çevrimiçi uzaktan öğrenmenin geliştirilmesi, tanıtılması ve uygulanması için akademik destek oldukça önemlidir.

Bu çalışmada Anadolu Üniversitesi Açıköğretim Sistemi kapsamında, öğrenenlere sunulan web tabanlı destek hizmetlerine ilişkin bir inceleme yapılacaktır.

Anadolu Üniversitesi - Açıköğretim Sistemi Öğrenen Destek Hizmetleri

Açıköğretim Destek Sistemi (AÖS Destek) adıyla öğrenenlere destek hizmeti sunulan yapıda, Anadolu Üniversitesi'nin açıköğretim sistemiyle öğretim yapan Açıköğretim, İktisat ve İşletme Fakültelerine kayıtlı olan öğrenciler ve Açıköğretim Sistemi (AÖS) hakkında bilgi almak isteyenler hizmet alabilirler (AÖS Destek, 2019). Bu sistem ile Açıköğretim sisteminde öğrenim gören öğrenenlere, öğrencilik hizmetlerinin yanı sıra kullanılan öğrenme yönetim sistemi Anadolum eKampüs ve bu ortamda sunulan içeriklere ilişkin merak ettikleri sorulara çözüm getirmek amaçlanmaktadır. 2018 yılının ilk aylarında hizmete giren AÖS Destek hizmetinden önce Anadolum eKampüs sistemine ilişkin sorular farklı bir web tabanlı sayfa (Yardım e-Kampüs) üzerinden hizmet vermekteydi.

Yardım e-Kampüs sisteminde soru sorma ve cevaplama süreci, Şekil 1'de gösterilmiştir. Süreç kısaca şu şekildedir:

- Sayfada öğrenenin bilgilerinin istendiği alanlar ile birlikte sormak istediği sorunun neyle ilgili olduğuna dair çıkmış sınav soruları, canlı ders, mobil, kullanıcı hesabı gibi kategori seçimi yapılacak bir alan bulunmaktadır.
- Öğrenen sayfada kişisel bilgilerini doldurur ve sormak istediği soruya ilişkin bir kategori seçimi yapar.
- Sistem ile iletilen sorular bir veritabanı üzerinden ilgili destek personeline aktarılır.
- Destek personeli soruyu inceleyerek sorunun öğrenenin seçtiği kategori ile uyumlu olup olmadığını denetler.
- Kategori uygunsa cevap verecek ilgili destek elemanına iletir.
- Öğrenenin seçtiği kategori ve soru arasında ilişki bulunmuyorsa, kategori değişimi yapar ve doğru kategorideki destek elemanına iletir.
- Soru, ilgili destek elemanı tarafından cevaplandıktan sonra, moderatör tarafından onaylanır ve öğrenene yazılı olarak iletilir.

Şekil 1. Yardım e-Kampüs Soru Cevaplama Adımları

Anadolum eKampüs Sistemi, 2015 yılında hayata geçmiş ve öğrenme ve iletişim teknolojileri üzerine odaklanarak, etkileşimi üst düzeye çıkarmayı ve öğrenen motivasyonunu artırmayı amaçlayan bir projedir. Bu sistemde AÖS öğrenenlerine, ders kitabı, ünite özeti, videolar, sesli materyaller, alıştırma soruları gibi birçok farklı türde ders materyalleri sunulmaktadır. Bu çalışmada incelenen web tabanlı destek sayfası 2016 Mart ayında hizmete girmiş, AÖS Destek sisteminin geliştirilmesiyle 2018 yılında kullanıma kapatılmıştır.

YÖNTEM

Bu çalışma, nitel bir araştırma olup, çalışmada içerik analizi kullanılmıştır. İçerik analizi, nitel verinin anlamının sistematik olarak tanımlanmasıdır (Schreier, 2012:1). İçerik analizinde temel amaç, kodlama ve veri yorumlama işlemidir (Bogdan ve Biklen, 2007).

Çalışma, kodlama, kategorilere ayırma ve çıkarımlara ulaşma süreçlerinden oluşmaktadır. *1.aşamada* (kodlama), Yardım e-Kampüs destek sayfasına gelen 37.355 soru, dört farklı kişi tarafından incelenmiştir. Öğrenenler, sisteme soru gönderirken kategori işaretlemesi yapmaktadır. Ancak bu işaretlemeleri yaparken, soru ile ilgili olmayan farklı kategori seçmektedirler. Bundan dolayı ilk aşamada, tüm sorular incelenerek ilgili kategorilendirme tekrar yapılmıştır. *2.aşamada* gelen soruların içeriğine uygun temalar belirlenmiştir. *3.aşamada* ise içerikler, temalara uygun olarak kategoriler belirlenmiştir (Şekil 2). Bu aşamada, Tait (2000)'in öğrenen destek hizmetleri sınıflamasından yararlanılmış ve içerikler, bilişsel (akademik ve teknik), duyuşsal (sosyal) ve yönetsel olarak kategorilendirilmiştir.

Şekil 2. Çalışmadaki analiz süreci adımları

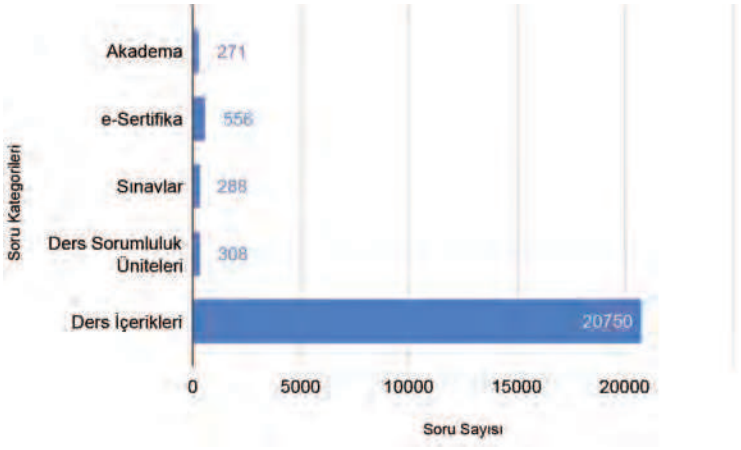
BULGULAR

Tait'in (2002) kategorilendirdiği destek hizmetlerine göre Anadolum eKampüs sistemine ilişkin gönderilen soruların kategorileri Tablo 1'de gösterilmektedir. Mart 2016 – Mart 2018 tarihleri arasında eKampüs sistemi ile ilgili öğrenenlerden toplam 37.355 soru gelmiştir.

	Kategoriler	Soru Sayısı	Yüzde (%)
Bilişsel	Akademik	22.173	59,36
	Sosyal	172	0,46
Duyuşsal	Teknik	3.500	9,37
Yönetsel	Yönetsel	11.510	30,81
	TOPLAM	37.355	**100**

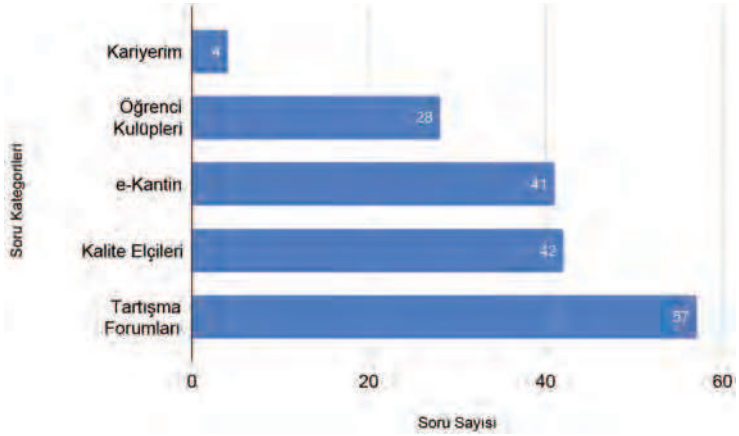
Tablo 1. Destek türlerine göre gönderilen soru sayıları

Tablo 1'deki verilere göre öğrenenler en çok soru akademik kategoride yöneltmiştir. Onu sırasıyla, yönetsel, teknik ve sosyal kategoriler takip etmiştir. Öğrenenlerin soruları akademik kategoride ders materyalleri üzerine yoğunlaşmıştır. Soruların yaklaşık %93'ü ders içerik ve materyallerine ilişkin sorulmuştur (Şekil 3).



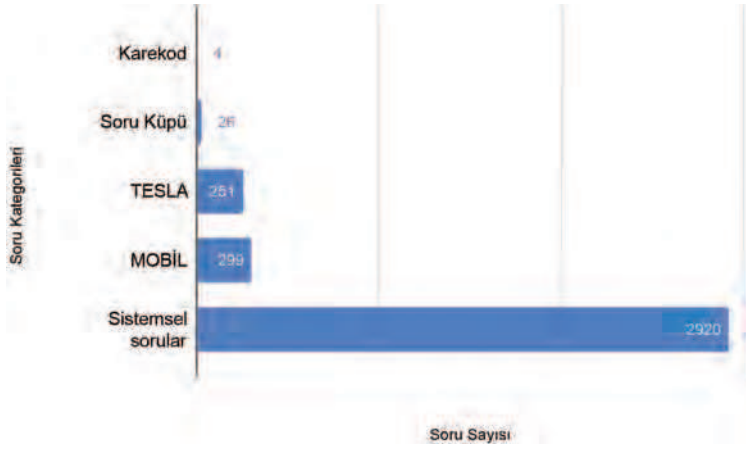
Şekil 3. Akademik kategoride gönderilen soru bilgileri

Şekil 4'de sosyal kategoride gönderilen sorulara ilişkin bilgiler yer almaktadır. Bu kategoride gönderilen sorular en çok tartışma forumlarına yöneliktir. Sosyal kategoride gelen soruların diğer kategorilere göre daha az olduğu gözlenmiştir.



Şekil 4. Sosyal kategoride gönderilen soru bilgileri

Şekil 5'de teknik kategoride gönderilen soruların sistemsel sorunlardan kaynaklı olduğu gözlenmektedir. Yeni sistem altyapısı ile, 1 milyon'un üzerinden öğrenciye hizmet veren Anadolum eKampüs'te özellikle de sınava yakın zamanlarda oluşan sistem yoğunluğu, öğrenenlerin teknik sorunlara ilişkin sorularında da artışa neden olmuştur.



Şekil 5. Teknik kategoride gönderilen soru bilgileri

Yönetsel kategoride gönderilen sorularda ise en çok kullanıcı bilgisi ve hesabına yönelik sorular bulunmaktadır (Şekil 6). 2015-2016 Bahar döneminde açılan Anadolum eKampüs'te öğrenenler, yeni bir sistem ve yeni arayüz ile karşılaştığından dolayı en çok soru sorulan kategori de Kullanıcı Bilgisi ve Kullanıcı Hesabı ile ilgili olmuştur. Zaman zaman sistemde, öğrenenlerin yönelttikleri sorular doğrultusunda duyurular yapılmış ve öğrenenlerin sisteme girişi ile ilgili onlara destek olunmaya çalışılmıştır.

Şekil 6. Yönetsel kategoride gönderilen soru bilgileri

TARTIŞMA VE SONUÇ

Açık ve uzaktan öğrenmede, öğrenenler farklı kapsamlarda destek hizmeti beklemektedir. Bu çalışmada Açıköğretim Sistemi öğrenme yönetim sistemi Anadolum eKampüs ile ilgili, iki yıl süresince öğrenenler tarafından gönderilen sorular incelenmiştir. Bu çalışmada incelenen yaklaşık 37bin sorunun en çok ders materyalleri ile ilgili olduğu gözlenmektedir. Daha sonra ise kullanıcı bilgisi ve hesabına yönelik soruların öğrenenler tarafından yoğun olarak iletildiği gözlenmektedir. Bu çalışmaya göre Anadolu Üniversitesi Açıköğretim Sistemi'nde öğrenenler, öğrenme yönetim sistemini kullanırken daha çok akademik ve yönetsel bağlamda desteğe ihtiyaç hissetmektedir. Sisteme dair yapılacak geliştirmelerin bu yönlerde desteklenerek öğrenen ihtiyaçlarının giderilmesi sağlanabilir. Öğrenenlerden gelen sorular ve dönütlere göre Anadolum eKampüs sisteminde gerekli görülen zamanlarda çeşitli duyurular yayınlanmaktadır. Bu duyurular da öğrenenlerin hem sistemle hem de dersleriyle ilgili bilgiler alması sağlanmaktadır.

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Açık ve Uzaktan Öğrenmede Etkileşimli Senaryo

Özlem OKTAY[1]

Özet

Bu çalışma, etkileşimli videolarda öğrenen aktifliğini artırmaya yönelik öğrenen-içerik etkileşimi unsurlarına vurgu yapmaktadır. Öğrenenin aktifleşmesine yönelik bir yaklaşım olarak etkileşimli videolar, öğrenen-içerik etkileşimini arttırmaya yönelik arayışların bir ürünü olarak karşımıza çıkmaktadır. Öğrenen-içerik etkileşiminin arttırılmasında ise etkin ve iyi yapılandırılmış bir içerik tasarımı kullanılması kaçınılmaz bir durumdur. Açık ve uzaktan öğrenmede etkin ve iyi yapılandırılmış bir içerik tasarımıyla oluşturulan etkileşimli senaryo, öğrenenlerin gördükleri, duydukları ve doğrudan olmasa da dokundukları bütün her şeyi kapsadığından etkileşimli videonun temeli konumundadır. Bu çalışmanın amacı; etkileşimli videolarda öğrenenlerin aktifliğinin arttırılması için, açık ve uzaktan öğrenmeye yönelik eğitim videolarında etkileşimli senaryonun gerekliliğini nitel araştırma yöntemlerinden betimsel doküman analiziyle ortaya koymaktır. Etkileşimli videoya ilişkin ulaşılan dokümanların analiziyle öğrenenlerin aktifliğinin arttırılması için, etkileşimli senaryoların kullanımının gerekli olduğu sonucuna ulaşılmıştır.

Anahtar Kelimeler: *Etkileşimli video, etkileşimli senaryo, öğrenen aktifliği, öğrenen-içerik etkileşimi, eğitim videosu*

GİRİŞ

Eğitsel amaçlı videolar, açık ve uzaktan öğrenmeye yönelik ortamlarda öğrenmeyle alakalı süreçlerde hem görsel hem de sözel unsurların birlikteliğini sağlayan zengin içerik ortamlarıdır. Metnin sesle ve görüntüler aracılığıyla sunulduğu eğitim videoları, öğrenmeye yönelik ortamlarda sıklıkla kullanılmakta olan, belli bir güce sahip ders malzemeleridir (Mayer, 2009).

Mayer (2009)'da eğitim amaçlı videolar için yapılan açıklamalar bugün de geçerliliğini korumakta, açık ve uzaktan eğitimde videoların önemi her geçen gün artmakta, vazgeçilmez bir ders malzemesi olduğu düşüncesi kabul görmektedir. Bu kabulün nedeni, Dale (1969) tarafından eski denebilecek bir tarihte ortaya konan ve günümüzde de çeşitli araştırmalarla desteklenen öğrenen aktifliğiyle ilgili araştırmalardır. Buna göre bireylerin hatırlama yüzdeleri; okumada %10, duymada %20, görmede %30, görmeyle birlikte duymada %50 şeklindedir. Öğrenenin aktiflik durumunun artmasına bağlı olarak bireylerin hatırlama oranları %90'a dek artabilmektedir (Dale, 1969). Sadece bu oranları inceleyerek bile videolarda öğrenen aktifliğini arttıracak değişiklikler yapmak gerektiği düşüncesine ulaşmak mümkündür. Çünkü videolar kanalıyla bilgiye ulaşan öğrenenler, genelde aktif durumda bulunmamaktadır (Uğur ve Okur, 2016).

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Hem Türkiye hem de Dünya genelinde açık ve uzaktan eğitime yönelik öğrenme ortamlarının teknolojinin gelişimiyle koşut şekilde geliştiği ve bunun pozitif etkiler yarattığı gözlenmektedir. Ancak bu pozitif etkinin ortaya çıkması için, kullanımı gerçekleştirilen ortamlarla araçların öğrenmeye yönelik yarattıkları etkilerle, sundukları olanakların bütüncül bir yaklaşımla kullanılması gerekmektedir. Böylesi bir yaklaşım sonucu, öğrenenin aktifliğini sağlayan etkileşimliliğin arttırılarak, açık ve uzaktan öğrenmede etkinlikle verimliliğin optimize edilmesi sağlanabilecektir (Özgür, 2005).

Etkileşimlilik, etkileşim kavramıyla bağıntılı olsa da, anlamları farklıdır. Etkileşim, insanın dünyaya gelişiyle birlikte etrafında yer alan canlı varlıklarla aralarında gerçekleşen iletişime yönelik akışı ifade eder. Etkileşimlilik ise, teknolojik yapıya sahip sistemlerin aracılığıyla gerçekleşen iki taraflı iletişim akışını betimlemek için kullanılan bir kavramdır (Yüzer, 2013).

Öğrenenlerin aktif duruma geçmelerini sağlayacak video örnekleri sayılabilecek etkileşimlilik unsurları barındıran videolar, günümüzde teknolojinin gelişimiyle senkronize şekilde ortaya çıkmaktadır. Açık ve uzaktan eğitimin öncüsü konumundaki Anadolu Üniversitesi de Açık ve Uzaktan Öğrenme Sistemi içerisinde bu tür etkileşimlilik özelliği taşıyan videolara yer vermektedir. Bu videolar, öğrenene soru yöneltilip verilen yanıta göre öğrenenin ileri ya da geri gitmesini sağlayan bir yapı sergilemektedir. Söz konusu etkileşimli yapının daha da geliştirilerek, öğrenenlerin aktifliğinin daha fazla arttırılması gereklidir. Peki, bu nasıl yapılabilir? İşte araştırmanın problemini bu soru oluşturmaktadır.

Bu problemden hareketle çalışmada, etkileşimli videolarda öğrenenlerin aktifliğinin arttırılması için, açık ve uzaktan öğrenmeye yönelik eğitim videolarında etkileşimli senaryonun gerekliliğini nitel araştırma yöntemlerinden betimsel doküman analiziyle ortaya koymak amaçlanmaktadır. Araştırmanın giriş kısmında, konuya ait temel kavramlar tanıtılmakta, araştırmanın problemi, amacı ve yöntemi ortaya konmaktadır. Alanyazın kısmında temelde videonun özelde ise etkileşimli videonun gerekliliği ortaya konularak, etkileşimliliği sağlayacak unsurların neler olduğu ve bu unsurların kullanımlarının sağladığı faydalar üzerinde durulmaktadır. Sonuç kısmında ise, alanyazında incelenen araştırmalar ışığında açık ve uzaktan öğrenmede etkileşimli senaryonun gerekliliğine ve öğrenmeye yönelik etkileşimli videolarda senaryo kullanımının yaygınlaşması gerektiğine vurgu yapılmaktadır.

ETKİLEŞİMLİ VİDEOLAR İÇİN ETKİLEŞİMLİ SENARYO

Moore (1989), uzaktan eğitimde etkileşim türlerini; öğrenen-içerik, öğrenen-öğrenen ve öğrenen-eğitmen şeklinde üçe ayırmaktadır. Bu etkileşim türlerinden ilkinin, öğrenci ile çalışmanın içeriği veya konusu arasındaki etkileşim olduğunu belirterek bunu eğitimin tanımlayıcı bir özelliği olarak ifade etmektedir. Öğrenciyle içeriğin etkileşimi olmaksızın eğitimin olamayacağını, çünkü bu etkileşimin öğrencinin anlayışında, öğrencinin bakış açısında veya öğrencinin zihninin bilişsel yapısında değişikliklere yol açan entelektüel olarak etkileşime girme süreci olduğuna dikkat çekmiştir.

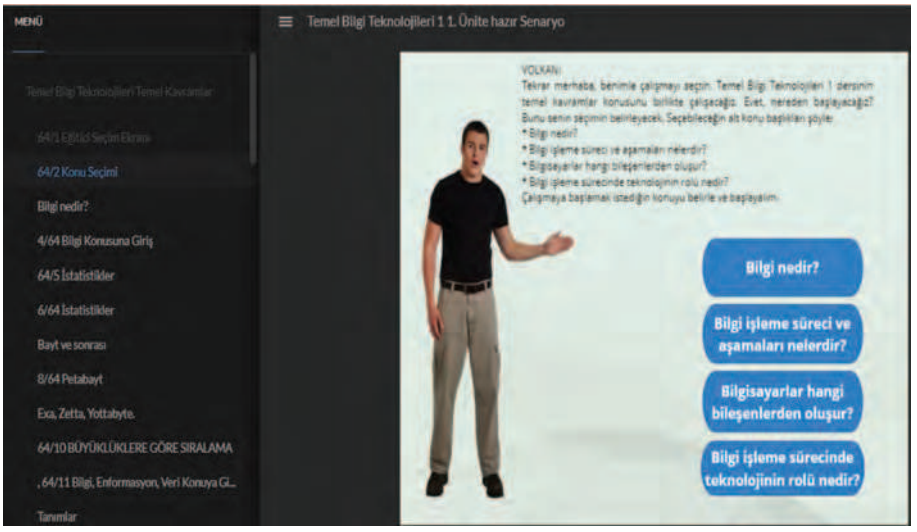
Tuovinen (2000) uzaktan öğrenmeye ilişkin araştırmasında öğrenme ortamları içinde öğrencilerin içerikle etkileşimlerini tek yönlü öğrenci içerik etkileşimleri ve iki yönlü öğrenci içerik etkileşimleri olarak açıklamaktadır. Tek yönlü etkileşimin tüketime yönelikken, iki yönlü etkileşimle öğrencilerin içeriğe katkı sağlayabilmelerinin olanaklı hale geleceği belirtilmektedir (Tuovinen, 2000).

Sabry ve Baldwin (2003) etkileşimi; Moore'un (1989) ayrımına benzer şekilde üç grupta ele almakla birlikte öğrenenin içerikle etkileşimine, öğrenenin bilgiyle etkileşimi adını vermektedir. Öğrenenin öğrenenle, bilgiyle ve eğitmenle etkileşimi şeklindeki üç etkileşim kategorisinin, öğrenim sürecini etkileşimli hale getirmede önemli bir rol oynayabileceğine değinen Sabry ve Baldwin (2003) ile Cattaneo ve Sauli (2017), eğitim videolarında söz konusu etkileşim kategorilerinin sağlayacağı faydalara ilişkin görüşlerinin genel hatları Şekil 1'de yer almaktadır.

Şekil 1. Etkileşimli Eğitim Videolarının Sağladığı Faydalar

Geri, Winer ve Zacks (2017), tarafından gerçekleştirilen etkileşimin öğrenenlerin katılımına ve dikkatlerini toplamaya yönelik eğilimleri üzerinde etkili olup olmadığını bulmaya yönelik araştırma MOOC platformundaki 59 video üstünde bir deneye dayanmaktadır. Etkileşim unsurları eklenmeden ve etkileşim unsurları eklendikten sonra videoların öğrenme analitiklerinin karşılaştırılmasında, etkileşimli videoların öğrenen dikkatini arttırdığı ve standart videolara oranla %20 daha fazla süreyle izlendiği sonucuna ulaşılmıştır.

Zhang ve arkadaşlarının (2006) gerçekleştirdiği araştırmada, bir e-öğrenme sistemindeki etkileşimli videonun, video içeriğine proaktif ve rastgele erişime izin verdiğini belirtmektedir (Şekil 2). İnteraktif videonun e-öğrenme ortamlarındaki öğrenme çıktısı ve öğrenci memnuniyeti üzerindeki etkisini inceledikleri ampirik çalışma bulguları, etkileşimli eğitici videonun e-öğrenme sistemlerine entegre edilmesinin önemli olabileceğini göstermektedir. Ayrıca bu çalışmayla gelişmiş multimedya ve iletişim teknolojileri üzerine yapılan son araştırmalar, doğrusal olmayan, etkileşimli dijital video teknolojisinin, öğrencilerin, öğrenme materyaliyle etkileşimini artırabilecek ve öğrencilerin öğrenmelerini geliştirebilecek öğretim videolarıyla etkileşime girebildiğini ortaya koymaktadır (Zhang ve ark. 2006).



Şekil 2. Etkileşimli Video İçeriğine Rastgele Erişimi Sağlayan İndeks ve Konu Butonları

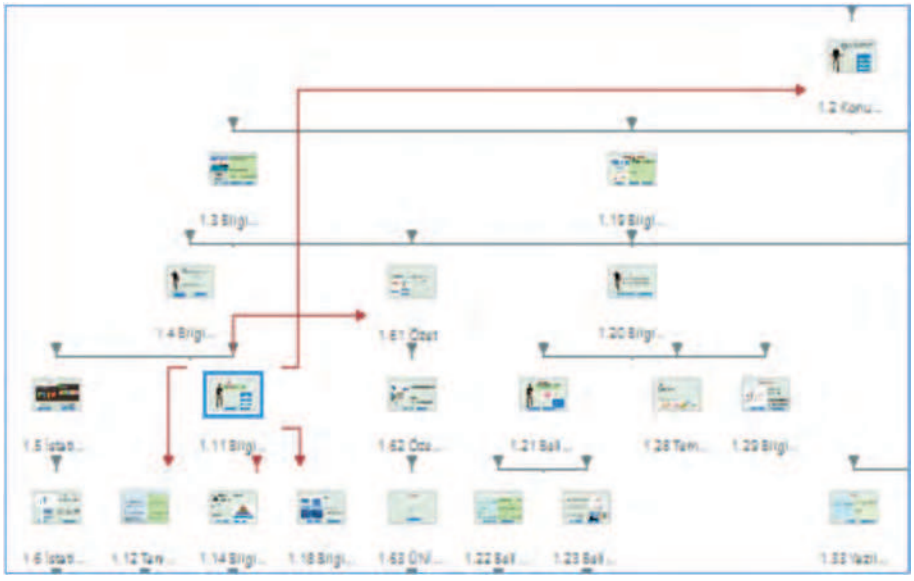
Bernard vd. (2009), uzaktan eğitimde öğrenen-öğrenen, öğrenen-içerik ve öğrenen-öğreten etkileşimlerini inceledikleri meta-analiz çalışmasında, yalnızca öğrenci-içerik etkileşimlerinin, öğrenci-öğrenci ve öğrenci-öğretmen etkileşimlerine kıyasla daha yüksek başarı ve tutumlara katkıda bulunduğu sonucuna ulaşmışlardır.

Petan, Mocofan ve Vasiu (2014) tarafından gerçekleştirilen bilgi yönetiminde interaktif video kullanımı adını taşıyan çalışmada etkileşimli videoların kullanımıyla öğrenen kontrolü sayesinde, öğrenenlerin zihinsel süreçlerinin harekete geçmesi yönünde sağladığı etkiyle esnekliği olan bir öğrenme ortamının oluşturulabileceğine vurgu yapılmaktadır.

Hirumi (2013) ise, uzaktan eğitim ortamlarında etkileşimin planlanması için etkileşimi üç farklı düzeyde inceleyerek, gruplandırma yoluna gitmiştir. Birinci düzeyde öğrenenin kendisiyle etkileşimleri, ikinci düzeyde öğrenenin insanlarla ve insan dışı etkileşimleri, üçüncü düzeyde de öğrenenin öğrenmeyle etkileşimleri bulunmaktadır. Sıralanan bu seviyeler uzaktan eğitim ortamlarında etkileşimin planlanmasında önem taşımaktadır.

Uzaktan eğitimle ilgili içeriğin nasıl sunulacağı, sunumda kullanılması gereken iletişime dönük araçların neler olması gerektiği, bu araçların kullanımının nasıl gerçekleşeceği eğitimciler kadar tasarımcıların da kontrolünde olması gereklidir. Eğitimle ilgili süreçte etkinlikle verimliliğin sağlanarak kaliteli bir öğrenmenin gerçekleşebilmesi için, etkileşim unsurları dikkate alınarak söz konusu eğitim videosunun tasarlanarak uygulanmasıyla öğrenenin aktifleşmesi sağlanabilir (Özgür, 2005). Literatürdeki çalışmalar etkileşimli videonun öğrencinin dikkatini çekmek, bilişsel aşırı yükü azaltmak, öğrenme etkinliğini artırmak ve öğrencileri daha fazla bilgi edinme konusunda motive etmek için çekici bir alternatif olduğunu göstermektedir (Kazanidis vd., 2018).

Ancak açıklanan bu faydaların sağlanmasında etkileşimli videonun etkileşimlilik düzeyi de etkili olmakta, etkileşimliliğin düzeyi yükseldikçe sağlanan faydalar daha net olarak görünür olmaktadır. Etkileşimliliğin frekans, genişlik ve önem şeklinde üç değişkeni olduğunu belirten Yüzer (2001), bu üç değişken arasındaki ilişkinin etkileşimliliğin düşük veya yüksekliğinin belirlenmesinde etkili olduğunu ifade etmektedir. Etkileşimliliğin düşüklüğü, bireyin etkileşime geçme sayısının ve etkileşime geçilecek seçeneklerinin az olması yanında gerçekleşen etkileşimin devam eden duruma etkisinin bulunmamasıyla açıklanmaktadır. Seçeneklerin çokluğu, dolayısıyla etkileşime geçme sayısının da çok olmasını sağlayacak, gerçekleşen etkileşimin devam eden duruma etki etmesine yönelik bir yapının sağlanmasıyla etkileşimliliğin yüksekliğinden söz edilebilecektir (Yüzer, 2001) (Şekil 3).



Şekil 3. Seçeneklerin çokluğu ve etkileşimliliğin yüksekliği bağıntısı

Etkileşimli bir videoyu bir öğretme-öğrenme sürecine etkili bir şekilde entegre etmek için, dikkat edilmesi gerekenleri talimatlar şeklinde sıralayan Cattaneu ve Pauli (2017), literatür taramasına ve öğretmen deneyimleri doğrultusunda hazırlanan bu talimatları göz önünde bulundurarak didaktik yapıdaki senaryoların etkileşimli senaryolar haline getirilmesini kolaylaştıracak bir model önermektedirler. Ayrıca değişik tür ve

yapıların söz konusu olduğu durumlar için değişik örnekler üzerinde de uygulamanın gösterildiği modelde birbirine bağlı iki boyut bulunmaktadır. Bu boyutlar; etkileşimli videonun planlanması ve çeşitli kişilerin planlama sürecine dâhil edilmesi şeklindedir.

Etkileşimli videonun planlanması aşamasının ilk adımı, etkileşimli eğitim amaçlı senaryonun oluşturulmasıdır. İlgisiz verileri filtrelemek, verilerin karmaşıklığını en aza indirgemek ve anlamlı bir üst düzey sembol tabanlı gösterimler oluşturmak, etkileşimli içerik çıkartma ve temsil etmenin temel amacını oluşturmaktadır (Schöning and Heidemann, 2019). Bu sayede etkileşimli videoların planlanmasında senaryo kullanımı, videoların daha etkili olabilmesi ve konunun daha açık şekilde anlatılabilmesi açısından önem taşımaktadır (Kim, 2013). Eğitim amaçlı senaryolar bir yandan öğretenin ders planlamasını oluştururken, diğer yandan da içerikle öğrenci arasındaki etkileşime kaynak oluşturmaktadır (Keller 2004). Bu anlamda etkileşimli video senaryoları öğrenen-içerik etkileşiminin sağlanmasında etkin ve önemli planlama-tasarlama aracı olarak ifade edilebilir. Etkin ve iyi yapılandırılmış bir içerik tasarımı temelde iyi tasarlanmış bir senaryoya dayanır. Senaryo, öğrenenin ekran karşısında gördüğü, duyduğu, dolaylı olarak dokunduğu her şeyi içermektedir. Sunucunun nerede gireceği, nerelerde off-ses kullanılacağı, görsellerin neler olacağı, nerelerde kullanılacağı, öğrenenin nerelerde içerikle nerelerde etkileşime gireceği, içeriğin ne şekilde yapılandırılacağı, hangi adımdan hangi adımlara gidileceği gibi pek çok şey senaryo sayesinde belirgin hale gelmektedir. Senaryonun yazımıyla başlayan etkileşimli video üretim süreci, çekimin gerçekleştirilerek grafikerlerin görselleri oluşturması, kurgunun yapılması, yazılımcının yazılımı yapmasıyla son bulmaktadır.

Etkileşimli video senaryoları yardımıyla öğrenene sunulan içeriklerde kullanıcı durumundaki öğrenen içeriğin alıcısı olma rolünü üstlenmektedir. Etkileşimli içeriğin alıcısı rolünün gereği olarak içeriğe katkı sağlamak durumundaki öğrenen pasif konumdan aktif bir konuma erişme olanağı bulmaktadır (Taşdelen ve Kesim, 2014). Tüm bu nedenlerden dolayı eğitime yönelik etkileşimli video içeriklerinin oluşturulmasında etkileşimli video senaryoları fazlasıyla önem taşımaktadır.

SONUÇ

Etkileşimli videolarda öğrenenlerin aktifliğinin daha fazla arttırılması için, açık ve uzaktan öğrenmeye yönelik eğitim videolarında, etkileşimli senaryoların kullanımı dikkat çekme, derinlemesine araştırmaya yöneltme, esnek öğrenme, uygulama yapma, yeterliliklerini değerlendirme, kişisel öğrenme, bilişsel aşırı yüklenmeyi önleme konularında oldukça fayda sağlayacaktır. Bu nedenle öğrenenlerin daha aktif hale gelmelerine yardımcı olacak öğrenen-içerik etkileşimine yönelik etkileşimli videoların oluşturulması gereklidir. Ancak etkileşimli videoların içeriğin alıcısı rolünü üstlenen öğrenenlere sağlayacağı faydaların gerçekleşmesi Cattaneu ve Pauli (2017)'nin de belirttiği gibi etkileşimli videonun planlanması ve işbölümüne dayalı bir ekip çalışmasının yapılmasıyla mümkündür. Söz konusu etkileşimli videoların plan, tasarım ve üretim aşamalarında dikkatle çalışılması kaçınılmaz bir gerekliliktir. Etkileşimli videonun planlanması aşaması ise, ilk adımı oluşturmakta ve etkileşimli senaryonun hazırlanmasını içermektedir. Açık ve uzaktan öğrenmede etkin ve iyi yapılandırılmış bir içerik tasarımıyla oluşturulan etkileşimli senaryo, öğrenenlerin gördükleri, duydukları ve doğrudan olmasa da dokundukları bütün her şeyi kapsadığından etkileşimli videonun temeli konumundadır.

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Uzaktan Eğitim Uygulama ve Araştırma Merkezleri İçin Elektronik Sınav Sistemine Geçiş Örneği

Dursun AKASLAN[1]

Özet

Günümüzde ölçme değerlendirme faaliyetlerinin çoğunluğu yüz yüze ortamda yapılmakta olup bu faaliyetlerde açık uçlu soruların veya çoktan seçmeli testlerin içerdiği sorular yer almaktadır. Çoktan seçmeli testler ile öğrencinin verilen açıklama ve soru köküne en uygun veya doğru cevabı seçmesi için optik formlar, soru kitapçıkları, aday kontrol listeleri ve benzeri belgelerden oluşan salon sınav evrakları kullanılmaktadır. Diğer taraftan ülkemizde elektronik sınav uygulamaları Ölçme, Seçme ve Yerleştirme Merkezi (ÖSYM) tarafından Elektronik Yabancı Dil Sınavı (e-YDS) ile başlamış ve Elektronik Akademik Personel ve Lisansüstü Eğitimi Giriş Sınavı (e-ALES) ile devam etmiştir. Yüksek Öğretim Kurulu tarafından 2014 yılında yayınlanan "Yükseköğretim Kurumlarında Uzaktan Öğretime İlişkin Usul ve Esaslar"ın 12. Maddesinde uzaktan öğretim programları ile uzaktan öğretim yoluyla verilen derslere ilişkin ölçme değerlendirme faaliyetlerinin elektronik veya yüz yüze olabileceği vurgulanmıştır. Bu çalışmanın amacı üniversitelerimiz bünyesinde bulunan uzaktan eğitim uygulama ve araştırma merkezlerinin elektronik sınav sistemine geçişin sağlanması için Harran Üniversitesi Uzaktan Eğitim Uygulama ve Araştırma Merkezi (HARUZEM) örneğini dört aşamalı olarak incelemektir. Birinci aşamada HARUZEM açısından merkezi elektronik sınav sistemine geçişin gerekçeleri açıklanacaktır. Çalışmanın ikinci aşamasında Harran Üniversitesi Merkezi Elektronik Sınav (HARMES) Laboratuvarının tasarımı gösterilecektir. Üçüncü aşamada HARMES'in kurulumu sırasında karşılaşılan sorunlar incelenecektir. Dördüncü aşamada ise HARMES'in uygulaması incelenecektir. Bu çalışma ile merkezi elektronik sınav laboratuvarlarının kurulumunun Harran Üniversitesi, Güneydoğu Anadolu Bölgesi ve Ülkemizin kalkınması için getirileri ve götürülerinin neler olacağına yönelik bir tartışma sağlayacaktır.

Anahtar Sözcükler: *elektronik sınav, uzaktan öğretim, Şanlıurfa, Harran Üniversitesi*

GİRİŞ

21. yüzyıl teknolojisinin sağladığı olanaklar ile birlikte insanlığın bilgiye erişim biçimi de değişmekte olup en yaygın ulaşım yöntemlerden biri olan internet (Kumalar & Pürtaş, 2012) hayatımızın vazgeçilmez bir parçası olmaktadır. İnternetin yaygınlaşması ile birlikte bilgi ve iletişim teknolojilerinde yaşanan gelişmeler eğitim sistemimizi de etkilemekte olup (Ömeroğlu, 2019) uzaktan öğretim adı altında e-öğrenme (veya elektronik öğrenme), eşzamanlı ve eş zamansız öğrenme, çevrim-içi ve çevrim-dışı öğrenme gibi çeşitli kavramları doğurmaktadır. Uzaktan öğretimin tarihçesi 1892'lere kadar gitmesine rağmen teknolojik gelişmeler ve yeniliklerin katkılarıyla uzaktan öğretiminin

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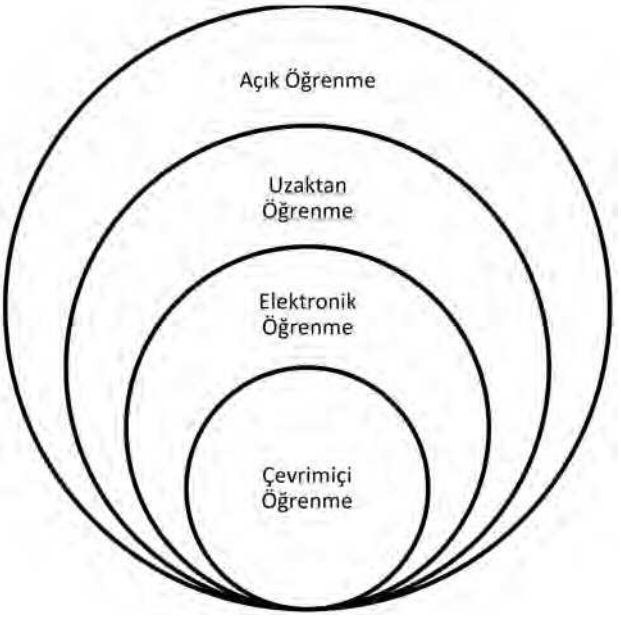
varlığı artık örgün, yaygın ve benzeri eğitim türleri gibi günümüz eğitim sisteminin bir parçası olmaya başlamıştır. Geçmişte, posta yoluyla temel yazışmalarla başlamış olan uzaktan öğretim, internet üzerinden mevcut olan (örneğin, Moodle, Adobe Connect, Perculis, vb.) çok çeşitli araçlarla devam etmektedir.

Açık ve Uzaktan Öğretim

Yüz yüze eğitim, neredeyse insanlığın varlığına yayılmış bir tarihe sahipken, açık ve uzaktan eğitim ve öğretimin başlangıcı 18. yüzyıla kadar uzanmaktadır. Açık ve uzaktan öğretim (open and distance education) kavramlarının ilk kullanıldığı tarihten itibaren açık ve uzaktan öğretim üzerine gerçekleştirilen kuram ve uygulamaların sayısı hızla artmaktadır. Açık öğretim; bir terim olarak ister yaş, zaman, yer veya mekanlar ile ilgili olsun ya da olmasın, öğrenmenin önündeki engelleri kaldırmaya çalışan herhangi bir eğitim veya öğretim programı olarak tanımlanmaktadır. Açık öğretimle bireyler, ne öğrendikleri, nasıl öğrendikleri, nerede öğrendikleri, ne kadar hızlı veya yavaş öğrendikleri, onlara kimin yardım ettiği veya etmediği, öğrenmelerini ne zaman değerlendirdikleri konusunda sorumluluk alırlar.

Öte yandan, uzaktan öğretim ise açık öğretimin bir dalı olarak öğretmenlerin ve öğrencilerin coğrafi mesafeler ile ayrıldığı bir öğretim türüdür. İnternetin doğuşu ile birlikte bilgi ve iletişim teknolojilerine dayalı yenilikler ve gelişmeler mesafeleri kısaltmakta, iletişimi hızlandırmakta ve sınırları kaldırmaktadır (Bozkurt, 2013). Diğer taraftan teknolojik yenilik ve gelişmeler uzaktan öğretiminin çeşitli açılardan ilerlemesine katkı sağlarken önce elektronik öğrenme ve sonra çevrim-içi öğrenme gibi terimlerini de doğurmuştur. Günümüzde açık ve uzaktan öğretime ilişkin yaygınlıkla kullanılan açık, uzaktan, elektronik ve çevrimiçi öğrenme gibi kavramların birbirleriyle olan ilişkisi Şekil 1 ile görselleştirilebilir.



Şekil 1. Açık ve Uzaktan Öğrenme Kavramları

Ölçme ve Değerlendirme

Yüksek Öğretim Kurulu tarafından 2014 yılında yayınlanan "Yükseköğretim Kurumlarında Uzaktan Öğretime İlişkin Usul ve Esaslar"ın 4. Maddesinde uzaktan öğretim "yükseköğretim kurumlarında öğretim faaliyetlerinin bilgi ve iletişim teknolojilerine dayalı olarak planlandığı ve yürütüldüğü, öğrenci ile öğretim elemanı ve öğrencilerin kendi aralarında karşılıklı etkileşimine dayalı olarak derslerin bizzat öğretim elemanı tarafından aynı mekânda bulunma zorunluluğu olmaksızın eşzamanlı biçimde verildiği öğretimi" olarak açıklanmaktadır. Ülkemizdeki yükseköğretim kurumlarında uzaktan öğretimin etkin bir şekilde yürütülmesinden sorumlu olan birimler uzaktan eğitim uygulama ve araştırma merkezleri (UZEM) olarak bilinmektedir.

Üniversitelerimizde uzaktan öğretim yoluyla verilen dersler genellikle Atatürk İlkeleri ve İnkılap Tarihi, Türk Dili ve Yabancı Dil gibi ortak dersler olup UZEM'ler tarafından bu derslerin ölçme ve değerlendirme faaliyetlerinin çoğunluğu yüz yüze ortamda yapılmakta olup bu tür faaliyetler için açık uçlu ve/veya kapalı uçlu sorular kullanılmaktadır. Açık uçlu sorular ile belirli bir konuda ayrıntılı bilgi almak amaçlanmakta olup ne, niçin, neden, nasıl, nerede, hangi ve benzeri sözcükler bu tür sorularda tercih edilmektedir. Diğer taraftan kapalı uçlu sorular ise bir bilginin doğrulanması (örneğin, evet-hayır) veya belirli sonuçlar arasından seçim yapılması amacıyla çoktan seçmeli test olarak hazırlanmaktadır. 5i olarak bilinen ortak derslere kayıtlı öğrenci sayısının yüzlerce (yeni üniversiteler) ve binlerce (eski üniversiteler) olması sınavların merkezi olarak yapılmasını gerektirmektedir.

Merkezi Sınavlar

Anadolu Üniversitesi Açıköğretim Fakültesi, Millî Eğitim Bakanlığı, Ölçme, Seçme ve Yerleştirme Merkezi ve benzeri kurumlar tarafından yapılan sınavlarda optik form yaygın bir şekilde cevap kağıdı olarak kullanılmaktadır. Cevap kağıtlarının hızlı ve doğru bir biçimde değerlendirilebilmesi için öğrencilerin cevap kağıdını doğru ve eksiksiz bir şekilde doldurması gerekmektedir. Diğer taraftan, adaylar tarafından TCKN veya öğrenci numaralarının, kitapçık türleri veya soru kitapçık numaralarının eksik veya hatalı olarak kodlanması, ad ve soyad bilgilerinin yazılmaması, imzaların eksik olması , adayın cevaplarını soru kitapçığına işaretleyip cevap kağıdına aktarmaması, sınava girmeyen adayların cevap kağıdındaki girmedi bölümünün kodlanmaması, kurşun kalem yerine tükenmez kalemle işaretleme yapılması, örnek kodlamaya göre cevapların kodlanmaması sıklıkla karşılaşılan bir durumdur. Örneğin, 28-29 Nisan 2014 tarihinde Millî Eğitim Bakanlığı Ölçme, Değerlendirme ve Sınav Hizmetleri Genel Müdürlüğü tarafından yapılan Ortak Sınavlara 1.271.273 öğrenci katılmış ve 215.000 gözetmen bu sınavlarda görev almasına rağmen her oturumda ortalama 5000 öğrenci ve 6 oturumda ortalama 30.000 öğrenci cevap kağıdına kitapçık türünü kodlamayı unutmuştur (MEB, 2014). ÖSYM tarafından yapılan açıklamalarda ise öğrencilerin sınavda en çok yaptıkları hataların başında ise cevapların kaydırılması, kitapçık türünün doğru işaretlenmemesi ve imzaların eksik olması gelmektedir. Harran Üniversitesi Uzaktan Eğitim Uygulama ve Araştırma Merkezi tarafından Ortak Dersler Sınavlarında da öğrencilerin cevap kağıtlarını doğru ve eksiksiz bir şekilde doldurmaması ve salon görevlilerinin gerekli kontrolleri yapmaması da sıklıkla karşılaşılan bir durum olmuştur.

Elektronik Sınavlar

Ülkemizin merkezi sınavlar konusunda oldukça önemli deneyimleri bulunmakta olup ortaokuldan liseye ve liseden üniversiteye geçişler merkezi sınavlar aracılığıyla gerçekleştirilmektedir (Baran & Altun, 2014). Ülkemizdeki merkezi sınavların uygulanması 1985 yılında öğretmen atamaları ile başlamış olup temel nedeni arz ve talep arasındaki dengesizliğin giderilmesine dayanmaktadır. 5i derslerine kayıtlı öğrencilerin yüzlerce ve binlerce olması nedeniyle bu derslere ait ölçme ve değerlendirme faaliyetlerinde çoktan seçmeli testlerin içerdiği sorular ile öğrencinin verilen açıklama ve soru köküne en uygun veya doğru cevabı seçmesi amaçlanmaktadır. Bunun için de optik formlar, soru kitapçıkları, aday kontrol listeleri ve benzeri belgelerden oluşan salon sınav evrakları kullanılmaktadır. Diğer taraftan bu sınavlara ilişkin ölçme ve değerlendirme faaliyetleri yüz yüze veya elektronik ortamda gözetimli veya gözetimsiz olarak yapılabilmektedir.

Yüksek Öğretim Kurulu tarafından 2014 yılında yayınlanan "Yükseköğretim Kurumlarında Uzaktan Öğretime İlişkin Usul ve Esaslar"ın 12. Maddesinde uzaktan öğretim programları ile uzaktan öğretim yoluyla verilen derslere ilişkin ölçme değerlendirme faaliyetlerinin elektronik veya yüz yüze olabileceği vurgulanmıştır. Buna rağmen, gözetimsiz olarak yapılan ölçme ve değerlendirme faaliyetlerinin genel başarıya etkisi uzaktan öğretimde %20'den fazla olmaması gerekmektedir. 5i olarak adlandırılan dersler hem yüz yüze hem de uzaktan öğretim yoluyla işlenmesine rağmen sınavların yüz yüze olarak yapılması oldukça yaygındır. Bunun temel nedenlerinden biri elektronik sınavların gözetimli olarak yapılabilmesi için adayların kimliklerinin doğrulanması, internet hızı ve kararlılığı, kopya girişimlerinin engellenmesi, elektrik kesintisi ve benzeri zorluklar sayılabilir (Akaslan, 2018). Diğer taraftan ülkemizde elektronik sınav uygulamaları Ölçme, Seçme ve Yerleştirme Merkezi (ÖSYM) tarafından Elektronik Yabancı Dil Sınavı (e-YDS) ile başlamış ve Elektronik Akademik Personel ve Lisansüstü Eğitimi Giriş Sınavı (e-ALES) ile devam etmektedir.

Amaç ve Hedefler

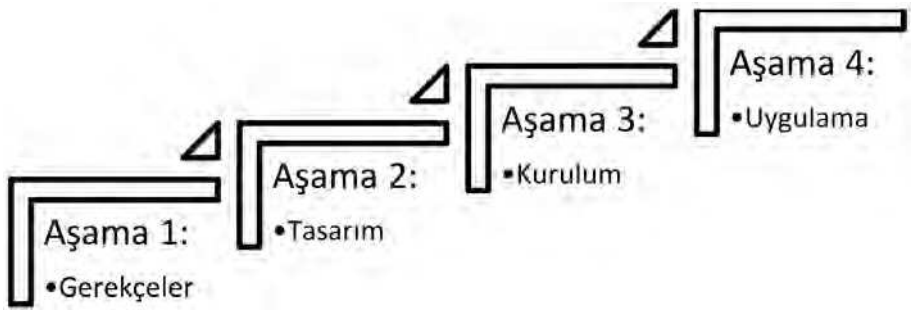
Bu çalışmanın amacı üniversitelerimiz bünyesinde bulunan uzaktan eğitim uygulama ve araştırma merkezlerinin elektronik sınav sistemine geçişin sağlanması için Harran Üniversitesi Uzaktan Eğitim Uygulama ve Araştırma Merkezi (HARUZEM) örneğini incelemektir. Bu amaca ulaşabilmek için aşağıdaki araştırma soruları bu çalışma içerisinde cevaplanacaktır:

- Merkezi elektronik sınav sisteminin gerekçeleri nelerdir?
- Merkezi elektronik sınavın uygulanabilmesi için nasıl bir laboratuvar kurulmalıdır?
- Elektronik sınav sistemi laboratuvarının kurulumunda karşılaşılan sorunlar nelerdir?
- Merkezi elektronik sınav sınavının üniversitelerimize katkıları nedir?

YÖNTEM

Üniversitelerimiz bünyesinde bulunan uzaktan eğitim uygulama ve araştırma merkezlerinin elektronik sınav sistemine geçişin sağlanması için Şekil 2'de gösterildiği gibi dört aşamalı bir yöntem geliştirilmiştir. Birinci aşamada HARUZEM açısından merkezi elektronik sınav sistemine geçişin gerekçeleri açıklanacaktır. Çalışmanın ikinci aşamasında Harran Üniversitesi Merkezi Elektronik Sınav (HARMES) Laboratuvarının tasarımı

gösterilecektir. Üçüncü aşamada HARMES'in kurulumu sırasında karşılaşılan sorunlar incelenecektir. Dördüncü aşamada ise HARMES'in kurulumunun Harran Üniversitesi, Güneydoğu Anadolu Bölgesi ve Ülkemizin kalkınması açısından rolleri tartışılacaktır.



Şekil 2. Aşamalar

BULGULAR

Bu bölümde merkezi elektronik sınav laboratuvarının Harran Üniversitesi açısından kurulması için gerekçeler verildikten sonra sırasıyla merkezi elektronik sınav laboratuvarının tasarımı, kurulumu ve uygulaması gösterilecektir.

Gerekçeler

Harran Üniversitesi bünyesinde merkezi elektronik sınav merkezinin kurulması için gerekçeler cevap kağıtlarının hatalı veya eksik kodlanması, cevap kağıtlarının geç değerlendirilmesi, salon sınav evrakının maliyetleri, gizlilik ve kopya, uzaktan öğretim ve ders materyali ücreti ve sınavın uygulanması gibi birçok gerekçe sayılabilir. 2017-2019 yılları arasında Harran Üniversitesi Uzaktan Eğitim Uygulama ve Araştırma Merkezi (HARUZEM) tarafından yüz yüze ve uzaktan öğretim yoluyla verilmekte olan Atatürk İlkeleri ve İnkılap Tarihi, Türk Dili ve Yabancı Dil derslerine kayıtlı olan öğrenci sayıları Tablo 1'de gösterilmektedir. Görüldüğü öğrencilerin ara sınav, yarıyıl sonu sınavı ve bütünleme sınavlarına girebilmesi için Tablo 1'de gösterilen 29 bin 22 x 3 adet optik form cevap kâğıdı olarak kullanılmıştır.

5i Dersleri	Dönem	Uzaktan		Toplam
Atatürk İlkeleri ve İnkılap Tarihi	2017-2018 Bahar	3158	630	3788
Türk Dili	2017-2018 Bahar	2874	618	3492
Yabancı Dil	2017-2018 Bahar	3437	871	4308
Atatürk İlkeleri ve İnkılap Tarihi	2018-2019 Güz	5295	422	5717
Türk Dili	2018-2019 Güz	5176	462	5638
Yabancı Dil	2018-2019 Güz	5510	569	6079
Toplam		**25450**	**3572**	**29022**

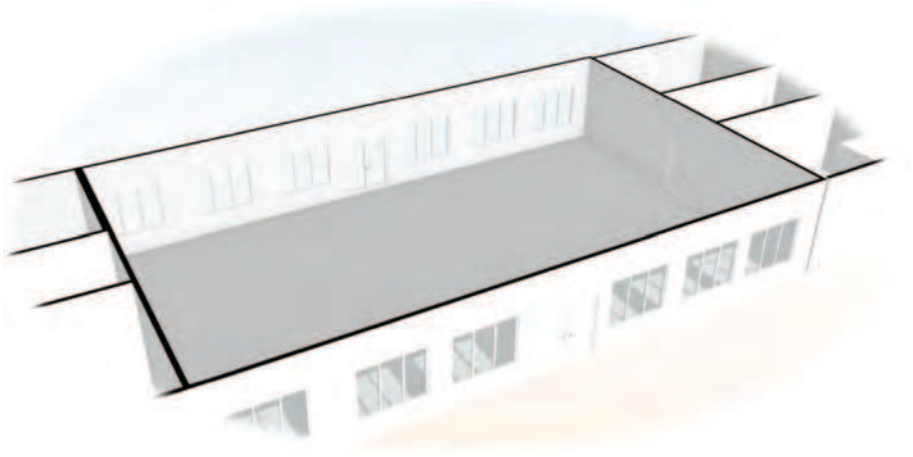
Tablo 1. Uzaktan ve Yüz Yüze Öğretim Öğrenci Sayıları (n)

Diğer taraftan yüzlerce öğrenci TCKN, öğrenci numaraları gibi önemli bilgileri hatalı veya eksik doldurmuştur. Ek olarak, Harran Üniversitesinde eğitim ve öğretim görmekte olan Suriye uyruklu öğrencilerin TCKN numaralarının da değişmesi ve öğrenciler tarafından bildirim yapılmaması da cevap kağıtlarına yapılan eksik veya hatalı kodlamaların sayısını artırmıştır. 2017-2019 yılları arasında Harran Üniversitesi Uzaktan Eğitim Uygulama ve Araştırma Merkezi (HARUZEM) tarafından yüz yüze ve uzaktan öğretim yoluyla verilmekte olan Atatürk İlkeleri ve İnkılap Tarihi, Türk Dili ve Yabancı Dil derslerinin ara sınav, yarıyıl sonu ve sınav sonuçlarının değerlendirilmesi için 2017-2018 Bahar Dönemi içerisinde iki adet optik okuyucu kullanılmış ve daha sonra da görüntü işleme yöntemine geçilmiştir. Buna rağmen hatalı ve eksik bilgiler dolayısıyla öğrencilerin cevapları hem optik okuyucular ile hem de görüntü işleme yöntemleri değerlendirilmesi yavaşlamış ve idari işlerin uzamasına yol açmıştır. Özellikle yarıyıl sonu ve bütünleme sınavları arasındaki sürenin dar olması da hatalı ve eksik kodlamalardan kaynaklı öğrenci ve personel şikayetlerini artırmıştır. Öğrenciler tarafından yapılacak olan eksik ve hatalı kodlamaların önüne geçilerek kimlik tespitlerinin doğru ve hızlı bir şekilde yapılabilmesi için adayların hem TCKN hem de öğrenci numaralarını kodlamaları istenilerek karşılaştırma yoluyla hataların azaltılması da çözüm olamamıştır.

Diğer taraftan cevap kağıtlarının değerlendirilmesinde karşılaşılan sorunlara sadece öğrenciler ile sınırlı değildir. Ek olarak öğretim elemanları tarafından soru cevaplarının sisteme yanlış girilmesi, bir den fazla seçeneğin doğru olması gibi nedenlerle optik formların değerlendirilme sürecinin de uzaması önemli bir etkendir. 2017-2019 yılları arasında Harran Üniversitesi Uzaktan Eğitim Uygulama ve Araştırma Merkezi (HARUZEM) tarafından yüz yüze ve uzaktan öğretim yoluyla verilmekte olan Atatürk İlkeleri ve İnkılap Tarihi, Türk Dili ve Yabancı Dil derslerinin ara sınav, yarıyıl sonu ve sınavlarının uygulanabilmesi için sınav kutuları, optik formlar, soru kitapçıkları, aday kontrol listeleri, etiketler ve benzeri belgelerden oluşan salon sınav evrakları kullanılmaktadır. Maliyeti artıran diğer etken ise aktarımdır. Çünkü sınav salon evraklarının sınav birimlerine gönderilebilmesi araç yakıtı, şoför ücreti, vb. işler içinde maliyet gerekmektedir. Soru kitapçıklarının matbaa tarafından basılabilmesi için en az bir adet A3 boyutunda renkli basım ve soru sayısına göre de 3-5-7 arası siyah-beyaz A3 kağıt kullanılmaktadır. Sorularının güvenliğinin sağlanabilmesi için üniversite içerisinde güvenlik üst noktaya taşınması da ek maliyetlerden biridir. Maliyetlerin karşılanabilmesi için öğrencilerden iki tür ücret alınmaktadır: uzaktan öğretim ücreti (1) ve ders materyali ve materyal ücreti (2).

Tasarım

Harran Üniversitesi Merkezi Elektronik Sınav Laboratuvarının tasarlanabilmesi için IBM tarafından geliştirilmiş olan 3DS MAX'ın deneme sürümü kullanılmış olup Şekil 4.'de gösterilmektedir. Merkezi Elektronik Sınav Laboratuvarının tasarımında öncelikle öğrencinin bilgisayar kasasına, bağlantı kablolarına, elektrik prizlerine erişimi engellenmiştir. Öğrenci sınav anında sadece monitöre, klavyeye ve fareye erişimi olacak şekilde bir tasarım geliştirilmiştir.



Şekil 3. Çok Amaçlı Salon

Şekil 4. Tasarım

Kurulum

Merkezi Elektronik Sınav Laboratuvarının kurulum işlemlerinin doğru ve hızlı bir şekilde yapılabilmesi için öncelikle genel hükümler, elektrik, internet ve inşaat imalatları olmak üzere 4 kısımdan oluşan bir teknik şartname hazırlanmıştır. İş bu teknik şartnamenin birinci kısmı (yani genel hükümler) ile malzemelerin seçimi, çevre ve hava koşullarından korunumu, kurulum aşamasında zarar gören yeşil alan ve çevrenin onarılması, iş sağlığı ve güvenliği gibi hükümler belirlenmiştir. İkinci kısmında (yani elektrik imalatları) 210 adet bilgisayara elektrik enerjisinin verilmesi için ihtiyaç duyulacak elektrik işleri imalatları belirlenmiştir. Örneğin, 2 adet 160 Amperlik termik manyetik şalter (TMŞ) kullanımı teknik şartnamenin bu kısmında vurgulanmıştır. 210 adet bilgisayara yerel ve genel ağ bağlantısının yapılabilmesi için ihtiyaç duyulacak internet imalatları ise teknik şartnamenin üçüncü kısmında (yani internet imalatları) bölümünde ayrıntılı biçimde sunulmuştur. Örneğin, CAT6 kabloları 101x50'lik prizli kanallar içerisinde gömülecek olup çıkışları için 2'li çerçeve ile yapılacağı bu kısmında belirtilmiştir. Diğer taraftan bilgisayarlara ait kasa ve monitörlerin sıva üstüne monte edilebilmesi ihtiyaç duyulacak inşaat imalatları ise dördünce kısımda verilmiştir. İş bu teknik şartnameye göre HARMES'in kurulum işleminin yapıldıktan sonra Tablo 2'de gösterilen malzemelerin alımını yapılarak montaj işlemine geçilmiştir.

Sıra	Ürün Adı	Adet	Sıra	Ürün Adı	Adet
1	Bilgisayar Monitörü	220	7	Güç Adaptörü	220
2	Klavye	220	8	Raspberry Pi Kamera	220
3	Fare	220	9	Aux Kablo	220
4	Raspberry Pi + Soğutucu + Fan	220	10	HDMI Kablı (1,5m)	220
5	MicroSD Kart (16 GB)	220	11	CAT 6 (3m)	220
6	RC522 RFID Okuyucu	220	12	Anahtar (Switch)	10

Tablo 2. HARMES'in Altyapısı

Merkezi Elektronik Sınav laboratuvarının en az maliyetle 210 adet öğrenciye aynı anda hizmet edebilmesi için Raspberry Pi tercih edilerek bu aygıta göre diğer malzemeler belirlenmiştir. Diğer taraftan laboratuvarın sınav dışında OpenOffice, Python ile Programlama gibi diğer derslerde de kullanılabilmesi için laboratuvarın tasarımı uygun hale getirilmiştir. Sınav anında öğrencilerin giriş işlemlerini hızlı bir şekilde yapabilmesi için kart okuyucuda alınarak öğrenci kimlik kartları ile sınava giriş yapmaları sağlanması amaçlanmıştır. Sınav anında öğrencilerin bireysel olarak izlenebilmesi, gözetmen sayısının en aza indirilebilmesi, kopya işlemlerinin asgari düzeye getirilebilmesi gibi birçok amaç için her bilgisayara bir adet kamera alınmıştır. Laboratuvarda bulunan her 30 bilgisayarın bir adet anahtar üzerinden sunucuya ulaşabilmesi, iki adet sunucuyla yedekli bir sistem oluşturulabilmesi amacıyla 10 adet anahtar (switch) alınmıştır. TOFEL vb. sınavlarda da kullanılabilmesi için HDMI ve Aux çıkışlı bilgisayar monitörü tercih edilmiştir. HARMES'in kurulumu adım adım olarak Şekil 5'de gösterilmektedir.

5.1 Alçıpan ve Monitör Taşıyıcılar

5.2 Elektrik ve İnternet Altyapısı

5.3 Sıva Üstü Panel Bağlantıları

5.4 Engelli Girişlerinin Hazırlanması

5.5 Monitörlerin C-Taşıyıcılara Sıfırlanması

5.6 Duvar Masaları ve Sınav Salon Adları

Şekil 5. Kurulum

Uygulama

HARMES'in kurulumu ile Atatürk İlkeleri ve İnkılap Tarihi, Türk Dili ve Yabancı Dil derslerini uzaktan öğretim yoluyla alan öğrencileri yarıyıl sınavları 1-2 Haziran 2019 tarihleri arasında ve bütünleme sınavları 15-16 Haziran 2019 tarihleri arasında randevu sistemi ile HARMES'te Şekil 6'da gösterildiği gibi yapıldı. Sınavın uygulanabilmesi için öncelikle her ders için bir soru bankası oluşturularak Sınav İşlemleri Sistemine (SİS) girişleri yapıldı.

Şekil 6. Karşılaştırma

Atatürk İlkeleri ve İnkılap Tarihi için 317, Türk Dili için 343 ve Yabancı Dil için 344 soru olmak üzere toplamda 1004 soru hazırlanarak müfredat konularına göre etiketlendi. Öğrencilerin istediği dersi sınav tarihleri arasında istediği saatler arasında alınması sağlanarak öğrencilerin daha çok ders çalışabilmesi için bir esneklik kazandırıldı. Öğrenci seçtiği sınav tarihi ve saatinde HARMES'e giriş yaptıktan ve yerleşme düzenini aldıktan sonra gözetmenlerin onayı ile Bina Sınav Sorunlusu tarafından sınav oturumu otomatik olarak tek tuşla başlatıldı. Her ders için üniteye göre rastgele 10 sorunun öğrenci tarafından 15 dakika içerisinde cevaplanması istenildi.

SONUÇ

Günümüzde hem ulusal (örneğin, e-YDS) hem de uluslararası (örneğin, TOFEL) olmak üzere birçok sınav elektronik olarak yapılmaktadır. Öğrenci sayısı, bilgisayar sayısı, elektrik kesintisi ve internet bağlantısının hızı gibi birçok etkene bağlı olarak bu sınavlar merkezi olarak tek veya birçok oturumda tekrar edilebilmektedir. Bu çalışma da üniversitelerimiz bünyesinde bulunan uzaktan eğitim uygulama ve araştırma merkezlerinin elektronik sınav sistemine geçişin sağlanması için Harran Üniversitesi Uzaktan Eğitim Uygulama ve Araştırma Merkezi (HARUZEM) örneği dört aşamalı olarak incelendi. HARMES'in kurulumunun hem üniversitemiz hem bölgemiz ve hem de ülkemiz açısından getirebileceği zorluklar ve kolaylıklar Harran Üniversitesi özelinde şu şekilde genelleştirilebilir.

Elektronik Sınavın Artıları

Birinci olarak HARUZEM tarafından yapılmakta olan merkezi sınavları sınav salon evrakları maliyeti HARMES ile birlikte sıfırlanmıştır. HARMES ile birlikte aday kontrol listesi, cevap anahtarı, soru kitapçığı, teslim tutanağı gibi evraklara olan ihtiyaç tamamıyla ortadan kalkmıştır. Bunun üniversitemize ve ülkemize getireceği kolaylıklar sadece bu evrakların maliyeti ile sınırlı olmayıp ülkemizin kaynaklarının doğru ve etkili bir şekilde kullanılması açısından da değerlendirilmesi gerekmektedir. Çünkü kalem, kağıt, silgi ve benzeri araç ve gereçlerin oluşturulması için her ne kadar geri dönüşüm çalışmaları ilerlemiş olsa da ekilen ağaçların kesilmesi ve bu ağaçların kabuklarının soyulmasına ihtiyaç vardır.

İkinci olarak HARUZEM tarafından yapılmakta olan merkezi sınavların uygulanabilmesi için gözetmen, salon başkanı, bina sınav sorumlusu, bina yöneticisi ve benzeri birçok görevliye ihtiyaç vardır. Bu görevlilerden bina ve oturum tercihi alınması, atamalarının yapılması uzun ve zor bir süreçtir. Görevli sayısı artıkça sınav oturumlarının yönetilmesi zorlaşmakta ve görevliler tarafından yapılan hataların sayısı da artmaktadır. Örneğin, aday kontrol listelerindeki imza tutanaklarının eksik olması, kitapçık türlerinin paraflanması bunlardan birkaçıdır. HARMES ile görevli sayısı 750 küsur kişiden sadece 24 kişiye düşmüştür. Görevlilere ödenen sınav ücreti önemli oranda azalmıştır.

Üçüncü olarak cevap anahtarlarının eksik veya hatalı kodlanması, kitapçık türlerinin işaretlenmemesi gibi olumsuzluklar sıklıkla yaşanan durumlardır. HARUZEM tarafından yapılan sınavlarda kodlama hataları %2 ile %3 arasında değişmesine rağmen öğrenci sayısının fazlalığı yüzlerce öğrencinin hatalı kodlama yaptığını göstermektedir. HARMES ile birlikte kodlama hataları tarihe karışmış öğrenci numarasının kodlanmaması, cevaplarının kaydırılması veya kitapçık türünün unutulması gibi olumsuzluk tamamıyla sona ermiştir.

Dördüncü olarak sınav anına kadar sınav sorularının hazırlanması, denetimi, basımı ve ilçelere ulaştırılması aşırı derecede gizlilik gerektiren bir durumdur. Bu süreç içerisinde yaşanacak herhangi bir hata hem üniversitenin itibarını zedeleme hem de sınavın tekrarlanma riskini hep yaşatmaktadır. HARMES ile birlikte veritabanı içerisindeki soru sayısı sayesinde her öğrencinin sınav soruları farklı uygulanarak kopya olayı sıfırlanmıştır. Hem sınav öncesi hem de sınav anında öğrencilerinin sorularının cevaplarını elde etmeye çalışması, soruların sızdırılması gibi riskler ortadan kaldırılmıştır. Bu tür sistemlerde tüm veri tabanı sorularının bilgisayar korsanlığı yoluyla elde edilse bile sınav anında öğrencilerin başarılı olabilmesi için yüzlerce sorunun cevabının öğrencinin hafızasında tutulması gerekecektir.

Beşinci olarak elektronik sınav öncesi öğrencilerin 5i derslerine ait sınavları tek oturumda her ders için 20 soru olacak şekilde toplam 60 soru ve 90 dakika süre ile sınırlı olacak şekilde yapılmasına rağmen HARMES ile birlikte öğrenciler farklı randevu günlerinde ve saatlerde istedikleri derslerin sınavlarına girebilmesi sağlandı. Bu yolla öğrencilerin her bir derse daha çok ve planlı bir şekilde çalışmaları sağlanarak öğrencinin başarı notlarının artması sağlanmıştır. Diğer taraftan sınava yetişememe gibi bir durumda ortadan kalmış olup randevu alınan saate gelinememesi durumunda farklı bir gün ve saatte öğrenciye yeni bir randevu verilebilmiştir.

Altıncı olarak HARUZEM tarafından uzaktan öğretimi seçen öğrencilerden yüz yüze olarak yapılan sınav evraklarının maliyeti, sınav ücretlerinin ödenebilmesi, ek ders ücretlerin ödenebilmesi mal ve hizmet alımlarının yapılabilmesi gibi ihtiyaçların giderilebilmesi için öğrencilerden uzaktan öğretim ücreti ve ders materyali ve materyal ücreti olmak üzere iki ücret alınmıştır. HARMES ile birlikte bu maliyetlerinin çoğu ortadan kalkacağı için tüm öğrenciler uzaktan öğretime yönlendirilebileceği için herhangi bir ücret alınmasına gerek olmayacak veya alınacak ücretinin en asgari düzeye çekilmesi sağlanabilecektir.

Elektronik Sınavın Eksileri

Birinci olarak HARMES elektrik ve internete bağlı bir laboratuvar olup özellikle sınav anında yaşanabilecek bir elektrik ve internet kesintisi çok büyük bir olumsuz durum oluşturabilmektedir. Diğer taraftan elektrik kesintisine karşı güneş ve rüzgâr gibi yenilebilir enerji kaynakları ve internet kesintisine karşı yerel ağ üzerinden sınavın yapılması alınabilecek önlemler olup bunun için HARMES'in alt yapısının iyileştirilmesine ihtiyaç vardır.

İkinci olarak HARMES, Harran Üniversitesi Osmanbey Yerleşkesi Mühendislik Fakültesi Ek Bina Zemin Kat'a kurulmuş bir laboratuvar olup elektronik sınavlar burada yapılmaktadır. Diğer taraftan Harran Üniversitesi, Şanlıurfa'nın Akçakale, Birecik, Bozoava, Ceylanpınar, Eyyübiye, Haliliye, Halfeti, Hilvan, Suruç, Siverek ve Viranşehir ilçelerinde de yerleşkelere sahiptir. Bu öğrencilerinde yarıyıl ve bütünleme sınavları için Osmanbey Yerleşkesine gelme zorunlukları önemli bir eksikliktir. Bu sorunun önüne geçebilmek için özellikle çok uzak ilçelerde mevcut laboratuvarlar üzerinden sınavın uygulanması sağlanarak olumsuzluk en aza indirilmiştir. Diğer taraftan uzaktan öğretim öğrencilerinin 5i derslerinin ara sınavlarının uzaktan ve gözetimsiz yapılması bu öğrencilerin sadece yarıyıl veya bütünleme sınavı için merkeze gelmeleri olumsuzluğu azaltmıştır.

Üçüncü olarak HARMES ve benzeri laboratuvarların sürdürülebilirliği için uzman akademisyenlere ve personele ihtiyaç bulunmaktadır. Üniversitelerin bu tür personel sayısının artırması, izin, sağlık koşulları veya istifa durumda bu tür laboratuvarlarının çalışabilirliğini sağlamaları gerekmektedir. Bunun için bu tür laboratuvarların en basit biçimde kurulması, otomasyon arayüzlerinin erişebilirliği ve kullanılabilirliği en üst düzeyde olmaları gerekmektedir. Aksi durumda bu tür laboratuvarlara yapılan yatırımlar büyük bir risk oluşturacaktır.

Dördüncü olarak üniversitelerin elektronik sınav için mevzuatlarını güncellemeleri, akademik ve idari personellere bu tür sistemlere yönelik hizmet içi eğitim vermeleri, elektronik sınav sistemlerinin kendi otomasyon ve öğrenci bilgi sistemleriyle uyumlu olmaları da üniversitelerin aşması gereken zorluklardandır.

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Açık ve Uzaktan Öğrenmede Blokzincir Tabanlı Sistemler: Eleştirel Bir Bakış

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Özet

Blokzincir teknolojisi, dağıtık mimarisi ile merkezi bir otoriteden bağımsız küresel bir veri yapısıdır. Güveni temin etmesiyle ön plana çıkan bu teknoloji, ekonomiden hukuka, eğitimden ticarete bir çok farklı alanda kullanımı tartışılmaya başlanmıştır. Eğitim alanındaki inovatif yaklaşımları yakından takip eden bir araştırma alanı olan açık ve uzaktan öğrenmede blokzincir teknolojisi geçmiş öğrenmelerin tanınması, öğrenme verilerinin yönetimi, öğrenme analitikleri gibi bilişim alt yapısı gerektiren çalışma alanlarında bir veri yapısı olarak kullanılabilir. Bu çalışmada, ilk başta blokzincir ve açık ve uzaktan öğrenme alanında kullanımı alanyazından örneklerle anlatılacak, ardından sosyo-teknik sistem kuramı çerçevesinde eleştirel bir bakış açısıyla bu sistemlerin bir değerlendirilmesi yapılacaktır. Yenilikçi ve mevcut sistemleri yıkıcı etkiler yaratabilecek bir bilişim teknolojisi olarak tanımlanan blokzincir teknolojisinin gerçek yaşam kullanım senaryolarının henüz yaygınlaşamadığı söylenebilir. Sosyo-teknik kuramın işaret ettiği gibi, sosyal gereksinimleri göz ardı eden teknik sistemler başarısız olma eğilimindedir ve burada önemli olan nokta, sosyal ve teknik sistemlerin yenilikçi yöntemlerle birlikte bütünleştirilmesidir. Bu çalışmanın amacı, blokzincir teknolojisinin açık ve uzaktan öğrenmede kullanımına yönelik çalışmalara sosyo-teknik kuram çerçevesinde eleştirel bir bakış açısı sunmaktır.

Anahtar Kelimeler: *Blokzincir teknolojisi, açık ve uzaktan öğrenme, sosyo-teknik sistem kuramı, eğitimde inovasyon, dijital dönüşüm.*

GİRİŞ

"4. Sanayi Devrimi" olarak adlandırılan ve birçok yenilikçi otomasyon sistemini ve veri alışverişini içeren terim; yapay zeka, nesnelerin interneti, artırılmış/sanal gerçeklik ve blokzincir gibi teknolojilerin günlük yaşantımıza birçok yenilik ve kolaylık getiren uygulaması ile dikkat çekmektedir. Bahsi edilen teknolojiler içinde blokzincir teknolojisi, bir para transferi aracı gibi algılansa da taşıdığı potansiyel ile yalnızca ticari kuruluşlar için değil, kamuda eğitim ve sağlık hizmetlerinden, enerji şebekelerine, ulaşımdan sosyal hizmetlere kadar yayılan alanda etkiler gösterebilecek bir teknolojidir (Tapscott & Tapscott, 2016). Blokzincir teknolojisi, açık ve uzaktan öğrenme alanında geçmiş öğrenmelerin tanınması, kitlesel açık dersler, kampüs içi uygulamalar, öğrenme yönetim sistemleri gibi bilişim alt yapısı gerektiren çalışma alanlarına ve güven esasına dayalı sistemlere uygulanabilir (Yıldırım, 2018). Buna ek olarak; blokzincir teknolojisi öğrenme analitikleri, nesnelerin interneti, artırılmış gerçeklik ve yapay zeka uygulamalarını açık ve uzaktan öğrenme alanına kolay entegre edilmesine yardımcı olabilir (Grech

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& Camilleri, 2017; Ogata, Ocheja, & Flanagan, 2018; Yıldırım, 2018). Bu alandaki ilk ve öncü çalışma olarak gösterilebilecek Blockcerts'in ilk versiyonu bitcoin ağı üzerine inşa edilmiştir (Schmidt, 2016). MIT Media Lab ve. Machine Learning tarafından açık kaynak olarak geliştirilen bu projenin güncel versiyonu yalnızca bitcoin ağında değil diğer yaygın kullanılan blokzincir platformlarında da uyumlu bir şekilde çalışabilmeyi hedeflemektedir. Diğer benzer bir çok projede olduğu gibi, Blockcerts projesinde de temel amaç öğrenenlerin sertifika bilgilerini blokzincir ağına kaydederek merkezi bir otoriteden bağımsız silinemez, güvenli bir öğrenme geçmişi kaydı izini sürebilmektir. Blokzincir teknolojisinin öğrenenlerin öğrenme kayıtlarını yenilikçi bir şekilde saklayabilme potansiyele sahip olduğu İngiltere Açık Üniversitesi İnovasyon Raporu 5'te ve Avrupa Komisyonunun "Blockchain in Education" başlıklı raporunda dile getirilmektedir. Yine ilgili çalışmalar, farklı kullanım senaryolarını da tartışmaktadır (Grech & Camilleri, 2017; Sharples et al., 2016).

İlgili literatürde, blokzincir teknolojisine yönelik gelecekte büyük beklentilere yer verilse de, bunun tersini düşünen çalışmalar da yer almaktadır. Ølnes, Ubacht, & Janssen (2017) yaptıkları çalışmada henüz blokzincir uygulamalarında, kurumsal değişikliklere olan ihtiyacın ve dönüşümlerin iyi anlaşılamadığını ifade etmişlerdir. Casino, Dasaklis, & Patsakis (2019) yaptıkları çalışmada blokzincir teknolojisinde hem akademisyenler hem de uygulayıcılar için önemli araştırma boşlukları olduğunu ifade etmişlerdir. Ocheja, Flanagan, Ueda, & Ogata (2019) çalışmalarında öğrenme kayıtlarını blokzincire kayıt için hazırladıkları sistemde karşılaştıkları sorunları dile getirmiştir.

Sosyo-teknik kurama göre, sosyal gereksinimleri göz ardı eden teknik sistemler başarısız olma eğilimindedir ve burada önemli olan nokta, sosyal ve teknik sistemlerin yenilikçi yöntemlerle birlikte bütünleştirilmesidir. Blokzincir teknolojisinin yaygınlaşamamasının altında yatan sebepler bu bağlamda tartışılabilir.

Blokzincir Teknolojisi

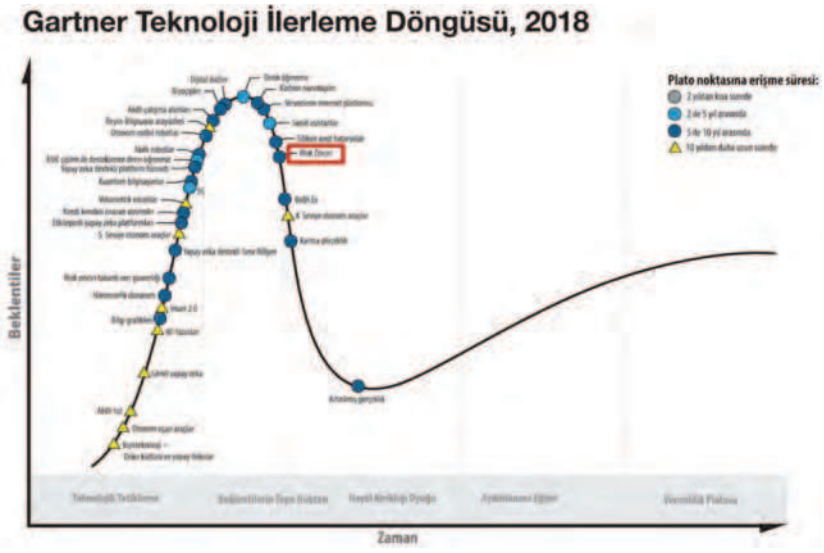
Satoshi Nakamoto takma isimli bir kişi ya da kişiler tarafından para transferinde finansal kurumların aracılığını ortadan kaldırmak amacıyla, "bitcoin" olarak adlandırılan bir kripto para birimi fikri ortaya atılmıştır (Nakamoto, 2008). 2009 yılında ilk değer transferi denemelerinin gerçekleştirildiği sistem, bilgisayarların işlem gücünden, matematik ve kriptolojiden faydalanarak küresel bir güven protokolü inşa etmeyi hedeflemiştir. 2019 yılına gelindiğinde, bir çok farklı sektörde uygulamaları hayata geçirilmeye çalıştırılarak farklı mimariler ve konsensüs protokolleri olan birçok platform ve proje kitlelere tanıtılmıştır.

Blokzincir genellikle merkeziyetsiz bir kayıt defteri olarak çalışan dağıtık bir sistemdir. Bu da, kayıt defterinin yalnızca bir kopyası olmadığı ve tek bir otorite tarafından kontrol edilmediği (merkeziyetsiz) anlamına gelir. Blokzincirde her işlem, gerçekliğini koruma altına almak adına kriptolojik hash fonksiyonları ile dijital olarak imzalanır. Böylece hem cüzdanın kendisi hem de içindeki hesap hareketlerinin güvenilir olduğu matematiksel olarak varsayılır ve değiştirilemez olduğu kabul edilir. Basitçe açıklamak gerekirse, blokzincir ağını devam ettirme sürecine katılan her kullanıcı zincir verisinin dijital bir kopyasını kendi hafızasında saklar ve bu kopya sıklıkla güncellenerek tüm son işlemlerle ve diğer kullanıcıların kopyalarıyla senkronize olur. Diğer bir deyişle, dağıtık bir sistem dünyanın dört bir yanına birçok kullanıcının kolektif bir çalışmasıyla sürdürülür.

Bu kullanıcılar ağ node'ları olarak da bilinir ve tüm node'lar sistemin kurallarına bağlı olarak işlemlerin doğrulanması ve onaylanması sürecine katılır. Bu sayede, klasik veri tabanından farklı olarak blokzincirde güç merkezi bir otoritenin müdahalesinden uzaktır.

Her yeni teknolojinin kabulünde ve yaygınlaşmasında olduğu gibi, blokzincir teknolojisi ile ilgili yaşanan sorunların başında kullanım senaryolarının tam olarak anlaşılamaması gelmektedir (Casino et al., 2019; Grover, Kar, & Janssen, 2019; Ismail & Materwala, 2019). Yine bu sorunu çözmeye yönelik, blokzincir teknolojisinde bir çok proje farklı yazılım grubu tarafından, farklı idealler doğrultusunda, farklı şekilde kurgulanmaktadır. Bu nedenle, yerleşik bir standardın oluşması zorlaşmaktadır. Bu sorunun çözüm olması amacıyla; IBM, Cisco ve Fujitsu gibi teknoloji firmaları ve J.P. Morgan, Accenture gibi finans kuruluşlarının destek verdiği HyperLedger adında bir yazılım çerçevesi oluşturulmuştur. Bu sayede güçlü bir yazılım altyapısı oluşturulması hedeflenmektedir. Cornell, MIT, Berkeley gibi dünyanın önde gelen üniversiteleri blokzincir teknolojisi konusunda akademik çalışmalar yapması dikkat çekicidir, bu üniversiteler araştırma grupları kurarak ve öğretim müfredatlarına blokzincir dersleri ekleyerek teknolojinin gelişimine katkı sağlamayı ve söz sahibi olmayı hedeflemektedir.

Gartner araştırma şirketi, her yıl gelişmekte olan teknolojileri geleceğin teknolojisi olma potansiyellerine göre değerlendirerek oluşturduğu ilerleme döngüsü raporunda, 2015 yılından bu yana blokzincir teknolojisine ve kripto paralara yer vermektedir. Şirketin raporlarına göre, 2015 yılında kripto paraları hayal kırıklığı oyuğunda değerlendirirken, 2016 ve 2017 yılında blokzincir teknolojisine beklentilerin tepe noktası bölgesinde yer vermiştir (Gartner Inc., 2015, 2016, 2017). 2018 yılı için yayınlanan raporda ise blokzincir teknolojisi hayal kırıklığı oluğuna taşımış (Şekil 1) ve 2019 yılı için yayınladığı teknoloji ilerleme döngüsü grafiğinde blokzincir teknolojisine yer vermemiştir (Gartner Inc., 2019b). Ancak şirket, "En İyi 10 Stratejik Teknoloji Trendleri" raporunda yapay zeka, otonom nesneler gibi teknolojilerin yanında blokzincir teknolojisini de eklemiştir (Gartner Inc., 2019a).



Şekil 1. Gartner Teknoloji İlerleme Döngüsü, (Gartner Inc., 2018)

Açık ve Uzaktan Öğrenme Bağlamında Uygulamada Yaşanan Sorunlar

Blokzincir teknolojisi taşıdığı büyük potansiyele rağmen uygulamasına yönelik sorunların olduğu da yadsınamaz bir gerçektir. Güven & Şahinöz (2018) bitcoinin önemli iki sorununu, fiyat hareketlerindeki dalgalanmanın yüksek olması ve PoW (Proof of Work-İşin İspatı) konsensüs sisteminin doğurduğu elektrik tüketimi olarak göstermiştir. 2017 yılında bitcoin madenciliği yaklaşık 30.14 TeraWatt saat (TWh) kullanım ile bir yılda tüm İrlanda kadar elektrik enerjisi tüketmiştir (The Guardian, 2017). Benzer şekilde, daha güncel bir çalışmada, bitcoinin yıllık elektrik tüketiminin Kasım 2018 itibariyle 45,8 TWh olduğu ve bitcoin ağının yıllık karbondioksit salınımının 22.9 milyon metrik ton ile neredeyse Sri Lanka ve Ürdün gibi ülkelerin ürettiği miktara eşdeğer olduğu vurgulanmıştır (Stoll, Klaaßen, & Gallersdörfer, 2019). Bu dramatik veriler, elde edilen faydanın doğurduğu sorunlara oranla etkililiğinin sorgulanmasına yol açmaktadır. Blokzincir teknolojisine yönelik diğer eleştiriler, blokzincir teknolojisinin geleneksel veri tabanı sistemlerinden büyük ölçüde farklı olmadığı, ağ yoğunluğuna bağlı olarak işlemin anında gerçekleşmemesi, işlem maliyetlerinin yüksekliği, veri güvenliği, gerçek zamanlı veri sağlamanın güçlüğü şeklinde sıralanmaktadır (Anh, Zhang, Ooi, & Chen, 2018; Lu, 2018, 2019).

Ölçeklenebilirlik blokzincir projelerinde önemli bir sorun olarak sayılabilir. Eğitim kayıtlarını blokzincire kayıt edecek bir proje için şöyle bir senaryoyu inceleyelim: Son zamanlarda geliştirilen blokzincir projeleri için önemli bir alt yapı oluşturan Ethereum ağı üzerinde geliştirilen bir projeyi düşünelim, bu proje yine PoS uzlaşı mekanizması kullanıyor olsun. Ethereum blokzincirine kaydedilen her veri bir işlemdir (transaction) ve bu işlemin bir maliyeti vardır. Bu maliyet işlemin ağa ne kadar hızlı kaydedileceğini belirler ve madencilere işlemi gerçekleştirmekte yardımcı oldukları için dağıtılır (Wood, 2014). Bu maliyet milyon dolarlık bir değer transfer edildiğinde oldukça düşük bir maliyet olarak görülebilir ve bu önemli bir üstünlük oluştururken, bir çok küçük verinin Ethereum ağına kaydolması büyük maliyetler doğurabilir. Ethereum Ağustos 2014'te ilk piyasaya sürüldüğünde piyasa değeri 0.3 USD civarındayken, Ocak 2018'de piyasa değeri 1400 USD civarına gelmiştir (CoinMarketCap, 2019). Ethereum'un piyasa değerindeki bu büyük dalgalanmalar Ethereum bazlı projeleri de riskli hale getirebilir. Yine benzer şekilde, Ethereum blokzincire kaydedilmek için gönderilen bir veri, ağın o anki yoğunluğuna bağlı olarak hemen gerçekleşmeyebilir.

Avrupa Kredi Transfer Sistemi'ndeki sorunlara çözüm için geliştirilen bir blokzincir projesi olan EduCTX projesi ilk versiyonunda ARK blokzincir alt yapısı kullanılarak tasarlanmıştır (Turkanović, Hölbl, Košič, Heričko, & Kamišalić, 2018) ancak proje devam ederken ARK blokzincir alt yapısı terkedilerek Ethereum alt yapısını geçilmiştir (Holbl et al., 2018). Bu denli köklü bir değişiklik neredeyse tüm projenin yeniden tasarlanması anlamına gelmektedir.

YÖNTEM

Bu çalışma blokzincir teknolojisinin açık ve uzaktan öğrenmede kullanımına yönelik alanyazındaki çalışmaları eleştirel bir bakışla incelemeyi amaçlayan betimsel bir çalışmadır. Bu amaçla sosyo-teknik kuram bağlamında bir doküman incelemesi yapılmıştır.

TARTIŞMA VE SONUÇ

Eleştirel bir bakış açısıyla, literatürde erişilebilen akademik yayınların blokzincir teknolojisinin potansiyelini tartışmaktan çok da öteye gidemediği söylenebilir. Benzer şekilde, mevcut projelerin de blokzincirin getirdiği en önemli avantaj olan merkezi bir otoriteye gerek duymadan sisteme veri eklenmesini göz ardı ederek blokzinciri klasik bir veri tabanı gibi kullanmaktan öteye gidemediği söylenebilir. Verinin tek bir kaynaktan blokzincirine eklenmesi merkezi olması anlamı taşımaktadır, blokzincire eklenen eğitim verilerinin otonomluğu sağlanmalıdır. Ayrıca, projelerin uygulanabilirliğinde de önemli sorunlar olduğu düşünülmektedir. Eğer formal ve informal öğrenme verileri sisteme bir merkez tarafından eklenecekse, bu klasik veri tabanından çok da öteye gidememektir. Bu açıdan blokzincirin getirdiği en önemli farklılıklardan olan merkezi bir otoriteden bağımsız olma özelliği de verinin bir merkezden girilmesiyle kullanılamaması manasına gelmektedir. Yine, blokzincire kaydolan verilerin silinebilmesi neredeyse imkansız olduğundan verinin bu şekilde işlenmesi esnasında oluşabilecek bir hatanın yeniden zincire kaydedilmesi de sorun oluşturabilecektir. Bu nedenle, gelişmiş akıllı sözleşmeler ve bu sözleşmelerle uyumlu blokzincir sistemleri tasarlanmalıdır. Ayrıca bu tasarımın aynı zamanda açık ve uzaktan öğrenme standartları ile de uyumlu olmalıdır.

Blokzincirin açık ve uzaktan öğrenme sistemlerinde kullanımı üzerine yapılan projelerde blokzincirine kaydedilen verilerin uzlaşı (konsensüs) sistemi tartışmaya açılmalıdır. PoW, PoS, PoA gibi farklı uzlaşı mekanizmaları güçlü ve sınırlı yönleriyle, farklı veri okuma ve yazma hızlarıyla ve farklı maliyetleriyle tartışılmalıdır. Tüm bunlar, blokzincirin eğitim ve öğrenme süreçleri için kullanımında bilgi ve iletişim teknolojileri, eğitim bilimleri gibi farklı disiplinlerde çalışan uzmanlar ve bu uzmanların görüşleriyle yeni bakış açıları gerektiği sonucunu doğurmaktadır. Ayrıca, bunun yalnızca teknik boyutu değil, sosyal boyutları da incelenmelidir. Blokzincirin olası kullanım durumları tartışılmalıdır. Bu çalışmalar, alanyazında yeni çalışmaları doğuracak ve yeni modeller geliştirilerek tartışılabilecektir.

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Anadolu Üniversitesi AÖF Öğrenme Yönetim Sisteminde Bir Uygulama: Çıkmış Sınav Soruları

Havva BUHAN[1], Özlem ÖZÖĞÜT ERORTA[2], Melda BEYAZ KORKUT[3]

Özet

Uzaktan eğitim veren Açıköğretim Fakültesi, İşletme Fakültesi ve İktisat Fakültesinin sınavları Türkiye'de ve yurt dışında belirlenmiş sınav merkezlerinde örgün olarak ve oturum düzeninde gerçekleştirilmektedir. Öğrenciler sınav sorularına, hem sınava hazırlanmak hem de sınavdan sonra yanıtlarını kontrol etmek amacı ile erişmek istemektedir. 2007-2008 öğretim yılından bu yana sınav soruları internet üzerinden Çıkmış Sınav Soruları adı altında öğrencilerin erişimine sunulmaktadır. Bu çalışmada Açıköğretim Öğrenme Yönetim Sisteminde sunulan Çıkmış Sınav Soruları uygulamasının öğrencinin kullanımına sunulmasına kadar geçen süreç anlatılmıştır.

Anahtar Kelimeler: *Açıköğretim,örgün sınavlar, çıkmış sınav soruları, e-Öğrenme*

GİRİŞ

Yükseköğretim sistemimizde 06.11.1982 tarih ve 17860 sayılı Resmi Gazetede yürürlüğe giren yönetmelikle ilk kez Anadolu Üniversitesi tarafından kurulan Açıköğretim sistemi ile yeni bir öğrenim sistemine geçilmiştir (Şahin, 2017, p.6). 1982-1983 öğretim yılında Açıköğretim sistemine 29.500 kişinin öğrenci kayıtları gerçekleştirilmiş. Açıköğretimin ilk yılında tek fakültede İktisat ve İş İdaresi olmak üzere iki lisans programı, bu programlarda okutulan toplam 56 ders mevcuttu. Öğretim ortamları ise posta yolu ile dağıtılan ders kitapları, sınırlı sürelerde TRT'de yayınlanan televizyon programları ve 16 merkezde on dersten verilen yüz yüze akademik danışmanlık dersleri idi. Örgün sınavlar ise sadece 8 sınav merkezinde yapılmaktaydı (Aydın,2014).

Anadolu Üniversitesi, Açıköğretim Fakültesi ilk sınavın yapıldığı 30 Nisan 1983 yılından 2019 yılına kadar, Açıköğretim Sistemi ile eğitim yapan lisans, önlisans, lisans tamamlama, ikinci üniversite, dikey geçiş ve yatay geçişi kapsayan programlarının sayısını 19 lisans ve 39 önlisans programına yükseltmiştir. Açıköğretim sistemi ulusal sınırları aşarak, Kuzey Kıbrıs Türk Cumhuriyeti, Azerbaycan, Kosova, Makedonya, Bulgaristan, Bosna Hersek, Kuzey Amerika, Suudi Arabistan ve çeşitli Batı Avrupa ülkelerinde yaşayan Türk vatandaşlarına ulaşmaktadır (Anadolu Üniversitesi, 2019).

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1983 yılından 1996-1997 öğretim yılına kadar ÖSYM tarafından yapılan sınav organizasyonu uygulaması ve değerlendirilmesi işlemleri 1996 yılında Test Araştırma Biriminin kurulması ile birlikte Anadolu Üniversitesi tarafından yapılmaya başlanmıştır (Anadolu Üniversitesi, 2019). Başlangıçta sekiz sınav merkezinde yapılan örgün sınavlar 2019 yılına gelindiğinde yurtiçinde 135 sınav merkezinde, yurtdışında 29 sınav merkezinde cumartesi ve pazar günleri dört oturum biçiminde gerçekleştirilmektedir.

SINAV SORULARININ İNTERNET ORTAMINDAN YAYINLANMASI

Anadolu Üniversitesi Açıköğretim öğrencilerine uzaktan eğitim yöntemleri ile hizmet vermekte, yurt içi ve yurt dışında bulunan sınav merkezlerinde ölçme ve değerlendirme amacıyla örgün sınavlar yapmaktadır (Korkut vd., 2015). Açıköğretim sisteminde okuyan öğrencilerden gelen yoğun istek üzerine 2007 yılından itibaren örgün sınavların hemen sonrasında sınav kitapçıkları ve doğru yanıt anahtarları internet ortamından yayınlanmaya başlamıştır. Sınav soruları Test Araştırma Birimi (TAB) tarafından hazırlanmaktadır. Sınav soruları, oturum bilgisine göre düzenlenmiş kitapçıklardan oluşmakta ve bu kitapçıklarda, öğrencinin sınavda sorumlu olduğu dersler yer almaktadır. TAB tarafından verilen sınav soruları bu derslere ait koda (A, B, C, D) göre sıralı PDF dosyalarından oluşmaktadır. Bu dosyalar sınavlar tamamlandıktan sonra Test Araştırma Birimi tarafından Öğrenme Teknolojileri Araştırma ve Geliştirme (ÖTAG) Biriminin Soru Ekibine ulaştırılmaktadır. Yaklaşık bir gün içerisinde yüzlerce derse ait sınav soruları sisteme yüklenmekte ve öğrencilerin erişimine sunulmaktadır.

Çıkmış sınav soruları uygulaması e-öğrenme malzemeleri içerisinde öğrenciler tarafından en çok kullanılan hizmetlerden biridir. Bu uygulamayı Açıköğretim öğrencileri, örgün sınavlardan sonra sınav sorularını görebilme, yanıt anahtarı ile kendi yanıtlarını karşılaştırabilme, sorunun doğruluğunu kontrol edebilme, hatalı sorulara itiraz edebilme ve örgün sınavlar öncesi sınava hazırlık aşamasında kendilerini deneyebilme amacı ile kullanmaktadır.

Son üç öğretim yılı için yurt içi ve yurt dışında yapılan sınavlarda (Güz Dönemi Ara Sınav, Güz Dönemi Dönem Sonu Sınavı, Bahar Dönemi Ara Sınav, Bahar Dönemi Dönem Sonu Sınavı, Üç Ders sınavı) yayınlanan derslere ait PDF dosyası sayıları aşağıda verilmiştir.

Açıköğretim Sınavları;

- 2018-2019 Bahar Dönemi Ara Sınavı 671 ders, Dönem Sonu Sınavı 670 ders
- 2018-2019 Güz Dönemi Ara Sınavı 626 ders, Dönem Sonu Sınavı 625 ders
- 2018-2019 Üç Ders Sınavı 845 ders
- 2018-2019 Yaz Okulu Sınavı 1181 ders
- 2017-2018 Bahar Dönemi Ara Sınavı 630 ders, Dönem Sonu Sınavı 630 ders
- 2017-2018 Güz Dönemi Ara Sınavı 589 ders, Dönem Sonu Sınavı 589 ders
- 2017-2018 Üç Ders Sınavı 730 ders
- 2016-2017 Bahar Dönemi Ara Sınavı 574 ders, Dönem Sonu Sınavı 574 ders
- 2016-2017 Güz Dönemi Ara Sınavı 528 ders, Dönem Sonu Sınavı 529 ders
- 2016-2017 Üç Ders Sınavı 685 derse ait sınav sorularının yayını.

Yurt Dışı Programları Sınavları;

- Yurt Dışı Programları 2018-2019 Bahar Dönemi Ara Sınavı 356 ders, Dönem Sonu Sınavı 355 ders
- Yurt Dışı Programları 2018-2019 Güz Ara Sınavı 341 ders, Dönem Sonu Sınavı 341 ders
- Yurt Dışı Programları 2018-2019 Üç Ders Sınavı 88 ders
- Yurt Dışı Programları (Batı Avrupa) 2018-2019 Yaz Okulu Sınavı 296 ders
- Yurt Dışı Programları (Azerbaycan – Balkanlar) 2018-2019 Yaz Okulu Sınavı 316 ders
- Yurt Dışı Programları 2017-2018 Bahar Dönemi Ara Sınavı 285 ders, Dönem Sonu Sınavı 285 ders
- Yurt Dışı Programları (Batı Avrupa - Balkanlar - Suudi Arabistan) 2017-2018 Güz Ara Sınavı 264 ders, Dönem Sonu Sınavı 264 ders
- Yurt Dışı Programları (Azerbaycan) 2017-2018 Güz Ara Sınavı 138 ders, Dönem Sonu Sınavı 138 ders
- Yurt Dışı Programları 2017-2018 Üç Ders Sınavı 82 ders
- Yurt Dışı Programları (Azerbaycan) 2016-2017 Bahar Dönemi Ara Sınavı 120 ders, Dönem Sonu Sınavı 121 ders
- Yurt Dışı Programları (Azerbaycan) 2016-2017 Güz Dönemi Ara Sınavı 109 ders, Dönem Sonu Sınavı 115 ders
- Yurt Dışı Programları (Balkan) 2016-2017 Bahar Dönemi Ara Sınavı 188 ders, Dönem Sonu Sınavı 191 ders
- Yurt Dışı Programları (Balkan) 2016-2017 Güz Dönemi Ara Sınavı 177 ders, Dönem Sonu Sınavı 172 ders
- Yurt Dışı Programları (Batı Avrupa) 2016-2017 Bahar Dönemi Ara Sınavı 157 ders, Dönem Sonu Sınavı 160 ders
- Yurt Dışı Programları (Batı Avrupa) 2016-2017 Güz Dönemi Ara Sınavı 155 ders, Dönem Sonu Sınavı 150 ders
- Yurt Dışı Programları 2016-2017 Üç Ders Sınavı 94 derse ait sınav sorularının yayını.

2018-2019 öğretim yılında ilk kez yaz okulu açılmış, üç ders sınavı ise son kez yapılmıştır. Yurt dışında yapılan sınavlarda sınav takvimi her ülkenin akademik takvimine uygun olarak düzenlenmektedir. Bu nedenle yurtdışı sınavları farklı tarihlerde yapılabilmektedir. Yurt dışı sınavlar 2016-2017 öğretim yılının bazı sınav dönemlerinde ortak bir tarihte gerçekleştirilememiştir. Bu nedenden dolayı TAB tarafından farklı sınav soruları hazırlanmış ve yayınlanmıştır.

ÇIKMIŞ SINAV SORULARININ YAYINLANMA SÜRECİ

Açıköğretim Fakültesinin sınavları Türkiye ve Yurt dışında takvimin farklı işlemesi nedeni ile yayınlanma sürecinde de değişiklikler göstermektedir. Türkiye programları için AÖF sınav sorularının hazırlanması ve yayınlanması iki farklı süreci kapsamaktadır. AÖF sınav sorularını Test Araştırma Birimi (TAB) hazırlamaktadır. Sınav sonrası soruların yayınlanması da Öğrenme Teknolojileri ve Araştırma ve Geliştirme Birimi tarafından yapılmaktadır.

Paylaşımsız dijital ortamda hazırlanan sınav sorularının ham hali, PDF dosyası olarak, güvenlik önlemleri nedeni ile öğrencilerin son sınav oturumundan sonra taşınabilir disk ile Test Araştırma Biriminden teslim alınır. Her ders için A, B, C, D grubu olarak alınan filigransız PDF dosyaları yayınlanacak sınav soruları dosyalarının ham hali olarak ifade edilir ve bu andan itibaren Çıkmış Sınav Soruları diye adlandırılır.

Sınav sorularını daha hızlı yayınlamak, oluşabilecek dosya hatalarına hızlı müdahale edebilmek ve öğrencilerin sınav sorularına daha sorunsuz ulaşabilmelerini sağlamak amacıyla her sınav sonrasında aşağıdaki işlem adımları uygulanmaktadır.

- Her ders için farklı gruplardan (A, B, C, D) ayrı ayrı PDF dosyası olarak alınan sınav soruları tek bir ders kodu altında PDF dosyası olarak birleştirilir.
- Birleştirme sonrası her sayfanın sonuna yasal yükümlülükleri ve ilgili dönemi ifade eden filigran eklenerek dosya yayına hazır hale getirilir. Bu aşamada her sayfada öğrenciye verilecek mesaj ya da hatırlatma var ise dosyaya üst bilgi olarak ekleme yapılır.
- Yayına hazır hale gelen PDF dosyaları, ortak intranet alanında **AOF_Sorular** klasörünün içinde dönem adı belirtilerek paylaşılır.
- Sınav sorularının yer aldığı işlenmiş PDF dosyaları, oluşturulan 15-20 kişilik bir ekiple e-kampüste yayınlanma sürecine geçilir.
- Paylaşım alanının adresi e-kampüste yayınlayacak çalışma grubuyla paylaşılır.
- Google Drive uygulamasında hazırlanan bir tablo üzerinden e-kampüste yayınlanması gereken derslerin listesi ve yayınlayacakların bilgisi yine bu belge aracılığı ile yayınlayacak çalışma grubuyla paylaşılır.
- Bu tabloda yayınlama sırasında uyulması gereken kuralların ve yönergenin bulunduğu dökümanın bağlantısı bulunur ve dosyaları yayınlayacak çalışma grubuyla paylaşılır. Her sınav döneminde bu döküman ve tablo yayınlanacak derslere ve yayınlayacak çalışma grubuna göre düzenlenir.
- Tabloda yayın ekibinin sorumluluğundaki her ders için e-Kampüste yayınlandıktan sonra "**Tamamlandı**" ifadesi girilir.
- Sınav sorularının tümü yayınlandıktan sonra ÖTAG yöneticileri, Merkez Büro, Halkla İlişkiler ve Test Araştırma Birimine çıkmış sınav sorularının e-Kampüste yayınlandığı yani öğrencilerin kullanımına sunulduğu bilgisi verilir.
- Yayın ekibi tarafından e-Kampüste PDF dosyalarının yayınlanma süresi ortalama 2 saat sürmektedir.
- Yayınlama sonrasında çapraz kontrolle yayınlanan dersler e-Kampüs üzerinden kontrol edilir. Bu kontrolde her ders için doğru ders ve dönem içinden doğru PDF dosyalarının yayında olup olmadığına bakılır. Kontrol süreci yayınlama sürecinden daha hızlı ilerlemektedir.

2018-2019 öğretim yılı Üç Ders sınavına kadar Çıkmış Sınav Sorularının yayınlanma süreci yukarıda verilen işlem adımları takip edilerek gerçekleştirilmiştir. Üç ders sınavından itibaren Çıkmış Sınav Sorularının e-Kampüste yayınlanma aşamalarında değişiklikler yapılmış ve iş akışında anlatılan 6, 7, 8, 10 ve 11. işlem adımları süreçten çıkarılmıştır. Bahsedilen maddelerin süreçten kaldırılmasının nedeni yeni öğrenme yönetim sistemine geçilmesi ve öğrenciye sunulan tüm malzemelerin Envanter Takip Sistemine (ETS) eklenmesidir. Yayına hazır hale getirilen Çıkmış Sınav Sorularının PDF dosyaları hem masaüstü bilgisayarlardan hem de mobil cihazlardan öğrencilerin erişimine sunulmaktadır.

ÇIKMIŞ SINAV SORULARINI YAYINLANDIKTAN SONRA YAPILACAK İŞLEMLER

Çıkmış sınav soruları yayınlandıktan sonra öğrencilerden sorular için itiraz süreci başlar. Yönetmelikte "(5) (Değişik: Senato-27/9/2017-9/6; Değişik: Senato-09/04/2019-4/4) Öğrenci, sınavı takip eden 3 iş günü içinde sınav sorularına ve sınav uygulamasına "Öğrenci Otomasyonu" kanalıyla itiraz edebilir. "Öğrenci Otomasyonu" dışında yapılan itirazlar kabul edilmez. İtiraz süresi geçtikten sonra yapılan itirazlar da dikkate alınmaz." olarak ifade edilen itiraz sürecinde hatalı sorular TAB tarafından incelenir.

1. Soru iptali ve seçenek değişiklikleri için 3 iş günü itirazlar kabul edilmektedir.
2. İtirazlarda geçerli bulunan soru ve seçenek değişiklikleri ders adı, ders kodu ve soru numarası gibi bilgilerin yer aldığı metinlerle TAB tarafından 1 hafta süreyle ÖTAG Birimine bildirilir.
3. Gelen düzeltmeler PDF dosyaları üzerinde Adobe Acrobat Pro DC yazılımı aracılığı ile güncellenir ve her gruba (A, B, C,D) yansıtılır.
4. Yapılan düzeltmeler İntranetteki ortak paylaşım alanına eklenir ve ETS üzerinden önceki PDF dosyaları silinerek güncel PDF dosyaları yayınlanır.

Açıköğretim sisteminde eğitim gören öğrencilerin doğru bilgiye yönlendirilmesi amacı ile Çıkmış Sınav Soruları uygulaması Anadolu Üniversitesi Açıköğretim sisteminde okutulan ders kitaplarının basım yılı dikkate alınarak güncellenmektedir. Bu nedenle sistemde var olan ders kitabının basım yılından önce yapılan sınavlara ilişkin çıkmış sınav soruları dosyaları kaldırılmaktadır.

SONUÇ

Anadolu Üniversitesi Açıköğretim öğrencilerine uzaktan eğitim yöntemleri ile hizmet vermekte, yurt içi ve yurt dışında bulunan sınav merkezlerinde ölçme ve değerlendirme amacıyla örgün sınavlar yapmaktadır. Şeffaflık politikası kapsamında, sınavlarda sorulan sorular İnternet ortamında çıkmış sınav soruları uygulaması adı altında yayınlanmaktadır. Açıköğretim öğrencilerinin en çok kullandığı e-öğrenme malzemelerinden biri olan Çıkmış Sınav Soruları uygulaması masaüstü bilgisayarlarda ve mobil cihazlarda ders bazında öğrenci erişimine sunulmaktadır.

Öğrenciler zaman ve mekandan bağımsız olarak erişebildikleri Çıkmış Sınav Soruları uygulaması ile örgün sınavlardan önce ve sonra kendilerini değerlendirebilmekte, hatalı olduğunu düşündükleri soruları sistem üzerinden bildirebilmektedir.

Çıkmış Sınav Soruları uygulamasına masaüstü bilgisayarlardan ve mobil araçlardan erişim sağlanabilmektedir. PDF dosyaları indirilebilmekte ve yazdırılabilmektedir. 2019-2020 öğretim yılı Güz döneminde Kasım 2019 tarihine kadar yaklaşık 700 derse ait sınav soruları 3.486.612 kez görüntülenmiştir.

2018-2019 öğretim yılında, yurt içinde (Güz, Bahar ve üç ders) yapılan sınavlarda 4618 ders, yurt dışı sınavlarda 2093 ders olmak üzere toplam 6711 derse ilişkin PDF dosyası Çıkmış Sınav Soruları uygulamasına eklenmiştir.

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Anadolu Üniversitesi AÖS Çevrimiçi Fotoğraf Topluluğu

Abdülkadir CANDEMİR[1]

Özet

Günümüzde teknolojik olanakların bir sonucu olarak temel insan gereksinimlerine cevap veren, yer ve zamandan bağımsız, bireyler arasında etkileşime olanak sağlayan, bilgi ve iletişim teknolojilerine dayalı yeni çevrimiçi iletişim uygulamaları gelişmektedir. Çevrimiçi topluluklar da bu uygulamalardan birini oluşturmaktadır. Anadolu Üniversitesi Açıköğretim Fakültesi sadece öğretimle sınırlı kalmayıp sosyal aktiviteler konusunda da öğrencilere daha iyi hizmet verebilme amacıyla Çevrimiçi Öğrenci Topluluklarını 2016-2017 eğitim-öğretim yılında faaliyete geçirmiştir. Fotoğraf Topluluğu ile birlikte, söz konusu topluluklar; Kitap Topluluğu, Sinema Topluluğu, Tarih Topluluğu ve Müzik Topluluğudur. Topluluklar etkinliklerini düzenli aralıklarla Anadolu Üniversitesinden bir öğretim üyesinin yürütücülüğünde çevrimiçi ortamda gerçekleştirmektedir. Yapılacak etkinlikler bir ay öncesinden duyurulmakta etkinliklerde yürütücü/uzman kişiler yer almaktadır. Yapılan canlı ders ve sunum etkinliklerine üyeler yalnızca yazılı metinlerle değil kendi ürettikleri görsel materyallerle katılmaktadırlar. AÖS (Açıköğretim Sistemi) Çevrimiçi Fotoğraf Topluluğunun çalışma başlıklarını; "Forum-üye görüşleri", "Canlı dersler", "Sizden gelenler–atölye" "Sizden gelenler-sergi" ve "Ders notları" oluşturmaktadır. Ana sayfaya üye istek ve gereksinimlerine bağlı olarak sekmeler şeklinde yeni başlıklar eklenmektedir. Fotoğraf Topluluğunun etkinlikleri bu çalışmanın konusunu oluşturmaktadır.

Anahtar kelimeler: *Fotoğraf, Öğrenci Toplulukları, Sosyal Medya, Canlı Ders, Fotoğraf Uygulama.*

GİRİŞ

Eğitim, ister planlı olarak okullarda, isterse bireyin yaşadığı çevre içinde ya da çevrimiçi olarak yer ve zamandan bağımsız bir ortam üzerinden yapılsın, geçerli öğrenmelerin oluşturulmasıyla gerçekleşir. Bugün, teknoloji alanındaki hızlı gelişmeler geçerli öğrenmelerin elde edilme yollarını ve kullanım amacını etkileyerek toplumların bilgiyi arayan, ulaşılan ve elde edilen bilgiyi sınıflandırabilen, depolayabilen ve toplum hayatına yararlı ürünler olarak değerlendirebilen birer bilgi toplumu olmaları gerekliliğini ortaya çıkarmıştır. Öğrenme ortamlarında teknoloji kullanımının öğrencilere bireysel gereksinimlerine uygun daha zengin öğrenme ortamları sunması, ülkelerin eğitim sistemlerini bu yöneliş doğrultusunda bilgi ve iletişim teknolojileri ile bütünleşme çabası içine girmesine yol açmıştır. Örgün ve yaygın eğitim yapılarını etkileyen bu yeni oluşum, Internet üzerinden eğitim veren ve eğitimlerini internet üzerinden sundukları etkinlikler ile destekleyen öğretim kurumlarının yaygınlaşmasına yol açmaktadır. Bu resmi kurumların yanında ortak ilgi doğrultusunda bir araya gelen üyelerine yeni olanaklar sunarak, birbirlerinin bilgi, beceri ve deneyimlerinden yararlanan, bilgi

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paylaşımında bulunan çevrimiçi topluluk sayısında da ciddi bir artış gözlenmektedir (Alakurt, Keser, 2014:1332).

Sanal toplulukları konu edinen çalışmalar bu toplulukların farklı tanımlarını ortaya koymaktadır. Sözgelimi, Leimeister ve arkadaşları sanal toplulukları bir araya gelen ve diğerleriyle etkileşim kuran, belirli ortak bir ilgi etrafında birbirleriyle bağlı kalan, teknik bir platform aracılığıyla bir araya gelen ve üyelerinin sosyal ilişkiler kurabilmelerinin yanı sıra ait olma hissini inşa ettikleri bir birliktelik olarak tanımlamaktadır. İnternet teknolojilerini kullanarak birbirleriyle etkileşim kuran insan gruplarını kastederek Rheingold bu tür bir topluluğu, "kelimelerin, insan ilişkilerinin, verilerin, zenginliğin ve gücün sergilendiği siber mekânda, yeterli sayıda insanın birbiriyle yeteri kadar sık karşılaştığında" ortaya çıkan kültürel bir birliktelik olarak tanımlamaktadır. Sicilia ve Palazon ise, sanal topluluğu, katılımcıları arasında ortak bir ilginin paylaşıldığı, biçimlendirilmiş ve dinamik bir ilişkiler ağına dayalı, özelleştirilmiş ve coğrafi açıdan dağınık nitelik gösteren bir birliktelik olarak tanımlarlar (Akt; Yanıklar, 2014:166-167).

Doğal bir birlik olarak topluluk, bireylerarası birleştirici, ortaklaştırıcı unsurların güçlü ve önemli olduğu bir gruptur. Sanal örgütlenmeler ne kadar güçlü ve sıkı görünürlerse görünsünler, yüz yüze ilişkilerde olduğu gibi sıkı bir ağla oluşmadığından, gerçeklikle ilişkileri kırılgan ve zayıftır. Bu nedenle toplulukların devamlılığı inanç ve duygularla ilgi vurgu ve çağrılarla sağlanabilmektedir. .Rheingold'a göre sanal topluluklardaki yapısal oluşum çıkar ortaklığı, ortak bilinç ve grup düşüncesi deneyimi gibi özellikleri taşımaktadır. Sanal topluluk yapısında da birlik, bütünlük ve karşılıklılık önemli unsurlardır (Çiftçi vd. 2017:333).

AÖS içinde yer alan Fotoğraf Topluluğu çevrimiçi bir topluluktur ve 2018-2019 öğretim dönemi itibariyle, sistem içinde yer alan beş topluluktan biridir.

Söz konusu diğer topluluklar; Kitap Topluluğu, Sinema Topluluğu, Tarih Topluluğu ve Müzik Topluluğudur. Tüm topluluklar (kayıtlı olduğu programa bakılmaksızın), dileyen her öğrencinin katılımına açılmıştır.

Fotoğraf Topluluğu, 2019 Mayıs verilerine göre 20,034 üye sayısına sahiptir. Topluluk hem söz konusu program öğrencilerinin uygulama anlamında temel gereksinimlerini karşılamak hem de sisteme dahil tüm öğrencilerin yararlanabileceği bir platform olabilmek amaçlarıyla kurulmuştur.

AÖF'nin 60'a yakın programından biri de "Fotoğrafçılık ve Kameramanlık Programı"dır. Bu program Görsel - İşitsel Teknikler ve Medya Yapımcılığı Bölümü altında yer almaktadır. Örneğin, programın eleştirilen yanlarından biri; öğrencilerine uygulama yaptırmak, kişisel çalışmalardaki teknik ve sanatsal hataları görme ve giderme yolarını göstermektir. Bunların yapılabilmesi için öğretici ve öğrencilerin en azından sanal ortamlarda bir araya gelmeleri gerekir ki bu durum söz konusu topluluk çalışmalarıyla olanaklı duruma gelmiştir.

ANADOLU ÜNİVERSİTESİ AÖS FOTOĞRAF TOPLULUĞU UYGULAMALARI

Tek başına "fotoğraf" günümüzde herkesi giderek daha fazla ilgilendiren, kullanılması kaçınılmaz bir iletişim aracına dönüşmüştür. Kurulum aşamasında topluluk alanları belirlenirken, Fotoğraf Topluluğunun da sistemde yer almasını gerektirecek bazı ölçütler ortaya konmuştur.

Buna göre;

1. Sisteme dahil tüm öğrencilere, örgün eğitimin vazgeçilmez kurumlarından olan öğrenci kulüpleri anlayışıyla ulaşabilmek,
2. Öğrencilerde aidiyetlik ve ilgili öğretim üyeleriyle buluşabilme duygularını geliştirebilmek,
3. Bir iletişim aracından çok, bazı sosyal medya ortamlarında statü konumuna yükselen "iyi fotoğrafçı" niteliklerini kazandırabilmek,
4. İyi ve sıradan fotoğrafı ayırt edebilecek görsel ve düşünsel birikimi aktarabilmek,
5. Aynı fakültenin öğrencisiyken, ülkemizin ve dünyanın hemen yerinden insanlarla bu sayede temasta bulunmalarına ortam sağlamak,
6. Çalışmaların sergileneceği, karşılıklı yorumların yapılacağı ortak sanal ortamları kurmak ve geliştirmek,
7. Kent buluşmaları, doğa yürüyüşleri, foto-safari, foto-kamp gibi düzenlemeler geliştirerek üyelerin katılımını sağlamak,
8. Sosyal medya toplulukları oluşturarak, yüklenen öğrenci fotoğraflarıyla kişisel sergiler oluşturmak ve tüm üyelerin görüşlerine sunmak.

eKampus ve Fotoğraf Topluluğu

Anadolu Üniversitesinin sayısal ortamda öğrencilerine sunduğu birçok hizmeti sağlayan eKampus, Fotoğraf Topluluğu ve üyelerinin de karşılıklı buluşabileceği bir ortam oluşturmaktadır.

eKampuste başlangıçtan itibaren şu uygulamalara yer verilmektedir:

1. Forumlar: Topluluk yürütücüsü ve üyeler tarafından açılan konu başlıkları altında çok sayıda yorum alınmaktadır. Üyeler özellikle; fotoğrafın günümüzdeki anlamı ve konumu, sosyal medya ve fotoğraf, içinde bulundukları topluluktan beklentileri gibi başlıklar üzerine görüşler belirtmektedir.
2. Canlı dersler: Her güz dönemi başında temel konulardan başlanarak, daha ileri konulara doğru ilerleyen eğitim sunumları yapılmaktadır. Sunumlar ortalama 1-1,5 saat arası sürerken aktif katılımcı sayısı yaklaşık 50 civarında olmaktadır. Çok sayıda üye de kaydedilmiş dersleri izlemektedir.
3. Sizden gelenler (atölye): Üyeler, o ay işlenen ders konusuna uygun olarak çektikleri fotoğrafları eKampuse **yüklem**ektedir. Bu fotoğraflarda amaç, her çekimde yalnızca bir değişkeni değiştirerek sonuçlarının gözlemlenmesidir. Ayın ikinci yarısında atölye kapsamında gelen fotoğraflar, yine bir canlı sunumda değerlendirilerek video kayıtları oluşturulmaktadır. Sunumlar sırasında üyelerin yazılı şekilde çok sayıda sorusu ve yorumu alınmaktadır.

4. Sizden gelenler (sergi): Üyeler atölye anlayışı dışında, sanatsal ve teknik becerilerini ortaya koydukları fotoğraflarını eKampuse yüklemektedir. Yüklenen bu fotoğraflarla toplu sergiler açılmaktadır. Toplu sergiler tüm topluluk üyelerince izlenmektedir.
5. Ders notları: Fotoğrafçılık ve Kameramanlık Programında okutulan temel fotoğraf derslerinin üniteleri, üyelerin temel eğitimlerine yardımcı olmak üzere kullanıma açılmaktadır. Böylece özellikle canlı derslerde kullanılan terminolojinin doğru anlaşılması amaçlanmıştır.

Topluluğun Sosyal Medyaya Açılması

Topluluk üyelerinin özellikle eKampuste açtıkları sergilerin sosyal medya ortamlarına taşınması konusunda isteklerini belirtmeleri üzerine Facebook grubu kurulmuştur. Facebook, grup çalışmalarına oldukça uygun bir platformdur. Sosyal medya uygulamasının sosyal etkileşim ve işbirliği yoluyla öğrenmeyi teşvik etmek konusunda başarılı olduğu görülmüştür. Kapalı bir şekilde (yönetici onayı gerektiren) üye kabulüne başlayan grubun katılımcı sayısı kısa sürede 1,500'ü aşmıştır. "Anadolu Fotograf-Kamera Grubu" olarak bilinen grup, aynı zamanda gruba destek veren sanatçı ve kuramcılarla örgün öğrencilere de açıktır. Böylece topluluk üyeleri alanda çalışma gösteren çok sayıda kişiyle bir araya gelme olanağı bulmaktadır. Yüklenen fotoğraflara gelen yorumlar bilinen klasik sosyal medya klişelerinden çok; çekim teknikleri ve neyin, nasıl yapıldığına ilişkindir.

Facebook grubuna yüklenen fotoğraflar, belli bir ön elemeden geçirildikten sonra isimsiz şekilde grup üyelerinin beğenisine sunulmaktadır. O ay için en çok beğeni alan ortalama 30 fotoğrafla ayın sergisi eKampuste açılmaktadır. Sergilemede en çok oy alan üç üyeye AÖF dekanlığınca maddi değeri çok olmayan; kalem, ajanda, masa takviminin yanı sıra kitap topluluğumuzun basılmış özgün çalışmaları da gönderilmektedir. Çok sayıda üye aldıkları hediyelerin fotoğraflarını çekerek, sosyal medyada paylaşmaktadırlar.

Şekil 1. Serap Kilim adlı üyemizin sergilenmede ilk üçe girmesinden dolayı kendisine gönderilen hediyelerden oluşturduğu görsel.

Kapak sayfasında amaç üyelerin fotoğraflarını yayınlamaktır ancak belli bir birikim sağlanana kadar grubun kapak sayfası, usta fotoğrafçıların fotoğraflarından seçilmiştir. Grup açıklamalarında da yazıldığı gibi her fotoğrafçı, fotoğrafının Anadolu Üniversitesi tarafından isim belirtilerek eğitim ortamlarında yayımlanmasını kabul etmektedir.

Şekil 2. Üyemiz Devrim Çelebi'nin Fotoğrafçılık ve Kameramanlık programının çözümlü sorusuna eşlik eden fotoğrafı.

eKampusteki Uygulamalar

AÖS Fotoğraf topluluğunda Facebook gibi bir sosyal medya ortamının yanı sıra eKampus faaliyetleri sürmektedir. Öncelikle canlı dersler üyelerin aktif katılımıyla eKampuste yapılmaktadır. Yapılan canlı ders konusuna bağlı olarak çok sayıda üye, işlenen konuya uygun olarak çektikleri örnekleri eKampuste açılan ödev sayfasına yüklemektedir. Atölye çalışmalarında temel amaç birden fazla fotoğraf çekerek uygulama

sonuçlarının görülmesidir. Bu anlamda üyelerden en az 3, en çok 5 fotoğraf istenmekte, böylece değerlendirilecek fotoğraf sayısı oldukça fazla olmaktadır. Canlı dersi veya ödev yükleme süresini kaçıran üyeler, yapılan kayıtları süresiz izleme olanağına sahiptirler. Facebook ortamına sergilik anlamda yüklenen fotoğraflarla açılan toplu sergiler de aynı şekilde eKampuste izlenmeye açıktır.

Sosyal medya ortamıyla birlikte eKampus faaliyetlerinin sürmesinin iki temel gerekçesi vardır. Bunlar; eKampusun yalnızca Anadolu Üniversitesine ait resmi bir uzantı olması ve fotoğraf gibi görsel bir materyalin kayıpsız şekilde yüklenip, izlenmesine olanak sağlamasıdır.

Avrupa Topluluğu Komisyonu (2000), eğitim ve öğretim süreçlerinde yaşam boyu öğrenme bağlamında bireylerin gereksinimleri ve talepleri doğrultusunda amaçlı öğrenme etkinlikleri kapsamında, yaygın ve informal öğrenme etkinliklerinin daha fazla desteklenmesi gerekliliğini vurgulamaktadır. Böyle bir destek, mezun üyelerle ilgili olarak Fotoğraf Topluluğu tarafından gerçekleştirilmektedir. Üye olan mezunların, sosyal medya grubunda olmakla yetinmeyip eKampuste yer alma istekleri üzerine yapılan bir teknik çalışmayla, mezunların sisteme girmeleri sağlanmıştır. Bu durum başka bir gelişmeye yol açmış, özellikle Fotoğrafçılık ve Kameramanlık Programından mezun olup alanda çalışmaya başlayan eski öğrenciler mesleki çalışmalarını eKampuse yüklemeye başlamışlardır. Bu da ayrıca söz konusu programın öğrencilerine meslek edindirme başarısının bir göstergesidir.

SONUÇ

AÖS Çevrimiçi Öğrenci Toplulukları içinde yer alan Fotoğraf Topluluğu, alanda çalışan öğretim üyelerinin, Fotoğrafçılık ve Kameramanlık programı öğrencilerinin ve mezunlarının ortak çalışmasıyla farklı uygulamaları içinde barındıran bir uygulama örneğidir. "Fotoğraf" gibi toplum içinde kimsenin uzak kalamayacağı, popülerliği giderek artan bir iletişim ve sanat aracı konusunda hemen herkesin bilgiye, uygulamaya ve ürettiklerini paylaşmaya gereksinimi vardır. Şu anda topluluğa her programdan çok sayıda öğrencinin ve mezunun katılması; forumlarda, sergilerde, paylaşım sitelerinde aktif olarak yer almaları söz konusu olguyu doğrulamaktadır. Çevrimiçi öğrenci topluluklarının özellikle yaşam boyu öğrenme anlamında önemli bir işlevi yerine getirdiği söylenmelidir.

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e-Sertifika Programlarında Sınav Uygulamaları: Sorunlar ve Çözüm Önerileri

Buket KİP KAYABAŞ[1]

Özet

Yaşam boyu öğrenme faaliyetleri kapsamında bireylerin kişisel gelişimlerine katkı sağlamak üzere katıldıkları Anadolu Üniversitesi e-Sertifika Programlarında kurulduğu günden bugüne kadar 8 farklı türde sınav uygulanmıştır. Türkiye'de 81 ilde gerçekleştirilen gözetimli kağıt sınavı, gözetimli online sınav, uygulamalı çalgı sınavı, e-Sertifika Programlarında yer alan sınav türlerindendir. İngilizce ve Türkçe dil öğretimi e-Sertifika Programlarında çoklu değerlendirme sistemi uygulanmakta olup konuşma, dinleme, okuma sınavları, online test sınavı ile randevulu online sözlü sınav uygulamaları bulunmaktadır. Başlangıç olarak 2007 yılından bu yana yaklaşık 180.000 kişinin katıldığı söz konusu sınav uygulamalarıyla sertifika eğitimlerinin değerlendirme süreci gerçekleştirilmiştir. Bu çalışmada Anadolu Üniversitesi e-Sertifika Programlarında yürütülen farklı sınav uygulamalarının organizasyonu ve uygulanması sürecinde yaşanan deneyimlerden bahsedilerek karşılaşılan sorunlar ve çözüm önerileri paylaşılmıştır.

Anahtar Kelimeler: *Açık ve uzaktan öğrenme, e-Sertifika programları, Gözetimli online sınav, Randevulu online sözlü sınav*

GİRİŞ

Teknolojinin hızlı gelişmesine bağlı olarak bilginin de hızla yenilenmesi, gelişmesi ve güncellenmesi nedeniyle formal öğrenme süreçlerinden ziyade kısa zamanda öğrenilen yeni bilgilerin belgelendirileceği eğitim programlarına ihtiyaç duyulmaktadır. Bu ihtiyacın karşılığı olarak doğan e-sertifika programları günümüzde artan bir hızla talep bulmaktadır. Başta uzaktan öğretim sunan üniversiteler olmak üzere özel firmalar da kendi akademilerini oluşturarak e-sertifika uygulamaları geliştirmektedir. İnternet üzerinden yürütülen sertifika programlarının en önemli basamaklarından biri öğrenci başarısının değerlendirilmesi ve belgelendirilmesidir.

Açık ve uzaktan öğrenme kurumlarındaki uygulama örnekleri incelendiğinde programın içeriğine ve amaçlarına uygun olarak farklı değerlendirme yöntemlerinin kullanıldığı görülmektedir (Palloff & Pratt, 2009). Örneğin Çin Açık Üniversitesinde ülke genelindeki yetkili sınav merkezlerinde gözetimli kağıt sınavı uygulanmaktadır (crtvu.edu.cn). Şangay Açık Üniversitesinde gözetimsiz online sınav, laboratuvar ortamında gözetimli online sınav ve gözetimli kağıt sınav uygulamaları bulunmaktadır (iie.sou.edu). Diğer yandan İngiliz Açık Üniversitesi bünyesinde online sınav, grup tartışmaları, ödev, gözetimli kağıt sınavı gibi farklı değerlendirme türleri uygulanmaktadır (openuniversity.edu). Bir başka açık üniversite olan Athabasca Açık Üniversitesinde sınavlar

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belirlenen merkezlerde gözetimli kağıt sınavı şeklinde yapılmaktadır. Özellikle kredili derslerde tercih edilen kağıt sınavlarının güvenilirliğinin yüksek olmasının yanında maliyet yükü nedeniyle dezavantajlı olduğundan bahsedilmektedir (Wang, 2011). Ülke genelindeki üniversite, kolej ve kütüphane binalarının kullanıldığı sınavlarda ödenen gözetmen ücretleri, sınav merkezlerinin kiralanması ve sınav materyallerinin nakliye işlemleri için yapılan ödemeler kurumlara yüksek maliyet yükü getirmektedir.

Öğrenme yönetim sistemlerinin sunduğu araçlarla yapılan online sınavlar yine açık ve uzaktan öğrenme kurumlarında yaygın kullanılan sınav örneklerinden biridir. Bu sınav türü, sonunda kredi elde edilen derslerden ziyade açık dersler ve sertifika programları kapsamında uygulanmaktadır. Sistemin güvenlik sorunları, yaşanabilecek teknik problemler ve öğrencilerin sınav süresince başka birinden yardım almalarının önüne geçilememesi nedenleriyle kredili derslerde genellikle tercih edilmemektedir (Adams ve Armstrong, 1998; Rogers, 2006).

Araştırmacılar (Desouza ve Fleming, 2003) geleneksel kağıt sınavı ve online sınava katılan öğrencilerin sınav performanslarını karşılaştırdıkları araştırmalarında öğrencilerin online sınavda daha yüksek performans sergilediklerini ve bu sınav türüne ilişkin olumlu görüşe sahip olduklarını ifade etmişlerdir. Bir başka araştırmada (Summers, Waigandt, Whittaker, 2005) çevrimiçi ve geleneksel yüzyüze yürütülen İstatistik derslerinin sınav sonuçları karşılaştırılmış ve öğrenci başarısı bağlamında anlamlı bir farklılık olmadığı belirlenmiştir. Destekleyecek şekilde Al-Qdah ve Ababneh (2017) online ve kağıt sınavına katılan öğrencilerin performanslarını ve tercihlerini karşılaştırdıkları deneysel araştırmada başarı yönünden anlamlı bir fark olmadığını belirlemişlerdir. Araştırmacılar öğrencilerin soru türlerine göre farklı sınav tercihleri olduğunu; açık uçlu sorularda kağıt sınavını tercih ettiklerini, otomatik geribildirim ve anında sonucu öğrenebilmeleri yönünden de online sınavı tercih ettiklerini ifade etmişlerdir.

Yaşamboyu öğrenme uygulamalarının ülkemizdeki yansımalarından biri olarak Anadolu Üniversitesi tarafından internet üzerinden e-Sertifika Programları (http://esertifika.anadolu.edu.tr) sunulmaktadır. Anadolu Üniversitesi e-Sertifika Programları her biri iki ya da üç dersten oluşan, derslerin internet üzerinden yürütüldüğü, sınavların ise gözetim altında yapıldığı, üç ay süreli sertifika programlarıdır (Mutlu vd., 2014). Bu programlar ile yılda üç dönem işletme, pazarlama, turizm, sağlık gibi alanlarda, 14 farklı kategoride 111 program ile eğitim vermek ve güncel akademik içerik sunmak amaçlanmaktadır. e-Sertifika programları kendi içerisinde yapılandırılmış bir öğrenme süreci içermektedir (Mutlu, Kip, Kayabaş, 2008).

Anadolu Üniversitesi e-Sertifika Programlarında farklı sınav uygulamaları bulunmaktadır. Kurulduğu günden yani 2007 yılından bugüne kadar e-Sertifika Programlarında 8 farklı türde sınav uygulanmıştır. Türkiye'de 81 ilde gerçekleştirilen gözetimli kağıt sınavı, yine yurt genelinde uygulanan gözetimli online sınav, uygulamalı çalgı sınavı, e-Sertifika Programlarında yer alan sınav türlerindendir. Dil öğretiminde kazandırılmaya çalışılan dinleme, konuşma, okuma ve yazma olmak üzere dört temel becerinin online değerlendirilmesi, farklı bir ölçme-değerlendirme sisteminin tasarımını gerekli kılmaktadır. Bu bağlamda İngilizce ve Türkçe dil öğretimi e-Sertifika Programlarında çoklu değerlendirme sistemi uygulanmakta olup konuşma, dinleme, okuma sınavları, online test sınavı ile randevulu online sözlü sınav uygulamaları bulunmaktadır. Başlangıç olarak 2007 yılından bu yana sertifika eğitimlerinin değerlendirme sürecinde söz konusu sınav uygulamalarına 179.437 kişi katılmıştır.

Kurumun sahip olduğu imkanlar, programın içeriği, dersin öğrenme amaçları gibi pek çok unsurdan etkilenerek açık ve uzaktan öğrenmede farklı değerlendirme modelleri uygulanmaktadır (Palloff & Pratt, 2009). Bu çalışmada Anadolu Üniversitesi e-Sertifika Programlarında yürütülen farklı sınav uygulamalarının organizasyonu ve uygulanması sürecinde yaşanan deneyimlerden bahsedilerek karşılaşılan sorunlar ve çözüm önerileri paylaşılmıştır.

e-SERTİFİKA PROGRAMLARINDA SINAV UYGULAMALARI

Bu bölümde Anadolu Üniversitesi e-Sertifika Programları sınav uygulamalarına ilişkin bilgiler yer almaktadır.

Gözetimli Kağıt Sınavı

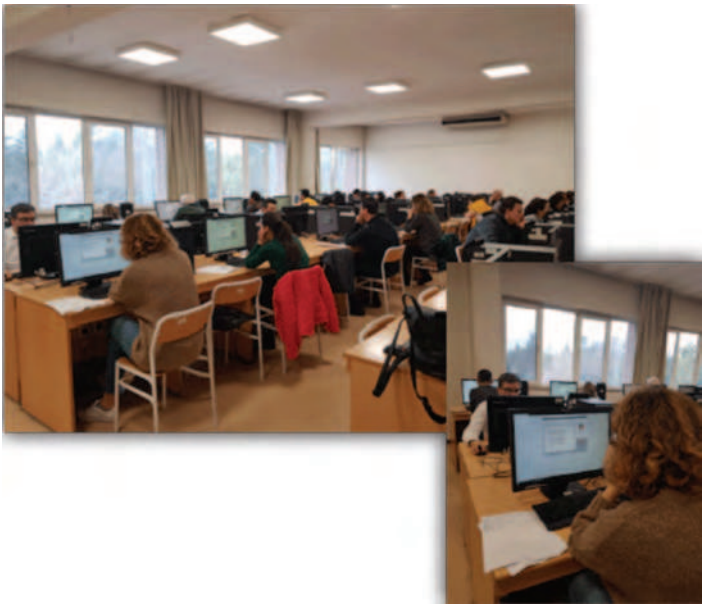
Gözetimli kağıt sınavı Türkiye'de 81 ilde, Azerbaycan ve Kıbrıs'ta yer alan sınav merkezlerinde il sınav koordinatörlüklerinin organizasyonuyla yürütülmektedir. Sınav, salonlarda bir salon başkanı ve bir gözetmen bulunmak suretiyle gözetimli olarak yapılmaktadır. Sınavda çoktan seçmeli test uygulanmaktadır. Adaylara sorumlu oldukları her dersten 30 dakika süreyle 20 soru sorulmaktadır. Başlangıç tarihi olan 2007 Bahar döneminden bu yana 84.301 kişi gözetimli kağıt sınavına katılmıştır.

Resim 1. Gözetimli Kağıt Sınavı

Gözetimli Online Sınav

Bu sınav türü 81 ildeki anlaşmalı üniversitelerin ve AÖF bürolarının bilgisayar laboratuvarlarında gözetimli olarak uygulanmaktadır. Salon başkanı ve gözetmenlerin eşliğinde her aday bir bilgisayar başına oturmaktadır. Adaylar öncelikle internet tarayıcısından sınav internet adresine girmektedir. Ardından T.C. kimlik numaraları ile salon başkanı tarafından kendilerine dağıtılan tek kullanımlık şifreleri ilgili satırlara yazarak sınavı başlatabilirler. Sınav soruları sayfasına ulaştıklarında soruları cevaplamaya başlayabilirler. Soruları cevaplamaya istedikleri sorudan başlayabilecekleri gibi sınav süresince herhangi bir anda ders değiştirebilir, istedikleri soruya geri dönebilirler. Ekranda Sınavı Bitir düğmesine tıkladıklarında ve onay verdiklerinde sınav sonlandırılmaktadır. Adaylara sorumlu oldukları her dersten 30 dakika süreyle 20 soru sorulmaktadır. Gözetimli online sınavın en büyük avantajı sınavdan üç gün sonra sonuçların açıklanmasıdır. Diğer yandan adaylarda sınırlı da olsa dijital okuryazarlık becerisi gerektirmesi, bu sınav türünün dezavantajları arasında yer almaktadır. Ayrıca

sınavların yapıldığı laboratuvarların teknik kapasitesi ve donanım altyapısı, sınavın yapılabilirliği konusunda kritik öneme sahiptir. Bugüne kadar 2011 yılından bu yana Türkiye'de 81 ilde, Azerbaycan ve Kıbrıs'ta yer alan sınav merkezlerinde 90.457 kişi gözetimli online sınava katılmıştır.



Resim 2. Gözetimli Online Sınav

Uygulamalı Çalgı Sınavı

Bu sınav türü ilk kez 2017 yılında Türk Müziği e-Sertifika Programı kapsamında uygulanmıştır. Programın teorik derslerinin değerlendirilmesinde gözetimli online sınav uygulanmakta olup çalgı dersinin değerlendirilmesinde uygulamalı çalgı sınavı yapılmaktadır. Adaylar öğretim elemanı ile birebir olarak sınava alınmaktadır ve itirazların değerlendirilmesinde kullanılmak üzere sınav süresince kamera ile kayıt yapılmaktadır. Adayların nota bilgisi, çalgı tutuş ve eser çalma gibi becerilerin ölçüldüğü sınav her bir aday için 15 dakika sürmektedir. Sınav uygulayıcılarının görevlendirilmesinde yaşanan sorunlar nedeniyle sınav yalnızca Eskişehir'de uygulanmaktadır. Bugüne kadar 2017 yılından bu yana 86 kişi uygulamalı çalgı sınavına katılmıştır.

Resim 3. **Uygulamalı Çalgı Sınavı**

Okuma-Yazma Sınavı

Anadolu Üniversitesi 2013 yılında yapılan bir protokol ile Cambridge Üniversitesi'ne bağlı Cambridge English Language Assessment sınav merkezlerinden biri olmuştur. İngilizce e-Sertifika Programları kapsamında Cambridge English Language Assessment kurumunun belirlediği sınav kurallarına uygun olarak yılda üç defa Cambridge English: Key, Preliminary English Test (PET) ve Teaching Knowledge Test (TKT) sınavları yapılmaktadır. Sınavlar Cambridge English Language Assessment kurumu tarafından verilen eğitimlerden geçen sertifikalı uzman sınav uygulayıcıları tarafından Adana, Antalya, Eskişehir, İstanbul, Kayseri, İzmir, Samsun ve Kıbrıs/Lefkoşa olmak üzere Türkiye'de 8 merkezde yapılmaktadır. Sınav; okuma-yazma, dinleme ve konuşma olmak üzere 3 bölümden oluşmaktadır. Sınavı başarı ile tamamlayan katılımcılar, Cambridge English Language Assessment tarafından hazırlanan uluslararası geçerli bir sertifika almaya hak kazanmaktadır. Tüm sınavlarda Türkiye genelindeki herhangi bir merkezde Cambridge English Language Assessment kurumu tarafından görevlendirilen bir müfettiş tarafından sınav koşulları denetlenmektedir. Anadolu Üniversitesi sınav merkezi, yapılan denetimler sonucu hazırlanan rapora göre bu güne kadar beş defa en üst düzey olan "Mükemmel" (Excellent) değerlendirmesi almıştır. Rapor sonucunun "Mükemmel" oluşu Anadolu Üniversitesi olarak KET-PET-TKT sınavlarını gerçekleştirirken en üst düzey güvenlik önlemlerinin alındığını, sınavları gerçekleştirirken tüm Cambridge sınav uygulama kurallarına eksiksiz uyulduğunu göstermektedir.

Okuma-yazma sınavında, adaylara yazılı metin verilerek metne dayalı soruları yanıtlamaları beklenmektedir. İşaretler, broşürler, gazeteler ve dergiler gibi basit yazılı bilgileri anlama becerilerinin ölçüldüğü okuma-yazma sınavında 1 saat 10 dakika süreyle 56 soru sorulmaktadır.

Resim 4. **Okuma-Yazma Sınavı**

Dinleme Sınavı

İngilizce e-Sertifika Programlarında uygulanan bir diğer sınav türü dinleme sınavıdır. Okuma-yazma sınavının hemen akabinde adaylar salondan çıkarılmadan dinleme sınavına geçilmektedir. Sınavın uygulandığı salonda her adayın rahatlıkla duyabileceği konumda çalıştırılan ses kaydı dinletilerek kendilerine sorulan soruları yanıtlamaları beklenmektedir. Makul derecede yavaş konuşulduğunda duyuruları ve başka sözlü malzemeleri anlamaları beklenen dinleme sınavında 30 dakika süreyle 25 soru sorulmaktadır.

Konuşma Sınavı

Sınavın son aşaması olan konuşma sınavı ikili aday çiftleri şeklinde yapılmaktadır. Adaylar ikişerli eşleştirilerek çiftler oluşturulmaktadır ve sınavdan önce kendilerine hangi saatte konuşma sınavına katılacakları bildirilmektedir. Aday çiftleri sınav öncesinde hazırlanan boş bir salonda toplanmakta, yol gösterici görevli tarafından çiftler halinde sınavın yapılacağı salona götürülmektedir. Adaylar sınav salonunda yer alan iki sınav uygulayıcısının gözetiminde karşılıklı diyalog kurulması yoluyla sınava alınmaktadır. Sınavı tamamlayan aday çifti yine yol gösterici görevli eşliğinde salonda bekleyen diğer adaylarla görüştürülmeden sınavın yapıldığı binadan çıkarılmaktadır. Konuşma sınavında 10 dakika süreyle adayların basit sorulara yanıt vererek ve sorular sorarak bir diyalogda yer alma becerileri ölçülmektedir. Bugüne kadar 2013 yılından bu yana İngilizce e-Sertifika Programlarına kayıtlı 4.593 kişi okuma-yazma, dinleme, konuşma sınavlarına katılmıştır.

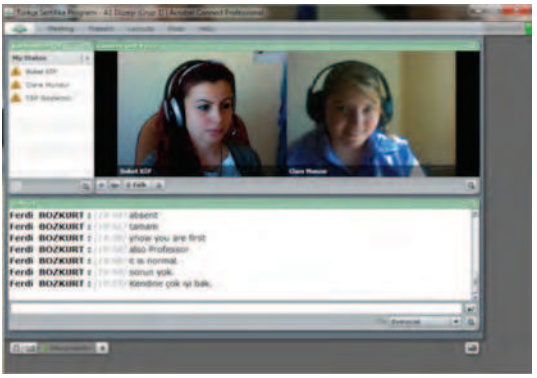
Resim 5. **Konuşma Sınavı**

Online Test Sınavı

Anadolu Üniversitesi Türkçe e-Sertifika Programlarının değerlendirme sürecinde 2006-2011 yılları arasında online test ve randevulu online sözlü sınav uygulanmıştır. Online test sınavı okuma, dinleme ve yazma becerilerini ölçmek amacıyla WebCT öğrenme yönetim sistemi içerisinde hazırlanmıştır. Sınavda; çoktan seçmeli, eşleştirmeli, dinleme-cevaplama, açık uçlu, kompozisyon yazma gibi farklı soru türlerinden 75 dakika süreyle toplam 50 soru sorulmuştur. Sınavdan önce 15 gün süreyle deneme sınavları sunularak öğrencilerin farklı soru türleriyle tanışmaları ve online sınav deneyimi kazanmaları sağlanmıştır. Türkçe e-Sertifika Programları kapsamında online test sınavına 1.104 kişi katılmıştır.

Randevulu Online Sözlü Sınav

Türkçe e-Sertifika Programları bünyesinde adayların dinleme ve konuşma becerilerini ölçmek amacıyla randevulu online sözlü sınavlar uygulanmıştır. Bu sözlü sınav türünün en önemli özelliği sınava katılan adayların ve sınav uygulayıcılarının uygun oldukları gün ve saatte randevu usulüyle sanal sınıf ortamında gerçekleştirilmiş olmasıdır. Randevu sürecinde öncelikle danışmanların sınav haftası süresince müsait olacakları saat dilimleri belirlenmiştir. Ardından online bir anket aracılığıyla öğrencilerin talepleri alınmıştır. Son olarak danışmanların zaman dilimlerine ve öğrencilerin taleplerine göre her bir öğrenci için sınav tarihi belirlenmiştir. Bu şekilde, bir dönemde, 5 Türkçe dil uzmanı ve dünyanın farklı yerlerinde yaşayan ortalama 400 kişilik öğrenci grubuna bir hafta süre boyunca online sözlü sınav uygulanabilmiştir. Randevulu online sözlü sınavlar, bir sanal sınıf ortamında kamera ve mikrofon eşliğinde, danışman ile öğrencinin katılımıyla gerçekleştirilmiştir.



Resim 6. Randevulu Online Sözlü Sınav

SORUNLAR VE ÖNERİLER

Anadolu Üniversitesi e-Sertifika Programları, üniversite bünyesinde yer alan farklı birimlerin koordinasyonuyla yürütülen bir yaşam boyu öğrenme platformudur. Hedef kitleleri ve amaçları birbirinden farklı e-Sertifika Programlarında bugüne kadar birbirine göre avantajları ve dezavantajları olan 8 farklı türde sınav uygulanmıştır. Gözetimli kağıt sınavı, gözetimli online sınav ve çalgı sınavı, e-Sertifika Programları Koordinatörlüğü yönetiminde Bilgisayar Araştırma ve Uygulama Merkezi tarafından organize edilmekte olup 81 ilde yer alan il sınav koordinatörlükleri ve AÖF büroları aracılığıyla uygulanmaktadır. Bu nedenle sınavların başarıyla yürütülmesi açısından il sınav koordinatörlüklerinde görevli personelin deneyimli ve sınav kuralları konusunda yeterince bilgi sahibi olmaları büyük önem taşımaktadır. Bu bağlamda sınav kurallarında yapılan yeniliklerin takibi, sisteme dahil olan personelin güncel gelişmelerle ilgili eğitimlerinin düzenli hale getirilmesi sağlanmalıdır.

Alanyazında da ifade edildiği gibi (Wang, 2011) ülke genelinde belirli merkezlerde yapılan gözetimli kağıt sınavı güvenilirliğinin yüksek olmasının yanında maliyet yükü nedeniyle dezavantajı yüksek bir sınav türüdür. Sınavın tekrarlanması durumunda kurum açısından hem prestij kaybı yaşanması hem de getireceği yüksek maliyet yükü nedeniyle sınavın organizasyonunda ekstra güvenlik önlemlerinin alınması gerekmektedir.

Anadolu Üniversitesi e-Sertifika Programları bünyesinde uygulanan bir sınav türü olan gözetimli online sınavlar, 81 ildeki anlaşmalı üniversitelerin ve AÖF bürolarının bilgisayar laboratuvarlarında gözetimli olarak gerçekleştirilmektedir. Sınav sorularının bilgisayar ortamında online sınav arayüzünde okunarak cevap seçeneğinin yine bilgisayar ortamında işaretlenmesi, sorular arasında geçiş yapılarak sınavın gerçekleştirilmesi nedeniyle sınırlı da olsa adaylarda bilgisayar okuryazarlık becerisine sahip olmayı gerektirmektedir. Her ne kadar öncesinde sınavın bilgisayar ortamında gerçekleştirileceğine ilişkin bilgilendirme yapılsa da dijital okuryazarlık becerileri sınırlı olan öğrencilerde sınav kaygısı yaşanabileceği düşünülmektedir. Yaşanan kaygı, öğencilerin sınav başarısını da olumsuz yönde etkileyebilir. Alanyazında online sınavda kağıt sınavına kıyasla başarı yönünden fark olmadığı (Summers, Waigandt, Whittaker, 2005), hatta bu sınavda öğrencilerin daha yüksek performans sergiledikleri

(Desouza ve Fleming, 2003) diğer yandan bazı soru türlerinde online sınavı tercih ettikleri (Al-Qdah ve Ababneh, 2017) yönünde çalışmalar bulunmaktadır. Ancak öğrencilerin dijital okuryazarlık becerileri nedeniyle yaşadıkları kaygı ve sınav başarıları ile ilgili herhangi bir çalışmaya rastlanmamıştır. Gözetimli online sınavlardaki öğrenci tutumlarıyla ilgili araştırmaların yapılması uygulamadaki sorunlara çözüm önerisi sunulması anlamında önem taşımaktadır.

Gözetimli online sınavlarla ilgili bir diğer önemli konu da belirli bir akademik takvimle sınavın yılda üç defa yapılıyor olmasıdır. Sınav tarihleri öğrencilere kayıt başvurusu esnasında duyurulmakta, tüm öğrenciler aynı gün ve saatte laboratuvar ortamında sınava katılmaktadır. Bu durum çalışmasını tamamlamış, sınava girmeye hazır durumdaki öğrencileri zaman yönünden sınırlayabilmektedir. Gözetimli online sınavlar randevu usulüyle gerçekleştirilecek şekilde bir organizasyon yapılırsa hazır olan öğrencilerin sınava alınması sağlanabilir. Böylece öğrenciler sahip oldukları bilgi birikimi ve deneyimi diledikleri zaman belgelendirme imkanına sahip olacaklardır.

Gözetimli online sınavların bir diğer sınırlılığı da sınavın yapıldığı laboratuvarın teknik donanım kapasitesidir. Sınav yapılan laboratuvardaki bilgisayar sayısı ve yeterliliği sınava katılacak kişi sayısının belirlenmesinde rol oynamaktadır. Anlaşmalı kurumların sayısının arttırılması, laboratuvarlardaki cihazların kapasitesinin güçlendirilmesi, sınavların daha fazla kişiye ulaştırılması gibi iyileştirmelerin yapılması sağlanmalıdır. Böylece sınav süresince yaşanabilecek elektrik, internet kesintisi gibi sorunların da önüne geçilmiş olacaktır.

Nota bilgisi, çalgı tutuş ve eser çalma gibi becerilerin ölçüldüğü ve adayların öğretim elemanı ile birebir olarak sınava alındığı çalgı sınavı, sınav uygulayıcılarının görevlendirmelerinde yaşanan sorunlar nedeniyle sadece Eskişehir'de uygulanmaktadır. Bu durum adayların sınav merkezine ulaşımı açısından büyük sorun teşkil etmekte, bununla birlikte programa olan ilgiyi de olumsuz yönde etkilemektedir. Sınav uygulayıcılarının görevlendirilmesinde karşılaşılan engeller çözümlenebilirse farklı merkezlerde de sınavın uygulanması sağlanabilir. Diğer yandan sınavın randevu usulüyle gözetimli online sınav şeklinde uygulanması da bir başka çözüm önerisi olarak düşünülebilir. Böylece adaylar yaşadıkları yerden ayrılmadan, çalışıyorlarsa işlerine ara vermeden programa kayıt olarak çalgı sınavına katılabileceklerdir.

İngilizce e-Sertifika Programlarının sınavları Anadolu Üniversitesi ile Cambridge Üniversitesi'ne bağlı Cambridge English Language Assessment kurumuyla ortak olarak yapılmaktadır. Sınav okuma-yazma, dinleme ve konuşma olmak üzere üç aşamadan oluşmaktadır. Dinleme sınav salonunda adaylara bir ses kaydı dinletilerek kendilerine sorulan soruları yanıtlamaları beklenmektedir. Ses kaydının tüm adaylar tarafından net bir şekilde duyulması soruları yanıtlayabilmeleri açısından büyük önem taşımaktadır. Sınav için anfi gibi büyük salonlar yerine daha küçük kapasiteli sınıflar tercih edilmelidir. Ayrıca sınav öncesinde ses kaydının çalındığı cihazların ve CD'nin kontrolü yapılmalıdır.

İngilizce e-Sertifika Programlarının konuşma sınavı ikili aday çiftleri şeklinde yapılmaktadır. Sınav süresince adayların karşılıklı diyalog kurmaları beklenmektedir. Her ne kadar sınava katılan kişilerin yabancı dil seviyeleri benzer olarak gruplandırılsa da adayların dil bilgisi düzeylerinin aynı olmayışı, sınav süresince heyecan ya da korku

yaşayarak paniğe kapılmaları gibi nedenlerle adaylar çiftlerinin performanslarından olumsuz yönde etkilenebilmektedir. Sınav uygulayıcıları bu tür durumlara hazırlıklı olmalı, dengeyi sağlayarak adayların çiftlerinden etkilenmesine engel olmalıdır.

e-Sertifika Programları bünyesinde bugüne kadar 8 farklı türde sınav uygulanmıştır. İşleyiş olarak birbirinden oldukça farklı yapıda olan sınavlarda çeşitli sorunlarla karşılaşılabilmektedir. Sınavlara katılan öğrencilerin ve sınavlarda görev alan uygulayıcıların görüşleri alınarak yeni araştırmalar desenlenmelidir. Yapılacak araştırmaların, uygulamada karşılaşılabilecek sorunların etkili bir şekilde çözülmesinde sistem yöneticilerine ve sınav uygulayıcılarına ışık tutması açısından önem taşıdığı düşünülmektedir.

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IODL

E-Öğrenme'de Öneri Sistemlerinin Kullanımı

Esra Pınar UÇA GÜNEŞ[1], İhsan GÜNEŞ[2]

Özet

E-öğrenme, formal ya da informal olarak günümüzde yaygın kullanılan bir öğrenme şeklidir. E-öğrenme ortamlarında öğrenenlere metin, video vb. tabanlı etkileşimli ya da etkileşimsiz çok çeşitli öğrenme materyalleri sunulabilmektedir. Öğrenenler, kısıtlı zamanları olması ya da bilinçsiz olmaları gibi nedenlerle, bu ortamlarda rastgele tercih yapabilmektedir. Öğrenene en uygun öğrenme materyalinin önerildiği sistemlerin kullanılması öğrenme sürecinin verimli geçmesine katkıda bulunacak bir çözüm olabilir. Çeşitli alanlarda kullanılabilen öneri sistemleri, e-öğrenme ortamlarında; öğrenenin yaş, cinsiyet vb. özelliklerini, öğrenme gereksinimlerini, öğrenme ortamında materyaller, öğretici ve diğer öğrenenlerle etkileşimlerini dikkate alarak öneri geliştirmeyi hedeflemektedir. Bu çalışmada, öneri sistemlerinden genel olarak söz edildikten sonra, alanyazında e-öğrenme alanında öneri sistemlerinin kullanımı ile ilgili yapılmış çalışmalar incelenmiştir.

Anahtar Kelimeler: *e-Öğrenme, öneri sistemleri, uzaktan eğitim.*

GİRİŞ

E-öğrenme, öğrenme sürecinde elektronik araçların kullanımını vurgulayan bir kavram olmakla birlikte internetin yaygınlaşmasıyla birlikte daha çok internet üzerinden öğrenmeyi ifade etmektedir. Öğrenenlere ve kurumlara esneklik, ekonomiklik gibi birçok avantaj sunmakta; bu yönüyle tercih sebebi olmaktadır.

E-öğrenme, daha çok yükseköğretim düzeyinde olmak üzere dünyada birçok eğitim kurumunda kullanılmaktadır. Uzaktan eğitimde 'açık üniversite' modeli kapsamında öğrenme sürecinin tamamen e-öğrenme olarak yapılandırılmasının yanı sıra yüz yüze dersler ve programlarla birbirini destekleyici olacak şekilde harmanlanmış ya da karma modeller de uygulanmaktadır. Benzer modelleri, işyerleri de çalışan personellerinin sürekli eğitim gereksinimlerini karşılamak üzere tercih edebilmektedir. Bunlara ek olarak günümüzde bireyler, ilgi alanları ve öğrenme gereksinimleri doğrultusunda ücretli ve ücretsiz kitlesel açık çevrimiçi derslere kayıt olabilmektedir. Sözü edilen öğrenme süreçlerinde, öğrenme materyallerinin sunulduğu, eşzamanlı ve eşzamansız konu anlatımı ve tartışmaların yapıldığı, ödev ve sınav uygulamalarının yapılabildiği öğrenme yönetim sistemleri kullanılabilmektedir. Bunun yanı sıra öğreticilerin web sayfaları ya da sosyal medya ortamlarını kullanarak yaptığı bireysel uygulamalar da söz konusudur.

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E-öğrenmede geleneksel öğretme-öğrenme davranışı zamanla daha da değişmiştir. Çevrimiçi öğrenme materyallerinin sayısının artması, hem öğrenenlerin kendi durumlarına uygun iyi olanı seçmelerini hem de öğreticilerin onlara bu konuda rehberlik etmesini zorlaştırmıştır. Bu bağlamda, öğreticilerin, öğrenenlerin öğrenme sürecini daha iyi yönlendirmek için geri bildirim alabilecekleri otomatik bir yola ihtiyacı vardır (Lu, 2004). Buna ek olarak Zaiane (2001) de öğrenenler açısından, öğrenenin etkinliklerini otomatik olarak yönlendirebilen ve öğrenme sürecini geliştirmek için öğrenme materyallerini akıllıca üretip önerebilecek bir e-öğrenme sisteminin çok faydalı olabileceğini ifade etmektedir.

Öğrenenlerin farklı profillere ve öğrenme geçmişine sahip olması da öğrenme süreçlerinin verimli ve etkili geçmesi açısından e-öğrenme uygulamalarında bireyselleştirme ve kişiselleştirme çalışmalarının yapılması gereğini ortaya çıkaran etkenlerdir. Yukarıda sözü edilenler bağlamında Öneri Sistemleri bu çerçevede değerlendirilebilecek konulardan biridir.

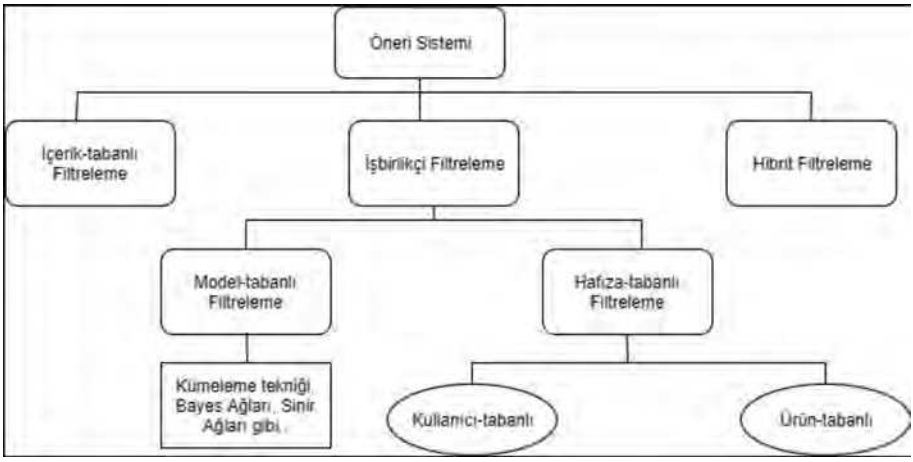
ÖNERİ SİSTEMLERİ

Bir öneri sistemi bir kullanıcının bir öğeye vereceği derecelendirmeyi veya tercihini, beğeni düzeyini tahmin etmeyi amaçlayan bir bilgi filtreleme sistemi alt sınıfıdır. Ticari uygulamaların yanında uzaktan eğitim sistemlerinde sosyal ağlar ve topluluklarda kullanılırlar. Bu sistemler, kullanıcıların tercih edilen öğeleri hızlıca bulmalarını sağlamak ve olası aşırı bilgi yüklenmelerini önlemek için tasarlanmıştır. Öneri sistemleri, binlerce hatta milyonlarca veri arasındaki benzerliği belirlemek için veri madenciliği tekniklerini uygular. Bir öneri sistemi, iyi öneriler sunmak için birçok faktörün birleşimini dikkate alır. Bunlar, sistem için mevcut olan veri tipini, filtreleme için kullanılan algoritmayı içerir. Öneri sisteminin sonuçları da sistem performansından, veri tabanının seyrekliğinden, sistemin amacından ve sistemin hedeflediği sonuçların kalitesinden etkilenir (Akhil ve Joseph, 2017).

Bu sistemlerde üç ana süreç vardır; veri toplama ve gösterimi, benzerlik kararları ve öneri hesaplamaları. Öneri sistemleri farklı yöntem ve teknikler kullanır.

Öneri Sistemleri Yöntemleri

Genel olarak öneri sistemleri İşbirlikçi Filtreleme (Collaborative Filtering), İçerik Tabanlı Filtreleme (Content-Based Filtering) ve Hibrit Filtreleme (Hybrid Filtering) olarak üç kategoriye ayrılır. Aşağıdaki şekilde öneri sistemlerinin sınıflandırılması ve alt başlıkları gösterilmiştir.



Şekil 1. Öneri Sistemleri Sınıflandırması (Akhil ve Joseph, 2017)

İçerik Tabanlı Filtreleme

İçerik tabanlı bir filtreleme sistemi, benzer tercihleri olan kullanıcılar arasındaki korelasyona dayalı öğeleri seçen ortak bir filtreleme sisteminin aksine, öğelerin içeriği ile kullanıcının tercihleri arasındaki korelasyona dayalı öğeleri seçer. Her bir öğenin içeriği, genellikle bir belgede meydana gelen kelimeler olan bir tanımlayıcı veya terimler kümesi olarak temsil edilir (Utku ve Akçayol, 2017). Kullanıcı profili aynı terimlerle temsil edilir ve kullanıcı tarafından görülen öğelerin içeriği analiz edilerek oluşturulur. Elde edilen kullanıcı profili kullanıcı tercihi olarak kabul edilir. İçerik tabanlı öneri sistemi kullanıcı profili ile benzer nitelikler taşıyan öğeleri kullanıcıya önerir. Bu öğelerin nitelikleri kullanıcı profillerinde yer almaktadır. Kullanıcının ilginç bulduğu içerikler açık veya kapalı geri bildirimler kullanılarak belirlenebilir. Açık geri bildirim, kullanıcının incelenen belgeleri bir ölçekte değerlendirmesini gerektirir. Örtük geri bildirimlerde, kullanıcının ilgi alanları kullanıcının eylemleri gözlemlenerek ortaya çıkarılır. Öneri sistemlerinde örtük geribildirim uygulanması daha zordur (Van Meteren ve Van Someren, 2000).

İşbirlikçi Filtreleme

İşbirlikçi filtreleme teknikleri, öneri sistemlerinde kullanıcı tercihlerinin tahminini sağlamada başarılı olmuştur. Öneri sistemlerinde üç ana süreç vardır. Bu süreçler veri toplama ve gösterimleri, benzerlik kararları ve öneri hesaplamalarıdır. İşbirlikçi filtrelemenin amacı, benzerliği daha iyi belirleyerek önerilerde bulunmak için kullanıcı ve mevcut veriler arasındaki ilişkiyi ortaya koymaktır. Benzerliğin nasıl tanımlanacağı önemli bir konudur. Ortak filtreleme, farklı benzerlik karar tekniklerini kullanır. Bir varsayım, benzer kullanıcıların benzer tercihlere sahip olmasıdır (Grčar, 2004). Örneğin, eğer işbirlikçi filtreleme sistemi *a* kullanıcısı için bir tahmin yapacaksa, ilk olarak *a* kullanıcısına benzer kullanıcıları bulmalıdır. Tahminler genellikle iki biçimdedir: tek bir ürün için ve *a* kullanıcısı tarafından beğenilecek en iyi *N* liste öğesi için tahmin üretmek.

Temel olarak iki işbirlikçi filtreleme algoritma sınıfı vardır. Bunlar bellek tabanlı ve model tabanlı işbirlikçi filtreleme algoritmalarıdır. Bellek tabanlı işbirlikçi filtreleme

algoritmaları, bir tahmin oluşturmak için kullanıcı öğesi veritabanının tamamını veya bir örneğini kullanır.

Yaygın bellek tabanlı bir işbirlikçi filtreleme algoritması olan komşuluk tabanlı işbirlikçi filtreleme algoritması izleyen adımları kullanır. İlk olarak sistemdeki *a* kullanıcısı için diğer tüm kullanıcılar arasındaki benzerlikler hesaplanır. İkinci olarak kullanıcıların *q* ürünü üzerindeki benzerliklerine göre *a* kullanıcısı için tahmini bir ağırlıklı ortalama hesaplanmaktadır. Eğer amaç bir üst-*N* önerisi oluşturmak ise, benzerlikleri hesapladıktan sonra *k* en benzer kullanıcılar veya öğeler (en yakın komşular) bulunmalıdır, sonra da en üstteki *N* öğelerini öneri olarak almak için komşular bir araya getirilmelidir (Su ve Khoshgoftaar 2009).

Model tabanlı işbirlikçi filtreleme algoritmaları sistem verilerinden (kullanıcı değerlendirme puanları) bir model çıkarır ve bu model öneriler sunmak için kullanılır. Alanyazında kümeleme modelleri, olasılıksal modeller, Bayes ağı ve kural tabanlı yaklaşımları içeren çok sayıda model tabanlı algoritma vardır. Örneğin kümeleme yaklaşımı ilk önce veri kümesini kullanıcı gruplarına ayırmaya çalışır. Kural tabanlı yaklaşım, birlikte satın alınan ürünler arasındaki ilişkiyi bulmak için ilişkilendirme kuralı bulma algoritmalarını uygular ve ardından öğeler arasındaki ilişkinin kuvvetine dayanarak ürün önerisi oluşturur. Billsus ve Pazzani (1998), işbirlikçi filtreleme yaklaşımlarının bazı sınırlılıklarının üstesinden gelen bir öğrenme algoritması sunar. Önerdikleri yöntem, kullanıcı derecelendirme başlangıç matrisinin tekil değer ayrıştırması (SVD) aracılığıyla boyutsallığın azaltılmasına dayanmaktadır. SVD, işbirlikçi filtreleme algoritmasının performansını iyileştirmek için boyutluluk azaltmada kullanılır (Sarwar, Karypis, Konstan, ve Riedl, 2000).

Hibrit Öneri Sistemi

Hibrit öneri sistemi son zamanlarda büyük ilgi görmektedir. Bunun nedeni; tek bir yöntemle sınırlı kalmayıp daha iyi sonuçlar ve doğruluk sunmak için birden fazla yöntemin birleşimini kullanmasıdır. Bu filtreleme yöntemi hem işbirlikçi hem de içerik tabanlı filtrelemenin avantajlarını birleştirir ve tek bir yöntemden gelebilecek sınırlamaları önleyebilir (Balabanović ve Shoham 1997). İşbirlikçi ve içerik tabanlı filtreleme yöntemlerini hibrit bir sistemde birleştirmenin farklı olası yolları vardır (Akhil ve Joseph, 2017). Sınıflandırmalar aşağıdaki gibi olabilir:

1. İşbirlikçi ve içerik esaslı filtrelemenin ayrı ayrı uygulanması ve daha sonra sonuçların birleştirilmesi.
2. İçerik tabanlı yöntemde ortak filtreleme yönteminin özelliklerinin kullanılması veya tersi.
3. Hem işbirlikçi filtreleme hem de içerik tabanlı filtreleme özelliklerini birleştiren gelişmiş bir kombinasyon modelinin uygulanması.

Öneri Sistemlerinde Tahmin Hesaplama

Bu başlıkta örnek olarak *kNN* tabanlı işbirlikçi filtreleme algoritması için tahmin hesaplama yöntemi anlatılmıştır. İşbirlikçi filtreleme tahmin yaklaşımı iki aşamalı bir işlemdir. İlk olarak sistemdeki *a* kullanıcısı ile tüm kullanıcılar arasındaki benzerlikler hesaplanır. İkinci olarak kullanıcıların *q* ürünü üzerindeki benzerliklere göre tahmini bir ağırlıklı ortalamayı hesaplamaktadır. *a* kullanıcısı ile herhangi bir kullanıcı

arasındaki benzerlikler farklı tekniklerle hesaplanır. PCC (Pearson Korelasyon Katsayısı) benzerlik hesaplamada kullanılan en başarılı yöntemlerden birisidir. Aşağıdaki formül (1) ilk olarak GroupLens projesinde açıklanmıştır (Resnick, Iacovou, Suchak, Bergstrom ve Riedl, 1994a). Aktif kullanıcı *a* ile kullanıcı *u* arasındaki korelasyon aşağıdaki şekilde hesaplanır (Breese, Heckerman ve Kadie, 1998).

$$w_{au} = \frac{\Sigma_{j \in M} \left(v_{aj} - \overline{v_a}\right)\left(v_{uj} - \overline{v_u}\right)}{\sqrt{\Sigma_{j \in M} \left(v_{aj} - \overline{v_a}\right)^2} \sqrt{\Sigma_{j \in M} \left(v_{uj} - \overline{v_u}\right)^2}}$$

v_{aj} ve v_{uj}, sırasıyla *a* ve *u* kullanıcıları tarafından j ürünü için kullanılan derecelendirme puanını göstermektedir. Aynı şekilde, $\overline{v_a}$ ve $\overline{v_u}$ sırasıyla *a* ve *u* kullanıcılarının ortalama derecelendirme puanlarıdır. *M*, hem *a* hem de *u* tarafından derecelendirme yapılmış ürünlerin sayısıdır. Benzerlikleri hesapladıktan sonra, en benzer *k* kullanıcıları komşular olarak işaretlenir (Herlocker, Konstan, Terveen ve Riedl, 2004).

GroupLens, komşuluk tabanlı bir (*kNN*) algoritması kullanan otomatik bir işbirlikçi filtreleme sistemi sunmuştur (Konstan ve diğerleri, 1997; Resnick, Iacovou, Suchak, Bergstrom ve Riedl, 1994b). PCC, orijinal GroupLens sistemi tarafından, kullanıcının benzerliğini ağırlıklandırmak için kullanılmıştır. Yukarıdaki formülle hesaplanan benzerliklere göre, en benzer *k* komşuları seçilmiştir. P_{aq} olarak tanımlanan, *a* kullanıcısının *q* ürünü için beğenirlik tahmini, birbirine benzer olan kullanıcıların *q* için derecelendirmelerinin ağırlıklı ortalaması olarak hesaplanır.

$$p_{aq} = \overline{v_a} + \frac{\sum_{u=1}^{N} \left(v_{uq} - \overline{v_u}\right) W_{au}}{\sum_{u=1}^{N} W_{au}}$$

w_{au} *a* ve *u* kullanıcıları arasındaki benzerliği gösterir.

E-ÖĞRENME'DE ÖNERİ SİSTEMLERİNİN KULLANIMI

E-öğrenmede öneri sistemlerinin kullanımı ile ilgili yapılan çalışmalarda, genel olarak daha önce sözü edilen farklı yöntemler kullanılmakta olup kişiselleştirmeye ilişkin bağlama duyarlılık, kişilik, eğitim geçmişi gibi çeşitli kriterlerin dikkate alındığı gözlemlenmektedir. Ayrıca veri madenciliği, öğrenen tercihlerindeki dinamikliğin hesaba katılması, bilgi gösterimi için ontolojinin kullanımı, semantik filtreleme de güncel çalışmaların odak noktasını oluşturan konulardır.

Lu (2004), kişiselleştirilmiş öğrenme öneri sistemi için çevrimiçi öğretme ve öğrenme alanlarına uygulanabilecek bir çerçeve önermiştir. Çerçevede, bir öğrenenin ihtiyacını doğrulamak için çoklu-özellikli bir değerlendirme yöntemi ve her öğrenenin ihtiyacını en iyi şekilde karşılayacak uygun öğrenme materyallerini bulmak için bir bulanık eşleştirme yöntemi kullanılmıştır. Yazar, bu sistemin uygulanmasının öğrenenlerin çevrimiçi öğrenmelerini daha etkin bir şekilde destekleyebileceğini ve çeşitli eğitim geçmişi olan öğrenenlerden oluşan geniş çevrimiçi sınıf öğretimine yardımcı olabileceğini iddia etmektedir.

Wang ve Wu'ya (2011) göre, teknolojiyi uygun bir şekilde kullanamamak öğrenmeyi kolaylaştırmak yerine engelleyebilmektedir. Buna bağlı olarak bir u-öğrenme (her yerde öğrenme) ortamı geliştirmek için ilgili bilgi teknolojisini entegre ederken, öğrenenin kişiselleştirme gerekliliklerini göz önünde bulundurmak gerektiğini ifade etmektedirler. Yazarlar çalışmalarında, öğrenenlerin kişiselleştirilmiş öğrenme hedeflerini bağlama duyarlı bir şekilde gerçekleştirmelerine ve öğrenme etkinliğini artırmalarına yardımcı olmak için bir u-öğrenme sistemi geliştirmek üzere bağlama duyarlı teknoloji ve öneri algoritmalarını uygulamaya çalışmıştır. Uygun ders önerileri sunmak için öğrenenlerin özellikleri, öğrenme davranışları ve öğrenme tercihleri dikkate alınmıştır.

Nadimi-Shahraki (2011) kişiselleştirilmiş e-öğrenme materyali öneri sistemlerinin verimliliğini arttıran bir yöntem geliştirmiştir. Çoğunlukla kullanılan ilişkilendirme kuralı madenciliği yerine önerdiği artan ilişkilendirme kuralı ile zamandan tasarruf etmeyi amaçlamıştır. Bourkoukou, El Bachari ve El Adnani (2016), öğrenen kişiliğini göz önünde bulunduran ve öneri sistemi için işbirlikçi filtreleme yöntemi kullanan kişiselleştirilmiş bir e-öğrenme sistemi sunmaktadır. Gerçek e-öğrenme ortamında kullanımlarına dayanarak söz konusu sistemin tahminlerin performansını artırabileceği sonucuna varmışlardır.

Salehi ve Kmalabadi'nin (2012) önerdiği yaklaşımda önerinin kalitesini arttırmak için malzemelerin nitelikleri göz önünde bulundurulmuştur. Öneriler, bireysel tercihlere ve değişen ilgi alanlarına uyarlanabilmektedir. Konu, eğitim düzeyi, yazar gibi özelliklerin önemi öğrenenin materyalleri derecelendirmesine dayanarak belirlenmiştir. Öneriler üretmek üzere içerik tabanlı filtreleme, işbirlikçi filtreleme ve bazı hibrit yaklaşımlar kullanılmıştır. Sonuç olarak önerilerin kalitesi artmış ve öneriler için örtük özelliklerin dikkate alınması sayesinde seyreklik problemi çözülmeye çalışılmıştır.

Aher ve Lobo'nun (2013) yaptıkları çalışmada Moodle ortamında belli dersler için diğer öğrenenlerin seçimine dayanarak öğrenenlere ders önerilmiştir. Bu amaçla kullanılan Ders Öneri Sisteminde veri madenciliği tekniklerinin yararı gösterilmiştir. Yaklaşımlarında kümeleme algoritması olan Basit k-Ortalama (k-Means) ile Apriori ilişki kuralı algoritmasının birleşimi kullanılmıştır. Sonuçlar Weka (açık kaynaklı veri madenciliği aracı) sonuçlarıyla karşılaştırıldığında, birleşik yaklaşım kullanılarak elde edilen sonucun, dersler arasındaki gerçek bağlılıklarla eşleştiği görülmüştür. Önerilen sistemin, akıllı danışmanlık sistemi oluşturulmasında yardımcı olabileceği ve kitlesel açık çevrimiçi derslerde de çok yararlı olabileceği belirtilmiştir.

Salehi, Kamalabadi ve Ghoushchi (2014)'ye göre, mevcut öneri algoritmalarında, öğrenenlerin dinamik ilgi alanları ve çoklu tercihleri ve materyallerin çok boyutlu nitelikleri aynı anda tam olarak dikkate alınmamaktadır. Aynı zamanda bu algoritmalar öğrenenin tarihsel sıralı materyal erişim örüntülerini etkili bir şekilde kullanamamaktadır. Bu sorunları çözmek ve önerinin doğruluğunu ve kalitesini artırmak için, yazarlar, sıralı örüntü madenciliği ve çok boyutlu özellik tabanlı işbirlikçi filtrelemeyi temel alan yeni bir malzeme öneri sistemi çerçevesi önermiştir. Önerilen yöntem, sınıflandırma doğruluğu ölçüleri üzerinde önceki algoritmalardan daha iyi performans göstermiştir. Buna ek olarak öğrenenin gerçek öğrenme tercihinin, gerçek zamanlı güncel bağlamsal bilgilere göre doğru bir şekilde gerçekleştirilebileceğine dikkat çekmektedir.

Bousbahi ve Chorfi (2015), öğrenenlerin kendileri için en iyi öğrenme kaynaklarını bulmalarının önemli bir sorun olduğuna vurgu yaparak farklı sağlayıcılar arasından öğrenene en uygun kitlesel açık çevrimiçi dersleri öneren bir sistem sunmuşlardır. Bunu yaparken Durum Tabanlı Çıkarsama yaklaşımı ve özel bir bilgi alma tekniği kullanarak öğrenenin profili, ihtiyaçları ve bilgisine dayalı öneri oluşturmuşlardır. Durum Tabanlı Çıkarsama yaklaşımının sağladığı avantaj; belli kullanıcılara ya da ürün derecelemelerine ilişkin büyük miktarda veri depolanmasını gerektirmemesidir, sadece benzer durumların araştırılması için yeterli özelliklere ihtiyaç vardır.

Benhamdi, Babouri ve Chiky (2017), öğrenenlerin tercihlerine, ilgi alanlarına, eğitim geçmişlerine ve bilgi depolamak için hafıza kapasitelerine göre kişiselleştirilmiş öğrenme materyali sunmak için bir yaklaşım geliştirmişlerdir. İşbirlikçi filtreleme ve içerik tabanlı filtrelemeye dayanan yaklaşımları, aynı zamanda soğuk başlangıç (cold-start) sorununun üstesinden gelmek için kullandıkları CSHTR tekniğinde de gelişmeye sebep olmuştur. Böylece, yeni bir öğrenenin, kendi dersiyle ilgili olmayan belgeleri okumaya ve derecelendirmeye vakti olmadığı zor soğuk başlama durumunun üstesinden gelinebilir.

Bourkoukou, El Bachari ve El Adnani (2017) e-öğrenme ortamında en uygun öğrenme nesnelerini seçip sıralayarak kişiselleştirilmiş bir öğrenme deneyimi elde etmek için bir yaklaşım önermişlerdir. Yaklaşımlarında; öğrenme nesneleri için web günlüğü dosyalarını inceleyerek, öğrenenlerin geribildirim ve tercihlerini dikkate alan ağırlıklandırma söz konusudur. En uygun öğrenme nesnelerinin bir listesini seçmek için işbirlikçi filtrelemeyi kullanmışlardır. Kişiselleştirilmiş bir öğrenme senaryosu hazırlamak ve düzenlemek için ise İlişki Örüntü Analizi araçları uyarlanmıştır. Sözü edilen araca dayalı bir öğrenme modeli tasarlayarak yaklaşımlarının performansını gerçek verilerle değerlendirdiklerinde, öğrenmeyi iyileştirmek üzere çevrimiçi öğrenme etkinliklerini desteklemek için öneri sistemi kullanımının uygun olduğu sonucuna varmışlardır.

Zhou, Huang, Hu, Zhu ve Tang (2018), kümeleme ve makine öğrenme tekniklerine dayalı yeni bir tam yol öğrenme önerisi modeli geliştirmiştir. Öncelikle, öğrenenlerin özellik benzerliği ölçütünü temel alarak bir öğrenen topluluğu oluşturmuş ve onların öğrenme yollarını ve performanslarını tahmin etmek için uzun bir kısa süreli hafıza (LSTM) modeli eğitmişlerdir. Daha sonra yol tahmini sonuçlarından kişiselleştirilmiş öğrenme tam yolları seçilir. Son olarak, bir test öğrencisine uygun bir öğrenme yolu önerilir. Deneysel sonuçlar, önerilen yöntemin uygun öğrenme yollarında sağlam önerilerde bulunabileceğini göstermektedir.

Lin, Pu, Li ve Lian (2018), ders seçimi için geliştirdikleri yaklaşımda öncelikle belli bir grup öğrenenin ders katılım verisini toplamıştır. Öğrenenlere en uygun derslerin önerilmesi için seyrek doğrusal yöntemi çerçevelerinde kullanmışlardır. En güncel yöntemler ile karşılaştırıldığında, önerdikleri yaklaşımın doğruluk ve verimlilik açısından daha üstün olduğunu bulmuşlardır.

Utku ve Akçayol (2017), geleneksel öneri sistemlerinde kullanılan statik yaklaşımların zamanla değişen tercihler karşısında yetersiz kaldığını belirterek, değişen kullanıcı tercihlerine göre öneri sunma yaklaşımlarını uyarlanabilir olarak geliştiren ve kullanıcı tercihlerini öğrenebilen öneri sistemlerini incelemişlerdir. Uyarlanabilir

öneri sistemlerinde kullanıcıların etki alanlarındaki değişimler kaydedilerek oluşturulan öneriler güncellenmektedir. Öneri sunma sürecinde yararlanılan dinamik parametreler ise zamansal bağlam, yenilik, farklılık, çeşitlilik, dinamik ortam ve zamansal karakteristiklerdir. Yazarların inceledikleri çalışmalarda klasik yöntemler ile birlikte veri madenciliği, makine öğrenmesi ve yapay zekâ teknikleri kullanılarak hibritleştirilen sistemler söz konusudur. Sözü edilen bu öneri sistemlerinde, geleneksel sistemlerde görülen seyreklik, ölçeklenebilirlik ve soğuk başlangıç vb. sorunların büyük ölçüde ortadan kalktığı ve sunulan önerilerin de daha yüksek doğruluk oranına sahip olduğunu ifade etmişlerdir.

Tarus, Niu ve Mustafa (2018), e-öğrenmeye yönelik bilgi tabanlı öneri sistemlerinde bilginin temsili için ontolojinin kullanılmasının ilginç bir araştırma alanı haline gelmesinden yola çıkarak ontoloji temelli öneri sistemleri üzerine bir alanyazın derlemesi sunmuşlardır. Ek olarak bu yaklaşımın gelecekteki eğilimlerini e-öğrenme bağlamında tartışmışlardır ve e-öğrenme öneri sistemlerinde bilgi gösterimi için ontolojinin kullanılmasının öneri kalitesini artırabileceğini sonucuna varmışlardır. Bilgi temelli önerinin diğer öneri teknikleriyle hibritleştirilmesinin, e-öğrenme öneri sistemlerinin etkinliğini artırabileceğini de belirtmişlerdir. George ve Lal (2019) da benzer şekilde, e-öğrenmede ontoloji tabanlı öneri sistemlerini incelemiştir. Yazarlara göre ontoloji, öğrenenleri ve öğrenme kaynaklarını modellerken ayrıntıların kullanıldığı bir yoldur-ki bu şekilde öğrenenler için daha ilgili materyaller üretilir. Ontolojilerin yeniden kullanılabilirlik, muhakeme kabiliyeti ve çıkarım mekanizmalarını destekleme özellikleri gelişmiş öneriler sunmaya yardımcı olmaktadır.

Albatayneh, Ghauth ve Chua (2018), e-öğrenme ortamlarında kullanılan çevrimiçi tartışma forumlarında paylaşılan bilgiler arttığında, öğrenenlerin ilginç bilgileri bulmalarının zorlaşacağına değinmektedir. Yazarlar, bu sorundan yola çıkarak yaptıkları çalışmada, semantik içeriğe dayalı filtrelemeye ve öğrenenlerin olumsuz derecelendirmelerine dayalı yeni bir öneri mimarisi sunmaktadır. Deneysel sonuçlar, önerilen sistemin; semantik olmayan içerik tabanlı filtreleme tekniğini kullanan, semantik olmayan içerik tabanlı filtreleme tekniğini öğrenenlerin olumsuz puanlarıyla kullanan, semantik içerik tabanlı filtreleme tekniğini kullanan diğer benzer e-öğrenme öneri sistemlerinden daha iyi performans gösterdiğini göstermektedir. Ayrıca, elde edilen sonuçlar, diğer benzer öneri tekniklerine kıyasla önerilen tekniğe dayalı önerilerle desteklenen öğrenenler için öğrenme performansının en az % 9.84 oranında arttığını da göstermektedir.

Tarus, Niu ve Kalui (2018), öğrenme kaynaklarının doğru ve kişisel bir şekilde önerilmesi için, öğrenenin bağlamı ve sıralı erişim düzenlerinin öneri sistemine dahil edilmesi gerektiğini ifade etmektedir. Buna dayanarak, öğrenme kaynakları önermek için bağlam duyarlılığını, sıralı örüntü madenciliğini ve işbirlikçi filtreleme algoritmalarını birleştiren hibrit bir öneri yaklaşımı geliştirmişlerdir. Önerilen yaklaşım değerlendirildiğinde, önerilerin kalitesi ve doğruluğu bakımından diğer öneri yöntemlerinden daha iyi performans gösterebileceği sonucuna varılmıştır.

TARTIŞMA VE SONUÇ

Öneri sistemlerinin e-öğrenmede uygulanması ile ilgili alanyazın tarandığında işbirlikçi filtreleme veya içerik tabanlı öneri sistemlerinin tek başına uygulanmalarının çok başarılı olamayacağı görülmektedir. E-öğrenme sisteminde kullanıcı hareketleri çok çeşitli olacağı için hibrit yöntemi kullanmak daha doğru olacaktır. İşbirlikçi filtreleme

algoritmasında, daha çok kullanıcının ders materyallerine verdiği sayısal değerler üzerinden işlem yapılmaktadır. Ancak başarılı bir öneri sistemi geliştirmek için tek bir kriteri göz önüne almak yeterli olmayabilir. Kullanıcının kişiliği, eğitim geçmişi, çalıştığı materyallerin türleri ve içerikleri, materyal kullanım sıklığı, üzerinde geçirdiği süre, öğrenenin profil bilgileri, öğrenenin çalışma yöntemi ve malzemelere vermiş olduğu değerlendirme puanları gibi bir çok kriterin göz önüne alınması gerecektir. Aynı zamanda, e-öğrenmede kullanılabilecek öneri sistemlerinin geliştirilmesinde veri madenciliği ve semantik filtreleme gibi yeni tekniklerin kullanılması ile öğrenen tercihlerinin dinamikliğinin dikkate alınması doğruluğun ve verimliliğin, öneri kalitesinin ve öğrenenler için öğrenme performansının artmasını sağlayacaktır.

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Özet

Bu çalışmanın amacı, çevrimiçi Kişiselleştirilmiş Öğrenme Ortamlarına (KÖO) sosyal medya entegrasyonun, öğrenen-öğretici-içerik etkileşimini nasıl etkilediğine ilişkin kuramsal bir çerçeve oluşturmaktır. Bu doğrultuda, araştırmanın kuramsal temelleri Anderson (2003) tarafından önerilen öğrenme ortamlarında etkileşim sınıflandırmasına ve Bağlantıcılık (Connectivisim) yaklaşımına dayanmaktadır. Çalışmanın verileri literatür taraması ile toplanmıştır. Çalışma sonuçları çevrimiçi KÖO'na öğrenen-öğretici-içerik etkileşimi bağlamında sosyal medyanın nasıl daha etkili bir biçimde entegre edileceği konusunda, öğretim tasarımcılarına, öğreticilere, paydaşlara ve araştırmacılara yol göstermesi açısından önem teşkil etmektedir.

Anahtar Kelimeler: *Etkileşim, Dijital İletişim Teknolojileri, Sosyal Medya, Kişiselleştirilmiş Öğrenme Ortamları, Açık ve Uzaktan Öğrenme*

GİRİŞ

Enformasyonun dijital iletişim teknolojileri ile anlık ve çok yönlü dağılımı, bilme ve öğrenme gibi eylemlerin her an ve her yerde sürdürülebildiği açık ve uzaktan öğrenme ortamlarını gerçek yaşamın önemli bir unsuru haline getirmiştir. Açık ve uzaktan öğrenme ortamları sayesinde öğrenenlerinin ihtiyaç duyduğu enformasyona ulaşarak, öğrenmelerini bu yeni toplumsal düzen içerisinde gerçekleştirilmeleri mümkün olmaktadır. Bu doğrultuda, öğrenme sürecinde birbirinden farklı zaman ve mekanlarda bulunan öğrenen, öğretici ve içeriğin, birbirileriyle olan iletişimi ve etkileşimi için dijital iletişim teknolojilerinden yararlanmanın öneminden bahsedilebilir.

Nitekim, 1990'lı yılların sonunda ortaya çıkan Internet ve World Wide Web teknolojileriyle yaşanan değişimin uzaktan eğitim alanındaki en büyük teknolojik gelişim (Moore ve Kearsley, 2005) olarak görülmesi bunu kanıtlar niteliktedir. Ağ yapılanmasına ve iletişimin eşzamanlı ya da eş zamansız olarak kurulabilmesine olanak veren teknolojilerin uzaktan eğitim aracı olarak kullanılmasıyla birlikte, bireylerin istek ve ihtiyaçlarına farklı çözümler sunabilen öğrenme ortamlarının tasarlanabilmesi mümkün olmuştur. Öğrenenler, kurum ve öğreticiler arasında etkileşim ve iletişimi sağlayan ve Web üzerinde çalışan Öğrenme Yönetim Sistemlerinin (ÖYS - Learning Management System – LMS) gelişimi ile birlikte bir çok eğitim kurumu uzaktan eğitim yapabilme olanağına sahip olmuştur. Öğrenme Yönetim Sistemlerinin (ÖYS)

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öğrenenlerin gereksinimleri doğrultusunda kişiselleştirilebilmesi ve genel eğitim içeriklerinin kişiye özgü tasarlanması ile birlikte *Kişiselleştirilmiş Öğrenme* (Personalized Learning) *Ortamları* ortaya çıkmıştır.

Atwell (2007) kişiselleştirilmiş öğrenme ortamlarının (KÖO) öğrenmede dijital iletişim teknolojilerinin kullanıldığı bir yaklaşım olduğunu ve bu yaklaşımda öne çıkan en önemli noktanın bireylerin kendi KÖO'larında kendi seçtikleri dijital iletişim araçlarını kullanma eğilimleri olduğunu söylemektedir.

Rickabaugh (2015), kişiselleştirilmiş öğrenme kavramında yer alan kişisel sözcüğünün yalnızca öğrenenlerin benzersizliklerini ortaya koyma girişimi anlamına gelmediği; aynı zamanda onların, öğrenme eyleminin merkezinde yer almalarını sağlamak anlamına geldiğini ifade etmektedir. Bu doğrultuda, bireylerin KÖO'larında kendi seçtikleri teknolojik araçlarla, merkezinde bulundukları kendi öğrenme biçimlerini şekillendirdikleri söylenebilir.

Bu bağlamda; dijital iletişim teknolojilerinin kullanım yoğunluğundan dolayı önemli ortamlarından biri olan sosyal medyanın KÖO'na entegrasyonunu araştırmak önem kazanmaktadır. Bu doğrultuda, çalışmada çevrimiçi KÖO'na sosyal medya entegrasyonunun öğrenen-öğretici-içerik etkileşimini nasıl etkilediğine ilişkin kuramsal çerçevesinin oluşturulması amaçlanmaktadır.

Kuramsal çerçevenin oluşturulması için, bir ağ olarak sosyal medyanın KÖO'na entegrasyonunu ele alması bakımından Bağlantıcılık (Connectivism) yaklaşımı ve söz konusu ortamlarda etkileşimin nasıl gerçekleştiğinin incelenebilmesi bakımından da Anderson (2003) tarafından önerilen öğrenme ortamlarında etkileşimin sınıflandırılması yaklaşımı bu çalışmanın kuramsal temelini oluşturmaktadır.

Bu çalışma kapsamında "Sosyal medyanın çevrimiçi KÖO'na entegrasyonu öğrenen-öğretici-içerik etkileşimini nasıl etkilediği" sorusu ilgili literatürün taranmasıyla cevaplanmaya çalışılmıştır.

KURAMSAL TEMELLER

Bağlantıcılık (Connectivism)

Bağlantıcılık, öğrenmenin sayısal çağda ne şekilde gerçekleştiğini tarif etmeye yönelik bir yaklaşımdır. Bağlantıcılık yaklaşımı, içinde bulunulan sayısal çağ için George Siemens (2005) tarafından geliştirilen bir iletişim/öğrenme yaklaşımıdır ve teknolojinin yaşam, iletişim ve öğrenme deneyimlerine yönelik etkilerini açıklamaya çalışmaktadır.

Bu bağlamda, Siemens'e (2006a) göre bağlantıcılık daha önce yapılan bazı işlerin teknolojinin gelişmesi sonucunda değişime uğradığını ve bilginin miktarındaki artışın çok büyük olduğu bir zamanda öğrenmenin doğasında nasıl bir değişimin yaşandığını açıklamaya çalışmaktadır. Bağlantılıcılık yaklaşımı, öğrenme ve bilginin temel ilkelerini şöyle sıralamaktadır (Siemens, 2006b: 30-31): (1) öğrenme ve bilgi, fikirlerin farklılığından doğar, (2) öğrenme, özelleştirilmiş/kişiselleştirilmiş düğümlerin (nod) ya da bilgi kaynaklarının birleştirilmesi sürecidir, (3) bilgi ağlarda bulunur, (4) öğrenme, insan dışında bir kaynaktan gerçekleşebilir, (5) şu an bilinenden daha önemli olan şey, bilme kapasitesidir, (6)devamlı öğrenmeyi sağlamada, sürekli besleme önemlidir,

(7) temel beceri, alanlar, fikirler ve kavramlar arasındaki bağlantıları görebilmedir, (8) eksiksiz ve güncellenmiş bilgi, tüm bağlantıcı öğrenme etkinliklerinin amacıdır, (9) kararlar alma, öğrenme sürecinin kendisidir.

Bağlantıcılık yaklaşımı ağ toplumunda yaşayan bireylerin kişiselleşmiş bilme/öğrenme ihtiyaçlarına ancak bir ağ yapılanması içerisinde sürekli etkileşim ve iletişimin olduğu bir öğrenme ortamının cevap vereceğini savunmaktadır. Bu nedenle Bağlantıcılık, ağ üzerindeki her bireyin öğrenme eyleminin kendi çevrimiçi KÖO kapsamında kurduğu bağlantılar ve ağ üzerindeki diğer düğümlerle kurulan iletişim ve etkileşim sonucunda gerçekleşeceğini varsaymaktadır. Bu etkileşimi sağlayacak olan ağ bağlantısına sahip teknolojiler olmakla birlikte, bireyin de sınırsız sayıda bağlantı üzerinden kuracağı iletişim ve etkileşim ile kendi öğrenmesini bizzat kendisinin şekillendirme olanağı bulunmaktadır.

Öğrenme Ortamlarında Etkileşimin Sınıflandırılması:Öğrenen – Öğretici – İçerik Etkileşimi

KÖO'nda bilginin paylaşılması ve öğrenmenin gerçekleşmesi için anahtar kavramlardan biri de etkileşimdir. Etkileşim kavramı açık ve uzaktan öğrenme yöntemlerinin ilk ortaya çıktığı zamanlardan beri konuyla ilgili kuramcı ve uygulamacıların en değer verdiği kavram olmuştur (Taylor, 2001). Açık ve uzaktan öğrenme alanında etkileşimi sağlayan Web 2.0/3.0 tabanlı dijital iletişim teknolojilerinin kullanımı konusu bu alandaki araştırmaların büyük bir kısmını oluşturmaktadır (Wang, Chen ve Anderson, 2014). Moore (1989) Uzaktan Eğitimde etkileşimi üç başlık altında sınıflandırmaktadır: (1) öğrenen-öğretici, (2) öğrenen-öğrenen ve (3) içerik-öğrenen. Anderson ve Garrison (1998) söz konusu sınıflandırmaya üç farklı başlık daha eklemiştir: öğretici-öğretici, öğretici-içerik ve içerik-içerik etkileşimi.

Öğrenen-öğretici etkileşimi, öğreticinin daha verimli bir öğrenme sağlamak için öğrenenlerle kuracağı etkileşimi ifade etmektedir. Öğrenen-öğretici etkileşimi açık ve uzaktan öğrenmede eş zamanlı veya eş zamansız gerçekleşebilir. Bu tür etkileşimin boyutları kullanılan uzaktan öğrenme modelinin teknolojik altyapısında göre şekillenecektir (Anderson, 2003). Uzaktan öğrenmede öğrenenler diğer öğrenenlerle etkileşime geçebilir, paylaşımlarda bulunabilir, öğrenmelerini pekiştirebilir ve grup faaliyetleri yaparak işbirlikçi (collaborative) bir öğrenme deneyimi yaşayabilirler. Bu doğrultuda, öğrenen-öğrenen etkileşimi de kullanılan teknolojinin sınırlılıkları ve imkanları doğrultusunda gerçekleşmektedir. Öğrenen-içerik arasında oluşan etkileşim, öğrenenin kullanılan uzaktan öğrenme sistemi içerisinde öğrenme materyalleri ile kurduğu etkileşimli süreci ifade etmektedir (Wang, Chen ve Anderson, 2014). Uzaktan öğrenmede kullanılan teknoloji içeriğin yapısını da doğrudan etkileyeceği için, öğrenenin metin, ses, durağan ve hareketli görüntülerin ağırlıklarının değiştiği bir içerikle etkileşime girmesi söz konusudur (Yüzer, 2013). Bunlara ek olarak, öğretici-öğretici etkileşimi öğreticilerinin alan bilgilerini güncellemek ve karşılaştıkları sorunlar ile ilgili diğer öğreticilerin deneyimlerinden yararlanmak için kurdukları bir etkileşim olarak tanımlanabilir. Öğretici- içerik etkileşimi ise öğreticinin içeriği oluşturmak için girdiği etkileşim biçimidir. Bu çerçevede, öğreticiler ÖYS vb. sistemler aracılığıyla içerik parçalarını oluşturur ve ders yapısını yönetebilirler (Yüzer, 2013). İçerik-içerik arasında oluşan etkileşimli yapı ise ÖYS içerisinde farklı içeriklerin raporlama vb. farklı bir amaç doğrultusunda birbirleri ile etkileşimini ifade etmektedir.

Etkileşim çeşitlerinin sınırlılıkları kullanılan açık ve uzaktan öğrenme sisteminin sahip olduğu teknolojik sınırlılıklara bağlıdır. Bağlantıcılık, kişiselleşmiş bilme/öğrenme ihtiyaçlarına ancak bir ağ yapılanması içerisinde sürekli etkileşim ve iletişimin olduğu bir öğrenme ortamının cevap verebileceğini savunmaktadır. Bağlantıcılık kuramının temel ilkeleri çerçevesinde, özellikle çevrimiçi KÖO'larda kullanılan teknolojiler göz önünde bulundurulduğunda, her bireye yönelik öğrenme gereksinimlerinin karşılanabilmesi için öğrenen, öğretici ve içerikle ilgili etkileşimliliğin artırılması büyük önem taşımaktadır. Bağlantıcı bilme/öğrenmede öğrenen-öğretici-içerik arasında etkileşim oldukça karmaşık bir biçimde ağ üzerindeki bağlantılar sayesinde gerçekleşmektedir (Wang, Chen ve Anderson, 2014). Bununla birlikte, Anderson (2012) öğrenme ortamlarında etkileşim ve iletişimin doğasını anlamak ve ağ üzerindeki karmaşık etkileşime ilişkin çözümlemelerde bulunmak için Moore'un ortaya koyduğu sınıflandırmanın gerekli olduğunu söylemektedir. Chen (2004), Moore'un yaptığı sınıflandırmayı temel alan ve açık ve uzaktan öğrenme alanlarında iletişim ve etkileşimi açıklayan hiyerarşik bir etkileşim modeli önermektedir.

Özellikle açık ve uzaktan öğrenmede öğrenenin farklı teknolojileri kullanarak öğrenme sistemiyle kurduğu etkileşim karmaşık bir yapıya sahiptir. Bununla birlikte, enformasyon etkileşiminin bulunduğu ikinci aşama öğrenenin öğrenen-öğretici-içerik etkileşimini içeren çok boyutlu bir yapıdadır. Bu aşamada gerçekleşen etkileşim öğrenenlerin kişisel özellikleri ile birlikte bir alt basamakta kullanılan teknolojinin olanakları ve seçimi doğrultusunda gerçekleşmektedir. Etkileşimin en soyut olduğu üçüncü basamak olan Kavramsal Etkileşim ise öğrenenin bilişsel süreçler içerisinde sahip olduğu eski ve edindiği yeni bilgilerin etkileşimi ile kavramsal kavrayışının geliştiği boyuttur. Özellikle uzaktan öğrenmede bireylerin daha soyut basamaklarda etkin iletişim kurması öğrenmenin verimliliğini artıracaktır. Bu doğrultuda, özellikle çevrimiçi ortamlarda soyutlaştıkça karmaşıklaşan etkileşimin artırılması büyük önem arz etmektedir. Böylelikle Bağlantıcı öğrenmenin gerçekleşmesi mümkün olabilecektir. Söz konusu etkileşimin artırılması, çevrimiçi KÖO'lara Web 2.0/3.0 teknolojilerini kullanan sosyal medya gibi dijital iletişim teknolojilerinin entegrasyonu ile sağlanabileceği düşünülmektedir.

Bu bağlamda dijital iletişim için önemli unsurlardan biri olan sosyal medyanın KÖO'na entegrasyonunun etkileşim bağlamında araştırılarak kuramsal bir çerçevenin oluşturulması önem kazanmaktadır.

YÖNTEM

Bu çalışma çevrimiçi KÖO'na sosyal medyanın entegrasyonunun öğrenen-öğretici-içerik etkileşimini nasıl etkilediğine ilişkin kuramsal çerçevesinin oluşturulması amacıyla, öğrenme ortamlarında etkileşim sınıflandırması ve bağlantıcılık kuramsal temelleri bağlamında yapılan sistematik bir alanyazın taramasıdır. Alanyazın taraması kanıtların erişilebilir sentezlerini kuran bir gözden geçirmenin standart ve açık bir organizasyonudur. Veri toplama sürecinde Web of Science ve Ulakbim veri tabanlarında yayınlanan "sosyal medyanın KÖO'nda kullanımı" ile ilgili çalışmalar taranarak sentezlenmiştir. Bu şekilde, iyi tanımlanmış bir kuramsal çerçevenin oluşturulması sağlanarak ileride yapılacak çalışmalar için alana katkıda bulunması hedeflenmektedir.

BULGULAR

Sosyal Medyanın KÖO'nda Kullanımı

Sosyal medyanın KÖO'nda kullanımına yönelik araştırmalar 2010 yılına kadar dayanmasına rağmen 2014 yılından itibaren özellikle sosyal medyanın mobil teknolojilere entegre edilmesi ile kullanım sıklığının artmasına bağlı olarak yapılan araştırmalar da yoğunluk göstermektedir.

Sosyal medyanın kişisel öğrenme alışkanlıklarını etkileyen temel unsurlardan biri olan kültürel bir öğe haline gelmesi ile öğrenme kültürü de değişikliğe uğramasına dikkat çekilmektedir. Bu bağlamda, alanyazında sıklıkla sosyal medyanın KÖO'nda kullanımı ile öğrenmenin kapsamını, öğrenenlerin aktif olarak katıldıkları ve içeriği birlikte ürettikleri sosyal bir süreç olarak genişletmek gerektiği ileri sürülmüştür (Dailey-Hebert, 2018). Sosyal medya ortamlarında bireyler pasif bir tüketici olmak yerine, kendi içeriklerini diğerleri ile paylaştıkları, bu içerikler üzerinde tartıştıkları, diğerleri hakkında görüş ve fikir belirterek ortaklaşa bir sonuca vardıkları bir ortamda sadece gözlemci rolünden çıkarak tamamen katılıma yönlendiren süreç içerisinde bir kültür grubu oluşturdukları ve kendi kimliklerini bu gruplarda ortaya koyarak içinde bulundukları topluluğundan kimliğini şekillendirdikleri ifade edilmektedir (Öztürk ve Talas, 2015). Ayrıca sosyal medya uygulamalarının KÖO'nda kullanımı ile ortaya çıkan etkileşim sayesinde öğrencinin özerkliğini, aktifliğini, birbirlerine ve sürece bağlılığını arttırarak öğrenmenin kontrolünü öğrenciye vermekle birlikte hem gerçek hem de sanal toplulukları coğrafi, fiziksel, kurumsal sınırlılıklardan bağımsız hale getirdiği vurgulanmaktadır (Mnkandla & Minnaar, 2017).

Sosyal medyanın öğrenme süreçlerinde kullanılmasının eşzamanlı iletişim için fırsat yaratması nedeniyle özellikle öğrenenler tarafından olumlu yönde karşılandığını söylemek mümkündür (VanDoorn ve Eklund, 2013). Öğrenenler sosyal medyayı kullanarak, kendileri için sorun oluşturan bir konuyu anında içerikten sorumlu öğretici ile paylaşarak yanıt alabilmektedir. Böylelikle, öğrenme sürecinde zaman kaybı yaşanmamaktadır. Bununla birlikte Friedman ve Friedman (2013), sosyal medya araçlarının öğrenme süreçlerinde kullanılmasının problem çözme, eleştirel düşünme becerilerinin geliştirilmesine, iletişim ve işbirliğinin artırılmasına katkı sağladığını ifade etmektedirler. Nitekim Kear ve Rosewell (2018) çalışmalarında sosyal medyanın öğrenme süreçlerinde kullanılması ile artan etkileşim öğrenenlerin araştırma, sorgulama ve problem çözme becerilerini kullanmaları ve geliştirmeleri konusunda destek olduğunu ortaya koymaktadır.

Öğrenme ortamının sosyal medya ile desteklenmesi öğrenenler arasında iletişimi ve etkileşime katkı sağladığı gibi (Friedman & Friedman, 2013) aynı zamanda kendi aralarında bilgi paylaşımında bulunmalarına ve işbirliği yapmalarına da olanak tanımaktadır (Puijenbroek, Poell, Kroon, & Timmerman, 2013). Benzer şekilde 2017 yılında Du ve arkadaşlarının yaptığı çalışmada da sosyal medya ortamlarında öğrenen katılımı ve etkileşimleri ile yönetildiğinden, sosyal ve aktif öğrenme için gerekli bilgi paylaşımı ve işbirliğini oldukça iyi desteklediği vurgulanmıştır.

Bunlara ek olarak, Mondahl ve Razmerita (2014), öğrenenlerin sosyal medya ortamında bilgi paylaşmaya veya işbirliğinde bulunmaya cesaretlendirildiklerinde, edindikleri bilgiyi içselleştirerek daha kalıcı bir biçimde öğreneceklerini ve problem çözmeye dayalı düşünme becerilerinin gelişeceğini söylemektedir. Sosyal medyanın, yaygın ve sık kullanımları ned-

eniyle birçok kişiye hitap edebilme özelliğinin yanısıra, bilgiye ve uzmanlara hızlı erişim ve 'bağlı kalma', farklı araçlarla farklı etkileşimlere olanak verme kapasitesine sahip olduğu Kent, Laslo ve Rafaeli'nin (2016), çalışmasında da bir kez daha kanıtlanmıştır.

TARTIŞMA VE SONUÇ

Sosyal Medyanın bir ağdaki tüm bağlantı noktalarını bir biri ile yatay hiyerarşide birleştirdiği düşünüldüğünde KÖO'larda öğrenen-öğretici-içerik etkileşiminin artırılması için benzersiz fırsatlar sunabileceği öngörülebilir. Dailey-Hebert'in (2018) yaptığı araştırmanın sonuçlarında da ifade edildiği üzere sosyal medya ortamlarında kullanıcılar içerik ürettikleri ve pasif kalmadıkları sürece Siemens'in (2006b) öne sürdüğü şekilde ağ üzerinde öğrenmenin gerçekleşmesini sağlayabilirler. Bununla birlikte, sosyal medya hem senkron hem de asenkron etkileşimin sürdürüldüğü bir ortam olarak öğrenenler arasında iletişimi ve etkileşime katkı sağlayabilmektedir. Etkileşimin boyutları ise içinde var olunan ağ yapısının özelliklerine göre şekillenecektir.

Bu doğrultuda, alanyazında bulunan araştırmalarında da sonuçları incelendiğinde çevrimiçi KÖO'lara sosyal medyanın entegrasyonu ile öğrenen, öğretici ve içerik açısından etkileşimin artacağı ve daha iyi bir öğrenmenin gerçekleşeceğini söylemek mümkün olabilir. İleriki araştırmalar için ülkemizde bulunan KÖO'larına yapılacak sosyal medya entegrasyonu üzerine ampirik uygulamaların yapılması öğrenme kültürümüzde sosyal medyanın işlevselliğini ortaya koymak açısında önem arz etmektedir.

Yararlanılan Kaynaklar

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Gelecekteki Uzaktan Öğrenme

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Özet

Bu çalışma uzaktan eğitim ve bununla ilişkili temel teknolojik gelişim durumu dikkate alınarak alanyazın taraması ile elde edilen bulgular doğrultusunda uzaktan eğitimin gelecekteki durumuna ilişkin çıkarımlarda bulunmaktadır. Bu doğrultuda çeşitli veritabanlarında, çalışmada belirlenen anahtar kelimeleri içeren ve belirlenen kriterleri karşılayan, uzaktan eğitimin geleceğine yönelik çalışmalara ulaşılarak kapsamlı bir literatür taraması yapılmıştır. Elde edilen bulgular doğrultusunda belirlenen ölçütleri karşılayan çok az sayıda çalışmaya ulaşılmıştır. Bunun nedeninin, uzaktan eğitim alanı ile gelecek teknolojilerin ilişkisinin ve bu teknolojilerin alana yansımalarının derleyici bir bakış açısıyla ele alınarak incelenmesi yerine, seçilen belli bir ya da birkaç teknolojinin alanla ilişkisini araştıran çalışmalara ağırlık verilmesinden kaynaklandığı düşünülebilir. Uzaktan öğrenmenin geleceğine yönelik genel bir bakış açısını içeren az sayıda çalışma olması önemli bir eksikliktir. Çalışmada ayrıca, bilimin geleceğine yönelik popüler bilim kitaplarının taranmasından elde edilen bulgulardan yararlanılarak, gelecekteki teknolojik gelişmelerin uzaktan eğitim alanına yansıması değerlendirilmiş ve uzaktan eğitimin geleceğine ilişkin öngörülerde bulunulmuştur.

Anahtar Kelimeler: *Open and distance learning, lifelong learning, Future of e-Learning*

GİRİŞ

Bilim insanları geleceğe dair öngörülerde bulunmakta çekimser davranırlar. Bu alanı daha çok bilim kurgu yazarlarına ve gelecekle ilgili spekülatif yayınlar yapan popüler bilim ve popüler kültür yazarlarına bırakırlar. Teknolojik gelişmelerin yavaş gerçekleştiği dönemlerden kalma bu sakınma durumu günümüzde teknolojinin temel eğilimlerinin daha belirgin hale gelmesiyle giderek aşılmaktadır. Teknolojinin geleceğine yönelik öngörülerde bulunmada yararlanılan temel eğilimlerden biri Moore Yasası olarak bilinen, bir tümleşik devreye yerleştirilebilen transistör sayısının bir buçuk - iki yılda bir iki katına çıkması olgusudur (Moore, 1975). 1970'lerden günümüze 50 yıl süreyle korunan bu yasadan öykünerek, "saniyede gerçekleşen işlem sayısı", "saniyede gerçekleşen kayan noktalı işlem sayısı", "1000$ başına düşen işlem sayısı", "bit cinsinden 1$ başına düşen dinamik bellek miktarı", "ortalama transistör fiyatı", "1$ başına düşen manyetik depolama miktarı", "DNA sıralama maliyeti düşüşü", "gen bankasındaki büyüme", "internet veri trafiği", "internet bant genişliği", "saat başına işgücü verimliliği", "ABD patent tescil sayısı" gibi çok sayıda teknolojik eğilim belirlenmiştir (Kurzweil, 2016). Bu eğilimleri derleyen Ray Kurzweil, teknolojideki değişim miktarının var olan teknolojiyle orantılı olması nedeniyle, teknolojinin evrimsel bir sistem olduğunu ileri sürmüş ve teknolojideki değişim oranının katlanarak artması olgusunu "hızlanan dönüşler yasası" olarak adlandırmıştır.

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Teknolojilerin geleceğine yönelik gözlenen diğer bir olgu ise teknolojilerin yakınsamasıdır. Buna göre ayrı gereksinimler için ayrı ayrı geliştirilen teknolojilerin arayüzleri zamanla birbirine benzemeye başlamakta ve cihazlar birbirinin içine geçmektedir. Örneğin, telefon, bilgisayar, fotoğraf makinası, video kamera, ses kayıt cihazı, hoparlör, oyun konsolu vb. çok sayıda araç günümüzde akıllı telefon cihazına yakınsayarak, akıllı telefonların bu araçların işlevlerini kapsamasına neden olmuştur. Bu yaklaşım kullanılarak bugün ayrı birer teknoloji olan iki ya da daha fazla farklı teknolojinin gelecekteki yakınsama senaryoları ortaya konularak, değerlendirilebilmektedir (Bainbridge & Roco, 2016).

Michio Kaku (2014) tarafından savunulan bir başka görüş ise teknolojinin dört evreden geçtiği düşüncesidir. Buna göre birinci düzeydeki bir teknoloji özenle korunan nadir bir üründür. İkinci düzeydeki bir teknoloji yaygınlaşmış ve kişiselleşmiştir. Üçüncü düzeyde ise teknoloji sıradanlaşır, her yerde ve görünmez olmaya başlar. Dördüncü düzeyde ise teknoloji son derece ucuzlayıp, toplumun tüm bireylerine sunulan bir kamu hizmeti haline gelir.

Teknolojik gelişmeye yönelik gözlenen bu eğilimler, gelecekteki ürünlerin tasarımına ve bir ürünün ne zaman ve ne maliyetle geliştirilebileceğine ilişkin kestirim yapılabilmesine olanak sağlamaktadır. Bu durum yazarları geleceğe yönelik öngörülerde daha cesur davranmaya yöneltmiştir. Örneğin Kurzweil (2016) teknolojideki bu hızlanmanın sonunda 21. yüzyıl içerisindeki bir tarihte insan zekâsından daha gelişmiş bir yapay zekânın ortaya çıkacağını ve ardından bir teknolojik tekillik yaşanacağını öngörmektedir.

Yakın zamanda yayınlanan popüler gelecek bilim kitaplarında, yazarlarca gelecekteki teknolojileri belirleyen dönüştürücü güçlerin yapısı anlaşılmaya çalışılmaktadır. Wired dergisinin kurucu editörlerinden olan Kevin Kelly (2017), "Büyük Teknolojik Dönüşüm" isimli kitabında 1980'lerden günümüze yakından gözlediği teknolojik gelişimin 12 özelliği bulunduğunu ifade etmektedir. Yazar, teknolojik gelişmenin her şeyi dijitalleştirerek çevrenin ve hizmetlerin maddesizleşmesine yol açması gibi etkileri ayrıntılı olarak incelemektedir. McAfee ve Brynjolfsson (2018), "Makine, Platform, Kitle" isimli kitaplarında teknolojik gelişmenin makine, kitle ve platform boyutlarını tanımlayarak tartışmakta ve gelecekte nesnelere sahip olmanın yerini Uber, Airbnb vb. hizmetleri kullanmanın alacağını göstermektedirler. Tegmark (2019), "Yaşam 3.0-Yapay Zeka Çağında İnsan Olmak" kitabında "yapay genel zeka" nın geleceğini senaryolar eşliğinde tartışmakta ve yazdığı bir senaryoda, bir yapay genel zekanın kendisini gizleyerek, tüm dünyanın denetimini ele geçireceği bir gelecek çizmektedir. Bostrom (2019), "Süper Zeka" kitabında süper zekanın gelecekte yaratabileceği tehlikeler ve bunlara yönelik alınabilecek önlemler konusunu bilimsel titizlikle inceleyerek yöntemler geliştirmektedir. Kitapta, süper zeka yaratmanın üç farklı yolunun; yapay zeka algoritmaları, zihni geliştirecek kimyasal yöntemler ve yapay beyin geliştirme çalışmaları olduğu öne sürülmekte ve her birinin olası tehlikeleri ele alınmaktadır. Martin Ford (2018), "Robotların Yükselişi" kitabında gelişen teknolojinin gelecekte insanları gereksiz kılabileceğini tartışarak, robot öğreticilerin insan öğreticileri kenara iteceğini öngörmektedir. Dimandis ve Kotler (2013), "Bolluk" isimli kitaplarında temel trendleri izleyerek, geleceğe ilişkin iyimser bir bakış açısı geliştirmektedirler. Malthus'un nüfus artışı kuramı ve onu izleyen "kaynakların zamanla tükeneceğine" dair öngörülerin olumsuz havası bu kitapla tersine döndürülmektedir. Her ne kadar çevreye verilen

geri döndürülemez zarar bu iyimserliği engellese de yazarların malzeme, enerji ve ürünlerle ilgili bazı eğilimleri yeniden değerlendirmeleri ufuk açıcıdır. Harari (2017), "Homo Deus – Yarının kısa bir tarihi" isimli kitabında insanların bir bölümünün süper insan sınıfına yükseleceğini belirtmekte, diğer insanların ise değersizleşeceği ve önemini yitireceği bir gelecek çizmektedir. Kaku (2015), "Zihnin Geleceği" kitabında beyin-bilgisayar-arayüzlerinde yaşanan gelişmelerin geleceğini tartışmakta ve sentetik telepati ve sentetik telekinezinin mümkün olacağı bir gelecek vizyonu çizmektedir. Kurzweil (2016), "İnsanlık 2.0" isimli kitabında teknolojik tekilliği tartışarak, geleceğe ilişkin çok sayıda öngörüde bulunmaktadır. Özellikle robotik, nanoteknoloji ve biyoteknolojinin birbirine yakınsamasıyla, bu teknolojilerin insan biyolojisine yapacağı etkileri ayrıntılı olarak incelemektedir. Ray Kurzweil 1980'lerin sonu, 1990'ların sonu ve 2000'lerin ortasında art arda yayınladığı kitaplarında gelecekteki teknolojilere ait çok sayıda öngörüde bulunmaktadır. Bu öngörülerinde yüzde 86 oranında başarılı olduğu belirlenmiştir (Kurzweil, 2010). (147 öngörüden 115'i bütünüyle doğru, 12'si temel olarak doğru, 17'si kısmen olarak doğru, 3'ü yanlış)

Bu çalışmada, gelecekteki teknolojik gelişmelere yönelik öngörülerdeki artışın uzaktan öğrenme alanında gerçekleşen akademik yayınlardaki iz düşümü aranmıştır. Bu amaçla alana yönelik literatür taraması gerçekleştirilmiş ve belirlenen akademik çalışmaların kapsamı değerlendirilerek çalışmanın bulguları elde edilmiştir. Çalışmanın son bölümünde akademik yayınlara ait bulgulardan elde edilen sonuçlar, geleceğe yönelik popüler yazarların öngörüleriyle karşılaştırılarak değerlendirilmiştir.

YÖNTEM

Uzaktan eğitimin geleceğine yönelik alanyazında yapılan çalışmalara ulaşmak ve değerlendirmek amacıyla kapsamlı literatür taraması yapılmıştır. Bu doğrultuda 2008 yılı ve sonrasında yayınlanan ve uzaktan eğitimin geleceğine yönelik "future technology" "distance education","future education", "e-learning" ve "future e-learning" anahtar kelimelerini içeren yayınlar çeşitli veri tabanları (Google Scholar, Yök, Ulakbim, Ebscohost, Wiley Online Library, Web of Science) kullanılarak incelenmiştir. İnceleme sonucunda Google Scholar veri tabanında "future technology" "distance education" ve "future e-learning" araması sonucunda konuya ilişkin, erişilebilir ve belirtilen kriterlere uygun olan 1 makaleye ulaşılmıştır. Yök, Ulakbim, Ebcscohost veri tabanında yapılan arama sonucunda belirtilen kriterleri kapsayan herhangi bir çalışmaya ulaşılamamıştır. Web of Science veri tabanında yapılan arama sonucunda ilgili kriterleri karşılayan çalışmalardan 2 tanesi farklı bir dilde yazıldığı ve sadece özet bilgilerini içerdiği, 2 tanesine erişim sağlanamadığı, elde edilen diğer çalışmaların da içerikleri incelendiğinde uygun olmadığı görülerek elenmiştir. Ancak Wiley Online Library veri tabanında "future e-learning" anahtar kelimeleri ile yapılan aramada 3 makaleye erişilmiş ve yapılan inceleme sonucunda birinin içerik anlamında kriteri karşılamadığı düşünülerek elenmiştir. Bir diğerine ise erişim sağlanamamıştır. Bunların yanı sıra elde edilen bir kitap bölümüne ilişkin çalışmanın da kriterlere uygun olduğu belirlenmiştir. Sonuç olarak, veri tabanlarında yapılan arama sonucunda, anahtar kelimeler ve ilgili kriterleri karşılayan toplam 4 makaleye erişilmiştir.

BULGULAR

Yöntemde elde edilen çalışmalardan biri Henshaw (2008)'ın 2035'e doğru yüksek eğitimde teknoloji adaptasyon modellerini incelediği makalesidir. Henshaw 2035'e doğru yüksek eğitimin geleceğini şu şekilde öngörmektedir: Online ve karma programların yayılımı devam edecektir. Bazı yüksek eğitim kurumları populer (niş) lisans programları açarak uzaktan eğitim pazarına dahil olacaktır. Geleceğin öğrenen merkezli eğitim modelleri daha az yapılandırılmış özellikte olacak ve öğretmen merkezli öğrenmede ikincil kaynak olarak görülen ders kitapları ya da ders notları gibi informal kaynaklar daha fazla önem kazanacaktır. 2023'e kadar yapay zeka ile geliştirilmiş otomatik temsilciler (agents) büyük bir açık ve tescil edilmiş öğrenme materyalleri ve yöntemleri aralığından, hem yaygın hem de dar kapsamlı disiplinlere ait konu başlıklarını seçerek öğrenme dizilerini birleştirebilecek ve gerekli transaksiyonları sağlayabileceklerdir. Diğer bir deyişle günümüz öğretmen anlayışını (tutor) bu temsilcilerin yürüteceği belirtilmektedir. Ayrıca eğitimsel araştırma verileri ışığında tasarlanan bu temsilciler daha güçlü pedagojik kuramlarla öğrenme deneyimleri sunacaklardır. Yüksek eğitim pazarındaki ticari yayıncıların önemi açık içerik hareketi kapsamında azalacaktır. Biyomedikal ilerlemelerin veya nanoteknolojinin tüketici pazarına girmesi olası hale gelinceye kadar, cihaz merkezli teknoloji paradigmaları 2035 veya 2040'a kadar baskın olmaya devam edecektir. Bazı kişiler tarafından teknolojinin beyin işlevleri ve anahtar duyu organları (göz ve kulak implantları, dokunma duyusuna ilişkin gelişimler) ile doğrudan bütünleşeceği, biyoloji ve teknolojinin bir araya geldiği genetik manipülasyon tekniklerinin fırsatlar sunacağı da ifade edilmiştir. Teknoloji ölçme ve değerlendirme tasarımı, veri toplama ve veri analizinin ilerlemesini kolaylaştıracaktır. Daha çok sayıda araç öğrencilere öğrenme tercihleri konusunda rehberlik edecektir. Ölçme değerlendirme stratejileri kişiselleştirilmiş öğrenme fırsatları sunacak özelliklerde geliştirilecektir.

Bir diğer çalışma Childress (2016) tarafında hazırlanan "Öğrenme Teknolojileri için Ütopik Gelecek" adlı kitap bölümüdür. Childress (2016) çalışmasında Gelecek Enstitüsünün, 2013 yılında yayınladığı raporunun (Institute for the Future's (IFTF) report (2013)) izlenebilecek bir yol haritası olarak alınabileceğini belirtmektedir. Bu raporun gelecek 10 yıla ait öngörü sağlayacağı da belirtilmektedir. Raporda internet ve mobil teknolojilerin yayılacağı, içeriğin açık kaynaklar aracılığıyla giderek daha fazla erişilebilir olacağı ve artacağı belirtilmektedir. Ayrıca yapılandırılmış ve devamlı öğrenme (okullar, üniversiteler) yerine öğrenenlerin kendi öğrenmelerini yönetebileceği, yaşam boyu öğrenme fırsatı sağlayan, öğrenme kaynaklarının yeterli ve daha fazla erişilebilir olduğu, öğrenmeye dönük daha fazla fırsatın sunulduğu yeni bir öğrenme ortamına geçileceği belirtilmektedir. Bu durumun öğrenme ortamları açısından yedi anahtar değişikliğe yol açacağı bildirilmiştir. Bu değişiklikler şu şekildedir: a) mobil araçlar, işbirlikli öğrenme ortamları ile her yerden her zaman öğrenme fırsatları sunularak, kesintili öğrenmeden sürekli (yaşam boyu) öğrenmeye geçişin söz konusu olması b) her zaman her yerden ulaşılabilir bilgi ve bilgi kaynakları, eğitimcileri öğrenenlerin katılacağı ve paylaşımda bulunacağı kaynaklarla etkileşmelerine yöneltecek değişiklik yapmalarına zorlayacaktır. Dolayısıyla doğrudan içeriğin sunulması yerine içerikle etkileşime geçme önemli hale gelecektir. c) öğrenme ortamında bilgi miktarı giderek artacağı için, bilgiyi bulma yeteneği, birleştirme, doğru zaman ve doğru bağlamda gerekli olan bilgi ve öğrenme kaynaklarını sunma gibi yetenekler önem kazanacaktır. Dolayısıyla içerik taşıyıcılardan içerik düzenley-

icilerine geçiş söz konusu olacaktır (from content conveyors to content curators) d) bağlantıcı (connective) teknolojiler kurumların ölçeklerini yeniden düşünmelerini sağlayacak fırsatlar sunmaktadır. Kurumların sayıca çok olması (büyüklük) yerine Mooclar gibi küçük, kişiselleştirilmiş dersler sağlamaları gerekecektir. Bu durum tek bir ölçekte çalışmak yerine değişik ölçeklerde çalışmayı mümkün hale getirecektir e) metrikler, bilgi ve yeterlilik düzeylerini belirlemede daha fazla popülerlik kazanacaktır. Dolayısıyla derecelendirmelerden metriklere geçiş söz konusu olacaktır (from degrees to reputation metrics) f) büyük veri ve ileri düzey analitikler not verme yerine uzmanlaşma ve sürekli gelişim fırsatları sunmaktadır. Dolayısıyla notlandırmalardan sürekli geribildirim mekanizmalarına geçiş önem kazanacaktır g) projeye dayalı öğrenme gibi işbirlikli öğrenme alanları; işbirliği, mentörlük ve rehberliği geliştirmektedir. Bu açıdan sınıflardan işbirlikli öğrenme alanlarına geçiş söz konusu olacaktır.

Childress (2016), çalışmasında öğrenme teknolojilerinin ütopik geleceğine ilişkin; öğrenme teknolojilerinin yeteneğine bağlı olarak, dinamik, uyarlanabilir öğrenme ortamları sağlamak için kişiselleştirilmiş yaşamboyu öğrenme fırsatlarının yaygınlaşacağını ifade etmektedir. Bu kişiselleştirilmiş (akıllı) öğrenme ortamlarının da sanal öğrenme ağları, toplulukları, grup ve akran öğrenenleri ile destekleneceğini belirtmektedir. Bir öğrenenin dünyasının kişiselleştirilmiş, mobil, küresel olarak bağlantılı, çevresel bilince sahip, zengin bilgi içerikli, açık, sosyal ve işbirlikli olacağını öngörmektedir. Çalışmada belirtilen ana tema ve vizyonların öğrenme teknolojilerinin gelişimine yön verdiğini, bunun da öğrenme kurumlarını şekillendirdiğini ifade etmektedir. Ancak detaylı olarak geleceğe yönelik kesin öngörülerde bulunulmamıştır.

Elde edilen bir diğer çalışma ise Rothwell, Benscoter, King ve King (2016) tarafından hazırlanan "Öğrenme ve Öğretim Tasarımının Geleceğini Öngörme" adlı kitap bölümüdür. Bu çalışmanın konuyu diğerlerine göre daha kapsamlı ele aldığı ve daha belirgin söylemlerde bulunduğu ifade edilebilir. Çalışmada değinilen teknolojiler arasında benzeşim ve sanal gerçeklik, her zaman her yerden bilgi işleme (ubiquitous computing), mobil öğrenme, giyilebilir teknolojiler, oyunlaştırma, sosyal ve sanal işbirliği aracılığıyla ağa dayalı öğrenme, öğrenmenin kitlesel özelleştirilmesi (mass customization of learning), video tabanlı öğrenme, informal öğrenme, nörobilim araştırmaları yer almaktadır. Giyilebilir teknolojilerin benzeşim uygulamaları ile, öğrenenin beyin dalgalarının ölçülmesi veya nöronsal aktivitelerinin izlenerek hangi durumlarda duyusal tepkilerinin arttığının veya hızlandığının ortaya çıkarılabileceği, bu bilgilerin anında öğretmene (facilitator) gönderilebileceği ve öğretim tasarımının şekillendirilebileceği ifade edilmektedir. Çalışmada ayrıca ağa dayalı öğrenme ve sanal işbirliğinin gelecekte de öneminin devam edeceği, MOOC'lara daha fazla içeriğin ekleneceği, kurumların bireysel ve kurumsal ihtiyaçlarını karşılamak üzere MOOC'lara dahil olacağı, bu doğrultuda kurumların kendi içinde MOOC kavramını kopyalayacağı, özellikle binlerce çalışanın yer aldığı, büyük, küresel ölçekli kurumlarda iç ve dış öğretim personellerinin her bir kurumun ihtiyacına ilişkin ders ve içerik yaratabileceği belirtilmektedir (Rothwell vd., 2016).

Bu bulguların yanısıra 2017 yılında yüksek eğitime ilişkin olası öngörülerin yayınlandığı Horizon Report'un da değerlendirmeye katkı sağlayacağı düşünülebilir. Horizon Report (2017)'a göre, eğitim teknolojileri alanındaki önemli eğilimler şu şekildedir: uyarlanabilir öğrenme teknolojileri ve mobil öğrenme teknolojileri (1 veya daha az bir süre içinde), yeni nesil öğrenme yönetim sistemleri ve nesnelerin interneti (2-3 yıl

içinde), doğal kullanıcı arayüzleri ve yapay zeka (4-5 yıl içinde). Uyarlanabilir öğrenme teknolojileri öğrencinin öğrenme sürecindeki yetenek, performans gibi çeşitli verilerini analitikler aracılığıyla izleyerek, ona uygun içerik hazırlanmasını sağlayan dinamik bir sistem olarak ifade edilebilir. Öğrenci hareket ve etkinliklerini izlemede kampüs içi veya dışında nesnelerin internetinden faydalanılabilir. Böylece öğrencilerin belli bir davranışı ile ilişkili diğer faktörleri veya onların karar verme süreçleri, davranışlarının nedeni hakkında bilgi edinilebilir. Yapay zeka yardımıyla öğrenenin yazılı ödev veya gönderilerine anında geribildirim verilebilir veya yapay zekalı sanal öğretmenler ile öğrencilerin ifade ettikleri/etmek istedikleri algılanarak, yanıtları kontrol edilebilir, uygun geribildirimler verilebilir, video dersleri sırasında videoyu durdurarak öğrencilere soru sorulabilir, öğrencilerin ders sırasındaki yüz veya duruş ifadeleri algılanabilir, kısaca bir öğretmenin yapabildiği pek çok etkinlik sanal öğretmenler yardımıyla yürütülebilir. Fiziksel ve bilişsel yetersizliği olan öğrencilerin öğrenmelerine yardımcı olabilecek arayüzler geliştirilebilir.

Elde edilen bir diğer çalışma ise Mutlu (2019) tarafından hazırlanan "Bir Öğrenme Teknolojisi Olarak Eksokorteks" adlı kitap bölümüdür. Bu çalışmanın doğrudan uzaktan eğitim ile ilişkili olması ve her üç gelecek teknoloji dönemlerine ilişkin önerdiği uygulama ve işleyişten bahsetmesi nedeniyle önem taşıdığı düşünülebilir.

Mutlu (2019), eksokorteks teknolojisini, 2013 yılında ekibi ile başlattığı öğrenme deneyimleri yönetimi yaklaşımında ele alarak bu teknolojiyi, yaşam boyu öğrenme süreçlerinde uygulanması, işleyişi ve olası sonuçlarına yönelik olmak üzere, üç farklı süreçte (birkaç yıl, 10 yıl, 20 yıl içinde olmak üzere) incelemektedir. Öğrenme deneyimleri yönetimi yaklaşımı, a) yaşam deneyimlerini yakalama b) yaşam deneyimlerini yorumlama c) yaşam deneyimlerinden bağlam elde etme d) yaşam deneyimlerini anlamlandırma ve e) yaşam deneyimlerini planlama, izleme, kontrol etme ve değerlendirme olmak üzere beş farklı aşamadan oluşan ve bu aşamalar ile kişilerin öğrenme deneyimlerini yönetmelerini sağlayan bir yaklaşımdır. Kısaca belirtilecek olursa, yaşam deneyimlerini yakalama aşamasında farklı aktif/pasif yaşam kayıt cihazları gibi farklı algılayıcılar yardımıyla (yaşam kayıt kamerası, bilgisayar ekran kayıtları, bilgisayar web kamerası, kalp atış algılayıcısı, hareket ve EEG algılayıcısı) kişilerin günlük yaşamlarına ilişkin deneyimleri yakalanarak kaydedilmekte ve bu etkinliklere yeniden erişme, etkinlikler arasında arama yapabilme mümkün olmaktadır. Sonraki aşamada ise elde edilen pek çok deneyimin ilişkili olabileceği bağlamlar belirlenmektedir. Böylece deneyime dayalı bir ontoloji oluşturulmakta (deneyim ontolojisi) ve bu ontoloji üzerinde bağlam-deneyim semantik ağı geliştirilebilmektedir. Dolayısıyla yaşam deneyimleri, bu deneyimlere eşlik eden yer, insan, olay, tutum, duygu, düşünce gibi farklı bağlamlara ayrılarak tanımlanmakta ve ortaya çıkan bu bağlam-deneyim ağı üzerinde deneyimlere erişmek, onları sınıflandırmak, sorgulamak ve deneyimleri anlamlandırmak mümkün hale gelmektedir. Bu aşamadan sonra ise elde edilen veri yapılarının kullanılarak öğrenme deneyimlerinin anlaşılması ve yönetilmesi sağlanmaktadır. Öğrenme deneyimini anlamlandırma aşaması, kişiye geçmişteki herhangi bir yaşam deneyimini görselleştirerek, onunla ilgili tüm bağlantıları değerlendirmesini sağlamaktadır. Diğer bir deyişle kullanıcı, kişisel deneyim havuzundaki deneyimleri yeniden canlandırmakta, içerik-deneyim ağlarını, bağlam ağlarını ve bu ağlar içerisindeki dallanmaları (deneyim ağacını) görüntüleyebilmekte, semantik sorgulamalar yaparak, bağlama ve içeriğe dayalı deneyim portfolyosu ya da etkinlikler

oluşturabilmektedir. Son aşamada ise incelenen, tespit edilen öğrenme deneyimlerine göre kişinin kendi öğrenmelerini planlaması, izlemesi, denetlemesi ve değerlendirmesi mümkün olmaktadır.

Çalışmada eksokorteks teknolojisinin öğrenme deneyimleri yönetiminde farklı zaman aralıklarına yönelik, farklı aşamalarda kullanılabileceği belirtilmektedir. Buna ilişkin, öğrenme deneyimlerinin birkaç yıl içinde karma gerçeklik veya artırılmış gerçeklik gözlükleriyle yakalanabileceği, EEG okuyucularla duygusal, fiziksel durum ve deneyimlere ilişkin pek çok verinin de anlık yakalanıp dahil edilebileceği ve bu verilerin 4,5-5 G ile kablosuz olarak bir eksokortekse anında aktarılabileceği ifade edilmektedir. EEG okuyuculu holografik gözlüklerdeki sözel ya da görsel komutlar yazıya dönüştürülerek yazma komutları verilebileceği ve bu komutların eksokortekse gönderilebileceği, eksokortekste elde edilen sonuçların bir hologram içinde holografik gözlüklere yansıtılabileceği belirtilmiştir. Ayrıca bulut üzerinde çalışan eksokorteks içeriklerinin, etkinlik belirleme algoritmaları kullanılarak anlık otomatik olarak etiketlenebileceği, bu etiketlerin kullanılarak etkinliklerin otomatik olarak sınıflandırılabileceği de ifade edilmektedir. İlgili etkinlikleri kapsayan episodlar ve bu episodları kapsayan hikayelerin otomatik olarak belirlenebileceği, deneyimlere bağlı olarak episod ve hikaye ağaçları güncellenebileceği, deneyimlerin anlık yorumlanmasına bağlı olarak analitik sonuçların herhangi bir komut gerekmeksizin eksokorteksten holografik gözlüklere bir hologram içinde yansıtılabileceği de ifade edilmiştir. Bulut üzerinde çalışan eksokorteksin bileşenleri algılayıcılardan (sensörlerden) gelen verilerin bağlamlarını, bağlam belirleme algoritmalarını çalıştırarak belirleyerek bağlam ontolojilerine yerleştirebilecektir. Bağlam belirleme analitiklerinin raporları anlık yansıtılabilecek, zaman zaman kullanıcı bunlara erişerek bağlam ağaçlarını yeniden düzenleyebilecektir. Deneyim analitik sonuçları, etkinlik raporları eksokortekse yansıtılabilecek ve eksokorteksten de bir hologram içinde gözlüklere yansıtılabilecektir.

Çalışmada ayrıca eksokorteks teknolojisinin öğrenme deneyimi yönetimi yaklaşımında 10 yıl içinde uygulanmasına yönelik olarak şu öngörülerde bulunulmuştur: Temelde beyin-bilgisayar arayüzü aracılığıyla düşünce hızında bilgisayarlarla iletişim kurulabilir ve elde edilecek sonuçlar sanal retinal projeksiyon aracılığıyla doğrudan retina içine yansıtılabilir. Ayrıca herhangi bir ortam içerisinde gerçekleşen tüm konuşmalar akıllı kulaklıklar yardımıyla yakalanabilir, kişisel yapay zeka ile deneyimlere dayalı rehberlik yapılabilir, resim, nesne ve ses tanıma daha hızlı ve doğru bir şekilde gerçekleştirilebilir, deneyimlerin yanı sıra düşünceler yakalanarak, deneyimler ve elde edilen tüm sonuçlar karma gerçeklik ortamında sanal retinal projeksiyon ile görüntülenebilir. Eksokorteks teknolojisinin uygulanmasına ilişkin 20 yıla yönelik öngörüler arasında ise, beyin-beyin arayüzleri ile deneyim ve duygu paylaşımının mümkün olabileceği, zihinsel iletişimin gelişeceği, beyin implantlarının tüm görme, duyma, dokunma, tat alma ve koku gibi duyuların doğrudan yakalayabileceği, geçmiş deneyimlerin beyindeki implant hafızalarda veya zihinsel iletişim aracılığıyla beyin dışında saklanabileceği, elde edilen sonuçların doğrudan beyin içinde resim ve ses olarak canlandırılabileceği, diğer kişilerin deneyim ve duygularından faydalanılabileceği, deneyimleri anlamlandırma ve yönetmenin sadece düşünerek gerçekleştirilebileceği, kişilerin eksokorteksle tartışarak, geleceklerini planlayabileceği ifade edilmiştir.

TARTIŞMA VE SONUÇ

Elde edilen bulgular doğrultusunda uzaktan eğitimin geleceğine ilişkin varsayımlar şu şekilde ifade edilebilir:

Günümüzde sınırdaki teknolojiler içinde yer alan sanal gerçeklik ve artırılmış gerçeklik teknolojilerinin eğitim alanında farklı uygulamaları yer almaktadır. 3 boyutlu holografik uygulamaların online tıp eğitiminde kullanıldığı ve değerlendirildiği çalışmalar mevcuttur (Anıl Korulkar ve Lobo (2017); Ghuloum (2010); Kalansooriya vd. (2015)). Bu doğrultuda yakın gelecekte hologram televizyonların uzaktan eğitimde kullanılabileceği öngörülebilir. Çoklu, şeffaf, cam yüzeylerin kullanılacağı varsayımına dayanarak, yakın gelecekte şu an kullanılan akıllı telefon gibi araçların da hologram projektörlerine dönüşeceği, dolayısıyla uzaktan eğitim uygulamalarının bu açıdan da çeşitlenebileceği düşünülebilir. Yapay zeka uygulamaları ile öğrenenlerin mevcut durum ve özellikleri incelenerek, akıllı kişisel yardımcılar ile neye ihtiyaç duydukları, en uygun öğrenme tasarımının ne olacağı anlık belirlenerek, uygun bir tasarım ve içerik derlenerek öğrenene sunulabilir. Öğrenme sürecine pek çok akıllı nesne dahil edilerek, günlük yaşamı içerisinde öğrenenin o nesne ile deneyim süreçleri depolanarak, diğer akıllı öğrenme nesneleri ile bilgi alışverişinde bulunması sağlanabilir. Böylece öğrenen bir akıllı yüzey üzerinde geçirdiği öğrenme sürecine ilişkin verileri bir başka akıllı yüzey üzerinde öğrenmeye başlamadan önce, yapılan çeşitli analizler doğrultusunda sonuçları yüzey üzerinde bildirim olarak görebilir. Nesnelerin interneti ile bilgi dağıtılırken, yapay zeka uygulamaları ile anlık öğrenme tasarımları yapılarak öğrenene her an her yerden sunulabilir. Anlık eş zamanlı çeviri uygulamaları ile farklı kültürlerden öğrenenin dil engeli aşılarak, öğrenme ortamlarında birlikte eş zamanlı-eş zamansız çeşitli öğrenme deneyimleri edinmeleri sağlanabilir. Beyin üzerine yapılan çalışmalar doğrultusunda, belirlenen öğrenme deneyimlerinin doğrudan öğrenenin beynine aktarılması mümkün olabilir. Öğrenen istediği herhangi bir araç üzerinden belirlediği öğrenme deneyiminin yüklenmesini isteyerek, öğrenme gerçekleşmiş hale gelebilir. Bu teknolojik gelişim sürecinde bireyler günümüzde işbirliği ile bir projeyi gerçekleştiriyorken, ilgili durumda sadece beyin-zihin işbirliği yaparak ortak hareket edebilir, proje ortaya koyabilirler. Günümüzde örneğin farklı coğrafi bölgelerin öğrencilere öğretilmesinde sanal gerçeklik uygulamalarından yararlanılabiliyorken, beyin-zihin teknolojilerinin gelişmesi ile öğrenenin beynine doğrudan sanal gerçeklik yüklenerek o deneyimin içinde bulunması sağlanabilir. Akıllı kontakt lenslerin kullanılmasına bağlı olarak karma gerçeklik uygulamalarının oyunlaştırma veya ders malzemelerinin oluşturulması/deneyimlenmesi sürecinde yararlanılabileceği düşünülebilir. Her iki yüzey etkileşimine sahip ekranlar ile (kişinin çevresinde yer alan herhangi bir akıllı nesne olabilir) farklı coğrafyalardaki/gerçekliklerdeki kişiler ile eşzamanlı etkinlikler gerçekleştirilebilir. Eksokorteks uygulamaları farklı öğrenme süreç ve yaklaşımlarına dahil edilebilir.

Beyin/zihin çalışmalarındaki ilerlemelere bağlı olarak zihinsel iletişimin önem kazanacağı, pek çok uygulamanın ileri düzey yapay zeka uygulamaları ile birlikte hareket edebileceği düşünüldüğünde, uzaktan öğrenmenin değerlendirilmesinde sorunlar meydana gelebileceği öngörülebilir. Çünkü ilgili bilginin eğer beyne doğrudan aktarılması mümkün olursa, bunun öğrenen tarafından zihinsel süreçler gerçekleştirilerek "öğrenilmeyeceğinden" değerlendirilmesine de ihtiyaç kalmayacaktır. Böyle bir ortamda ise artık ölçme-değerlendirme yaklaşımı yerine işbirliği ile diğer zekaların

da kullanılarak (diğer kişilerin ve yapay zekaların) ürün/düşünce ortaya konması önem kazanacaktır. Bu açıdan alanyazında da sık sık vurgulandığı gibi işbirliğinin ve günümüzde 21. yüzyıl becerileri olarak adlandırılan özellikler arasında işbirliğine yönelik çalışmanın vurgulanmasının da anlamlı olduğu düşünülebilir.

Uzaktan öğrenmenin geleceğine ilişkin varsayımlarda bulunurken, sadece teknolojilerin uzaktan eğitim ve öğretim tasarımı ile olası etki ve ilişkileri bağlamında değerlendirmek eksik olacaktır. Çünkü geleceğin öğrenenlerinin de hangi özelliklere sahip olacağı, nelere ne zaman ne ölçüde ihtiyaç duyacağı, beklenti ve ihtiyaçlarının neler olacağının da belirlenmesi gerekmektedir. Bu aynı zamanda olası teknolojilerin adaptasyonu ve benimsenmesi sürecini de etkileyecek, öğrenen ihtiyaçlarına uygun öğretim tasarımı ve süreçlerine de doğrudan etki edecektir. Dolayısıyla "gelecekteki öğrenene" ilişkin de mevcut eğilimlerin tespit edilerek öngörülerde bulunulması gerekmektedir. Aynı zamanda olası teknolojilerin öğrenme tasarımı sürecinin her bir aşamasına etki edeceği dikkate alınarak, farklı yansımalarının olacağı unutulmamalıdır.

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Bireyselleştirilmiş Testlerin, Bireyselleştirilmiş Öğrenme Açısından Önemi

Murat Doğan ŞAHİN[1], Eren Can AYBEK[2]

Özet

Öğrenme kaynakları ve bu kaynaklara ulaşım yolları hızla artarken, bunların bireye en etkili şekilde sunumuna yönelik çabalar bireyselleştirilmiş veya bireye uyarlanmış uygulamaların önünü açmıştır. Öğrenme ortamlarının bireyin öğrenme ihtiyaçlarına uygun olan tasarlandığı durumlarda, ölçme ve değerlendirme süreçlerinin de bireyselleştirilmesi gerekliliği oldukça doğal bir ihtiyaçtır. Öyle ki gerek öğrenmenin, gerekse ölçme ve değerlendirmenin bireyselleştirilmesi durumunda öğrenen kendisine en uygun içeriği aldığı gibi -ister maksimum performans ister tipik davranışları ölçülüyor olsun- sınavlarda da kendisine en uygun maddelerle karşılaşabilecektir. Bu sayede öğrenme ortamı bir bütün olarak bireyselleştirilmiş olacak, ayrıca ölçme araçlarının kullanışlılığı artırılabilecektir. İlk bireysel ölçme aracı Binet & Simon (1905) tarafından geliştirilen zeka testi olarak görülmektedir. Testin uygulanması ise bir uzmanın kontrolünde yürütülmüştür. Bu testteki bireyselleştirme yaklaşımı, ortaya çıktığı yüz yılın ilk yarısında uygulanmasının güçlüğü ve maliyeti nedeniyle yerini daha hızlı ve düşük maliyetli veri toplama araçları olan standart ölçme araçlarına bırakmıştır. Günümüzde ise temeli 1930'lara dayanan, Lord & Novick (1968) tarafından şekillendirilen Madde Tepki Kuramı, bireyin yetenek düzeyine göre bir maddeye hangi yanıtı verebileceğinin olasılığı kestirilebilmekte ve kuramın bu temel özelliği sayesinde, bireyin yetenek düzeyine uygun maddelerin belirli bir algoritma temelinde uygulanmasına dayalı bilgisayarda bireyselleştirilmiş testlerin hızlı ve efektif uygulamaları mümkün hale gelmektedir. Ayrıca bilişsel tanı modelleriyle birlikte, bireyin güçlü ve zayıf yönleri hakkında daha detaylı bilgiler alınabilmektedir. Bu çalışmanın amacıysa, bireyselleştirilmiş öğrenmede bireyselleştirilmiş testlerin kullanımını alan yazına dayalı olarak ortaya koyacak bir değerlendirme yapmaktır.

Anahtar Kelimeler: *Bilgisayarda Bireyselleştirilmiş Testler, Madde Tepki Kuramı, Bireyselleştirilmiş Öğrenme*

GİRİŞ

Öğretim sürecinin etkinliğinin artırılması hususunda ölçme ve değerlendirme faaliyetleri kritik önem taşır. Bireyin, sürece konu olan bilişsel, duyuşsal ya da devinsel özelliklerinin süreç öncesinde, sırasında ve sonrasında değerlendirilmesi; öğrenenin ve öğretim sürecinin ihtiyaçlarına yönelik olarak öğrenme süreçlerinin ve içeriklerinin yapılandırılmasını sağlar. İster tanıma, ister süreç, isterse de değer biçmeye yönelik olsun, tüm değerlendirme işlemlerinde ölçme biliminin temel amacı ölçme kesinliğini (measurement accuracy) artırmak, bir başka ifadeyke daha az soru kullanarak daha hatasız kestirimler yapabilmektir. Ancak geleneksel ölçme kuramında (Klasik Test

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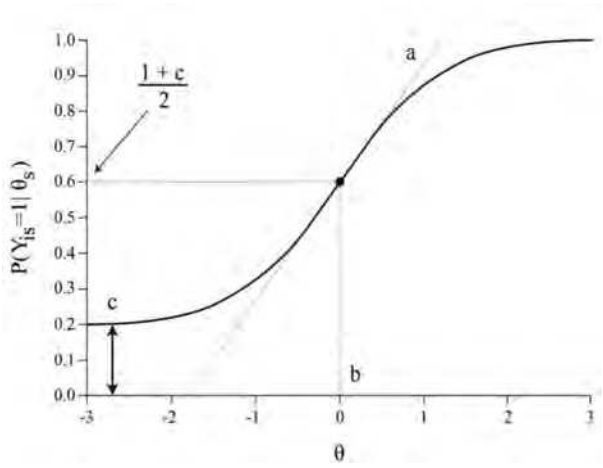
Kuramı-KTK) güvenirlik, yani ölçme sonuçlarına karışan hatasızlık, testte yer alan madde sayısıyla doğru orantılıdır (Baykul, 2000). Bu nedenle geleneksel kağıt-kalem testlerinde geniş bir yetenek skalasına hitap edebilecek düzeyde madde sayısına sahip çok sayıda madde olması beklenir. Bu maddeler de güçlük düzeylerine göre genel olarak bir normal dağılım gösterirler; orta yetenek düzeyi etrafında dağılım gösteren, uçlara, yani düşük ve yüksek yetenek düzeyine gittikçe soru sayısının azaldığı bir dağılım. Bu durum, orta yetenek düzeyenindeki kestirimler için kestirilen standart hataların düşükken, yetenek skalasının iki ucuna gittikçe standart hata düzeyinin arttışına neden olmaktadır (Hambeleton & Swaminathan, 1985). Böylece yetenek düzeyleri farklı bireyler, test ile kestirilmesi amaçlanan yetenek düzeylerine uygun olmayan çok sayıda maddeyi yanıtlamak durumunda kalmaktadırlar. Bu durum ise ölçme sonuçlarına karışan hata miktarını artırmaktadır. Eğer bireylerin testle ölçülmek istenilen yetenek düzeylerine uygun madde kullanılması söz konusu olursa, daha az soru ile daha güvenilir ölçme sonuçları elde edilecek, yani ölçme kesinliği artırılacaktır. Bireyin yetenek düzeyine uygun madde yöneltilebilmesi, bu düzeyin bilinmesi ile mümkündür. Peki, bireyin test ile ölçmek istediğimiz yetenek düzeyini zaten biliyorsak, neden test uyguluyoruz? Bu soru, literatürde "test deseni ikilemi" adıyla kendine yer bulur.

Testlerin, Bireyin Ölçülmek İstenilen Yetenek Düzeyine Uygun Olarak Tasarımı

Uygulanacak testin bireylerin test ile ölçülmek istenen yetenek düzeylerine uygun olması, her yanıtlanan madde sonrasında birey için geçici bir yetenek kestirimi yapılmasına ve bu kestirime göre düzeyine uygun maddeler yöneltilmesine dayalı bir süreç ile sağlanır. Bunun için önceden uygulanmış ve hangi maddenin yetenek düzeyi için uygun olduğu bilinen, yani kalibre edilmiş bir madde havuzuna ihtiyaç duyulur. Ancak bu konuda başka bir sıkıntı ortaya çıkmaktadır: Geleneksel test kuramı olan KTK, maddelere ilişkin özelliklerin (madde parametreleri) gruptan bağımsız elde edilebildiği varsayımını taşımaz; bir başka ifadeyle uygulanan maddeler farklı gruplarda farklı özellikler gösterebileceklerdir. KTK'nın bu sınırlılığı, daha sofistike bir ölçme teorisi olan Madde Tepki Kuramı (MTK)'nın kullanımıyla çözüme ulaşır. MTK'da bireyin yetenek düzeyi ile maddenin güçlük düzeyini aynı ölçek düzeyinde yer alması, bireyselleştirilmiş testlerin uygulanabilirliğinin sağlanması açısından son derece önemlidir.

Madde Tepki Kuramı

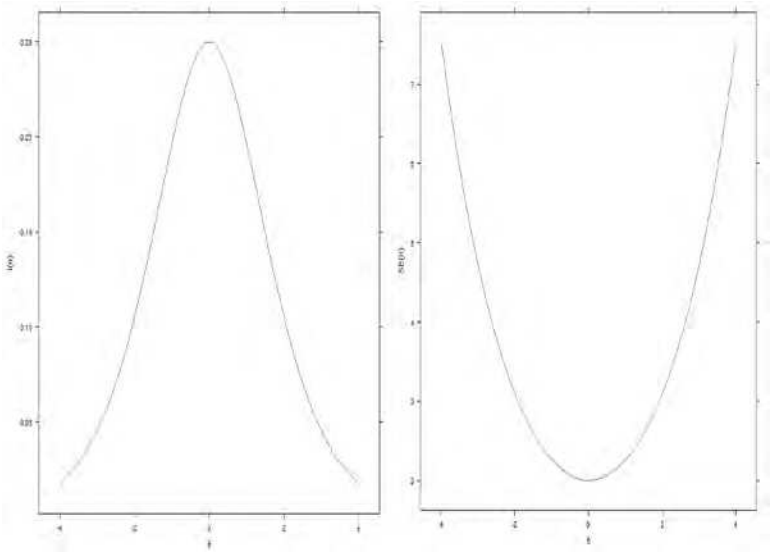
MTK'ya ilişkin çalışmalar 1930'lu yıllara dayanmakla birlikte, daha çok 1968 yılında Lord & Novick tarafından kaleme alınan "Statistical Theories of Mental Test Scores" kitabıyla başladığı düşünülür. MTK'da iki temel varsayım söz konusudur. Özel bir şekle sahip olan Madde Karakteristik Eğrisi (MKE) ve Yerel Bağımsızlık (Embretson & Reise, 2000). MKE, bireyin bir maddeyi doğru yanıtlama ihtimalini yeteneğin monoton-artan bir fonksiyonu olarak ortaya koyan "S" şeklinde bir grafiktir. Bu grafik, bireyin yeteneğindeki değişimin maddeyi yanıtlama olasılığına etkisini ortaya koyar. Bu grafiğe dayalı olarak bir maddenin, yetenek skalasının herhangi bir noktasında yanıtlanma olasılığının ne olduğuna cevap bulunabilir. Aşağıda ayırt edicilik (a), güçlük (b) ve şans (c) parametreleri olmak üzere üç parametreli modele göre kalibre edilmiş bir maddeye ait MKE yer almaktadır.



Şekil 1. **Üç parametreli modele göre kalibre edilmiş hipotetik bir maddeye ait MKE**

Grafikte yatay eksen madde güçlüğü ile bireyin yetenek düzeyinin yer aldığı ölçektir. MKE'nin eğiminin en dik olduğu noktanın yatay eksendeki izdüşümü güçlüğü, bu noktayı kesen izafi doğrunun eğimi ise ayırt ediciliği verir. Şans parametresi, MKE'nin dikey ekseni kestiği noktası, yani başlangıç noktasıdır ve maddenin şans ile yanıtlanma olasılığını gösterir.

MKE'ye dayalı olarak bir Madde Bilgi Fonksiyonu (MBF) oluşturmak mümkündür. Bu fonksiyon ile maddenin hangi yetenek düzeyinde ne ölçüde bilgi verdiği görülür.



Şekil 2. **Bir maddeye ilişkin bilgi fonksiyonu ve standart hata grafikleri**

Yukarıda görülen grafiklerden ilki bir maddenin MKE'sine dayalı olarak oluşturulan bilgi fonksiyon grafiğidir. Yanında ise standart hata grafiği yer alır. Grafikler incelendiğinde maddenin verdiği bilgi ile standart hata düzeyi arasında ters yönde bir ilişki olduğu görülmektedir.

MTK'nın ölçme bilimine getirdiği tüm bu avantajlar, testlerin bireylerin yetenek düzeyine uygun biçimde adapte edilebilmesini sağlamaktadır. Bilgisayar bilimindeki gelişmeler sayesinde de bu testler bilgisayar ortamında uygulanmaya başlanmıştır. Literatürde bu testler kendine Bilgisayarda Bireyselleştirilmiş Testler (BBT)/Compterized Adaptive Testing (CAT) adıyla yer bulmuştur.

Bilgisayarda Bireyselleştirilmiş Testler (BBT)

İlk örneği Alfred-Binet (1905)'in zeka testi uygulamasında görülen bireyselletirilmiş testler, günümüzde MTK temelli sofistike uygulamaları ile kendilerine bilgisayar ortamında yer bulabilmektedirler. Bilgiyarların ulaştığı yüksek bellek ve işlemci kapasitesi sayesinde MTK'nın karmaşık yapısı ve bireyselletirilmiş testlerin çok bileşenli yapısına rağmen oldukça verimli uygulamalar yapılabilmektedir. Bir BBT uygulamasında yer alan temel bileşenler şöyle sıranabilir (Thompson & Weiss, 2011):

- Kalibre edilmiş bir madde havuzu,
- Teste başlama kuralı,
- Madde seçim yöntemi,
- Yetenek kestirim yöntemi,
- Sonlandırma kuralı

Buna dayalı olarak bir BBT süreci için öncelikle MTK'nın varsayımlarına uygun olarak kalibre edilmiş bir madde havuzuna ihtiyaç duyulduğu söylenebilir. Testin ilk adımı ise, sınavı alacak bireye yöneltilecek ilk maddenin belirlenmesidir. Buna, başlatma kuralı denir. İlk maddenin yanıtlanması sonrası birey için geçici bir yetenek kestirimi yapılır ve bu kestirim baz alınarak belirli bir kurala göre madde havuzundan yeni bir madde daha seçilir. Bu döngü, önceden belirlenmiş bir sonlandırma kuralı sağlanıncaya dek devam eder. Tüm bu bileşenler, BBT algoritmasını oluşturur. Aşağıdaki şekilde bu süreç özetlenmiştir.

Şekil 3. BBT Uygulamalarının Akış Şeması

Yapılan bir çok çalışma, bireye uyarlanmış öğrenme içeriklerinin öğrenme çıktıları açısından geleneksel yöntemlere göre daha iyi sonuçlar verdiğini göstermektedir (Pashler, McDaniel, Rohrer, & Bjork, 2008). Özellikle bireyselleştirilmiş öğrenme sistemlerinin daha efektif kullanılması açısından da BBT uygulamalarının kritik önem taşıdığı söylenebilir.

YÖNTEM

Öğrenme kaynakları ve bu kaynaklara ulaşım yolları hızla artarken, bunların bireye en etkili şekilde sunumuna yönelik çabalar bireyselleştirilmiş veya bireye uyarlanmış uygulamaların önünü açmıştır. Bireyselleştirilmiş öğrenme ortamlarında, ölçme ve değerlendirme süreçlerinin de bireyselleştirilmesi gerekliliği oldukça doğal bir ihtiyaçtır. Böylece öğrenen kendisine en uygun içeriği aldığı gibi -ister maksimum performans ister tipik davranışları ölçülüyor olsun- kendisine en uygun maddelerle karşılaşabilecektir. Bu sayede öğrenme ortamı bir bütün olarak bireyselleştirilmiş olacak, ayrıca ölçme araçlarının kullanışlılığı artırılabilecektir. Bu çalışmanın amacıysa, bireyselleştirilmiş öğrenmede bireyselleştirilmiş testlerin kullanımını alanyazına dayalı olarak ortaya koyacak bir değerlendirme yapmaktır. Bu kapsamda bireyselleştirilmiş öğrenme ortamlarının verimliliğinin artırılması bağlamında Bilgisayarda Bireyselleştirilmiş Testlerin kullanımı örnkelerle tartışılacaktır.

TARTIŞMA VE SONUÇ

Teknolojinin gelişimiyle yaşamın her alanında bireyin ihtiyaçlarının temel alındığı bir dönemde olduğumuz düşünüldüğünde, öğretme-öğrenme süreçlerinin de bu doğrultuda şekillenmesi kaçınılmazdır. Araştırma sonucunda ölçme değerlendirme uygulamalarının bu süreçlerin etkinliğinin artırılması hususundaki rolünün daha net biçimde ortaya konulacağı değerlendirilmekte, buna bağlı olarak da öğrenmenin ve ölçme-değerlendirmenin bireyselleştirilmesinin geleceği ile somut önerilerde bulunulması hedeflenmektedir.

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Geleceğin Geleceği: Transhuman Nasıl Öğrenecek?
Future of Future: How to Transhuman Learn?

Serap UĞUR[1], Gülsün MERİÇ[2]

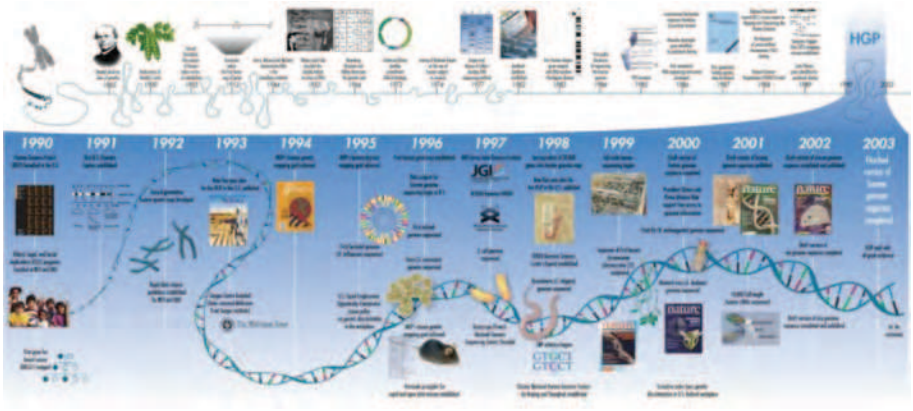
Özet

Son yıllarda yapılan genetik araştırmalar ile insanoğlunun beyin haritası çıkarılmış, gen şemaları oluşturulmuş, hatta beyinler arası tecrübe aktarımı sağlanmıştır. İnsan beynini geliştirecek, beyinde oluşan hasarları geri çevirerek daha iyi hale getirecek çiplerin geliştirildiği bu dönemden sonrası için insanın dönüşümünün geleceği nokta ve o noktada öğrenme süreçlerinde meydana gelecek değişikliklere hazır olmak ihtiyacı oluşmuştur. Bu araştırmada teknoloji ile gelişen ve dönüşen insanın öğrenmesi, öğrenme süreçlerini etkileyecek çalışmalar ve öğrenmenin yeni formunun belirlenmesine yönelik bir durum çalışması yapılmıştır.

Anahtar Kelimeler: *Transhuman, Transhumanism, Learn, Future, Transhümanizm, Öğrenme, Gelecek.*

GİRİŞ

ABD ile birlikte Çin, Fransa, Almanya, İngiltere ve Japonya'nın da dahil olduğu 6 ülkeden 20 farklı merkezin katkıda bulunduğu uluslararası bir proje olan Human Genome Project (Genomelegacy, 2017) ile insan genomunun dizilimi ortaya çıkarılmıştır. 2003-2004 yıllarında tamamlandığı duyurulan projenin sonucunda, dizisi ortaya çıkarılan insan genomunun belli bir kişi ya da kuruluş tarafından patentlenmesi, Bermuda Anlaşması ile engellenmiş ve sonuçlar genbank adı verilen bir siteden halka açılmıştır. Bugün isteyen herkes bu diziye buradan erişebilir (Benson vd, 1999; Kent vd, 2002).



Şekil 1. Human Genome Project

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Tamamlanan bu projenin ardından 2016 yılında yazılan bir makale ile Human-Genome Write'ın başladığı ve bu projenin halkın katılımı ile başından itibaren etik, yasal ve sosyal çıkarımların (ELSI) dikkate alınmasının gerektiğini açıklamışlardır (Boeke vd, 2002). Projenin sınırlı sayıda genetikçinin davet edildiği kapalı bir oturumda görüşülerek ilan edilmesinin yol açtığı tepkiler hala sürmekte… Ayrıca "özel tasarım insan" uygulamalarına yol açabileceği yolundaki korkular ve dile getirilebilecek etik, sosyal ve hukuksal itirazlar da akıllardaki soru işaretleri...

Amerika Ulusal Sağlık Enstitüsü tarafından 40 milyon dolarlık fon ayrılan İnsan Beynini Haritalandırma Projesi (Human Connectome Project- HCP), beynin yapısı ile fonksiyonu arasındaki ilişkiyi keşfetmeye çalışmaktadır (Van Essen vd, 2011). Proje iki konsorsiyumla yürütülmektedir. Bunlardan biri WU-Minn konsorsiyumu (üyeleri; Washington Ünicersitesi& Minnesota Üniversitesi), diğeri ise MGH/Harvard-UCLA konsorsiyumudur (üyeleri; Harvard Üniv. & Kaliforniya L.A. Üniv. & Massachusetts General Hospital). WU-Minnkonsorsiyumu projeyi makro-skalada incelemekte ve daha çok fonksiyon-yapı ilişkisi üzerinde durmaktadır. MGH/Harvar-UCLA konsorsiyumu ise daha çok projede kullanılan araçları geliştirme görevini üstlenmektedir. Bu proje için biraraya gelen ekipler, kendilerini sınırlayan problemleri bir bir aşarak, genetik olarak bağlantılı 1200 insanı bu yeni teknoloji ile taramadan geçirmektir.

Şekil 2. Human Connectome Project

Projenin araştırmacılarından biri olan Kamil Uğurbil yaptıkları çalışmayı; "Projenin bize bakan yüzünde üzerimize düşen sorumluluk önceden ulaşılması mümkün görünmeyen verileri elde edip beynin bağlantısal şablonunu oluşturacak bir veri tabanı üretmek ve bu veri tabanından istenilen bilgilere kolayca ulaşılmasını sağlayacak araçlar geliştirmektir." şeklinde özetlemektedir (Endustri 4.0, 2019). Essen, Ugurbil ve diğerleri (2013), çalışmalarını insanın geleceğinin haritası olarak özetlemektedir.

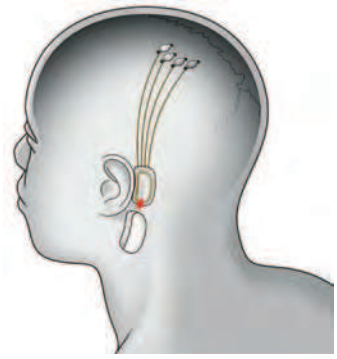
HRL Laboratuvarları ise beyne bilgi yüklemenin yolunu buldukları duyurmuştur. Laboratuvarın bilim adamları, gerçekçi bir uçuş simülatöründe uçak kullanmakta olan usta bir pilotun beyninden gelen elektrik sinyallerini aynı simülatörde çalışmakta olan çaylak pilotların beynine aktardıklarını açıklamışlardır (Dvorsky, 2016). Alan uzmanları, bu beyin stimülasyonu sürecinin araç sürmeyi öğrenme, yeni bir dil öğrenme ya da sınavlara hazırlanma gibi amaçlar için de kullanılabileceğini belirtmektedir (Chambers'dan akt: Dvorsky, 2016).

"Dr. Matthew Philips, "Sistemimiz, kendi alanında bir ilk. Bu bir beyin stimülasyonu sistemi." diyerek sistemin nasıl çalıştığını kabaca özetlemektedir. "Sistemimizin yaptığı şey, beynin belirli bölgeleri siz öğrenme sürecindeyken hedefleyerek geliştirmek. Kullandığımız yöntem aslında oldukça eski. Antik Mısır'da 4000 yıl önce elektrik balığı kullanılarak beyin uyarılıyor ve acı azaltılıyordu." (Choe vd, 2016).

Hafızanın genetik aktarımı ile ilgili çalışmalar da yapılmaktadır. Bununla ilgili olarak yapılan bir çalışmada deniz salyangozuna elektrik verildiği sırada bir telin dokunuşuna tepki gösteren diğer deniz salyangozlarına RNA'yı aktarmayı başaran araştırmacılar, anıların fiziksel olarak enjeksiyonla aktarılabileceği sonucuna ulaştıklarını açıklamışlardır (Bedecarrats, 2018).

İnsan beyni ne analog, ne dijital; ama beyin hücrelerimiz her ikisine benzer şekilde çalışmakta… Gelecekte DNA ve RNA ile çalışan genetik (organik) bilgisayarlar az enerji tüketerek hızlı işlem yapabilir. Aynı zamanda organik bilgisayarlar insan beyni gibi ıslak donanım sınıfına girebilir. Robotbilimciler, insan gibi düşünen robotlar yapmak için insan beynine benzeyen organik işlemciler kullanmamız gerektiğini düşündüklerini belirtmektedir.

Elon Musk 18 Temmuz 2019 akşamı canlı internet yayını ile Neuralink şirketinin devrimsel teknolojisi olan insan beynini bilgisayar sistemlerine ve yapay zekaya bağlayacak dijital arayüzlerini açıklamıştır. Neuralink, bugün felçli hastalara hareket kabiliyeti kazandırmak için kullanılan beyin çiplerinin daha gelişmiş versiyonlarını tasarlamaktadır. Özellikle beyin rahatsızlığı olan bireylerin tedavisi amacıyla geliştirildiği vurgulanan bu biyonik çiplerin 2020 yılından itibaren insanlı klinik deneylerde kullanılması planlanmaktadır (Demircan, 2019). Neuralink ile biyonik-sibernetik beyinli insanların gerçek olması ve toplumda transhuman olarak literatürde yer bulan dönüşmüş insanın yer bulması kaçınılmaz olacaktır.



Şekil 3. **Neuralink Çip Sistemi**

Neuralink tarafından geliştirilen ve kafatası delinerek beyne enjekte edilecek olan dijital sinir ağları (neural lace veya sinir danteli) biyonik kontrol çipleriyle çalışacaktır. Görme ve işitme engeline, yitirilen kas kontrolüne, yaşlanmaya bağlı hafıza kaybına, kronik depresyon gibi psikolojik rahatsızlıklara, şiddet mağdurları gibi birçok hastaya ve hastalığa yönelik iyileştirici araçlar olarak kullanılması planlanan çipler, telepatik internet aracılığıyla çalışacaktır (Demircan, 2019).

İnsanlığı Nasıl Bir Gelecek Bekliyor?

More (2013) transhumanizmi, var olan insan formunun ötesinde zeki yaşamın daha ileri düzeyde sürdürülebilmesi ve gelişiminin hızlandırılmasının belli ilke ve değerler çerçevesinde, bilim ve teknoloji yoluyla sağlanması gerektiğini öngören felsefeler bütünü olarak tanımlar. Transhumanizm; bedenine teknoloji entegre edilmiş insanın, baskı altında kalmaması, kendilerine özgü hak ve özgürlüklerinin korunması, gelişimlerinin tamamen kendi özgür iradelerince yürümesi gibi hukuki haklarının korunması için çalışan bir disiplin olarak tanımlanabilir. İnsanın fiziksel, entellektüel ve psikolojik yapısını geliştirebilecek her teknoloji ve bilimsel çalışma transhumanizme konu olmaktadır. Bu bağlamda bakıldığında transhumanizmin sosyolojiden sağlığa, edebiyattan mühendisliğe bir çok farklı alanı içeren, disiplinler arası bir sistem olduğu söylenebilir (Uğur, 2018). Bugüne kadar gözlüğü hatta lensi ile görüşü iyileşerek aslında temel düzeyde dönüşmüş kabul edilebilecek olan insan, artık beynine yerleştirilen bir aparat ya da çip ile vücuduyla özdeşleştirdiği teknolojiler aracılığı ile insan ötesinde transhuman olacaktır.

Yapay zeka, robotik teknolojiler, sanal gerçeklik, artırılmış gerçeklik, hologram,sosyal ağlar ve dijital avatarlar gibi bir çok farklı teknolojinin hızla günlük hayata entegre olduğu bu dönemde, bu teknolojilerin bedenlerimize entegre olacağın öngörmek doğru olacaktır. Bu gelişmelerin gerçekleşmesi ile birlikte gelecekte, teknoloji entegre edilmiş insan formunun yaşamından konuşmasına, beslenmesinden öğrenmesine bir çok eylemi yeniden şekillenecektir. Burada özellikle "öğrenmesi nasıl olacak?" sorusuna;

- Bilindik öğrenme süreçleri ile öğrenme gerçekleşecek
- Yeni öğrenme yöntemleri gelişecek ve yeni öğrenme süreçleri oluşacak
- Bireye bilgi yüklenmesi yolu ile öğrenme sağlanacak
- Bireye bilgi yüklendikten sonra öğrenme süreçlerinin tamamlanması ile öğrenme gerçekleşecek
- Öğrenmenin ne kadar ve nasıl gerçekleştiği yapay zeka sistemleri ile belirlenebilecek gibi yanıtlar verilebilir.

SONUÇ VE ÖNERİLER

Bu çalışmada incelenen araştırmalar ışığında, gelecekte zihinler arası bilgi ve tecrübe aktarımının yapılacağı bir çağa girileceği sonucuna ulaşılabilir. Böyle bir çağda öğrenmenin de klasik tanımlarından bağımsız bir şekilde gerçekleşeceği düşünülebilir.

Böyle bir gelecekte; öğrenme süreçlerinde zihin simülasyonları ile edinilen bilginin nasıl kullanılabileceğinin varyasyonları sınanabilir, bireylerin hafızaları bilgisayarlara aktarılarak saklanabilir, bireyden bireye insan-bilgisayar arayüzü aracılığıyla tecrübe ve bilgi aktarımı sağlanabilir, bireysel ve toplumsal hafızalar bilgisayarlara aktarılarak toplumların ve bilginin sürdürülebilirliği ve devamlılığı sağlanabilir.

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Anadolu Üniversitesi Açık ve Uzaktan Öğretim Programlarındaki Öğrencilerin Program Tamamlama Sürelerinin Araştırılmasına Yönelik Betimsel Bir Çalışma

Emine TUTSUN[1], Cengiz Hakan AYDIN[2]

Özet

Bu araştırma kapsamında, Anadolu Üniversitesi Açıköğretim Sistemi programlarındaki öğrencilerin program tamamlama sürelerinin araştırılmasını amaçlanmıştır. Araştırma nicel araştırma yöntemlerinden biri olan betimsel analiz yaklaşımıyla desenlemiştir. Çalışma grubunu, Anadolu Üniversitesi Açık ve Uzaktan Öğretim Programlarına 2013-2014 eğitim öğretim yılı itibariyle kaydını yaptıran ve 2018-2019 eğitim öğretim yılı güz dönem sonu sınavı tarihine kadar mezun olup sistemden ayrılan İlahiyat ve İşletme bölümüne kayıtlı öğrenciler oluşturmaktadır. Veriler Anadolu Üniversitesi Açıköğretim Fakültesi Dekanlığından izin ile elde edilmiştir. Araştırmada öğrencilerin demografik özellikleri kırılımlarında program tamamlama sürelerine yer verilmiştir. Bölüm ve giriş şekli bilgileri kırılımlarında beklenen program tamamlama süreleri değiştiği için İşletme (lisans) ve İlahiyat (ön lisans) bölümü öğrencileri gruplara ayrılarak analiz edilmiştir. Öğrencilerin yaş, cinsiyet, bölüm ve giriş şekli kırılımlarında program tamamlama sürelerinin farklılaştığı gözlenmiştir.

Anahtar Kelimeler: *Açık ve uzaktan öğrenme, uzaktan eğitim, program tamamlama süreleri.*

GİRİŞ

Türkiye ve dünya genelinde, açık ve uzaktan öğretim alanındaki kayıt olan öğrencilerin sayısı her geçen yıl hızla artmaktadır. Eğitim olanaklarının zenginleşmesi, teknolojiye erişimin daha kolay hale gelmesi, öğrenenlerin eğitim alanındaki algılarının her geçen gün daha da gelişmesiyle öğrenen profilinin değişmesi gibi faktörler uzaktan eğitim alanındaki bu ilgi artışını anlamamıza sebep nedenler arasında gösterilebilir (Bawa, 2016). Açık ve uzaktan öğretim programlarına kayıt yaptırma konusunda yaşanan bu ilgi ve talep artışına rağmen, eğitimlerini başarıyla ve de zamanında tamamlayan öğrencilerin sayısında da bir düşüş eğilimi söz konusudur (Yang, Baldwin, & Snelson, 2017). Etkin bir açık ve uzaktan öğrenme ortamının sağlanması, bu ortamın devam ettirilmesi ve de bu alanda öğretim tasarımı yapıp ders veren öğreticilerin de kendilerini değerlendirme fırsatı bulacak bir kaynak elde edebilmeleri için, belirli yıl aralıklarında öğrencilerin program tamamlama ve terk etme sürelerinin analiz edilip yorumlanmasının fayda sağlayabileceği öngörülmektedir.

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Literatürde program tamamlama sürelerinin araştırıldığı, farklı yönlerden ele alınmış çalışmalar mevcuttur. Okulların her yıl hazırladıkları program tamamlama raporları bu çalışmalara iyi bir örnek olarak gösterilebilir. Tamamlama raporları, okulların her eğitim dönemi sonunda hazırladıkları, kayıt olan ve mezun olan öğrenciler baz alınarak hazırlanan ve öğrenci bilgileri ile ilgili istatistiki bilgileri gösteren raporlardır. Tamamlama raporlarına örnek olarak Indiana College Completion 2018, Kentucky Completion Report, College Completion through a Latino Lens, Trends in Community College Enrollment and Completion Data 2017 gibi raporlar örnek olarak gösterilebilir. Bu tarz çalışmalar mevcut durumu istatistiki bilgiler çerçevesinde okuyucuya verme eğiliminde olup, sonuç ile ilişki kurulacak değişkenleri tespit etmek ve bu değişkenler arasında herhangi bir ilişki ya da neden sonuç durumu ortaya çıkarma eğiliminde değillerdir.

Öğrenenlerin program ya da ders bırakma sebeplerinin araştırılmasına yönelik yapılan çalışmalar da bu alanda yapılan çalışmalardan bir tanesidir. Bu çalışmalar, mevcut durumu okuyucuya göstermenin yanı sıra bu durumun oluşmasına sebep olan ve bu durumla ilişkili olan değişkenlerin araştırmalarını da gerçekleştirmektedir. Chen (2008) yaptığı çalışmada, türü ve nedenleri değişse de birçok ülkenin okul bırakma sorunu ile karşı karşıya olduğunu belirtmiştir. Chen (2008) yine aynı çalışmasında okul bırakma sebeplerini okula ara verme, kurumu terk etme ve sistemi terk etme olarak gruplandırmıştır.

Program-ders bırakma oranlarının araştırılması yönündeki çalışmaların bir alt kırılımında ise öğrencilerin okul bırakma sebeplerinin araştırılması yer almaktadır. Öğrencinin cinsiyeti ve ırkı (Pascarella & Terenzini, 1978), öğrencinin lise eğitimindeki akademik başarısı ile eğitime dair beklentileri (Pascarella & Terenzini, 1980), öğrenci ailelerinin sosyo ekonomik durumları (Pascarella & Chapman, 1983) okul terkini etkileyen bireysel faktörlerdir. Okul terkini etkileyen örgütsel faktörler de bulunmaktadır. Chaney ve Farris (1991) devlet üniversitelerindeki okul terk oranının özel üniversitelerdekine göre daha yüksek olduğunu bulmuştur. Ishitani (2006) yapmış olduğu çalışmasında lisansüstü eğitimde okul terki ile devlet üniversite türü ve seçici olmayan kabul arasında pozitif bir ilişki bulmuştur (Gokalp ve Ertem, 2016).

AMAÇ VE ARAŞTIRMA SORUSU

Çalışmanın amacı, Anadolu Üniversitesi Açıköğretim Sistemi Programlarındaki öğrencilerin tamamlama sürelerini belirlemektedir. Bu bağlamda aşağıdaki soruların cevapları aranmıştır:

1. Dört yıllık lisans programlarına başlayan öğrencilerin 4 yılda tamamlama oranı nedir?
2. İki yıllık önlisans programlarına başlayan öğrencilerin 2 yılda tamamlama oranı nedir?
3. Programları zamanında tamamlama oranları ile öğrencilerin demografik özellikleri (yaş, cinsiyet, bölüm, giriş şekli) arasında bir ilişki var mıdır?

Çalışmanın yöneticilere, ilerleyen yıllar için öğrenci sayılarının ön görülebilmesi, sistem ihtiyaçlarının önceden tahmin edilebilmesi, hizmetlerin iyileştirilmesi ile öğrencilerin program tamamlama sürelerinin ve başarı oranlarının iyileştirilmesi gibi bir dizi konuda veri sağladığı düşünülmektedir.

YÖNTEM

Bu çalışma, nicel araştırma yöntemlerinden olan betimsel analiz yaklaşımı ile desenlenmiştir. Daha geniş bir perspektifte Açıköğretim Sistemi genelindeki bütün programlardaki tamamlama oranlarına erişilmek istenmiş ancak Kurum 2013-2018 eğitim-öğretim yıl aralığında mezuniyetini elde etmiş İşletme ve İlahiyat programına kayıtlı öğrencilere ilişkin verilere erişime izin verdiği için bu çalışma ilgili çalışma kümesi ile sınırlandırılmıştır. Araştırma verileri, Anadolu Üniversitesi Açıköğretim Fakültesi Dekanlığından alınan izin dahilinde temin edilmiştir. Veriler SPSS programı aracılığıyla analiz edilmiştir.

Bölüm ve giriş şekli bilgileri kırılımlarında beklenen program tamamlama süreleri değişmektedir. İşletme programının(lisans) beklenen tamamlama süresi 4 yıl, İlahiyat programının (ön lisans) beklenen tamamlama süresi 2 yıldır. İşletme bölümü altında yer alan ÖSYS kayıt ve ikinci üniversite kaydı ile giriş yapan öğrencilerin beklenen program tamamlama süreleri 4 yıl iken, dikey geçiş ve lisans tamamlama yoluyla kayıt yaptıran öğrencilerin beklenen tamamlama süreleri 2 yıldır. Sonuçların anlamlı olabilmesi için analizler bu üç veri grubu için yapılmıştır.

Öğrencilerin program tamamlama yıllarını ve demografik özelliklerini içeren excel veri dosyası 120204 satır öğrenci verisine karşılık gelmektedir. Bu sayısının 64211 satırını İşletme bölümüne (lisans) kayıtlı öğrenciler oluştururken, 55993 satırını İlahiyat bölümüne (ön lisans) kayıtlı öğrenciler oluşturmaktadır. İşletme programındaki öğrenci kümesinin 61816 satırı dikey geçiş ve lisans tamamlama yoluyla kayıt yaptıran beklenen program tamamlama süreleri 2 yıl olan öğrencilerden, 2395 satırı ise ÖSYM kayıt ve ikinci üniversite yoluyla kayıt olan öğrencilerden oluşmaktadır.

BULGULAR

Çalışmada ilk olarak öğrencilerin demografik özellikleri ile ilgili betimsel analizlere yer verilmiştir. Devamında ise öğrencilerin beklenen program tamamlama süreleri ve demografik özellikler kırılımlarında elde edilen ortalama program tamamlama süreleri yer almaktadır.

Demografik Özellikler

Araştırma verisinde yer alan öğrencilerin cinsiyet dağılımları Çizelge 1'de verilmiştir. Çizelge 1'de görüldüğü üzere, araştırma verisindeki öğrencilerin %52' sini kadın öğrenciler oluştururken, %48' ini ise erkek öğrenciler oluşturmaktadır. Öğrencilerin yaş grupları bağlamındaki frekans değerleri Çizelge 2'de verilmiştir.

Cinsiyet	n	%
Kadın	62959	52
Erkek	57245	48
Toplam	120204	100

Şekil 1. **Cinsiyet Bağlamında Görünüm**

Yaş Grupları	n	%
19-25 yaş	18845	16
26-30 yaş	42117	35
31-40 yaş	37191	31
41-50 yaş	18805	16
51'den büyük	3246	3
Toplam	120204	100

Şekil 2. **Yaş Bağlamında Görünüm**

Öğrencilerin kayıtlı oldukları bölüm bilgisi bağlamında görüntüleri Çizelge 3'te, bölümlerine giriş türleri bağlamında görüntüleri ise Çizelge 4'de yer almaktadır.

Bölüm	n	%
İşletme	64211	53
İlahiyat	55993	47
Toplam	120204	100

Şekil 3. Bölüm Bağlamında Görünüm

Giriş Türleri	n	%
Dikey Geçiş	59898	50
ÖSYM Kayıt	44926	37
İkinci Üniversite	13462	11
Lisans Tamamlama	1918	2
Toplam	120204	100

Şekil 4. Giriş Türü Bağlamında Görünüm

Elde Edilen Ortalama Program Tamamlama Süreleri

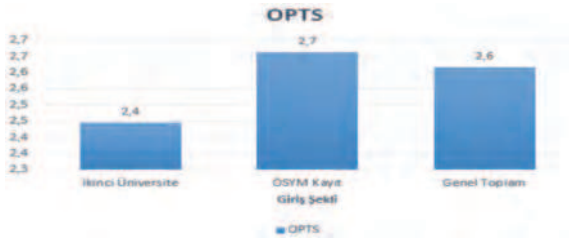
Bu bölümde çalışmanın araştırma sorusunun yanıtı olarak İlahiyat bölümü ve İşletme bölümünün iki ayrı veri kümesi için demografik kırılımlar bazında elde edilen program tamamlama süreleri yer almaktadır.

İlahiyat Bölümüne Ait Program Tamamlama Süreleri

İlahiyat bölümündeki öğrencilerin yaş kırılımı bağlamındaki program tamamlama süreleri Şekil 5'te, cinsiyet bağlamındaki ortalama program tamamlama süreleri Şekil 6'da ve giriş şekli bağlamındaki ortalama program tamamlama süreleri ise Şekil 7'de verilmiştir. OPTS ifadesine ortalama program tamamlama süresinin kısaltması olarak yer verilmiştir.

Şekil 5. Yaş Kırılımı Bağlamında OPTS

Şekil 6. Cinsiyet Bağlamında OPTS



Şekil 7. Giriş Şekli Bağlamında OPTS

Yaş kırılımı aralıklarında bakıldığında 41-50 yaş aralığındaki öğrenciler 2,4 yıl ile en düşük OPTS değerine sahiptir. Cinsiyet bağlamında bakıldığında 2,6 yıl ile kadınların daha düşük bir OPTS değerine ve giriş şekli bağlamında bakıldığında 2,4 yıl ile ikinci üniversite girişlerinin daha düşük OPTS değerine sahip olduğu görülmektedir.

İşletme Bölümüne Ait Program Tamamlama Süreleri

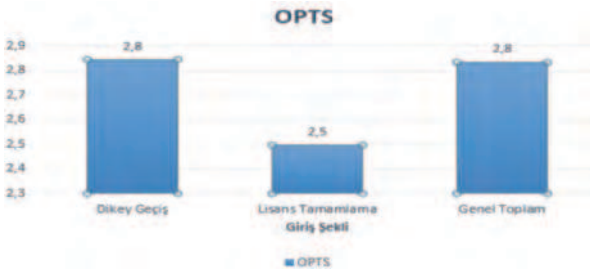
Dikey geçiş ve lisans tamamlama ile kayıtlı öğrencilerin OPTS değerleri ilk maddede; Ösys kayıt ve ikinci üniversite kayıtlı öğrencilerin OPTS değerleri ise ikinci maddede verilmiştir.

- **Dikey Geçiş ve Lisans Tamamlama Öğrencilerine Ait Program Tamamlama Süreleri**

  Bu gruptaki öğrencilerin yaşları bağlamında program tamamlama süreleri Şekil 8'de, cinsiyet bilgisi bağlamında program tamamlama süreleri Şekil 9'da ve giriş şekli bağlamında program tamamlama süreleri de Şekil 10'da gösterilmektedir.

Şekil 8. Yaş Kırılımı Bağlamında OPTS Şekil

Şekil 9. Cinsiyet Bağlamında OPTS



Şekil 10. Giriş Şekli Bağlamında OPTS

Yaş kırılımı aralığı bazında 41 yaşından büyük öğrencilerin 2,5 yıl ile en düşük OPTS değerine sahip olduğu görülmektedir. Cinsiyet bağlamında bakıldığında 2,7 yıl ile kadınların erkekelere göre daha düşük bir OPTS değerine ve giriş şekli bağlamında bakıldığında 2,5 yıl ile lisans tamamlamagrubunun daha düşük OPTS değerine sahip olduğu görülmektedir.

- **Ösys Kayıt ve İkinci Üniversite Öğrencilerine Ait Program Tamamlama Süreleri**

  Bu gruptaki öğrencilerin yaşları bağlamında program tamamlama süreleri Şekil 11'de, cinsiyet bağlamında program tamamlama süreleri Şekil 12'de ve giriş şekli bağlamında program tamamlama süreleri de Şekil 13'te gösterilmektedir.

Şekil 11. Yaş Kırılımı Bağlamında OPTS Şekil 12. Cinsiyet Bağlamında OPTS

Şekil 12. Cinsiyet Bağlamında OPTS

Şekil 13. Giriş Şekli Bağlamında OPTS

Yaş bazında 51 yaşından büyük öğrenciler 4 yıl ile en düşük OPTS değerine sahiptirler. 4,28 yıl ile erkekler daha düşük OPTS değerine sahipken, giriş şekli bağlamında bakıldığında ise 4,2 yıl ile ikinci üniversite kayıtların en düşük OPTS değerine sahip olduğu görülmektedir.

SONUÇ

Çalışma kapsamında, Anadolu Üniversitesi Açık ve Uzaktan Öğretim programları İşletme ve İlahiyat bölümlerine ve son 5 yıla ait veriler analiz edilerek ortalama program tamamlama süreleri elde edilmiştir. Analizler, verinin beklenen bitirme sürelerine göre gruplanarak gerçekleştirilmiştir. Her iki bölümde de demografik özellikler kırılımlarında öğrencilerin farklı bitirme sürelerine sahip olduğu görülmüştür. Her üç grup için kadın ve erkek öğrencilerin OPTS değerleri değişkenlik gösterip bir trend sağlanamıyorken, yaşları 41'den büyük öğrenci grubunun daha düşük OPTS değerine sahip olma eğiliminde olduğu söylenebilir. Giriş şekli olarak bakıldığında ise beklenen program tamamlama süreleri farklı olmasına rağmen İlahiyat İşletme bölümündeki öğrencilerin ikinci üniversite yoluyla kayıt yaptıranların daha düşük OPTS değerine sahip olduğu görülmektedir.

Gelecek çalışmalar olarak, ortalama program tamamlama süresinin hangi öğrenci ya da sistem değişkenleriyle bir ilişki içinde olduğu ve bu ilişkinin şiddeti ve yönünün araştırılması öneri bir çalışma konusu olabilir. Ayrıca izinler dahilinde küçük bir çalışma aralığının çalışılması dolayısıyla uzun süredir sistemde olan, aktif pasif duruma düşen öğrenciler çalışma verisinin içine dahil olamamıştır. İleriki çalışmalar için büyük veri grupları ve geniş tarih aralıklarıyla çalışmak daha anlamlı verilerin elde edilmesini sağlayabilir.

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Yabancılara Türkçe Öğretiminde Harmanlanmış Öğrenme Modelinin Kullanılması

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Özet

Öğrenenlerin sadece katılımcı olduğu ve öğretmen kontrolünde yürütülen geleneksel sınıf modeli öğrenme yaklaşımları, yeni teknolojilerin geliştirilmesi ve günümüzdeki öğrenen özelliklerinin ve öğrenme beklentilerinin etkisiyle büyük değişimler göstermiştir. Teknolojik gelişmeler, eğitimde bilgisayar ve internet kullanma eğilimini artırmakta ve altarnatif yaklaşımlar eğitimin birçok alanında yaygın olarak kullanılmaktadır. Ancak hem sınıf modeli öğrenmenin hem de çevrimiçi öğrenmenin birbirinin sağladığı avantajlardan yoksun olduğu da ileri sürülmektedir. Bütün teknolojik gelişmelere rağmen eğitim bilimciler, e-öğrenme modelinin tek başına uygulanamayacağını, yeterli olmayacağını ileri sürmektedir (Ayvaz, vd., 2009). Öğretme ve öğrenmenin daha etkili olabilmesi için teknolojik araçların belli bir ölçüde kullanılması gerektiği vurgulanmaktadır (Laurillard, 2002). Geleneksel öğrenme ile çevrimiçi öğrenmenin birleştirilmesi sonucu oluşan harmanlanmış öğrenme ortamlarının öğrenme ihtiyaçlarını karşılamada etkili olacağı düşüncesi öne çıkmaktadır. Bu çalışmada dil öğretimi alanında harmanlanmış ortamda Türkçe öğretme üzerinde durulacak ve bir öğretim uygulamasına yer verilecektir.

Anahtar Kelimeler: *Harmanlanmış öğrenme modeli, yabancı dil olarak Türkçe öğretimi, CALL, dil öğretiminde teknoloji kullanımı*

GİRİŞ

Harmanlanmış öğrenmeyi Throne (2003), yeni teknolojik gelişmelerin paralelinde çevrimiçi öğrenme ile sınıf içi etkileşimi destekleyen geleneksel öğrenmenin bütünleşmesini sağlayan bir öğretim modeli, olarak tanımlamaktadır. Graham (2006) için harmanlanmış öğrenme, geleneksel öğrenme sistemi ile uzaktan öğrenme sisteminin birleştirilmesidir. Lindquist ise harmanlanmış öğrenmeyi, sınıf içi ve çevrimiçi öğrenmenin en güçlü yanlarını birleştirerek başarı için gerekli olan bilgi ve iletişim becerilerini geliştirmek için ideal bir yaklaşım olarak ele almaktadır. Bu ifadelere göre

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harmanlanmış öğrenme yaklaşımının yüz yüze ve çevrimiçi öğrenmenin sakıncalarını en aza indirmek, her ikisinin kullanışlı yanlarını bir araya getirmek düşüncesi ile ortaya çıkan eklektik bir yaklaşım olduğu söylenebilir (Finn ve Bucceri, 2004; Garnham, Kaleta 2006; Harding, Kacynski ve Wood, 2005.) Bütün tanımlar, harmanlanmış öğrenmede asıl amacın, sınıf içinde öğrenme ile teknoloji destekli öğrenmenin birleştirilmesi sonucu oluşan ortamdan en etkili ve verimli şekilde yararlanarak öğrenmeye katkı sağlamak olduğunu göstermektedir (Uluyol ve Karadeniz, 2009).

HARMANLANMIŞ ÖĞRENME ORTAMLARINDA DİL ÖĞRENME

Önce Bilgisayar Destekli Dil Öğrenimi (Computer Assisted Language Learning 'CALL') kısaca BDDÖ olarak adlandırılan alanla birlikte; günümüzde cep telefonları, akıllı telefonlar, avuç içi bilgisayarlar, tabletler, dizüstü bilgisayarların da kullanılmaya başlanmasıyla dil öğretimi bir taraftan içinde bulunduğu dönemin kendine özgü koşullarına ve gereksinimlerine, öte yandan bilimsel yenilikler ve gelişen teknolojinin etkilerine göre yenilenmektedir. Eğitim alanına bakıldığında teknolojik yenilikleri en fazla kullanan, en çabuk tüketen alanın dil öğrenme alanı olduğunu söylemek mümkündür. Günümüzde de bilgi ve iletişim teknolojilerinin kullanıldığı dil öğrenme tasarımları, değişen paradigmalar karşısında güncellenerek uygulanmaktadır.

Bu çalışmada harmanlanmış öğrenme modelinin tercih edilmesinin nedeni, dil öğrenme için beklenen kıstasları sağlama özelliğidir. Bunlar şöyle sıralanabilir:

Pedagojik zenginlik sağlar: Harmanlanmış öğrenme modeli, dil öğrenenleri aktif kılacak bütün olanaklara sahiptir.

Öğrenme malzemesinde çeşitlilik sağlar: Harmanlanmış öğrenme modeli, farklı öğrenme stillerini destekleyen malzeme çeşitliliği sağlar.

Etkileşimlidir: Harmanlanmış öğrenme modeli, öğrenen-öğreten, öğrenen-öğrenen ve öğrenen-içerik etkileşimini sağlar.

Kişiselleştirilebilir: Harmanlanmış öğrenme modeli, öğrenenlerin yüz yüze ortamlar dışında kendi öğrenmelerini kontrol edebilmelerine olanak verir.

Uygulanabilir: Harmanlanmış öğrenme modelinde, sınıf içi ve sınıf dışı öğrenme süreci zamana yayılabilir ve bu uygulama kolaylığı sağlar.

Bu çalışmada "MEB Kapsayıcı Eğitim Bağlamında Türkçenin İkinci Dil Olarak Öğretilmesine Yönelik Öğretmen Kapasitesinin Güçlendirilmesi Programı" kapsamında, harmanlanmış öğrenme modeline göre hazırladığımız bir ders örneğini ele alınacaktır.

YÖNTEM

Dersin hazırlanmasından önce derse, öğretmenlere ve öğrencilere ilişkin veriler toplamak amacıyla, Türkiye'nin farklı bölgelerinde görev yapan ve sınıfında yabancı öğrenci bulunan 300 öğretmene anket uygulanmıştır. Elde edilen verilerin değerlendirilmesine devam edilmekle birlikte, konumuz kapsamında en dikkati çeken sonuç, 300 öğretmenin sadece 9'unun harmanlanmış öğrenme konusunda bilgi sahibi olduğunu

belirtmesi olmuştur. Bu konudaki verilerin değerlendirilmesinden sonra, A1 düzeyinde bir ders harmanlanmış öğrenme modeli ile hazırlanmış ve öğretmenlerden derste uygulamaları ve değerlendirmeleri istenmiştir. Dersin tasarımından, uygulanmasına kadar olan süreci aşağıdaki gibi sıralayabiliriz:

- Derse, öğretmenlere ve öğrencilere ilişkin veriler toplandı.
- Öğrenenlerin dil düzeyleri (A1, A2, B1) belirlendi.
- Öğrenenlerin öğrenme malzemeleri ve öğrenme çevreleri hakkında bilgi alındı.
- Kullanılacak teknolojik araçlar belirlendi.
- Teknolojik araçların özelliklerinin öğrenenlere uygun olup olmadığı değerlendirildi.
- Teknolojik araçlara uyarlandığında daha etkin öğrenme sağlayacak kazanımlar belirlendi.
- Öğrenme malzemeleri tasarlandı.
- Öğretim stratejileri belirlendi.
- Ders tasarlandı.
- Süreç değerlendirme planlandı.
- Örnek ders öğretmenlerle paylaşıldı.
- Öğretmenlerden ve öğrencilerden değerlendirmeleri alındı.

Bu uygulamada, her öğretmenin kolaylıkla kendi öğrenme ortamını tasarlayabilmesi amacıyla dersin blog üzerinden işlenmesi tercih edilmiştir. Kullanım kolaylığı, etkileşimi ve iletişimi ön plana çıkaran yapısı, zengin tema desteği, geniş depolama alanı ve mobil cihazlara uyumluluğu gibi avantajları nedeniyle bloglar dil öğretiminde önemli kullanım alanlarına sahiptir.

ÖRNEK DERS

Düzey: A1

Tema: Ailem ve Çevrem / Meslekler

Sözvarlığı: Evin bölümleri, eşya adları, akrabalık terimleri, yönler, çevre, meslek adları

Dil Bilgisi: İşaret zamirleri, sahiplik ekleri, -mI soru eki, var/yok, -CI / -lIk ekleri

Uygulama Süresi: 45 dakikalık 3 ders

Hedef Kitle: A1 düzeyinde Türkçe öğrenen ortaöğretim düzeyindeki yabancı öğrenciler.

Geçmiş Öğrenme Deneyimleri: Bu ünite öncesinde "Alfabe" ve "Tanışma, Selamlaşma ve Hatır Sorma" temalı ünitelerin işlenmiş olduğu varsayılmaktadır.

Ünitenin Tanımı: Bu ünitede yer alan öğrenme etkinlikleri, öğrencilerin Türkçe ile tanıştıkları başlangıç düzeyinde ele alınması önerilen temel konuları kapsamaktadır. *Selamlaşma, tanışma, hatır sorma* ifadelerinin öğretiminden sonra öğrencilerin iletişimini artırmayı amaçlayan "aile, çevre ve meslekler" konuları ile bu konuların öğretiminde gerekli olan dil bilgisi yapıları ünitenin içeriğini oluşturmaktadır.

Ünitenin İşleyişi: Öğretim programında A1 düzeyi. 3. bölüm için hazırlanan bu uygulama, "Ders Öncesi", "Derste" ve "Ders Sonrası" aşamalarından oluşmaktadır.

Dersin Kazanımları:

- Evinin bölümlerinin adlarını bilir.
- Evdeki eşyaların adlarını "bu, şu, o; bunlar, şunlar, onlar" kelimelerini kullanarak söyler.
- Bir eşyanın nerede olduğunu söyler.
- Aile bireyleriyle ilgili akrabalık terimlerini bilir.
- Evdeki aile bireylerini tanır ve kim olduklarını sahiplik eklerini kullanarak söyler.
- Şahıs zamirlerine uygun iyelik eklerini kullanır.
- "Kaç kardeşin var?" soru kalıbına cevap verir.
- *–mI* ekiyle yapılan sorulara "evet-hayır-değil" kelimelerini kullanarak cevap verir.
- "var – yok" kelimelerini kullanarak çevresindeki eşyaların isimlerini söyler ve yazar.
- Basit emir cümlelerini anlar ve verilen emre uyar.
- Basit emir cümlesi kullanarak komut verir.
- "Aşağı, yukarı, sağ, sol" gibi yer- yön bildiren basit kelimeleri anlar ve kullanır.
- Çevresindeki başlıca yerlerin isimlerini bilir.
- Mesleklerin adlarını bilir.
- "*-CI* ve *-lIk* eklerinin işlevini kavrar ve bu eklerle meslek isimlerini türeterek kullanır.
- Meslek sahiplerinin ne iş yaptığını söyler.
- Hayallerini dile getir.
- Sonu sert ünsüzlerle (f,s,t,k,ç,ş,h,p) biten kelimelerin "c,d,g" ile başlayan ek aldığında "ç,t,k" ye dönüştüğünü bilir.

Ders Öncesi:

(Lütfen "Ders Öncesi" bölümünde konuya hazırlık yapmak için karekodu taratınız.)

Derste:

Sınıf içinde 45' + 45' + 45' olmak üzere 3 ders saati konu anlatımı

Sınıf İçi Etkinlik: "İşaret zamirleri" konusunu kapsayan "Kahoot" etkinliği öğrenilenlerin pekiştirilmesi amacıyla sınıf içi etkinlik olarak uygulanır.

(Lütfen Kahoot etkinliği için karekodu taratınız.)

Ders Sonrası

(Lütfen "Ders Sonrası" bölümündeki etkinliklerinizi yapmak için karekodu taratınız.)

SONUÇ VE TARTIŞMA

Dersin paylaşımından sonra, öğretmenlerin ve öğrencilerinin dersle ilgili görüşleri alınmıştır. Aşağıda bu görüşlerden örnekler yer almaktadır:

"Harmanlanmış öğrenme modeli hem teknoloji hem de geleneksel eğitimi içinde barındıran çağdaş bir model. Öğrenciler telefon ve tabletle çok zaman harcadıklarından öğrenme modeline de kolayca uyumlu sağlayabiliyorlar. Hatta bir öğrencim doğum yaptığı hastanede dahi bebek uyurken videoları izlemiş ve etkinlikleri yapmış. Her yerde içeriklere ulaşabildikleri için mutlular." (E.T. Öğretmen)

"Bu sistem benim her yerde ders yapmamı sağlıyor. Evde istediğim zaman video izliyorum. Tekrar tekrar, hem Arapça izliyorum. Öğretmene de okulda soru sorabiliyorum. Videoları seviyorum. Bana Türkçe öğretiyor. Ben çok memnun." (A.A. Öğrenci)

"Böyle bir sistem Türklere İngilizce öğretmek için kullanılsaydı öğrencilerimiz de biz de akıcı bir şekilde İngilizce konuşabiliyor olurduk. Videolarla sınıfta öğrenilen teorik bilgiler gerçek hayatla ilişkilendiriliyor. Hem öğrencilerde motivasyon artıyor, hem de öğrenilenler daha kolay hatırlanabiliyor." (S.T. Öğretmen)

"Bu proje çok iyi, çok sevindim. Çünkü her yerde videolar görüyorum. Çarşıda ve evde hem Türkçe öğreniyor hem Arapça konuşuyor. Ben ondan çok faydalandım." (E.A. Öğrenci)

"Öğrenciler de kontrol panelinden yapmadıkları etkinlikleri görüp anında eksik etkinliklerini tamamlayıp videoları izliyorlar bu da öğrencilerin takibini ve değerlendirmesini hem bizim hem de kendileri açısından kolaylaştırıyor. Okul dışında anında geri bildirim alabiliyorlar. İlk zamanlar korkmuştum 40 yaşlarında öğrenciler nasıl teknolojik bir uygulamayı kullanabilir diye, E. A. 40 yaşında ve bakın hepsini izledim yaptım diye sevinçle bana geldi geçenlerde. Geri bildirim aldıkça motivasyonları da artıyor. Harmanlanmış öğrenme zamana ayak uyduran bir model kesinlikle." (E.T. Öğretmen)

"Bu program çok yararlı bir program. Egzersizler anlamamıza yardımcı oluyor. Bu program her yeri mektep yaptı." (F.A. Öğrenci)

"Ben bu kurstan çok memnunum. Videoları çok sevdim çünkü bana öğretiyor. Programı her zaman açabiliyorum ve videoları her zaman izleyebilirim." (F.C. Öğrenci)

"Bu harika bir program. Kuralların açıklaması basit ve kolay. Videolar günlük yaşamda çok faydalıdır. Bence Türkçe öğrenmek isteyen herkes için çok yararlı bir program." (F.Z. Öğrenci)

Harmanlanmış öğrenme modeliyle hazırlanan yabancı dil olarak Türkçe öğretiminde yüz yüze öğrenme ile çevrimiçi öğrenmenin dengesi dersten derse hatta konudan konuya farklı olabilir. Bir konuda yüz yüze öğrenme yöntem ve stratejileri diğer bir konuda çevrim içi yöntem ve stratejileri daha fazla gerekli olabilir. Harmanlanmış öğrenme modelinde teknolojinin derse dâhil edilmesi, öğretilecek her bilginin teknolojiye aktarılacağı anlamına gelmemektedir. Kısacası hangisinin ne kadar olacağının bir oranı yoktur. Bu bağlamda yabancı dil olarak Türkçe öğretimi dersleri için harmanlanmış öğrenme modeli, stratejik olarak iyi planlama gerektiren bir süreç olmakla birlikte, her ortamda kullanılabilen ve öğrenmede motivasyon sağlayan bir model olarak uygulama alanına dahil edilebilecek özellikler taşımaktadır.

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Açık ve Uzaktan Öğrenme Ortamlarında Kullanılan Sosyal Bulunuşluk Ölçeğinin Boylamsal Ölçme Değişmezliğinin İncelenmesi

Murat Doğan ŞAHİN[1], Hakan KILINÇ[2], Hakan ALTINPULLUK[3]

Özet

Ölçme araçlarının yapı geçerliğini ortaya koymak amacıyla faktör anlizinden yararlanılır. Eğer bir yapı daha önceden oluşturulmuş ve buna bağlı olarak literatürde güçlü bir önsele (a priori) sahipse yapısal eşitlik modellemesi ailesinden Doğrulayıcı Faktör Analizi (DFA) kullanılır. Ancak çoğu zaman grupların ya da farklı zamanlardaki ölçümlerin karşılaştırılmasında kullanılan bu ölçme araçlarındaki ölçme değişmezliğinin test edilmesi ihmal edilmektedir. Öyle ki bir ölçme aracıyla farklı alt gruplarda ya da farklı ölçümlerde elde edilen değerlerin karşılaştırılabilmesi için söz konusu ölçme aracının bu grup ya da ölçümlerde yanlılığa neden olabilecek bir yapı oluşturmadığı, başka bir ifadeyle ölçme değişmezliğinin sağlandığı kanıtlanmalıdır. Bu çalışmanın amacı Çakmak, Çebi ve Kan (2014) tarafından geliştirilmiş olan Sosyal Bulunuşluk Ölçeği'nin tekrarlı ölçümlerdeki boylamsal ölçme değişmezliğinin incelenmesidir. Araştırma yaklaşık 250 öğrenciden 3 aylık bir aralıkta toplanan tekrarlı veriler üzerinde yürütülmüştür. Elde edilen veriler üzerinde önce çok değişkenli normallik varsayımları incelenmiş, sonrasında ise Mplus 7.0 paket programı ile ölçme değişmezliğinin sağlanmasına yönelik dört adım için gerekli analizler yapılmıştır.

Anahtar Kelimeler: *Ölçme değişmezliği, boylamsal veri, doğrulayıcı faktör analizi*

GİRİŞ

Sosyal bilimlerin her alanında olduğu gibi açık ve uzaktan öğrenme çalışmalarındaki nicel veri toplama süreçlerinde de standardize edilmiş ölçme araçlarından sıkça yararlanılmaktadır. İster bilişsel, ister duyuşsal isterse de devinsel bir özelliğin belirlenmesine yönelik olarak geliştirilmiş olsun, tüm ölçme araçlarında bulunması gereken bazı özellikler vardır. Bu özelliklerden ilk akla gelenleri güvenirlik ve geçerliktir. Güvenirlik, en genel tanımıyla ölçme araçlarının tesadüfi hatalardan arınıklık düzeyidir. Geçerlik ise ölçme aracının amacına hizmet etme derecesine ilişkin bir özelliktir (Baykul, 2000).

Bireyin, veri toplama sürecine konu olan özelliği duyuşsal olduğunda çoğunlukla Likert tipi ölçeklerden yararlanılır. Bu ölçeklerde güvenirlik için çokca tercih edilen bir metot iç tutarlılık anlamındaki güvenirliği veren Cronbach Alpha katsayısıdır. Eğer kararlılık anlamındaki güvenirlik ortaya konmak istenirse, bu kez test-tekrar test yön-

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teminin kullanılması söz konusu olur. Araştırmacılar, geliştirdikleri ölçme araçlarından bekledikleri güvenirliğin anlamına göre bu yöntemlerden birini kullanırlar. Konu geçerlik olduğunda ise kapsam, görünüş, ölçüt ve yapı geçerliği karşımıza çıkar. Bir ölçme aracından bu geçerlik türlerinin tamamını sağlaması beklenir (Turgut & Baykul, 2010). Araştırmacıların ortaya koymak için en çok zaman ve çaba harcadıkları geçerlik belirleme yönteminin yapı geçerliği olduğu söylenebilir. Bu amaçla uygulanan çok değişkenli bir istatistik yöntemi olan faktör analizi, gerek doğru biçimde uygulanması gerekse elde edilen verilerin yorumlanması ve raporlanması açısından oldukça zahmetli bir iştir, denilebilir. Faktör analizi, ölçülmek istenilen yapıya ilişkin güçlü bir önsel (a priori) olmadığında, araştırmaya konu olan psikolojik yapının varsa bileşenlerini, daha genel ifadeyle yapısını keşfetmek amacıyla uygulanan Açımlayıcı Faktör Analizi (AFA) ve ölçülmek istenilen yapıya ilişkin güçlü bir önsel olduğunda ya da daha önce yapısı ortaya konulmuş bir ölçeğin başka bir örneklemde ya da kültürde bir model olarak doğrulanıp doğrulanmadığını ortaya koymak amacıyla kullanılan ve yapısal eşitlik modellemesine dayalı bir yöntem olan Doğrulayıcı Faktör Analizi (DFA) olmak üzere ikiye ayrılır (Çokluk, Şekercioğlu & Büyüköztürk, 2012; Yurdabakan & Çüm, 2017). AFA'da maddelerin tüm boyutlarla ilişki göstermesine izin verilirken geleneksel DFA, maddelerin yalnızca kuramsal olarak ilişkili olduğu boyutlarla ilişki göstermesine izin verilen bir istatistiksel metottur. DFA, yapısal eşitlik modellemesine dayalı bir uygulama olduğundan model-veri uyumu ile faktör yük değerlerine bakılır; bu değerler istenilen ölçüde ise "ölçeğin doğrulandığı" çıkarımı yapılır. Ancak çoğu zaman, gözden kaçırılan bir husus vardır: Ölçme değişmezliği (measurement invariance).

Ölçme Değişmezliği

Ölçme değişmezliği, ölçme aracının ölçeğin hitap ettiği alt gruplarda ya da tekrarlı uygulamalarda aynı yapıyı ortaya koyması durumudur (Marsh, Parker & Morin, 2015). Bir başka ifadeyle bir ölçme aracının ölçmeyi amaçladığı özellik açısından gruplar arasında ya da tekrarlı verilerde görülen farklılığın, ölçme aracının kendisinden kaynaklamadığının kanıtlanması durumudur. Aksi durumda ölçme sonuçlarındaki olası farklılıkların gruptan mı ya da zamanın etkisinden mi (bu zaman içerisindeki uygulamanın etkisinden) kaynaklandığından emin olunamaz.

Ölçme değişmezliğinin kanıtlanması adına geleneksel DFA yeterli olmaz. Bu amaçla ileri düzey yapısal eşitlik modellemesi yöntemlerinden yararlanılır. Eğer ölçeğin farklı gruplardaki değişmezliği inceleniyorsa, çok gruplu DFA'dan yararlanılır. Boylamsal değişmzelikte ise çok gruplu uygulamalardaki aynı değişmezelik adımları incelenir; yalnız değişmezlik aynı bireylerden alınan tekrarlı ölçümler için test edilir.

YÖNTEM

Bu araştırmanın amacı deneysel bir çalışma kapsamında kullanılan ve Çakmak, Çebi ve Kan (2014) tarafından geliştirilmiş olan Sosyal Bulunuşluk Ölçeği'nin tekrarlı ölçümlerde boylamsal ölçme değişmezliğinin incelenmesidir. Farklı çalışmalarda bir çok değişmezlik adımı önerilmekle birlikte genel olarak uzlaşı, bunlardan yapısal değişmezliğe yönelik olanlara değil, ölçme değişmezliğine yönelik olanlan dört adımın kullanılmasına yöneliktir. Her bir aşamada elde edilen ki-kare değeri bir önceki aşamada elde edilen ile karşılaştırılarak sınırlandırılmış modellerin uyum değerleri konusunda karar varılır (Widaman & Reise, 1997).

Ölçme Değişmezliğinin Adımları

Çok gruplu ya da boylamsal ölçme değişmezliğinin incelenmesi dört aşamadan oluşmaktadır. Söz konusu aşamalar, en az sınırlandırılmış olandan en çok sınırlandırılmış olana doğru olarak şu şekilde sıralanmaktadırlar (Dimitrov, 2010; Putnick & Bornstein, 2016; Widaman & Reise, 1997):

Biçimsel Eşdeğerlik (Configural Invariance): Bu modelde gruplarda-uygulamalarda herhangi bir parametrenin eşit kestirilmeye zorlanması söz konusu değildir. Bu nedenle en temel modeldir. Model, her iki grup ya da ölçüm için de serbestçe kestirilir. Bu adımda iyi uyum değerlerinin elde edilmesi durumunda ikinci adıma geçilir.

Metrik Eşdeğerlik: Gizil değişkenle göstergeleri arasındaki ilişkinin, gruplarda ya da ölçümlerde değişmediğini göstermek amacıyla uygulanır. Bu doğrultuda faktör yüklerinin gruplarda-ölçümlerde sınırlandırılmasına dayanır. Eğer bu sınırlandırma ile ortaya çıkan değerler, ilk modelden daha kötü uyum göstermiyorsa, metrik değişmezliğin sağlandığı sonucuna ulaşılır.

Skaler Eşdeğerlik: Bir önceki adıma ek olarak, maddeler için belirlenen regresyon denkleminin kesişim noktaları da gruplarda-ölçümlerde eşit kestirilmeye zorlanır. Elde edilen ki-kare değeri bir önceki model ile karşılaştırılır; anlamlı bir farklılık olmaması durumunda kesişim noktarının gruplarda değişmediği, skaler değişmezliğin sağlandığı sonucuna ulaşılır.

Katı/Tam Eşdeğerlik (Strict Invariance): Maddenin gizil değişkenle paylaşılmayan ve artık/hata varyanslarının gruplarda-ölçümlerde değişmezliğine yöneliktir. Diğer süreçlerde olduğu gibi, bir önceki model ile karşılaştırılarak değişmezlik kararına varılır. Bazı araştırmacılar tarafından pratikte kullanılmasının gerekli olmadığı belirtilmektedir.

Söz konusu tüm adımlar, aşağıdaki tabloda özetlenmiştir.

Değişmezlik Aşaması	Faktör Yükleri	Kesişim Noktaları	Artık Varyanslar
Biçimsel	*	*	*
Metrik	Sabit	*	*
Skaler	Sabit	Sabit	*
Katı/Tam	Sabit	Sabit	Sabit

Table 1. Ölçme Değişmezliğinin Adımları

Burada her bir değişmezlik aşamasında ölçümler için sabitlenecek değerler, aşağıdaki ortak faktör modelinde görülebilir.

Ortak Faktör Modeli:

$$Y = \tau + \lambda . \eta + \varepsilon$$

Y: Gözlenen Değişken

τ: Kesişim Noktası

λ: Faktör Yükü

η: Bireyin Madde ile Ölçülen Gizil Özelliği

ε: Hata Varyansı/Artık Varyans

Bu araştırma kapsamında da söz konusu eşdeğerlik türlerinin literatürde belirlenen sıraya göre analiz edilmesi ve elde edilen sonuçların raporlanması amaçlanmıştır. Tüm analizler Mplus 7.0 (Muthen & Muthen, 1998-2019) paket programı ile yapılmıştır. Araştırma kapsamında her bir adımda bir önceki modelle ki-kare farkının yanı sıra model-veri uyum indisleri arasındaki değişim de incelenmiştir. Buna göre her aşamada elde edilen ki-kare değeri ile bir önceki aşamada elde edilen ki-kare değeri ile serbestlik dereceleri arasındaki fark hesaplanmı, ki-kare tablosundan yararlanılarak ilgili serbestlik derecesi farkında ki-kare farkının anlamlı olup-olmadığına bakılmıştır. Eğer anlamlıysa, modelde yapılan sınırlamanın model-veri uyumunda anlamlı bir kötüleşmeye neden olduğu, yani ölçme değişmezliğinin sağlanamadığı yorumu yapılmıştır. Aksi durumda ise sınırlamanın modelde kayda değer bir kötüleşmeye neden olmadığı ve buna bağlı olarak modelde sınırlandırılan özelliğin (faktör yükü, kesişim noktası ya da artık varyans) değişmezliğinin sağlandığı yorumu yapılmıştır.

Bazı araştırmacılar, ki-kare örneklem büyüklüğünden çokca etkilendiğinden ölçme değişmezliği çalışmalarında ki-kare fark testinin yanı sıra ΔCFI ve ΔRMSEA değerlerinin incelenmesini ve bu değerlerin .01'den büyük olmasının anlamlı kabul edilmesini önermişlerdir (Cheung & Rensvold, 2002; Little 1997; Vandenberg & Lance, 2000). Bu araştırma kapsamında ise her iki yöntem de kullanılmış ve raporlanmıştır.

BULGULAR

Bu araştırma kapsamında Çakmak, Çebi ve Kan (2014) tarafından geliştirilmiş olan Sosyal Bulunuşluk Ölçeği'nin tekrarlı ölçümlerde boylamsal ölçme değişmezliği incelenmiştir. Araştırma Açıköğretim Sistemi öğrencilerinden katılıma gönüllü olan 259 öğrenciden üç ay arayla alınan veriler üzerinde gerçekleştirilmiştir. Katılımcılar, Sosyoloji bölümünde öğrenim gören İnsan ve Toplum dersi öğrencileridir.

Araştırma kapsamında her bir değişmezlik adımı için elde edilen snuçlar, aşağıdaki tabloda özetlenmiştir.

Değişmezlik Modeli	ΔX^2(sd)	ΔCFI	ΔRMSEA
Biçimsel-Metrik	21,839 (14)	0,00	0,00
Metrik-Skaler	23,170 (12*)	0,00	-0,001
Skaler-Katı	29,73 (20)	0,00	0,00

*p<.05

Table 2. Boylamsal Değişmezlik için Uygulanan Analiz Sonuçları

Tabloda ilk satıda, ilk adımda uygulanan biçimsel eşdeğerlik ile ikinci adımda faktör yüklerinin sınırlandırılmasıyla elde edilen metrik eşdeğerlik analizleri arasındaki karşılaştırmalar görünmektedir. Buna göre ilk iki adımdaki bu modeller arasındaki ki-kare farkının 21.839 olduğu, bu farkın ise serbestlik dereceleri farkı olan 14 için .05 düzeyinde istatistiksel olarak anlamlı olmadığı görülmektedir. Bunun yanında iki modelin CFI ve RMSEA değerleri arasında da fark yoktur. Buna bağlı olarak ölçeğin boylamsal olarak metrik değişmezliği sağladığı sonucuna varılmıştır.

İkinci satırda, ikinci ve üçüncü adımda uygulanan modeller arasındaki ki-kare ve serbestlik dereceleri farkı görülmektedir. Burada amaç, kesişim noktalarının her iki modelde de aynı kestirilmesine dayanan skaler değişmezliğinin test edilmesidir. Ancak skaler değişmezlik betikleri yazıldıktan sonra analizler sırasında iterasyonlar tamamlanmamıştır. Bu durumun modelin karmaşıklaşması ve bir yandan da örneklemin bu karmaşık modele göre oldukça küçük olmasından kaynaklandığı düşünülebilir. Bu duruma bir çözüm bulmak amacıyla *Bootstarp* metodundan yararlanılmıştır. Bu komutla analizin 500 kez tekrarlanması sağlanmış ve elde edilen ki-kare farkının serbestlik derecesi farkında istatistiksel olarak anlamlı olduğu görülmüştür. Bu aşamada yapılması gereken, modifikasyon indseklerine bakarak değişmezliği sekteye uğratan kesişim noktalarının belirlenmesi gerekir. Ancak Bootstrap metodundan modifikasyon alınamamaktadır. Bu nedenle söz konusu işlem yapılamamıştır. Bununla birlikte CFI ve RMSEA değerlerinde istatistiksel olarak anlamlı bir değişimin olmadığı görülmektedir. Ki-kare farkının da çok yüksek olmamasından yola çıkarak, genel olarak skaler değişmezliği sekteye uğratacak bir durum olmadığı sonucuna ulaşılmıştır.

Son aşamada katı değşmezlik test edilmiştir. Bir önceki aşamada elde edilen ki-kare ile 29.73 olarak ortaya çıkan farkın, 20 serbestlik derecesinde istatistiksel olarak anlamlı olmadığı görülmüştür. Bu durumu destekler biçimde CFI ve RMSEA değerlerinin değişimi de istatistiksel olarak anlamlı değildir. Bir başka ifadeyle ölçeğin boylamsal olarak katı değişmezliği sağladığı sonucuna varılmıştır.

Bu araştırma kapsamında Sosyal Bulunuşluk Ölçeğinin boylamsal değişmezliğini tehdit edecek bir duruma rastlanmamıştır. Her bir aşamada değişmezlik modelleri sınırlılığı artırmasına karşın, model-veri uyumlarında çoğu durumda değişme olmadığı görülmüştür.Ancak, Bootstrap kullanılması sonucu modifikasyonların elde edilememiş olması **nedeniyle**, **metrik** ve skaler modeller arasındaki farkın anlamlılığının muhtemel kaynağı olan kesişim noktalarına ilişkin bir çıkarımda bulunamamış olması bu çalışmanın sınırlılığıdır. Genel olarak, tekrarlı ölçümlerde ön-son test farklılıklarını karşılaştırmaya engel bir durum olmadığı söylenebilir.

ÖNERİLER

Araştırmadan çıkan:

Ölçme değişmezliği çalışmalarında model karmaşıklaştıkça, iterasyonların sağlıklı sonuç vermesi için örneklem büyüklüğünün artırılması önerilmektedir.

Araştırmacılara dönük:

Boylamsal değişmezliğin, tekrarlı ölçümlere dayalı boylamsal araştırmalarda çoğu zaman göz ardı edildiği görülmektedir. Araştırmacılarda bu hususa ilişkin farkındalığın artması ve benzer çalışmalarda değişmezliklerin raporlanması önerilmektedir.

Tekrarlı ölçümlerin sayısının artırıldığı (üç, dört, ...) çalışmalarda ortaya çıkacak değişmezlik sonuçlarının raporlanmasının, değişmezlik durumlarına zamanın olası etkisinin daha iyi ortaya koyabileceği değerlendirilmektedir.

Araştırma kapsamında verilerin sürekli değil, sıralı kabul edilmesi durumunda WLSMV başta olmak üzere farklı kestirim yöntemleriyle elde edilen analizlerin bu sonuçlarla karşılaştırılması literatür açısından yararlı olabilir.

Benzer biçimde açımlayıcı yapısal eşitlik modellemesine dayalı değişmezlik yöntemleriyle, buradan elde edilen geleneksel yöntemler karşılaştırılarak elde edilen sonuçların paylaşılması ilgi çekici olabilir.

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Yükseköğretimde Kalite Kültürü

Betül GÜMÜŞ[1], Alper BEKKİ[2], İ. Cemil ULUKAN[3]

Özet

Bu bildiri yükseköğretimde kalite kültürü konusuna odaklanmaktadır. Kalite kültürü kalite yönetimi felsefesinin temel yapı taşıdır ve kaliteye ilişkin ortak ya da paylaşılmış değerlerin toplamıdır. Bir ülkedeki yükseköğretim kurumlarının değer sistemleri, yetenekleri, politikaları, programları, alışkanlıkları ve inançları o kurumların kalite kültürünü oluşturmaktadır. Kalite kültürü; işleri doğru yapmayı, sürekli gelişimi, takım çalışmasını, yetkilendirmeyi, hata yapanı suçlamak yerine hatalardan ders almayı ve iletişimi destekleyen dinamik ve şeffaf bir kültür türüdür. Her alanda olduğu gibi yükseköğretim alanında da kalite kültürü oluşturma süreci uzun vadeli, yoğun emek, sabır, inanç ve katılım gerektiren oldukça zorlu bir süreçtir. Ancak kalitenin özümsenmesi ve sürekliliğinin sağlanabilmesi için kalitenin geçici çabalardan ziyade kültür haline gelmesi önemli ve gereklidir. Yükseköğretimde kalite kültürünün oluşturulması mevcut kültürün analiz edilmesini, kalite kültürünün gelişimini destekleyen ilke, politika ve standartların belirlenmesini, kalite ilgili süreçlerin değerlendirilmesini, aksaklıkların nasıl giderileceğine yönelik öneriler geliştirilmesini, tüm paydaşların (öğrenciler, öğretim üyeleri, teknik ekipler, veliler, toplum üyeleri vb.) görüşlerinin alınmasını ve nihayetinde kalite kültürünün sürdürülebilirliğinin sağlanmasını kapsayan sonsuz bir yolculuktur. Bu bildiride de yükseköğretimde kalite kültürü oluşturma ve sürekliliğini sağlama konusu detaylı şekilde incelenmiş ve kalite kültürü oluşturmada kritik noktalara değinilmiştir.

Anahtar Kelimeler: *Kalite kültürü, yükseköğretim*

GİRİŞ

Kurumların kaliteli olması ve kalite gelişiminin daha geniş, "kültürel" bir görüş gerektirdiğine dair yeterli kanıt bulunmasına rağmen (Ehlers, 2009:19-20) ülkemizde bu alanda çok az çalışma yapılmış ve yayınlanmıştır. Türkiye'de Temmuz 2019 itibari ile 129 devlet, 74 Vakıf üniversitesi ile 5 Vakıf Meslek Yüksek Okulu olmak üzere toplam 208 yükseköğretim kurumu bulunmaktadır. Bu kurumlarda okuyan öğrenci sayısı 7.740.502, öğretim üyesi sayısı ise 168.343'dür (https://istatistik.yok.gov.tr, Erişim Tarihi: 10.07.2019). Kendisi bile başlı başına çok büyük sayıda kişiyi barındıran yükseköğretim kurumlarının yıllar itibari ile etkiledikleri öğrenci, çalışan, veli ve nihai olarak toplum yapısı göz önünde bulundurulduğunda kalitenin bu kurumlarda bir kültür haline gelmesinin topluma sağlayacağı fayda çok büyüktür. Japon kalite uzmanı Ishikawa'nın ünlü sözü "Kalite, eğitimle başlar eğitimle biter." sözü bu açıdan çok önemlidir.

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Türkiye zaman içerisinde yükseköğretimdeki kalite konusunda önemli adımlar atmış olsa da sınırlı bir mesafe kat edebilmiştir. Ülkemizde yükseköğretimde kalite kültürünün nasıl oluşturulup benimseneceği konusunda ilgili yazında bir görüş birliği yoktur ve ayrıca kültür; basitçe müdahale edilen bir değişken ve/veya strateji ile iş sonuçları arasındaki bir katman da değildir. Bir örgütün kültürü o örgütün niteliğini, biçimlerini ve içindeki insanların etkileşimini açıklayan bir değişkendir ve aslında örgütlerin kültürleri yoktur; her örgüt başlı başına bir kültürdür. Bu açıdan kültüre yönelik varsayımlar, uzun vadeli bir strateji ile açıkça belirtilmelidir (Claver vd. 2001:469-471). Bu çalışmanın amacı da kalite kültürünün oluşturulması ve sürekliliğinin sağlanması konusunda bir takım önerilerde bulunmaktır.

Kalite Kültürü

Kalite kültürü; kaliteli olma yolunda hareket eden bir kurumun kaliteye ilişkin değerleri öğrenmesi, bu değerleri yerleştirmesi ve sürekli uygulanabilir kılması sürecindeki uğraşlarının tümüdür (Şimşek, 2000:77'den aktaran Vural ve Sohodol: 2004:231). Kalite kültürü; yüksek sosyal ilişkiyi besleyen kültürel yapıyı, bireylere saygıyı, üyelik duygusunu, örgütlenmeyi ve sürekli iyileşmenin ortak yarar için olduğu inancını temsil etmektedir (Dale vd.1994'den aktaran Jince, 2015:51).

Kalite kültürü; işleri doğru yapmayı, sürekli gelişimi, hata yapanı suçlamak yerine hatalardan ders almayı, çalışanların yalnızca kalite yönergelerini izlemekle kalmayıp aynı zamanda kalite odaklı faaliyetlerde bulunduğu ve herkesin kalite hakkında konuştuğu dinamik ve şeffaf bir kültür türüdür. Kalite kültürü örgütün kalite ile ilgili tüm uygulamalarını, temel değerlerini ve felsefesini kapsayan bir kavramdır ve örgütün her boyutunda daha kaliteli hizmet arayışı içindeki tüm insanların ve kaynakların yoğunlaşmasını gerektirmektedir (Batten, 1994'den aktaran Viljoen ve Waveren, 2008:1782). Kurumların değer sistemleri, yetenekleri, politikaları, programları, alışkanlıkları ve inançları o kurumların kalite kültürünü oluşturmaktadır.

Kültür, her organizasyona özgü olmasına rağmen, özellikle bazı unsurların kalite kültürünü tanımladığı bu alanda çalışan uzmanlarca kabul edilir. Bu unsurlar; liderlik ve üst yönetim taahhüdü, müşteriye odaklanma, sürekli iyileştirme, eğitim ve öğretim, takım çalışması, çalışan katılımı, yetkilendirme, tedarikçi ortaklığı, ödüller ve tanıma, iletişim, motivasyon, organizasyon yapısı, strateji ve kalite politikasıdır (Mahmood ve Mohammed, 2008:252; Malhi, 2013:2; Woods, 1997:50-54; Kanji ve Wallace, 2000:981; Pakdil, 2004:170; ASQ:2014:33; Kuncoro, 2013:22-23; Wilson, 2012:139). Kalite kültürünün hâkim olduğu bir yerde tüm çalışanlar birbirleriyle rahatça iletişim kurabilmekte ve kaliteyi iyileştirmek için kullanılan araçlar hakkında bilgi sahibi olmaktadırlar. Kalite kültürünün yerleştiği kurumlarda sıkı bir iletişim ağı gözlenmekte, kurumun prosedür ve politikalarının tamamı kaliteyi vurgulamakta ve herkes kalitenin gerçek önemini özümsemiş olmaktadır. Olumlu bir kalite kültürü yaratma, çalışanlarda sadakat oluşturma ve kilit personelin korunmasında önemli bir faktördür. Böyle bir kalite kültürüne ulaşmak için ise üst yönetim liderliği, kendini geliştirme ve güçlendirme, katılım ve tanınma ile kritik başarı faktörlerini ödüllendirme konularına ağırlık verilmesi gerekmektedir. (Gryna 2001:220-221).

Kalite kültürü basitçe uygulanabilecek prosedürlerden ziyade, deneyimlerin öğrenildiği, yaşayan bir süreçtir (Harvey ve Stensaker, 2008'den aktaran Bakay, 2012:24-25). Bu yönü ile kalite kültürü; ortalama beş ile on yıllık planlı ve yoğun bir çaba ile mevcut örgüt kültürünün değişime uğraması sonucu kaliteyi özümseyen yeni bir kültürel yapıyı ifade etmektedir (Dale, 1999:230'dan aktaran Pakdil: 2004:169).

Yükseköğretimde Kalite ve Kalite Kültürü Bağlamı

Dünyada yükseköğretime yönelik talebin artışı, bu talebin yükseköğretim süreci sonucunda diploma vasıtasıyla istihdama dönüşmesi, üniversitelerin uluslararasılaşması ve rekabetçi bir yapıya bürünmesi sebebiyle yükseköğretimdeki kurumların yeniden yapılanma gereksinimi de artmıştır. Bu yapılanma esnasında tartışılan en önemli parametrelerden biri de kalite konusudur (Işık ve Beykoz, 2018:12). Bologna süreci ile 47 ülkenin birlikte kolay anlaşılır ve birbirleriyle karşılaştırılabilir bir yükseköğretim sistemi kurma amacına Türkiye'nin de 2001 yılında dahil olması ve yükseköğretimi daha açık/anlaşılabilir hale getirecek, öğrenme çıktılarının görülmesini sağlayacak yeterlilikler çerçevesinin hazırlanması çalışmaları kalite ile ilgili çabaları da beraberinde getirmiştir (Çelik, 2012:101).

Yükseköğretim Kurumları; üniversite ile yüksek teknoloji enstitüleri ve bunların bünyesinde yer alan fakülteler, enstitüler, yüksekokullar, konservatuvarlar, araştırma ve uygulama merkezleri ile bir üniversite veya yüksek teknoloji enstitüsüne bağlı meslek yüksekokulları ile bir üniversite veya yüksek teknoloji enstitüsüne bağlı olmaksızın ve kazanç amacına yönelik olmamak şartı ile vakıflar tarafından kurulan meslek yüksekokullardır (YÖK Kanunu, 3-c). Yükseköğretimde kalite, belirli bir sistemin, kuruluşun, programın ya da disiplinin belirli standartlarıyla ilgili olduğu kadar eğitim modelinin durumsal şartları, kurumsal görev ve hedeflerle de ilgili olan çok boyutlu, çok katmanlı ve dinamik bir kavramdır. Bu yüzden kalite, (i) yükseköğretimdeki farklı yararlanıcı ya da paydaşların muhtelif çıkar anlayışları (öğrenci/üniversite disiplini/iş piyasası/toplum/devletin belirlediği kalite gereklilikleri); (ii) kalitenin referansları: girdiler, süreçler, çıktılar, misyonlar, amaçlar, vb.; (iii) akademik dünyanın değerlendirmeye değer nitelik ve özellikleri; (iv) yükseköğretimin gelişimindeki tarihsel döneme göre farklı anlamlar barındıran bir kavramdır (Özer, Gür, Küçükcan, 2011:60). Yükseköğretimdeki tüketici kavramı öğrenciler, akademik personel, işverenler, meslek grupları, devlet ve aileler gibi farklı grupları içerdiğinden klasik üretim ve hizmet işletmelerinden ayrılmaktadır (Cryer, 1998 Akt. Yenen ve Gözlü, 2003:30). Eğitim sektöründe "Kaliteli ürün" kavramı, yerini "kaliteli insan" kavramına bırakmıştır (Kalaycı, 2008:166).

YÜKSEKÖĞRETİMDE KALİTE KÜLTÜRÜNÜN OLUŞTURULMASI VE SÜREKLİLİĞİNİN SAĞLANMASI ADIMLARI

Bir örgütte kalite kültürünü geliştirme süreci; örgüt kültürünün kazandırılmak istenen kalite kültürünün unsurlarını kapsayacak şekilde değiştirilmesi esnasında yapılan tüm faaliyetleri bünyesinde barındırır(Alper, 2011:80). Kalite kültürünün oluşturulması

ve sürekliliğinin sağlanması aşamaları farklı yazarlar tarafından farklı şekillerde ele alınmıştır. Konuyla ilgili literatürden derlenen kalite kültürünün oluşturulması ve sürekliliğinin sağlanmasına yönelik aşamalar şunlardır (Efil, 1999:108-110'dan aktaran Alper, 2011:95; Juran and Gryna, 1993'den aktaran Juran ve Godfrey 1999:680-681; Lakhe and Mohanty 1994'den aktaran Erdil vd., 2005:261-262; Malhi, 2013:2-4; Turan ve Odabaş, 168-169; Evans ve Lindsay, 2002'den aktaran Khan, 2006:7):

Kurumdaki Değişim İhtiyacının Fark Edilmesi

Her tür planlı değişim bir ihtiyaç veya zorunluluktan kaynaklanmaktadır. Değişim; kurumun kendi bünyesinden kaynaklanabileceği gibi dışarıdaki unsurların etkisi ile de başlayabilir. Bilgi toplumuna ve ekonomisine geçiş sürecinde değişik toplum kesimlerinin üniversitelerden daha fazla öğrenciye ve daha geniş bir yaş grubuna eğitim vermelerini, programlarını genişletmelerini, mezunların iş bulabilmesini, bölgesel ve ulusal kalkınmaya daha fazla katkıda bulunmalarını, açık ve saydam yönetişim modelleri geliştirmelerini beklemeleri ve tüm bu beklentileri üniversitelerin giderek göreli olarak azalan kamusal kaynaklar ile karşılayabilmek zorunda olmaları (Yükseköğretim Kurulu Raporu, 2007:13-14) yükseköğretim kurumlarını tüm süreçlerini yeniden gözden geçirmeye zorlamaktadır.

Mevcut Kültürün Analizi

Kalite kültürünün geliştirilmesi ile ilgili tüm çalışmalar öncelikle mevcut kültürün analiz edilmesi ile başlar. Bir kurumda güçlü bir kalite kültürü oluşturmak için iki temel adım gereklidir. İlki; mevcut örgüt kültürünü belirlemek için bilgi toplamak ve ikincisi ise kültürü değiştirmek için gerekli adımları atmaktır (Juran ve Godfrey 1999:680).

Arzu Edilen Kalite Kültürünün Belirlenmesi

Bir kurumdaki kalite kültürü süreçler, kurallar ve yönetmelikleri izlerken, ritüeller, inançlar, değerler ve günlük prosedürler gibi örgütlerin kültürel kalıplarına odaklanır (Ehlers, 2009:3) ve dolayısıyla tüm kalite çalışmalarında asıl olan kalite kültürünün örgüte yerleştirilmesidir. Phil Crosby *"Kalite, özenle inşa edilmiş bir kültürel çevrenin sonucudur. Kalite; bir kumaşın parçası değil, organizasyonun dokusu olmalıdır."* diyerek kalite kültürünün önemine ve içselleştirilmesine dikkat çekmiştir (Chemuturi, 2011:16). Yükseköğretim kurumları da kendi kalite kültürlerini oluşturmak için öncelikle yapmış oldukları eğitimin niteliğini, amacını, vizyon ve misyonlarını çok iyi belirlemelidirler. Kalite kavramı bir değer yargısı olup, göreli bir kavram olduğundan üniversiteler, diğer kurumlar, toplum kaliteli iş, kişi ve üründen hangi özellikleri beklediğinin standardını belirlemek zorundadır (Kalaycı, 2008:166). Bu konuda etkin çalışmaları olan Yükseköğretim Kalite Kurulu hedeflenen kalite kültürünü üniversitede akademik ve idari tüm süreçleri kapsayacak kalite politikasının bulunması, İnsan kaynakları yönetiminde adil davranılması ve başarılı personelin ödüllendirilmesi, kurumsal aidiyetin sağlanması ve sürdürülmesi, etkin bir liderlik

anlayışı içerisinde kalite süreçlerinin sahiplenilmesi ve sorumlulukların paylaşılması olarak tanımlamıştır. Bunun yanında; temel paydaşlar ile etkin iletişim sağlanmalı ve uzlaşı içerisinde hareket edilmeli, akademik ve idari birimler ile yönetim arasında etkin bir iletişim ağı oluşturulmalı, kalite güvencesi süreçleri bilgi yönetim sistemleri ile desteklenmelidir (https://portal.yokak.gov.tr/makale/kalite-guvencesi-kulturu/ Erişim Tarihi: 10.07.2019).

Paydaşların Görüşlerinin Alınması ve Sürece Dâhil Edilmeleri

Kalite sistemlerinin başarısı, kurumun tüm üyelerinin sürece dâhil olmalarına ve sisteme bağlılık göstermelerine dayanır. Üniversitelerde kalite kültürü gelişiminin önündeki en önemli engeller; öğrencilerin karar alma süreçlerine dâhil olmamaları ve akademik personelin yetkilendirilmemesidir. Öğrencilerin, akademik personelin ve idarecilerin artan ihtiyaçlarını göz ardı etmenin yanı sıra yeterli mali, ve insani kaynakların bulunmaması da kalite kültürünün oluşturulmasında ciddi engeller oluşturmaktadır (https://portal.yokak.gov.tr/makale/kalite-guvencesi-kulturu/ Erişim Tarihi: 10.07.2019). Bu yüzden paydaşların sürece dâhil edilmeleri, kalite kültürünü içselleştirmeleri ve zamanla onların sürecin mimarı olmaları son derece önemlidir.

İletişim Kanallarının ve Katılımcı Yönetim Anlayışının Güçlendirilmesi

İletişim bir kurumdaki en önemli süreçlerden biridir. Bir organizasyonda başarıya ancak grup üyeleri arasında ve diğer örgütsel üyeler ve gruplarla başarılı bir iletişim kurulması halinde ulaşılabilir (Karaçor ve Şahin, 2004:98). Bu açıdan kalite kültürünün geliştirilmesi sürecinde iletişim kanallarının açık olmasına ve paydaşların endişelerinin giderilerek sürece dahil olmalarına özellikle çaba gösterilmelidir.

Sürekli İyileştirme Bakış Açısının Her Kademedeki Çalışana Yerleştirilmesi

Kalite kültürü; sürekli iyileştirme (kaizen) bakış açısına dayanmaktadır. Sürekli iyileştirme felsefesi gelişmenin sıçrama yoluyla değil düzenli ve küçük atılımlar yolu ile olacağını ifade eder. Sürekli iyileştirmede temel hedef; belirli bir standardı tutturmak değil ulaşılan seviye ne olursa olsun, o seviyeyi sürekli olarak geliştirmektir. Bu felsefeyi benimseyen bir kurumun bütün birimlerinde her gün mutlaka bir miktar gelişme yaşanmalıdır (Kavrakoğlu, 1993:13'den aktaran Şimşek, 2002:37).

Kalite Kültürünün Üst Yönetimlerce Desteklenmesi

Kalite sistemlerinde kilit nokta üniversite yönetimlerinin kalite güvence sistemini sahiplenmesi ve bunu kurum boyunca diğer alt birimlere yayılması gerektiğidir. (Işık ve Beykoz, 2018:20-21). Kalite kültürünü oluşturmak üst yönetimin sorumluluğudur ve bu yüzden yönetimin üzerine düşen sorumluluğu üstlenmesi ve tüm çalışanların katılımını sağlaması bir zorunluluktur. Her şeyden önce yönetimin kalitenin önemini kavraması ve kalite bilincini kazanması, kalite kültürünün geliştirilmesi ve diğer çalışanlara kazandırılması için çok mühimdir.

Kalite ile İlgili Eğitim Faaliyetlerinin Planlanması ve Uygulamaya Konması

En başarılı kalite uygulamalarının Japonya'da gerçekleşmesi bir tesadüf değil, eğitim ve gelişime verilen önemin doğal bir sonucudur (Uğurlu, 1996:90). Kalite kültürü ile ilgili eğitim faaliyetleri planlanarak uygulanmalı ve bu eğitimlerin güncellenmesi aksatılmamalıdır.

Çalışanlardan Beklenen Davranışların Güçlendirilmesi

Örgüt kültürünün bünyesinde kalite kültürünün oluşturulmasıyla birlikte örgüt bünyesindeki herkes, değişen örgüt kültürüyle tutarlı bir kültür değişimine gereksinim duyacaktır. Bir kültürel değişimin başarısını yeni benimsenecek kültürün çalışanların kişisel değerleri ile uyum oranı da belirlemektedir. Bu sebeple çalışanlar kalite kültürünü benimserse kurumun kalite kültürünü içselleştirmesi çok daha kolay olacaktır.

Kalite Kültürü Sürecinin Takip Edilmesi ve İlerlemelerin İç ve Dış Uzmanlarca Değerlendirilmesi

Herhangi bir kültürel değişimde olduğu gibi bir kalite kültürünün gelişimi de uzun vadeli bir süreçtir, çeşitli etkileşimlerin bir sonucudur ve yukarıdan aşağı ve aşağıdan yukarıya süreçlerin etkileri ile şekillenir (Schein 1990'dan aktaran Lanarès,2009:1). Hedeflenen kalite kültürüne yönelik ilerlemenin değerlendirilmesinde kurumun sahip olduğu mevcut kalite değerleri ile benimsenmesi istenen kalite değerleri kıyaslanmalıdır. Böylelikle kalite kültürü farklılık analizi yapılabilir.

Ek Adım - Kalite Kültürünün Sürdürülebilirliğinin Sağlanması

Bir yükseköğretim kurumunda kalite kültürü oluşturmak zordur ama oluşturulan kalite kültürünün sürdürülmesi daha da zordur. İstenilen davranışların elde edilip edilmediğini belirlemek için kültürel değişim çabalarının sürekli olarak izlenmesi, değerlendirilmesi ve kültürel değişim çabaları başarısız olursa düzeltici önlemler alınması önemlidir. Harvey ve Stensaker kalite kültürünün bir yaşam tarzı olarak ele alınması ve basitçe uygulanabilecek prosedürlerden ziyade, deneyimlerin öğrenildiği, demokratik kavram ile ilişkilendirilmiş, yaşanan bir süre olarak benimsenmesi gerektiğine dikkat çekmiştir. Kalite kültürü kapsamlı bir düşünce sisteminin oluşturulmasıdır ve daha önceden belirlenmiş açıklamalar ve hazır reçeteler ile ifade edilemez (Harvey ve Stensaker, 2008'den aktaran Bakay, 2012:24-25). Bu açıdan süreç sürekli gözlenmeli ve yenilenmelidir.

TARTIŞMA VE SONUÇ

Dünya'da ve Türkiye'deki yükseköğretim kurumlarının öğrenim kalitesinin beklenen seviyede olmaması, eğitimin küreselleşmesi, kamu yardımlarının azalması, öğrenci demografisinin değişimi, online ve uzaktan eğitim programlarının hızlı artışı gibi çeşitli etmenler onları tüm süreçlerini gözden geçirmeye zorlamaktadır. Yükseköğretim'de kalite ile ilgili 1994'te Türkiye'de ABET (Accreditation Board for Engineering and Technology) akreditasyon çalışmaları başlatmasından, 2002'de üniversitelerin Avrupa Üniversiteler Birliği'nden kurumsal değerlendirme almaya başlamasına, 2005'de YÖK bünyesinde "Yükseköğretim Akademik Değerlendirme ve Kalite Geliştirme Komisyonu"(YÖDEK) kurulmasından, 2010'da YÖK tarafından Türkiye Yükseköğretim Çerçevesi onaylanmasına kadar pek çok çalışma vardır. (SETA, 2012:56) Ancak eğitim kurumlarındaki kalite uygulamalarına bakıldığında, kurumlarda kalite kültürünün oluşturulamadığı, bunun yerine bazı sloganlara ve geçici aktivitelere ağırlık verildiği ve teorik olarak bütün kurumların kültürün önemli olduğunu belirtirlerken uygulamada bunu çoğu kez ihmal ettikleri görülmektedir (Özdemir, 2005:9). Tüm kalite çalışmaları bir kültür haline dönüştürülmedikçe kalıcılığının sağlanamayacağı aşikârdır. Bu yüzden tüm kalite çalışmalarının öncelikle kalite kültürünü oluşturmaya yönelmesi, sonrasında sistemin içeriksel çalışmalarının (prosedür, talimat, iş akış şemaları vb.) yapılması gerekmektedir.

Kalite kültürü gelip geçici bir heves ya da kısa vadeli bir plan değil bir yaşam tarzıdır. Yılları alan bir emek, çaba, katılım gerektirmektedir ve bu süreçte istikrar çok önemlidir. Bu bakımdan kurumlarında kalite kültürü oluşturmak ve geliştirmek isteyen yöneticilerin yılmadan, sabırla, kültürü oluşturmaya çalışması ve çalışanları halka halka sürece dâhil ederek kararlılıkla devam ettirmeleri çok mühimdir (Gümüş, 2019:117). Bu çalışmanın bu yönde katkı sağlaması ve bundan sonraki çalışmalara yol göstermesi en büyük temennimizdir.

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Öğretim Tasarımcısı Rollerinin Belirlenmesi Ölçeğinin Geçerlik ve Güvenirlik Çalışması

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Özet

Öğretim tasarım süreci ilk insanların mağara duvarlarına çizdikleri resimlerle başlamaktadır. Ancak İkinci Dünya Savaşı'nda asker ihtiyacını karşılamak amacıyla askerlere verilecek olan eğitimlerin tasarlanmasıyla önemini artırmıştır. Öğretim tasarımına ilişkin alanyazında çeşitli tanımlamalar olmasına rağmen öğretim tasarımını yapacak kişi yani öğretim tasarımcısı ile ilgili net tanımlamalar bulunmamakta. Öğretim tasarımcısı rollerine ilişkin farklı açıklamalar bulunmakta. Fakat bu açıklamalar teknik boyutta kalmaktadır. Bu bağlamda bu çalışmanın amacı öğretim tasarımcısı rollerini belirlemek ve bu rollere ilişkin ölçme aracı geliştirmektir. Bu amaç doğrultusunda bir ölçme aracı geliştirilmeye başlanmıştır. Açımlayıcı faktör analizi aşamasının gerçekleştirildiği bu çalışmada çalışma sonuçlarına bağlı olarak da gelecekte yapılacak çalışmalara yönelik öneriler sunulmaya çalışılacaktır.

Anahtar Kelimeler: *Öğretim tasarımı, öğretim tasarımcısı, öğretim tasarımcısı rolleri.*

GİRİŞ

Öğretim tasarımı ve öğretim tasarımcısı kavramını insanların mağarada yaşadığı dönemlere kadar götürmek ve duvara çizilen resimleri öğretim tasarımının ilk örnekleri ve bu resimleri yapan insanları da ilk öğretim tasarımcıları olarak görmek mümkündür. Bununla birlikte öğretim tasarımı süreçlerinin günümüz anlamıyla kullanımının kökeni İkinci Dünya Savaşı'nda Amerika Birleşik Devletleri'nin (ABD) asker ihtiyacını karşılamaya yönelik çalışmalara gitmektedir (Baker, 1973; Dick, 1987; Saettler, 1990). Bu dönemde yapılan çalışmalar öğretim tasarımı kuramsal temellerini oluşturmuş ve sonraki dönemlere kaynaklık etmiştir. Çağdaş tanımı itibariyle ise Amerika Birleşik Devletleri'nde 1990'larda belirmeye başlayan; Rowland'ın (1992) ifadesiyle etkili ve verimli eğitimleri etkili ve verimli bir şekilde vermek için "Öğretim Sistemleri Tasarımı" eğitimi alan bireyleri, şu an öğretim tasarımcısı olarak adlandırdığımız mesleğin ilk öncülleri olarak adlandırabiliriz.

Öğretim sistemleri tasarımı zaman içerisinde adını öğretim tasarımına bırakırken Molenda'nın (2003) ifadesiyle 1960'larda radyo, televizyon, film, sunular ve ses kayıtları gibi görsel-işitsel ortamlara odaklanan öğretim teknolojisinin odağı 1980'lerin ortasında çarpıcı bir şekilde bilgisayara yönelmiştir. Bu yönelim öğretim tasarımı alanından beklentileri değiştirip arttırırken, eşzamanlı olarak öğretim tasarımcısından da beklentileri ve bu beklentileri karşılayacak beceri ve yeterlilikleri değiştirip arttırmıştır.

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Öğretim Tasarımı

Öğretim tasarımcısını tanımlayabilmek, yeterliliklerini ve becerilerini belirleyebilmek için Rowland'ın (1992) "Öğretim tasarımcıları tam olarak ne yapar?" sorusuna yanıt vermek gerekir. Bu sorunun yanıtı yapılan "öğretim tasarımı" tanımlarıyla değişmektedir; ancak, **öğretim tasarımı öğretme-öğrenme süreçlerindeki program geliştirme, materyal hazırlama, eğitim planlaması** gibi birçok kavramla ilgili olduğundan (Akkoyunlu, Altun ve Soylu, 2008; Şimşek, 2009) karşımıza farklı alanlara yönelik birçok öğretim tasarımı tanımı çıkmaktadır.

Öğretimin tasarım, geliştirme, uygulama, yönetim ve değerlendirme etkinliklerinden oluştuğunun söylenebileceğini ifade eden Reigeluth (1999) öğretim tasarımının öğretmenler ve öğretim geliştiriciler tarafından yapılan profesyonel bir etkinlik olduğunu belirtir. Bu etkinliği, belirli bir öğrenci topluluğu ve belirli bir kurs için, öğrencilerin bilgisinde ve yeteneklerinde istenen değişikliklerin hangi öğretim yöntemleriyle en iyi biçimde kazandırılacağının seçilmesi süreci olarak tanımlar. **Smith ve Ragan'a (2005) göre öğretim tasarımı; öğrenme (learning) ve öğretme (instruction) ilkelerinin öğretimsel materyaller, etkinlikler, enformasyon kaynakları ve değerlendirme için planlara dönüştürüldüğü sistemli ve yansıtıcı süreçtir.** Akkoyunlu, Altun ve Soylu (2008) öğretim tasarımını, çok çeşitli biçimde tanımlanmasına karşın, temelde öğrenen koşullarını analiz ederek, bu analizlere dayalı ve öğrenen için tatmin edici bir öğrenme ortamı düzenlemek olarak tanımlamışlardır. Özel durumlar dışında, öğretim tasarımı çalışmalarını yaşanan sorunlardan hareketle eğitim gereksinimlerinin saptanıp bu gereksinimleri karşılamak için tasarımlanmış ve denenmiş bir öğrenme sistemiyle son bulan süreç olarak ifade eden Şimşek (2009), **öğretim tasarımını, eğitim gereksinimlerini karşılamaya yönelik etkili, verimli ve çekici öğrenme sistemlerinin geliştirilmesi** olarak tanımlamaktadır.

Öğretim Tasarımcısı

Öğretim tasarımcısını tanımlayabilmek, yeterliliklerini ve becerilerini belirleyebilmek için Rowland'ın (1992) "Öğretim tasarımcıları tam olarak ne yapar?" sorusuna yanıt vermek gerekir. Bu sorunun yanıtı yapılan "öğretim tasarımı" tanımlarıyla değişmektedir; ancak, öğretim tasarımı öğretme-öğrenme süreçlerindeki program geliştirme, materyal hazırlama, eğitim planlaması gibi birçok kavramla ilgili olduğundan (Akkoyunlu, Altun ve Soylu, 2008; Şimşek, 2009) karşımıza farklı alanlara yönelik birçok öğretim tasarımı tanımı çıkmaktadır.

Öğretim tasarımcısı, tasarım çalışmasının yürütülmesi ve koordinasyonundan sorumlu; öğretim tasarım sürecinin tüm boyutlarını yönetmede yetkin kişidir (Akkoyunlu, Altun, Soylu, 2008). Öğretim hedeflerine ulaşmak için öğretim tasarımı yapılırken sürecin en önemli parçalarından biri öğretim tasarımcılarıdır. Öğretim tasarımcıları, öğretim tasarımının yaratıcılarıdır. Eğitim başlamadan önce, ayrıntıları belirlerken ve tasarıyı oluştururken mimarlar gibi çalışırlar. Bazen de tasarladıklarını inşa ederler, bu açıdan öğretim tasarımcıları rota geliştiricilerdir (instructionaldesign.gordoncomputer, 2011).

Profesyonel bağlamda **öğretim tasarımcıları; proje yöneticisi ve farklı teknik personel gibi üyelerin bulunduğu bir takımın parçasıdırlar (Bryan, 2011).** Buradan anlaşılacağı gibi öğretim tasarımı bir takım işidir. Şimşek (2009) bu takımın, temel

olarak bir öğretim tasarımcısı, bir konu alanı uzmanı, üretimden sorumlu kişiler, destek elemanları ve bir yönetici içermesi gerektiğini, bazen bu kişilerin birden fazla rol üstlenebileceğini ancak tasarımın büyüklüğüne ve kapsamına göre takım üyelerinin değişeceğini belirtmiştir.

Öğretim Tasarımcısı Rol ve Yeterlikleri

Bir öğretim tasarımcısının etkili bir şekilde çalışma yapabilmesi için bazı rol ve yeterliliklere sahip olması gerekmektedir. Roller öğretim tasarımcısının yapması gerekenleri kapsarken, yeterlilikler de sahip olması gereken özellikleri kapsamaktadır. Her bir rolü gerçekleştirmek için ona uygun yeterlilikleri iyi belirlemek gerekir. Bunun için de rolleri iyi tanımlamak gerekmektedir.

Öğretim tasarımcısı için gereken rolleri Betrus ve Sugar (2002) beş başlık altında toplamıştır. Bunlar öğretim tasarımcısının problem çözücü, danışman, sanatçı, kullanıcı ve uygulayıcı rolleridir. Bu roller ile sorunsuz, etkili iletişim içeren, başarılı, müşteri odaklı ve verimli bir ortam elde etmek hedeflenmektedir.

Bu çalışma; "öğretim tasarımcısı kimdir?" sorusuna "öğretim tasarımcısı yeterlilikleri ve becerilerini" tanımlayarak yanıt vermek istemektedir. Bu sorunun yanıtının, öğretim tasarımı alanına katkısının yanında, BÖTE bölümlerinde verilen eğitimi ve öğrenci yeterliliklerini değerlendirmek içinde yardımcı olacağı düşünülmektedir.

Liu, Gibby, Quiros ve Demps (2002) öğretim tasarımcısının kendisini teknolojiyle aynı hızda geliştirmesini ve iş piyasasını takip etmesini önermektedirler. Öğretim tasarımcısı yeterliliğini de dört grupta toplamışlardır. Bunlar iletişim becerisi, öğretim tasarımı yeteneği, problem çözme - karar verme becerisi ve teknoloji bilgisidir. İyi bir öğretim tasarımcısı, ekibi ve diğer insanlarla iletişim kurabilmeli, öğretim modelleri ve stratejilerini iyi bilmeli, her türlü zorluğun üstesinden gelebilmeli ve kullanılan önemli yazılım araçlarını bilmelidir. Miller (2007) e göre öğretim tasarımcısı öğrenmeyi etkileyen faktörleri bilmeli, hedef kitleye uygun olarak bilgiyi daha öğrenilebilir hale getirebilmeli, öğretim medyalarının özelliklerini ve kullanımlarını bilmeli, öğrenme nesnesi tasarlayabilmeli ve az maliyetle çok fayda ortaya koyabilmelidir. Larson ve Lockee (2009) öğretim tasarımcısı yeterliliklerini yedi grupta toplamışlardır. Bunlar temel yetkinlik, iletişim yetkinliği, kişiler arası ilişki yetkinliği, analitik yetkinlik, proje yönetimi yetkinliği, iş yetkinliği ve teknolojik okur-yazarlık yetkinliğidir. Öğretim tasarımcısının sözlü ve yazılı becerileri olmalı, konuşma ve sunum becerisi olmalı, ikna ve motive edici özelliği olmalı, eleştirel düşünme ve problem çözme becerisi olmalı, yönetici özellikleri olmalı, organizasyon ve endüstri bilgisi olmalı ve son teknolojileri bilmelidir. Foureman (2010) öğretim tasarımcısını bir lider olarak tanımlamaktadır. Buna dayanarak öğretim tasarımcısı örgütsel, sezgisel, kararlı ve eylem odaklı olmalı, kaliteli bir eğitim ortamı oluşturabilmeli, yenilikçi ve sorumluluk sahibi olmalıdır. Roytek (2010) öğretim tasarımcısı yeterliliklerini iki kategoride toplamıştır. Bunlar temel ve teknolojik yeterliliklerdir. Temel yeterlilikler arasında endüstri bilgisi, içerik bilgisi, kısa ve net yazma becerisi, organizasyon becerisi ve ekip içinde çalışma yeteneği yer almaktadır. Teknolojik yeterlilikler arasında ise bilişim yazarlığı, elektronik şablon tasarlama, programcılar ile iletişim becerisi ve yeni teknoloji bilgisi yer almaktadır.

Bu bağlamda bu çalışma "öğretim tasarımcısı kimdir?" sorusuna "öğretim tasarımcısı yeterlilikleri ve becerilerini" tanımlayarak yanıt vermek istemekte ve öğretim tasarımcısı yeterliklerine ilişkin ölçme aracı geliştirmeyi amaçlamaktadır.

YÖNTEM

Araştırma Modeli

Çalışma tekil tarama modeline dayalı olarak desenlenmiştir. Tarama modelleri, çok sayıda elemandan oluşan bir evrende, evren hakkında genel bir yargıya varmak amacıyla evrenin tümü ya da ondan alınacak bir grup, örnek ya da örneklem üzerinde yapılan tarama düzenlemeleridir (Creswell, 2014, s. 376).

Çalışma Grubu

Ölçme aracının geliştirilmesine katılan katılımcılar, Bilgisayar ve Öğretim Teknolojileri Eğitimi (BÖTE) Bölümü öğrencilerinden Öğretim Tasarımı dersini almış olan 3. ve 4. Sınıf öğrencileridir. Sekiz farklı üniversiteden öğrenim gören ve çalışmaya katılan katılımcıların özellikleri Tablo 1'de görüldüğü gibidir.

	%	*f*
Cinsiyet		
Erkek	216	%58,2
Kadın	155	%41,8
Toplam	371	100
Sınıf Düzeyi		
3. Sınıf	180	%48,5
4. Sınıf	191	%51,5
Toplam	371	100
Üniversite		
Anadolu Üniversitesi	50	%13,5
Burdur Mehmet Akif Ersoy Üniversitesi	22	5,9
Çanakkale Onsekiz Mart Üniversitesi	48	12,9
Eskişehir Osmangazi Üniversitesi	22	5,9
Giresun Üniversitesi	26	7,0
Konya Necmettin Erbakan Üniversitesi	86	23,2
Sakarya Üniversitesi	29	7,8
Trakya Üniversitesi	88	23,7
Toplam	371	100

Table 1. Katılımcı Bilgileri

Tablo 1'de görüldüğü gibi 371 katılımcıdan veri toplama gerçekleştirilmiştir.

Veri Toplama Süreci ve Araçları

Veri toplama sürecinde araştırmacılar tarafından geliştirilen ölçme aracı kullanılmıştır. Ölçme aracı 40 maddeden ve altı faktörden oluşmaktadır. Ölçme aracının geliştirilmesi süreci Şekil 1'de görüldüğü gibidir.

Şekil 1. Ölçme aracı geliştirme süreci

Şekil 1'de görüldüğü gibi öncelikli olarak madde havuzu geliştirilmiştir. Madde havuzu geliştirilirken ilk olarak üç faktörlü (Kişisel, Öğretimsel ve Yönetimsel) yapıda 33 madde ile başlanmıştır. Ardından faktör yapısı altıya (Mesleki Yeterlilik, Planlama ve Çözümleme, Tasarım, Geliştirme, Uygulama ve Yönetim) dönüştürülmüş ve önceden yazılan 33 madde bu faktörlerin altına yerleştirilmiştir. Altı faktörlü yapıdaki madde havuzu araştırma ekibinin bir sonraki toplantısında 36 maddeye çıkarılmıştır. Araştırma ekibinin uzman görüşüne çıkmadan önce gerçekleştirdiği son toplantıda madde havuzu altı faktörlü yapısını korumuş ve madde sayısı 42'ye çıkarılarak mevcut yapı uzman görüşüne sunulmuş ve farklı üniversitelerde görev yapan BÖTE alanında öğretim üyesi olan beş uzmandan görüş alınmıştır. Uzman görüşü sonucunda gerçekleştirilen düzenlemeler neticesinde 40 maddelik bir yapı elde edilmiştir. Elde edilen 40 maddelik aday ölçme aracı için Türkçe dilbilgisi alan uzmanından görüş alınmış ve maddelerin dilbilgisi açısından herhangi bir sorunu olmadığı belirlenmiştir.

Dilbilgisi açısından alınan uzman görüşünden sonra nihai yapı ile sekiz farklı üniversitede öğrenim gören üçüncü ve dördüncü sınıf BÖTE Bölümü öğrencisinden veri toplanmıştır. Üniversiteler belirlenirken şu an üçüncü ve dördüncü sınıfta öğrencisi olan ancak seneye bu sınıf düzeyinde öğrencisi kalmama ihtimali olan üniversiteler tercih edilmeye çalışılmıştır. Üçüncü ve dördüncü sınıf öğrencilerinin tercih edilmesinin sebebi önceden de belirtildiği gibi ikinci sınıfın bahar döneminde olan Öğretim Tasarımı dersini öğrencilerin almış olmaları temel alınmıştır.

Hazırlanan aday ölçek, Google Drive üzerinden üniversitelerde görev yapan BÖTE bölümü öğretim üyelerine bağlantı adresi paylaşılarak iletilmiş ve öğrencilerin dijital ortamdan doldurmaları sağlanmıştır.

Veri Analizi

Hazırlanan veri toplama aracı ile sekiz farklı üniversiteden 371 kişiden toplanan veriler için Açımlayıcı Faktör Analizi (AFA) gerçekleştirilmiş ve aday ölçme aracının yapısı ortaya konmaya çalışılmıştır. Aday ölçek için AFA aşaması kapsamında toplanan 371 verinin analiz süreci Huck (2012)'nin belirlediği;

- Verinin faktör analizi için uygunluğunun test edilmesi
- Faktör çıkarım yönteminin belirlenmesi
- Faktör döndürme yönteminin belirlenmesi
- Kullanışlı faktör sayısının belirlenmesi
- Faktörlerdeki değişkenlerin belirlenmesi
- Faktörlerin isimlendirilmesi

adımlarına göre gerçekleştirilmiştir.

BULGULAR

Örneklem büyüklüğünün analize uygunluğu açısından Kaiser Mayer Olkin (KMO) örneklem uygunluğu katsayısı ile Barlett Küresellik testi de işe koşulmalıdır. KMO ve Barlett Küresellik testlerinden elde edilen sonuçlar Tablo 2'de görülmektedir.

Kaiser-Meyer-Olkin Örneklem Uygunluğu Testi		,973
Bartlett Küresellik Testi	Yaklaşık Ki-Kare	9308,929
	df	780
	p	,000

Table 2. KMO ve Barlett Küresellik Testi değerleri

Tablo 2'de görüldüğü gibi KMO değeri .973'tür ve Barlett Küresellik testinin sonucu da anlamlı çıkmış ve mükemmel değere sahiptir. Bartlett Küresellik testi sonucunun da anlamlı çıktığı ($p<.05$) görülmektedir. Verilerin AFA aşaması için uygunluğunun test edilmesinde örneklem büyüklüğünün ardından faktör bazlı olarak betimsel istatistik değerlerine bakılmıştır (Tablo 3).

	$\bar{X}$	SS	Çarpıklık	Basıklık
Geliştirme	2,168	0,740	0,545	0,379
Mesleki Yeterlik	2,137	0,665	0,788	1,134
Planlama ve Çözümleme	2,151	0,646	0,757	0,891
Tasarım	2,221	0,699	0,726	1,005
Uygulama	2,162	0,678	0,669	0,578
Yönetim	2,176	0,649	0,718	0,861

Table 3. Aday ölçeğin betimsel istatistik değerleri

Tek değişkenli normallik için sınır çarpıklık değeri ±3 iken basıklık değeri ±10 olarak belirtilmektedir (Kline, 2012). Bu bağlamda Tablo 3 incelendiğinde çarpıklık değerinin 0,788 ile 0,545 arasında, basıklık değerinin ise 1,134 ile 0,379 arasında olduğu görülmektedir. Buradan hareketle aday ölçeğin AFA aşamasında toplanan verilerin tek değişkenli normallik varsayımlarını sağladığı kabul edilmiştir. Faktör çıkarım yöntemi olarak Maximum Likelihood işe koşulmuştur. Döndürme tekniği olarak da Direct Oblimin tercih edilmiştir. Bu doğrultuda gerçekleştirilen analiz sonucunda öz değeri birin üzerinde olan ve %53.363 açıklanan üç faktörlü yapı elde edilmiştir. Faktör yükü (<.25) olan ve farklı faktörlerde yakın yükleri bulunan (<.10) binişik maddeler, yapı-

nın yorumlanabilir olması ve açıklanabilir olması için geliştirilen aday ölçek yapısından çıkarılmıştır (Worthington & Whittaker, 2006). Belirtilen maddelerin ölçekten çıkarılması işlemleri yapılarak 24 maddeden oluşan ve %52,561 açıklanan iki faktörlü yapıya ulaşılmıştır.

TARTIŞMA VE SONUÇ

Öğretim Tasarımcısı Rollerini belirlemeye yönelik gerçekleştirilen bu çalışma sonucunda iki faktörlü aday ölçek elde edilmiştir. Ölçeğin AFA aşamasını, Doğrulayıcı Faktör Analizi aşaması takip edeceği için aday ölçek ifadesi kullanılmaktadır.

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Türkçenin Yabancı Dil Olarak Uzaktan Öğretimi Uygulamaları

Murat Sami TÜRKER[1]

Özet

Birçok toplumun anadili ya da devlet dili olmasına karşın Türkçenin yabancılara öğretilmesi konusunda yakın zamana kadar çok ciddi adımlar atılmamıştır. Tarihe bakıldığında Türkçenin yabancılara öğretilmesi konusunda bilinen ilk eser XI. yüzyılda Kaşgarlı Mahmut tarafından yazılmış olan Divanu Lugati't-Türk'tür. Araplara Türkçe öğretmek amacıyla yazılmış olan bu eser dışında XIX. yüzyıla kadar geçen sürede, çoğunluğu yabancı yazarlar tarafından yazılmış birkaç eser dışında başka eserlere rastlanmamıştır. Günümüzde ise değişen ihtiyaçlar bağlamında teknolojik arayışlar söz konusudur. Hedef kitlenin ilgi ve gereksinimlerine cevap verebilecek yeni yöntem ve öğrenme modelleri eğitimde en sık araştırılan konular haline gelmiştir. Bu bağlamda, yabancı dil olarak Türkçe öğretimine yönelik uzaktan eğitim programları geliştirilmeli ve yaygınlaştırılmalıdır.

Anahtar Kelimeler: *Yabancı Dil Olarak Türkçe Öğretimi*

GİRİŞ

Türkçe, milattan önce dört bin yıl öncesine kadar uzanan dünyanın en eski ve en köklü dilleri arasındadır. Türk Dil Kurumu verilerine göre bugün dünya üzerinde konuşulan dört bine yakın dil arasından Türkçe konuşanların sayısının iki yüz yirmi milyondan fazla olduğu tahmin edilmektedir. Konuşulduğu coğrafyanın sınırları ve konuşur sayıları bakımından değerlendirildiğinde bugün dünya dilleri arasında beşinci sırada yer alan Türkçenin ne kadar yaygın bir dil olduğu da ortaya çıkmaktadır.

Tüm bunlar göz önünde bulundurulduğunda, bu denli köklü ve yaygın kullanılan bir dilin yabancılar tarafından öğrenilmek istenmesi de normal karşılanacaktır. Özellikle son yıllarda; Türkiye'nin turizm, ticaret, teknoloji ve askeri alanlarda uluslararası boyutta önem kazanmasına bağlı olarak Türkiye'yi, Türk kültürünü tanımak ve Türkçeyi yabancı dil olarak öğrenmek isteyenlerin sayısında ciddi artış gözlenmiştir. Bu yönüyle, Türkçenin ülkemiz sınırlarını aşıp küresel boyuta ulaştığı da söylenebilir. Ancak küresel boyutta Türkçeye karşı taleplerin artması, bir takım sorunları da beraberinde getirmiştir. Bahsi geçen nedenlerden dolayı Türkçeyi öğrenme talepleri artarken aynı zamanda bu talepleri karşılayacak eğitimsel altyapının oluşturulması da gerekmektedir.

Yabancı dil olarak Türkçe öğretiminde sistemli bir programlama gerekliliğine, zengin ve alternatifli oluşturulan malzemeye, yöntem ve öğretme tekniklerine ihtiyaç duyulduğu görülmektedir. Bu ihtiyacın giderilmesi disiplinli ve bilimsel çalışma zorunluluğunu beraberinde getirir. Türkçe bugün yurtiçi ve yurtdışındaki pek çok kurum ve dil

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öğretim merkezinde yabancı dil olarak öğretiliyor olsa da bu konuda henüz ne kadar yeni ve yolun ne kadar başında olduğumuz açıkça görülmektedir.

Çağın özellikleri ve öğrenci merkezli birçok modern öğrenme yaklaşımında da vurgulanan hedef kitlenin ilgi ve gereksinimleri eğitim planlamaları ile ilgili en belirleyici unsurların başında gelmektedir. Teknoloji alanında yaşanan hızlı gelişmeler ve bu gelişmeleri aynı hızla takip eden dijital yerlilerin öğrenmeye ilişkin tercihleri, eğitimin içeriği ve uygulama yöntemlerinde büyük değişimlere neden olmuştur (Prensky, 2010). Özellikle bilgi ve iletişim teknolojindeki ilerlemeler sayesinde eğitim geleneksel öğrenme merkezleri olan okul sınırlarını aşmış, bağımsız ve özerk öğrenmeyi teşvik eden yeni eğitim modelleri ortaya çıkmıştır (Şen, 2016). Bu eğitim modellerinin başında hiç şüphesiz uzaktan eğitim modeli gelmektedir. En genel anlamıyla, zaman ve mekândan bağımsız olarak öğrenme-öğretme etkinliklerinin yürütüldüğü eğitim sistemi olarak tanımlanan ve dünya genelinde yaygın şekilde kullanılan uzaktan eğitim, bilgi çağının bir gereği olan yaşam boyu eğitim ihtiyacının karşılanmasında önemli yer tutmaktadır (İşman, 2008).

Uzaktan Eğitimin tarihsel gelişimine bakacak olursak ilk uzaktan uygulamalarının 19. yüzyılda mektupla yapıldığı görüyoruz. 1920'lerde radyolar, 1950'lerde ise televizyonlar uzaktan eğitimde kullanılmaya başlanmıştır. 1960'lar itibari ile açık üniversiteler kurulmuş, 1980'lerden sonra telekonferans sistemlerinden yararlanılmıştır. İnternet ve Web teknolojilerinin gelişimi ile birlikte uzaktan eğitim teknolojileri de bugün hızla gelişmeye devam etmektedir (Moore & Kearsley, 2005).

Türkçenin yabancı dil olarak öğretimi bağlamında değerlendirildiğinde, üniversiteler bünyesinde faaliyet gösteren TÖMER'ler ve Türkçe eğitimi veren farklı öğretim kademesindeki diğer kurum ve kuruluşların öğrencilere akıllı tahtalar, bilgisayarlar, yansıtıcılar ve dil laboratuvarları gibi teknoloji destekli öğretim malzemeleriyle okul ortamında eğitim imkânı sunduğunu görüyoruz. Ancak; öğrencileri okul dışında da öğrenmeye yönlendirecek uzaktan eğitim uygulamalarının oldukça sınırlı olduğu göze çarpmaktadır. Bu çalışmada, Türkçenin yabancı dil olarak öğretildiği uzaktan eğitim uygulamalarına yer verilecektir.

YÖNTEM

Türkçenin yabancı dil olarak öğretimi ile ilgili uzaktan eğitim uygulamalarının betimlenmeye çalışıldığı bu çalışmada betimsel tarama modeli kullanılmıştır. Bu kapsamda, uzaktan eğitim modeli ile yabancı dil olarak Türkçe öğreten kurumlar incelenmiştir. Araştırma Türkçenin yabancılara öğretimine yönelik güncel uzaktan eğitim uygulamaları ile sınırlı tutulmuş, eğiticilere yönelik sertifika programları çalışmaya dâhil edilmemiştir.

BULGULAR

Günümüzde web tabanlı uzaktan öğretim programları ile yabancı dil olarak Türkçe öğreten kişi ve kuruluşların başlıcaları şöyle sıralanabilir.

Anadolu Üniversitesi ANA – DİL Türkçe Programı

"ANA–DİL Türkçe" programının amacı Türkçe öğrenmek isteyen yabancılara günlük yaşam etkinliklerinde kullanacakları temel dil becerilerinin kazandırılmasıdır. Bu amaçla, üniteler kapsamında aile, iletişim, sosyal yaşam, eğitim, müzik, resim, sanat ve sağlık gibi alanlar belirlenmiş, bu alanlara yönelik konuşma, yazma, okuma, iletişim kurma, fikir paylaşma, deneyimlerini ve geleceğe yönelik planlarını anlatma gibi dil etkinlikleri hazırlanmıştır. Diller için Avrupa Ortak Öneriler Çerçevesinde belirtilen A1, A2 ve B1 düzeylerindeki kazanımlara uygun olarak geliştirilen ve tematik olarak tasarlanan programın her bir ünitesinde konu anlatım videoları, öğretilen yapıların örnek kullanımlarının yer aldığı animasyon videolar, öğrenilenlerin pekiştirilmesini sağlayan etkileşimli etkinlikler, görsel grafik tasarımları, eğitici oyun ve etkinlikler sunulmaktadır. Tamamen ücretsiz olan programda İngilizce, Arapça ve Rusça dil desteği de bulunmaktadır. Programın amacı ve kapsamı kurumun resmi web sitesinde (https://turkce.anadolu.edu.tr) şöyle açıklanmaktadır:

> *"Anadolu Üniversitesi Açıköğretim Fakültesi tarafından hazırlanan Ana- Dil: Türkçe öğrenme ortamı ile her yıl Türkiye'ye öğrenim görmek amacıyla gelen yaklaşık 90 bin yabancı uyruklu öğrenciye, Türkiye'de bulunan ve eğitim için bütçe ayıramayacak durumda olan yaklaşık 3,1 milyon mülteciye ve tüm bunlara ek olarak Türk devletlerinde yaşayan bireylere, Türkiye'den dünyanın dört bir tarafına göç etmiş Türklere, Türk dilini ve kültürünü öğrenmek isteyen tüm dünya vatandaşlarına günümüz öğretim teknolojilerini kullanarak yer ve zamandan bağımsız olarak, kendi öğrenme hızlarında, eğlenerek uzaktan Türkçe öğrenme fırsatı sunulmaktadır. Ana-Dil: Türkçe; herkes tarafından kullanılabilecek sade ve basit bir arayüzle tasarlanmış, Türkçe'nin yabancı dil olarak öğretimi alanında açık ders malzemesi olarak kullanılabilecek çevrim içi bir ortamdır. Bu ortamda; A1, A2 ve B1 düzeylerine yönelik öğrenme materyalleri sunulmaktadır. Program; katılımcıların eğlenerek Türkçe öğrenebilmesine ve kendi öğrenme hızında çalışabilmesine olanak tanımakta ve kesinlikle üst düzey bir bilgisayar becerisi gerektirmemektedir."*

Yaşar Üniversitesi Türkçenin Yabancı Dil Olarak Farklılaştırılmış Uzaktan Öğretimi Projesi

Yaşar Üniversitesi Açık ve Uzaktan Öğrenme Merkezi tarafından hazırlanan "Türkçe Öğreniyorum", Türkçeyi yabancı dil olarak öğrenmek isteyenlere A1 düzeyinde Türkçe öğretmeyi amaçlayan bir uzaktan eğitim sistemidir. Bireysel farklılıkları göz önünde bulundurarak bireylere göre farklılaşan bir eğitim programı sunması programın öne çıkan özelliklerinden biridir. Uyarlanabilir Kitlesel Açık Çevrimiçi Ders (Adaptive Massive Open Online Course) şeklinde tasarlanan proje, Diller için Avrupa Ortak Başvuru Metninde yer alan A1 düzeyi ile sınırlıdır. Projenin amacı ve kapsamı kurumun resmi web sitesinde (https://turkish.yasar.edu.tr) şöyle açıklanmaktadır:

> *"Yaşar Üniversitesi himayesinde hazırlanan Uzaktan Türkçe Öğrenme Sistemi "Türkçe Öğreniyorum" ile; Türkiye'ye eğitim ve seyahat için gelmek isteyenlere, Türkiye ile işbirliği yapmak isteyenlere -ücretsiz olarak- temel seviyede Türkçe öğrenme imkanı sunulmaktadır. Projenin amacı, Türkçenin dünya genelinde öğretilmesinde bireysel farklılıkları göz önünde bulunduran ve öğrenenin hazırbulunuşluğuna göre farklılaşan bir uzaktan öğretim sistemi oluşturulmasıdır. Açık ve uzaktan eğitim felsefesine uygun olarak geliştirilen projede gramer temelli bir dil öğretimi anlayışından sıyrılıp işlevsel dil öğretimi anlayışını benimsemiştir."*

Yunus Emre Enstitüsü Uzaktan Türkçe Öğretimi Projesi

"Uzaktan Türkçe Öğretimi" projesi, Yunus Emre Enstitüsü tarafından yurt içi ve yurt dışında Türkçe öğrenmek isteyenler için geliştirilmiştir. A1, A2, B1, B2 ve C1 düzeylerini kapsayacak şekilde hazırlanan portal, internet sitesi ve mobil uygulama üzerinden dil bilgisi ve kelime bilgisinin yanı sıra dört temel dil becerisini geliştirmeye yönelik olarak tasarlanmıştır. Oyun alıştırmaları, yarışmalar ve ödüller de bulunan Türkçe Öğretim Portali kullanıcıların Türkçeyi eğlenerek öğrenmelerine imkân sağlamaktadır. Öğrenciler kelime alıştırmalarında öğrendikleri yeni kelimeleri Sözlüğüm bölümüne eklediklerinde bu kelimeler 4 farklı beceride etkinlik olarak öğrencilerin karşısına çıkmaktadır. Öğretmenler için de yardımcı bir kaynak olan portalde ayrıca, telaffuz geliştirme etkinlikleri, canlı ders modülü (Grup dersi veya bire bir ders), soru bankası, sınav modülü, ödüllü yarışmalar, sosyal medya araçları ve oyunlar bulunmaktadır. Projenin amacı ve kapsamı kurumun resmi web sitesinde (https://turkce.yee.org.tr/tr) şöyle açıklanmaktadır:

> *"Çağdaş teknolojik imkânları kullanarak hazırlanan Uzaktan Türkçe Öğretim Portali aracılığıyla Yunus Emre Enstitüsü, zaman ve mekândan bağımsız olarak Türkçe öğretmeyi amaçlamaktadır. Bu doğrultuda Uzaktan Türkçe Öğretim Portalinde seviyelere göre belirlenmiş kelime listeleri ve dil bilgisi yapıları aşama aşama gösterilmekte, öğrencilerin günlük hayatta sıkça kullanabileceği yapılar dört temel dil becerisine dayanan etkinliklerle öğretilmektedir."*

Türkçe Her Yerde

"Türkçe Her Yerde", Yurt dışı Türkler ve Akraba Topluluklar Başkanlığı ve İstanbul Üniversitesi Dil Merkezinin ortaklaşa oluşturduğu A1 düzeyinde Türkçe öğrenenler için sunduğu bir uzaktan eğitim sistemidir. Sistemde, her bir ünite başlığının altında üç ayrı konu alanı ve konu alanları ile ilgili etkinlikler, konu anlatımları, hazırlık çalışmaları, izleme ve dinleme alıştırmaları yer almaktadır. Her ünitenin sonunda öğrencilerin kendilerini değerlendirebileceği ünite sonu sınavlar bulunmaktadır. Programın amacı ve kapsamı kurumun resmi web sitesinde (http://www.turkceheryerde.com) şöyle açıklanmaktadır:

> *"Türkçe Her Yerde Yurt dışı Türkler ve Akraba Topluluklar Başkanlığı ve İstanbul Üniversitesi Dil Merkezinin ortaklaşa oluşturduğu A1 öğrencileri için sunduğu bir uzaktan eğitim hizmetidir. Sisteme Yurt dışı Türkler ve Akraba Topluluklar Başkanlığı ve İstanbul Üniversitesi Dil Merkezi öğrencileri ücretsiz olarak üye olabilir. Sitemde verilen eğitim kullanıcıları Avrupa Ortak Çerçeve Metninde (CEFR) belirtilen A1 başlangıç seviyesine ulaştırmayı hedeflemektedir."*

Manas Üniversitesi Altın Köprü Uzaktan Türkçe Öğretim Portali

Kazakistan Türkiye Manas Üniversitesi tarafından hazırlanan "Altın Köprü Uzaktan Türkçe Öğretim Portali", dünyanın herhangi bir yerinden Türkiye Türkçesi ve Kırgız Türkçesini öğrenmek isteyenlere veya lisansüstü öğrenimini KTMÜ'de yapacaklara öğrenme amaçlarına uygun bir şekilde, okuma, yazma, dinleme, anlama ve konuşma temel becerilerini kazandırabilmek için tasarlanmış bir sistemdir. Kazakistan Türkiye Manas Üniversitesi 2014 yılında kendi kaynaklarını oluşturmak amacıyla A1, A2, B1, B2 Altın Köprü Türkçe Öğretimi Ders Kitapları ile bunlara ek olarak alıştırma kitapları hazırlamış, 2017 yılında bu kaynaklara ek olarak uzaktan Türkçe öğretim projesi baş-

latılmıştır. Proje ile ilgili kurumun resmi web sitesinde (http://altinkopru.manas.edu.kg/web/) kurum yetkililerinin şu açıklamalarına yer verilmiştir.

"Altın Köprü Uzaktan Türkçe Öğretimi Projesi; Üniversitemizin öğretim elemanlarından, teknik personelinden ve öğrencilerinden oluşan yaklaşık otuz kişilik bir ekibin uzun süreli emeğinin bir neticesidir."

"Kırgızistan - Türkiye Manas Üniversitesi camiası olarak "Dil bir köprüdür." ilkesinden hareketle dünyanın her yerinden insanlara Türkçe öğrenme imkanı sunuyor, altın bir köprü daha kuruyoruz."

Turkish4

Londra merkezli bir firmanın alt markalarından biri olan Turkish4 dünyanın her yerinden çocuk, genç ve yetişkin bireylere Türkçe öğrenme olanağı sunmak için tasarlanmış bir uzaktan öğrenme platformudur. Kullanıcıların kendi öğrenme hızlarına göre Türkçe öğrenebilmeleri ilkesiyle hazırlanan sistem farklı yaş gruplarındaki kullanıcılara farklı etkinlikler ve hazır modüllerin haricinde çevrim içi özel ders imkânı da sunuyor. Sistemin amacı ve kapsamı kurumun resmi web sitesinde (https://turkish4.com) şöyle açıklanmaktadır:

"Turkish4; çocuk, genç ve yetişkin gruplarına uzaktan eğitim yöntemi ile yabancı dil olarak Türkçe eğitimi sunan bir platformdur. Çocuklar için asenkron, başka bir ifade ile önceden hazırlanmış modüllerden oluşan eğitim içeriği sunmaktadır. Genç ve yetişkinlere ise özel amaçlı dil öğretimi yöntemlerini uygulamaktadır ve kişiye özel ders programları oluşturup çevrimiçi özel ders şeklinde sunmaktadır."

Neredeysem Türkçe Orada

Üniversiteler ve diğer kamu kurumlarının yanı sıra yabancı dil olarak Türkçe öğretimi alanında görev yapan eğitimciler tarafından uzaktan eğitim bağlamında hazırlanan öğrenme ortamları da bulunmaktadır. https://neredeysemturkceorada.wordpress.com/ adresinden erişim sağlanan site, B2-C1 düzeyinde Türkçe öğrenenlere yönelik, okuma becerisini geliştirmek üzere içeriklerin yer aldığı bir ders dışı öğrenme ortamıdır. Lisans ve lisansüstü düzeyde eğitim almak için Türkiye'de bulunan öğrencilere akademik yaşamları boyunca ihtiyaç duyacakları okuma stratejilerinin öğretimi hedeflenmektedir. Toplamda 6 haftalık bir program içeriği bulunmaktadır. Her hafta bir okuma stratejisine yönelik konu anlatımı, ilgili strateji bağlamında etkinlikler, ekstra okuma metinleri, çoklu ortam araçları ile zenginleştirilmiş içerikler, Türk Edebiyatından seslendirilmiş öyküler, sözlükler ve bir mobil uygulama mağazası bölümlerinden oluşmaktadır. Ayrıca her ünitenin içerisinde, öğretmen-öğrenci ve öğrenci-öğrenci iletişimini ve etkileşimini amaçlayan bir tartışma bölümü de yer almaktadır. Sitenin ana sayfasında sistemle ilgili şu açıklama yer almaktadır:

"NEREDEYSEM TÜRKÇE ORADA adlı bu site, bir ders dışı öğrenme ortamı olarak blog kullanımının yabancı dil öğrenimine katkı sağlamak amacıyla oluşturulmuştur. Program kapsamında, blog desteğinin yabancı dil olarak Türkçe öğreniminin en önemli beceri alanlarından okuma becerisinin geliştirilmesi hedeflenmektedir. Bu amaçla hazırlanmış ilgi çekici öğrenme içeriklerini site içerisinde bulabilirsiniz."

TARTIŞMA VE SONUÇ

Bilgi ve iletişim teknolojilerindeki gelişmeler toplumların yaşam biçimlerini değiştirdiği gibi insanların öğrenme yöntemlerini de büyük ölçüde etkilemiştir. Bilginin hızlı ve kolay erişilebilir olduğu günümüzde öğrenme okul sınırlarını aşmış, yaşam boyu öğrenme ihtiyaçları doğmuştur. Bu ihtiyacı karşılamada en etkin yöntemlerden biri şüphesiz uzaktan eğitimdir. Son yıllarda Türkçenin dünya genelinde yayınlaşmasıyla birlikte, henüz oldukça yeni bir alan olan Türkçenin yabancı dil olarak öğretiminde de uzaktan eğitim uygulamalarının örneklerini görmekteyiz. Sayıları yetersiz olan bu uygulamaların söz konusu ihtiyacı karşılayamadığı açıktır. Çalışma kapsamında incelenen uzaktan Türkçe öğretimi programlarında da görüldüğü gibi hazırlanan içerikler genellikle başlangıç ve orta düzeylerle sınırlıdır. Uzaktan Türkçe öğretimi için hazırlanmış olan bazı programlar ise yalnızca belli dil becerilerinin gelişimini hedeflemektedir. Bu bağlamda, Türkçe öğrenmek isteyenlere yönelik olarak hazırlanmış mevcut uzaktan eğitim uygulamalarına yenilerinin eklenmesi, farklı yaş gruplarına ve beceri düzeylerine hitap eden uzaktan öğretim programlarının geliştirilmesi ve yaygınlaştırılması, günlük yaşamda ve akademik ortamlarda ihtiyaç duyulacak dil becerilerinin kazandırılması Türkçenin dünya dili olması yolunda atılacak en önemli adımlardandır.

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İkinci Üniversite Kapsamında Açıköğretim Öğrenenlerinin Tercihleri

Hakan KILINÇ[1], Hakan ALTINPULLUK[2], Mehmet FIRAT[3]

Özet

Gerçekleştirilen bu çalışmada ikinci üniversite kapsamında öğrenim gören Açıköğretim öğrenenlerinin ikinci üniversite tercih nedenlerinin incelenmesi amaçlanmıştır. Bu amaç doğrultusunda, Anadolu Üniversitesi Açıköğretim Fakültesi bünyesinde sunulan ikinci üniversite imkânından faydalanan öğrenenlere ikinci üniversite tercih nedenleri anketi sunularak veriler toplanacaktır. Elde edilen veriler doğrultusunda yaşam boyu öğrenenlerin; ikinci üniversite tercih nedenlerinin neler olduğu, ikinci üniversite tercih nedenlerinin yaşa, cinsiyete ve çalışma durumuna göre değişip değişmediği incelenecektir. Elde edilen bulgular çalışma kapsamında sunularak çalışmanın sonuç ve tartışma kısmında bu bulgular yorumlanacaktır.

Anahtar Kelimeler: *Ikinci Üniversite, Açık ve Uzaktan Öğrenme, Anadolu Üniversitesi, Açıköğretim Fakültesi*

GİRİŞ

Bilginin yalnızca basılı formatta üretildiği ve paylaşıldığı dönemde, kişilerin bilgi tüketicileri olmaları için okuma-yazma gibi temel becerilere sahip olması yeterli olmuştur (Ödemiş, 2014). Ancak teknolojide yaşanan gelişmelerle birlikte gerek bilginin üretiminde gerekse de üretilen bu bilginin elde edilmesi, kullanılması ve paylaşımında alışılmışın dışında becerilerin kazanılmasını kaçınılmaz olmuştur (Polat, 2006). Söz konusu gelişmeler, bireylerin günlük hayatını topluma uyumlu bir şekilde sürdürebilmesi ve mesleğindeki gelişmeleri yakından takip edebilmesi için hayatları boyunca eğitim almalarını gerekli kılmakta, içinde bulundukları topluma ve bu hızlı değişimlere uyum sağlamalarını gerektirmektedir (Güleç, Çelik ve Demirhan, 2012).

Bu noktada bireylerin yaşam boyu öğrenme sürecinde faydalanabilecekleri en önemli imkânlardan birinin de yükseköğretim kurumları tarafından verilmekte olan açık ve uzaktan öğrenme hizmeti olduğu düşünülmektedir. Teknolojideki ilerlemeler ile birlikte öğrenen-öğretici, öğrenen-öğrenen ve öğrenen-içerik arasındaki etkileşim unsurlarında büyük bir ilerleme kaydedilmekte olan açık ve uzaktan öğrenme hizmetleri ile birlikte bireyler ihtiyaç duydukları öğrenme imkânına yaşamının her anında istediği anda ulaşabilmektedir. Açık ve uzaktan öğrenme sayesinde bireyler; ekonomik, coğrafik, toplumsal ve cinsel sınırlamalardan kurtularak daha rahat ve kolay öğrenme

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hızına kavuşmaktadır (Demirel, 2009). Açık ve uzaktan öğrenmenin her yaşta ve her anda bireylerin öğrenme ihtiyacına karşılık vermesiyle birlikte toplumların öğrenme hızı ve bilinçlenme düzeyi de artmaktadır. Bu kapsamda yükseköğretim kurumlarının uzaktan eğitim hizmetleri sunarak yaşam boyu öğrenme sürecine katkı sağlaması, toplumların yaşam boyu öğrenme felsefesine sahip olabilmeleri için önemli bir unsur olarak görülmektedir. Bu görüş Dowling vd. (2004) tarafından dile getirilen "yaşam boyu öğrenmenin sürdürülmesi ve yaygınlaşması konusunda ise yükseköğretim kurumlarına önemli görevler düşmektedir" ifadesiyle de örtüşmektedir. Yükseköğretim kurumlarının yaşam boyu öğrenme faaliyetleri kapsamında gerçekleştirmiş olduğu hizmetlere verilebilecek örneklerden birinin de Anadolu Üniversitesi Açıköğretim Fakültesi tarafından öğrenenlere sunulan ikinci üniversite fırsatı olduğu ifade edilebilir.

Amaç

Bu araştırmanın amacı ikinci üniversite kapsamında öğrenim gören yaşam boyu öğrenenlerin ikinci üniversite tercih nedenlerinin çeşitli demografik özellikler bağlamında incelenmesidir. Bu bağlamda, aşağıdaki araştırma sorularına yanıt aranacaktır.

1. Açıköğretim öğrenenlerinin ikinci üniversite tercih nedenleri nelerdir?
2. Açıköğretim öğrenenlerinin ikinci üniversite tercih nedenleri yaşlarına göre nasıl değişmektedir?
3. Açıköğretim öğrenenlerinin ikinci üniversite tercih nedenleri cinsiyetlerine göre nasıl değişmektedir.
4. Açıköğretim öğrenenlerinin ikinci üniversite tercih nedenleri çalışma durumlarına göre nasıl değişmektedir?

Yöntem

Bu çalışmada betimsel araştırma yöntemi kullanılacaktır. Frankel, Wallen ve Hyun (2011) göre, betimsel yöntem içerisinde yer alan tarama (survey) araştırmaları büyük bir topluluğun parçası olan bir grubun, bazı görüşlerini açıklamak için bir grup insandan bilgi toplandığında kullanılmaktadır.

Çalışma Grubu

Araştırmanın çalışma grubu en az ikinci üniversitesini okuyan, Anadolu Üniversitesi Açıköğretim Fakültesi bünyesinde "İkinci Üniversite" kapsamında öğrenim gören yaşam boyu öğrenenlerden oluşacaktır.

Veri Toplama Aracı ve Analiz Süreci

Araştırmada veri toplama aracı olarak İkinci Üniversite tercih nedenleri anketinden yararlanılacaktır. Veriler SPSS 24.0 paket programında "özel (custom) tablo" kullanılarak analiz edilecektir. Verilerin analizinde frekans ve yüzdeler gibi betimsel istatistikler kullanılacaktır. Araştırmadan elde edilen veriler betimsel tablolar halinde sunularak ve çapraz tablolarda gözlenen frekans ve yüzde değerleri üzerinden yorumlamalar yapılacaktır. Böylece, araştırma amacına bağlı olarak üretilen alt sorulara yanıtlar aranacaktır.

Öngörülen Sonuçlar

Gerçekleştirilecek olan bu çalışma kapsamında açık ve uzaktan öğrenenlerin en çok hangi nedenlerden dolayı ikinci üniversiteyi tercih ettikleri belirlenecektir. Bu kapsamda elde edilecek olan bulgular açık ve uzaktan öğrenme hizmeti sunan kurumlar için yol gösterici nitelikte olacaktır.

Çalışmanın ikinci alt amacı kapsamında ikinci üniversite tercihinde bulunan yaşam boyu öğrenenlerin yaş grupları tespit edilecektir. Bu doğrultuda hangi yaş gruplarının daha çok ikinci üniversite tercihinde bulunduğu belirlenecektir.

Çalışmanın üçüncü alt amacı kapsamında ikinci üniversite tercih nedenleri cinsiyet bağlamında incelenecektir. Böylece cinsiyete bağlı olarak ikinci üniversite tercih nedenlerinin farklılaşıp farklılaşmadığı anlaşılacaktır.

Çalışmanın dördüncü ve son alt amacı kapsamında ise yaşam boyu öğrenenlerin ikinci üniversite tercih nedenlerinin çalışma durumlarına göre değişip değişmediği belirlenecektir. Bu bağlamda hangi iş kolunda olan öğrenenlerin daha çok ikinci üniversiteyi tercih ettikleri sonucuna ulaşılacaktır.

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Açık ve Uzaktan Öğrenmede Öğrenci Destek Hizmetleri: Anadolu Üniversitesi Örneği

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Abdulkadir KARADENİZ[4]**

Özet

Açık ve Uzaktan Öğrenme (AUÖ) ortamlarının en önemli bileşenlerinden birisi Öğrenci Destek Hizmetleridir. Geleneksel öğrenme sunan kurumlarda öğrenci destek hizmetlerinin bir çoğunu kampüs içinde çözümler olarak sunmaktadır. AUÖ ortamlarında uzakta olan öğrencinin kurum ve öğrenme materyalleri ile olan etkileşiminde sorunlarına hızlı çözümler sunması beklenir. Açık ve Uzaktan Öğrenme (AUÖ) hizmeti veren kurumlarda kayıt öncesi dönemden mezuniyet sonrası öğrencilerin destek ihtiyaçları olmaktadır. Kurumlarda destek hizmetinde yer alacak birçok alt birim yer almaktadır. Öğrenci İşleri, Sınav Organizasyon, Kitap Tasarım, Üretim ve Dağıtım, Akademik Danışmanlık, Destek, Yazılım, Kütüphane, Mezunlar Birliği, Öğrenci Kulüpleri, Ders Malzemesi Tasarım ve Üretim Birimleri üniversitelerde ve eğitim kurumlarında yer almaktadır. Genel olarak Kayıt Öncesi Dönem, Kayıt Dönemi, Öğrencilik Süresince, Sınavlar Dönemi, Kayıt Yenileme ve Mezuniyet Dönemlerinde öğrencilerin soruları ve destek ihtiyaçları yoğunlaşmaktadır. Öğrenci destek hizmetleri açık ve uzaktan öğretim sisteminde öğrenci başarısını artırmak, öğrenen ve öğretenlerin fiziksel olarak birbirlerinden uzak olduğu ortamlarda öğrenenin izole olmuşluk duygusunu azaltmak, etkileşimi ve iletişimi arttırarak sosyal bulunuşluk (social presence) ve aidiyet (feeling of society) duygularını artırmak açısından oldukça önemlidir. Akademik ve akademik olmayan hizmetler olarak kendi içlerinde kullanılan teknolojilere göre sınıflandırılabilir. Akademik öğrenci destek hizmetlerinde akademik kadroların sunacağı akademik danışmanlık önem kazanmaktadır. Akademik olmayan destek hizmetlerini öğrenci işlemleri oluşturmaktadır. Öğrenci destek hizmetlerini İhtiyaçlara göre, kullanılan Teknolojilere göre ve İletişim özelliklerine göre sınıflandırmak mümkündür.

Bu çalışmada açık ve uzaktan öğrenmede öğrenci destek hizmetleri türlerine ve destek hizmetleri kapsamında yararlanılan teknolojik altyapıların nasıl kullanılabileceğine değinilmektedir. Örnek olarak Anadolu Üniversitesinin Açıköğretim Sisteminde yer alan bir milyonun üzerindeki öğrencilerine sunduğu öğrenci destek hizmetleri incelenmektedir. Çalışma kapsamında öğrenen destek hizmetlerinin nasıl kurgulandığı ve yürütüldüğü ele alınmıştır..

Anahtar Kelimeler: *Öğrenci Destek Hizmetleri, Açık ve Uzaktan Öğrenme Destek, Öğrenen ihtiyaçları.*

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Giriş

Açık ve uzaktan öğrenmede (AUÖ) destek hizmetleri temel bileşenleri arasında yer almaktadır. Öğrenci adaylarına, öğrenenlere ve öğreticilere destek hizmeti kolay erişilebilir ve hızlı geribildirimler ile sunulması gerekmektedir. Öğrenciler için kayıt öncesi dönemden mezuniyet sonrasında devam eden bir destek hizmetinin verilmesi AUÖ için önemlidir. Sistem içerisinde yer alan tüm kullanıcılar ve hizmet bütünlüğüne göre sunulan destek hizmetlerinde de çeşitlilik ve bütünlük sağlanmalıdır. Yueh(2014)'in yaptığı araştırmaya göre öğrenci destek sisteminin uzaktan öğrenmede yer alan öğrenci ve eğitmenlerin isteklerine yanıt verdiği görülmüştür. Simpson (2015)'e göre AUÖ 'de temel eğitim materyali ister basılı, ister çevrimiçi, isterse podcast veya radyo ve televizyon yayınları aracılığıyla olsun her zaman bir tür ders malzemesi sunduklarını ve birçok AUÖ hizmeti sunan kurum tüm eğitim malzemelerinin Öğrenci Destek hizmetleri ile desteklenmesi önermektedir.

IOWA (2004) 'ya göre sürdürülebilen öğrenme destek sisteminin sonucunda önemli öğrenme çıktısının kazanımı beklenmektedir. Bunlar;

- Akademik ve sosyal yeteneklerin gelişimi
- Okula ve arkadaş topluluğuna bağlılığın artması
- Kişi ve kişiler arası varlığının artması
- Daha az riskli davranışlar için teşvik etme
- İnsan çeşitliliğine değer vermek, çalışmak ve yararla yeterliliklerinin artması.

Okur (2012)'ya göre AÖS kapsamında öğrenenlere sunulan destek hizmetleri Ortam ve Zaman olarak iki boyutta ele alınmıştır. Bunlardan birincisi yüz yüze; metin, sesli, görüntülü ve dijital ortamlardır. Diğer boyut ise sunulan hizmetlerin eşzamanlı ya da eşzamansız olma durumudur.

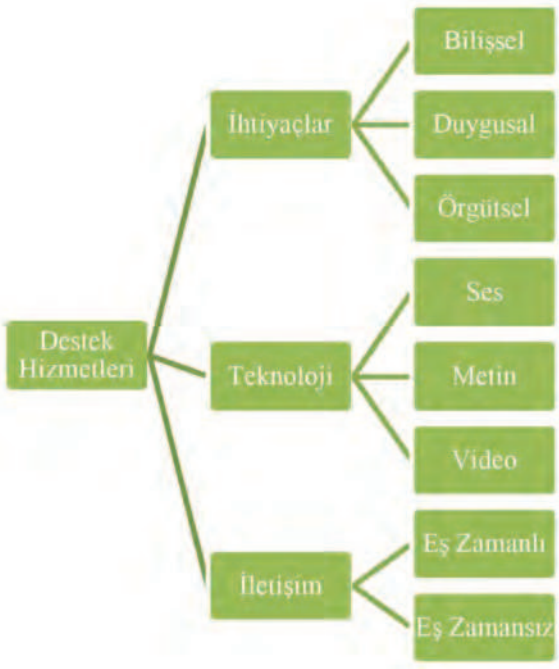
Simpson (2015)'e göre destek sistemlerini Bilişsel(cognitive), Duygusal (emotional) ve Örgütsel(Organisational) olmak üzere üç başlıkta ayrılmaktadır.

Şekil 1. Simpson'a göre AUÖ'de İhtiyaçlara Göre Destek Hizmeti

Bozkurt(2013)'e göre destek hizmetleri genel anlamda öğrenenlerin işlerini bir öğretim programının her aşamasında kolaylaştıran her türlü hizmettir. Öğrenci destek hizmetleri açık ve uzaktan öğretim sisteminde öğrenci başarısını arttırmak, öğrenen

ve öğretenin fiziksel olarak birbirlerinden uzak olduğu ortamlarda öğrenenin izole olmuşluk duygusunu azaltmak, etkileşimi ve iletişimi arttırarak sosyal bulunuşluk (social presence) ve aidiyet (feeling of society) duygularını artırmak açısından oldukça önemlidir.

Araştırmacıların sınıflandırmalarından yola çıkarak yapılan tüm tanımlara göre AUÖ 'de Destek Hizmetleri gruplandırılabilir. Araştırmacılar tarafından sunulan destek hizmetleri nitelik, nicelik, teknoloji, iletişim türü, ortam ya da zaman olarak sınıflandırmışlardır. Buna göre yeni bir gruplandırma ile İhtiyaçlara göre, Teknolojilere göre ve İletişim Türlerine göre sınıflandırmak mümkündür.



Şekil 2. Destek Hizmetlerinin Farklı Gruplarda Sınıflandırılması

AUÖ'de İhtiyaçlara Göre Destek Hizmetleri:

1. Bilişsel Destek (Akademik Destek)
   a. Öğretim Desteği
   b. Öğrenme Becerileri Geliştirme Desteği
   c. Değerlendirme ve Geri Bildirim Desteği
2. Duygusal Destek (Akademik Olmayan Destek) : AUÖ süreçlerine ilk kez katılan öğrenenler için oryantasyonların verilmesi, uzaktan öğrenen olmalarına katkı sağlayacak rehberlik ve psikolojik danışmanlık hizmetlerinin sunulması.
3. Örgütsel Destek (Akademik Olmayan Destek) : Öğrenci işleri süreçlerinde destek verilmesi.

AUÖ 'de Kullanılan Teknolojiye Göre Destek Hizmetleri:

1. Ses Tabanlı Destek Hizmeti
2. Metin Tabanlı Destek Hizmeti
3. Video Tabanlı Destek Hizmeti

Destek hizmetleri için iletişim teknolojilerindeki yeniliklerin takip edilerek kurumların destek hizmetlerinde kullanılması sistemin verimliliği açısından avantaj sağlamaktadır. Sosyal medya üzerinden birçok yazılım ve teknolojisi günümüzde destek hizmetlerinde kullanılmaya başlanmıştır. Örneğin whatsapp yazılımı mobil cihaz kullanan kullanıcılar arasında çok yaygın kullanıldığı için birçok kurum destek hizmeti için bu yazılımı kullanmaya başlamıştır.

AUÖ 'de İletişim Zamanına Göre Destek Hizmetleri:

1. Eş Zamanlı Destek Hizmetleri
2. Eş Zamansız Destek Hizmetleri

AUÖ 'de eğitim teknolojileri olarak mektup yoluyla öğretimden, basılı materyal, radyo, televizyon, ses, video, çoklu ortam, bilgisayar destekli eğitim, elektronik posta, internet, veritabanları, uydu teknolojileri ve video konferanstan sanal gerçeklik olarak geniş bir yelpazede karşımıza çıkmaktadır.

Anadolu Üniversitesi Açıköğretim Sisteminde Destek Hizmetleri

Anadolu Üniversitesi (AÜ) bünyesinde 1982 yılında kurulan ve 1 milyondan fazla öğrenci sayısıyla dünyanın 11 mega üniversitesi arasında yer alan Açıköğretim sistemi, bugüne kadar 3 milyondan fazla mezun vermiştir. Çin, Fransa, Hindistan, Endonezya, İran, Güney Kore, Güney Afrika, İspanya, Tayland, İngiltere'de bulunanlar ile 100 binin üzerinde öğrencisi olan ve "mega" olarak nitelendirilen 11 üniversite arasında yer alan AÜ'nün Açıköğretim Sistemi, öğrencilerine gelişmiş destek hizmetleri sunmaktadır.

Anadolu Üniversitesinin Sunduğu Destek Hizmetleri : (Kurumun web sayfalarında sunulanlara göre hazırlanmıştır.)

- aosdestek.anadolu.edu.tr - İdari Destek - Web Ortamı - Eş zamanlı ve Eş zamansız
- AÖF Büroları - İdari Destek - 105 farklı merkezde AÖF Büroları + Yurt Dışında AÖF Büroları - Yüz Yüze - Eş zamanlı
- Etkileşim Merkezi - İdari Destek - 7/24 hizmet vermekte - Telefon - Eş zamanlı
- ekampus.anadolu.edu.tr - Eğitim Desteği - Web Ortamı - Eş zamansız
- Canlı Dersler - Eğitim Desteği - Web Ortamı - Eş zamanlı ve Eş zamansız
- Yüz Yüze Öğretim Hizmeti - Eğitim Desteği - Tüm illerde yüz yüze dersler - Eş zamanlı
- Açık Kütüphane - Eğitim Desteği -Web Ortamı - Eş zamansız
- Dil Eğitimi - Eğitim Desteği -Web Ortamı - Eş zamansız
- Oryantasyonlar - Akademik Danışmanlık (Dönem Başı, Sınav Dönemleri)- Web Ortamı - Eş zamanlı ve Eş zamansız
- Öğrenci Kulüpleri - Sosyal Destek - Web Ortamı - Eş zamanlı ve Eş zamansız
- Öğrenci Buluşmaları - Sosyal Destek - Yüz Yüze (İllerde yapılan buluşmalar) - Eş Zamanlı
- Akadema - Mezuniyet Sonrası Destek - Web Ortamı - Eş zamansız
- eSertifika - Mezuniyet Sonrası Destek - Web Ortamı - Eş zamansız

Şekil 3. Anadolu Üniversitesi Destek Hizmetleri Web Sayfası ve Ekipler

Anadolu Üniversitesi bir milyonun üzerinde öğrencisi için AOSDESTEK hizmetini sunmaktadır. Bu sistem içerisinde sıkça sorulan sorular arayüzü, CANLI destek kanalları olarak İletişim ve Çözüm Masası ekibi telefon üzerinden gelen soruları yanıtlamaktadır. Aynı zamanda Soru Sor (Chat) kanalı üzerinden canlı destek hizmeti sunulmaktadır. Öğrenenler sorularını site üzerinden soru sorma formunu kullanarak sorularını yazabilirler. Bu sistem Ticket sistem olarak tasarlanmıştır. AUÖ 'de teknolojinin kullanımı ile dezavantajlı bireylerin toplumsal yaşama tam katılımlarını sağlamak ve öğrenme ihtiyaçlarının karşılanmasında bir fırsat eşitliği sunmaktadır.

Bilgi: Ticket Support System (Takip Numarasına Göre Destek) kullanımının temelinde takip kolaylığı, öğrencinin geçmişinin saklanması, destek verecek kurum tarafından tüm soruların kolay takibi ve yanıtlanmasını sağlamak gelmektedir. Bu sistemler yazılımsal olarak satışta olduğu için kurumların kendi web sayfalarına hızlı entegre etmesi mümkün olmaktadır. Soru soran öğrenciye bir takip numarası üretilir. Öğrenci sorusunun yanıtını bu numaraya göre takip edebilir.

AOSDESTEK sisteminin bileşenleri ;

- Bütünleşik Öğrenci Destek Sistemi
- Ticket Destek Sistemi
- Çağrı Merkezi Yönetimi
- Canlı Destek Sistemi
- Kalite Kontrol Sistemi
- Raporlama ve Analiz
- Kullanıcı Yönetimi

AOSDESTEK Sistesinin (aosdestek.anadolu.edu.tr) kullanım istatistiklerine bakıldığında 2018-2019 yılı kullanımlarında her geçen gün daha çok ziyaretçi geldiği görülmektedir. 16 Kategoride soru sorulabilen sitede (Ticket Sistem) 200 binden fazla soru bir yıl içinde yanıtlanmıştır.

Şekil 4. AOSDESTEK Sitesi 2018-2019 Kullanım İstatistikleri

Şekil 5. AOSDESTEK Sitesi Kullanıcılarının Yaş Aralığı Grafiği

Sonuç

AUÖ 'de özellikler öğrenenlerin yalnızlık hissini azaltmak ve kurum aidiyet duygularının artması için Öğrenci Destek Hizmetlerinin sorunsuz ve sürekliliği olması gerekmektedir. Yüzyüze olmayan destek ortamlarında her sorunun kısa sürede çözüme kavuşması ve yardım talebinde bulunan öğrenciye yetkililer tarafından kısa sürede yanıt verilmesi beklenmektedir. Eğitim ortamlarında öğrenci sayısının çok olması, zaman ve mekan farklılıklarının olmasından dolayı öğrenenlerin sorunlarına kısa sürede doğru çözümlerin bulunması ihtiyaçtır. Bu ihtiyacın karşılanması için eğitim kurumlarının destek sistemini tüm ihtiyaçları ve öğrenenlerin teknoloji alt yapılarını göz önünde bulundurularak yapılandırılması gerekmektedir. AUÖ sunan kurumların gelecek için akıllı destek hizmetlerini oluşturmaları gerekmektedir. Bunun için tüm verinin tek bir veritabanında toplanması ve bura toplanan büyük veri kullanılarak kişiye özel destek hizmeti sunacak yazılımlar geliştirilmesi ihtiyaçlar arasında yer alacaktır. Mobil uygulamalar üzerinde çalışan destek kanalları hazırlanmalıdır.

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Kitlesel Açık Çevrimiçi Derslerde Temel İlk Yardım Eğitimi: Akadema Örneği

Gökhan KUŞ[1], Serap UĞUR[2], Gamze TUNA BÜYÜKKÖSE[3]

Özet

İlk yardım eğitiminin, insan yaşamını kurtarmadaki önemi pek çok çalışmada vurgulanmaktadır. Bununla beraber, alanyazında toplumda ilk yardım bilincinin oluşmasına yönelik çok az çalışmaya rastlanmaktadır. Meslek, yaş gözetmeksizin ilk yardım gerektiren bir durumda acil müdahale yapabilecek her bireyin temel düzeyde ilk yardım bilgisine sahip olması önemlidir. Üniversitelerin ana görevlerinden ve sorumluluklarından bir tanesi de toplumda eksik görülen alanlarda eğitim vermek ve bunların etkinliğini denetlemektir. Bu bağlamda "Toplumdan aldığını topluma geri vermek ve kurumun faaliyetlerinde toplum yararını gözetmesi ilkelerine dayanan kurumsal sosyal sorumluluk anlayışı" kapsamında Anadolu Üniversitesinin özellikle açık ve uzaktan öğrenme alanındaki bilgisi ve birikimi ile toplumun eğitim alanında eksik olan konuların giderilmesindeki rolü oldukça önemlidir. Anadolu Üniversitesi Açıköğretim Sistemi bünyesinde yürütülen "Akadema" bu anlamda oldukça etkili bir öğrenme alanıdır. Bir Kitlesel Açık Çevrimiçi Ders (KAÇD) platformu olan Akadema ile isteyen herkes ücretsiz bir şekilde ilk yardımın temel konularına erişebilmektedir. Bu çalışmada Akadema kapsamında yürütülen Temel İlkyardım Bilgisi dersinin yapısı, işleyişi ve uygulaması incelenerek yeni çalışmalar için öneriler geliştirilmiştir.

Anahtar Kelimeler: *Temel Ilk Yardım, Kitlesel Açık Çevrimiçi Ders, Açık ve Uzaktan Öğrenme.*

GİRİŞ

İlk yardım, sağlığı ya da yaşamı tehdit eden durumlarda uzman sağlık ekipleri olay yerine gelinceye kadar kişilerin hayatta kalmasını sağlayacak, var olan durumlarının kötüye gitmesini engelleyecek, yaşamsal fonksiyonlarının sürmesini sağlayacak ya da iyileşmeyi kolaylaştıracak müdahalelerin yapılmasıdır. Sayılan bu amaçlara ulaşılabilmesi için ilk yardımın doğru zamanda ve etkin bir şekilde yapılması gerekir (Erdil, 2009). Bu müdahalelerin zamanında ve etkin bir şekilde yapılması kişilerin karşılaşmış oldukları durumlardan da az hasar almalarını sağlayacak ya da en azından durumlarının daha da kötüye gitmesini engelleyecektir (Kuş, 2017). İlk yardım müdahalelerini yapabilmek için temel düzeyde de olsa ilk yardım eğitimi almak gerekir. Ancak maalesef birçok çalışmada insanların yeterli ilk yardım bilgi ve beceri seviyesine sahip olmadığı ortaya konmuştur. İlkyardım eğitiminin, insan yaşamını kurtarmadaki önemi pek çok çalışmada vurgulanmasına rağmen çeşitli meslek gruplarında (öğretmen,

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polis, taksi şoförü, uçuş görevlileri, vb) yapılan çalışmalar da bu eksikliği ortaya koymaktadır (Kuş, 2018). Bu nedenle ilk yardım gerektiren olaylarda geç kalmış ya da yanlış/yetersiz ilk yardım müdahalesine bağlı olarak insanlar zarar görmekte, hatta yaşamlarını yitirmektedirler. Bilinci kapalı, solunumu durmuş bir kişide yaklaşık 5 dakika içerisinde beyin ölümü gerçekleşmeye başlar. Bu nedenle bu beş dakikayı "uzman sağlık ekipleri olay yerine intikal edinceye kadar" çok iyi değerlendirmek gerekir. Doğru, etkin ve gerekli müdahalelerin zamanında yapılması gerekir. Bunun için de insanlarımızı önemli hayat kurtarıcı becerilerle donatmamız gerekir (İnan, 2011; Guyton, 2014).

Üniversitelerin ana görevlerinden ve sorumluluklarından bir tanesi de toplumda eksik görülen alanlarda eğitim vermek ve bunların etkinliğini denetlemektir. "Toplumdan aldığını topluma geri vermek ve kurumun faaliyetlerinde toplum yararını gözetmesi ilkelerine dayanan kurumsal sosyal sorumluluk anlayışı" kapsamında Anadolu Üniversitesinin özellikle açık ve uzaktan öğrenme alanındaki bilgisi ve birikimi toplumun eğitim alanında eksik olan konuların giderilmesinde oldukça önemlidir. Anadolu Üniversitesi Açıköğretim Sistemi bünyesinde yürütülen "Akadema" bu anlamda oldukça etkili bir öğrenme alanıdır. Bir Kitlesel Açık Çevrimiçi Ders (KAÇD) platformu olan Akadema ile isteyen herkes ücretsiz bir şekilde ilk yardımın temel konularına erişebilmektedir. Bu alanda eğitim alan bir kişi temel düzeyde de olsa ilk yardımın 4 temel konusu hakkında bilgi ve beceri sahibi olmaktadır. Bu çalışmada, Anadolu Üniversitesinin sunduğu bir KAÇD sistemi olan AKADEMA'da yürütülen Temel İlk Yardım Bilgisi dersi incelenmiştir.

KİTLESEL AÇIK ÇEVRİMİÇİ DERSLER

Kitlesel Açık Çevrimiçi Ders (KAÇD), aynı anda çok sayıda bireyin katılımına olanak tanıyan, belirli süre, konu, öğrenme amaçları ve programa sahip olan, İnternet ortamında çeşitli platformlar üzerinde yürütülen ve katılımın çoğunlukla ücretsiz olduğu derslerdir (Açık ve Uzaktan Öğrenme Sözlüğü, 2019). KAÇD'ler; videolar, ödevler, sınavlar gibi temel öğrenme etkinliklerini içeren ve sosyal etkileşimi işbirliğine dayalı öğrenmeyi tartışma forumları ile destekleyen çevrimiçi öğrenme ortamlarıdır (Chua ve diğerleri, 2015). KAÇD'lerin temel özellikleri, kitlesel olmaları, açık erişim sağlamaları ve çevrimiçi öğrenme hizmeti sunmalarıdır (Bates, 2015). Bu dersler çoğunlukla video ya da kolaylaştırılmış etkileşim tabanlı derslere ya da tartışma forumlarına dayanmaktadırlar.

KAÇD kavramı, ilk kez 2008 yılında George Siemens, Stephen Downes ve Dave Cormier tarafından tasarlanan bir ders için kullanılmıştır (Downes, 2012). KAÇDlerin temel bileşenleri, kitlesellik, açıklık, çevrimiçi olmak ve derstir. Bu bileşenler kısaca şu şekilde açıklanabilir (OpenUpEd, 2015):

- Kitlesel: Çevrimiçi ders, çok sayıdaki katılımcı için tasarımlanmıştır. Katılımcı sayısı, bir kampüs sınıfında eğitim gören öğrenen sayısından çok daha fazladır. Katılımcı sayısının artması, derste verilen hizmetler için harcanan emekte önemli bir artışa neden olmamaktadır.
- Açık: KAÇDler, bireylere yer, zaman ve ilerleme hızı olarak özgürlük tanıyarak açıklık sağlamaktadır. İnternet bağlantısı olan hemen hemen herkes tarafından istenilen yerde erişilebilen derslerdir. Bireyler derslere (en azından ders

içeriklerine istedikleri her zaman) herhangi bir kısıtlama olmaksızın erişebilmektedirler. Çevrimiçi bir derse katılım için herhangi bir nitelik ya da diploma gerekmemektedir ve dersler ücretsiz olarak tamamlanabilmektedir.

- Çevrimiçi: Bir dersin tamamı her açıdan çevrimiçi olarak gerçekleştirilmektedir.
- Ders: KAÇDler; eğitsel içerik, akranlar arasında etkileşim sağlama, geribildirim içeren etkinlikler, görevler ve testler, bazı tanıma seçenekleri, çalışma rehberi / müfredat içeren tam bir ders deneyimi sunan çalışma birimlerinden oluşmaktadır. Bir KAÇD en az 1 ECTS kredisine karşılık gelmektedir. Dersler genellikle, 1-4 ECTS kredisi arasındadır. Eğitsel içerikler; video, ses, metin, oyun, sosyal medya, animasyon gibi unsurlardan oluşabilmektedir. Etkileşim sağlamak için sosyal medya kanalları, forumlar, bloglar gibi araçlar kullanılmaktadır. Öğrenenlere; otomatik üretilen geribildirimler, yalnızca akranlardan alınan geri bildirimler ya da akademik personel tarafından verilen genel geribildirimler sağlanmaktadır.

AKADEMA

'Eğitimde Açıklık' politikasının bir sonucu olarak bütün dünyada Kitlesel Çevrimiçi Açık Dersler (Massive Open Online Courses, MOOCs) hareketi ilk olarak 2008 yılında ortaya çıkmış, özellikle 2011 ve sonraki yıllarda giderek yaygınlaşan bir eğitim modeli olmuştur. Anadolu Üniversitesi de de bu harekete Akadema platformu ile katılmıştır. "Anadolu Üniversitesinin bir sosyal sorumluluk projesi olan Akadema, hiçbir ön koşul olmadan dileyen herkesin ücretsiz katılabildiği, bireylere nitelikli öğrenme olanağı sunmayı amaçlayan bir Kitlesel Çevrimiçi Açık Ders (KAÇD) platformudur (Akadema, 2019).

Akadema, Anadolu Üniversitesi Açıköğretim Sistemi bünyesinde 2015 yılından bu yana eğitim olanağı sunmaktadır. Akadema'nın temel amacı, Anadolu Üniversitesinin eğitim alanındaki bilgisini ve birikimini toplumda daha geniş kitlelere ulaştırmak ve Türkiye'deki yaşamboyu öğrenme sürecine katkıda bulunarak dileyen herkese nitelikli öğrenme olanağı sunmaktır. Ayrıca, bireylerin örgün eğitim sonrası mesleki gelişimlerine katkı sağlayarak, Türkiye'de daha nitelikli bir işgücü oluşturulmasına katkıda bulunmayı amaçlamaktadır.

Akadema'da, Anadolu Üniversitesinde görev yapan alan uzmanları tarafından hazırlanan dersler internet erişimi olan herkese ücretsiz olarak sunulmaktadır. Türkiye'de geliştirilen en kapsamlı KAÇD olma hedefi ile Akadema, 14 farklı kategoride 105 farklı dersi bünyesinde barındırmaktadır. Çok çeşitli katılımcı profiliyle, toplumun çeşitli kesimlerini kapsayan Akadema, farklı yaşlardan, eğitim düzeylerinden, illerden, mesleklerden bireylere hizmet vermektedir.

Akadema'nın Türkiye'de hizmet veren diğer platformlardan farkı, öğrenenlerin birbirleriyle ve öğretim elemanlarıyla etkileşim kurabildikleri, çeşitli ders malzemelerinin sunulduğu bir ortam olmasıdır. Dileyen herkes bir kez kayıt yaptırdıktan sonra dilediği zaman ders malzemelerine erişebilir (7/24, 365 gün açık erişim sağlanmaktadır). Akadema, hitap ettiği büyük öğrenen kitlesi ile üniversitenin kapılarını önko-

şul olmaksızın toplumun her kesimine açmıştır. Akadema üzerinden sunulan dersler, Anadolu Üniversitesinin sahip olduğu farklı alanlardaki uzman işgücünün bir araya getirilmesiyle oluşturulmuştur. Buna ek olarak, öğrenme ortamında öğrenenlerin işbirliğine dayalı öğrenmelerine olanak tanıyan tartışma forumları yoluyla akran öğrenmesi de gerçekleştirilmektedir.

AKADEMA'DA TEMEL İLK YARDIM BİLGİSİ DERSİ

Akadema'da Temel İlk Yardım Bilgisi dersi Kasım 2016 döneminde Akadema katılımcılarına hizmet vermeye başlamıştır. Bu tarihten itibaren 6 dönem boyunca derse toplam 5.250 kişi kayıt olmuştur. Tüm bu dönemler boyunca yürütülen derste 391 kişi Ders Tamamlama Belgesi almaya hak kazanmıştır. Akadema ile isteyen herkes ücretsiz bir şekilde ilk yardımın temel konularına erişebilmektedir. Bu alanda eğitim alan bir kişi temel düzeyde de olsa ilk yardımın 4 temel konusu hakkında bilgi ve beceri sahibi olmaktadır. Bu konular;

1. Hafta: Temel ilk yardım bilgileri

a. "Her zaman yanımızda ilk yardım eğitimi almış bir kişi olamayacağına göre ilk yardımlık bir durumla karşılaşıldığında kişilerin ilk olarak neler yapması gerektiği bilgisi
b. Kişilere ve olaylara yaklaşım tarzları
c. Koruma, bildirme ve kurtarma ilkeleri
d. İlk yardımın ABC'si
e. Hayat kurtarma zinciri

2. Hafta: Yetişkinlerde temel yaşam desteği: Yetişkin bir bireyde bilinç ve ABC kontrolünü nasıl yapılacağı

a. Yetişkinlerde temel yaşam desteği uygulamasının ne zaman yapılacağı
b. Yetişkinlerde temel yaşam desteği uygulamasının nasıl yapılacağı
c. Yetişkinlerde temel yaşam desteği uygulamasının ne zaman sonlandırılacağı

3. Hafta: Çocuklarda ve bebeklerde temel yaşam desteği ve havayolu tıkanıklıklarında ilk yardım

a. Çocuklarda ve bebeklerde bilinç ve ABC kontrolünü nasıl yapılacağı
b. Çocuklarda ve bebeklerde temel yaşam desteği uygulamasının ne zaman yapılacağı
c. Çocuklarda ve bebeklerde temel yaşam desteği uygulamasının nasıl yapılacağı
d. Çocuklarda ve bebeklerde temel yaşam desteği uygulamasının ne zaman sonlandırılacağı
e. Havayolu tıkanıklığı ve tıkanıklıklarda nasıl davranılması gerektiği

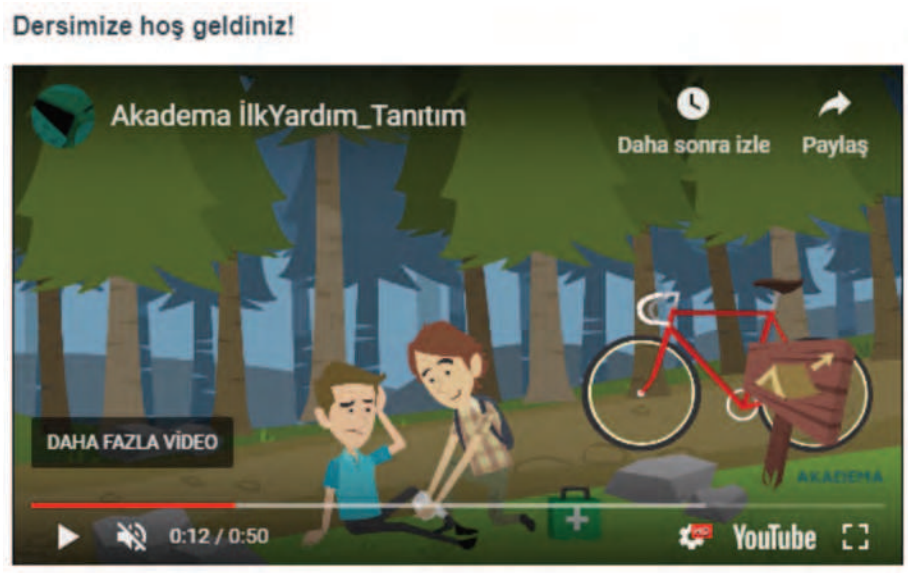
4. Hafta: Kanamalarda ve göğüs yaralanmalarında ilk yardım

a. Kanama nedir? Kaç çeşit kanama vardır? Kanamanın önemi
b. Kanamaların durdurulması
c. Göğüs yaralanmalarının önemi ve müdahale edilmesi

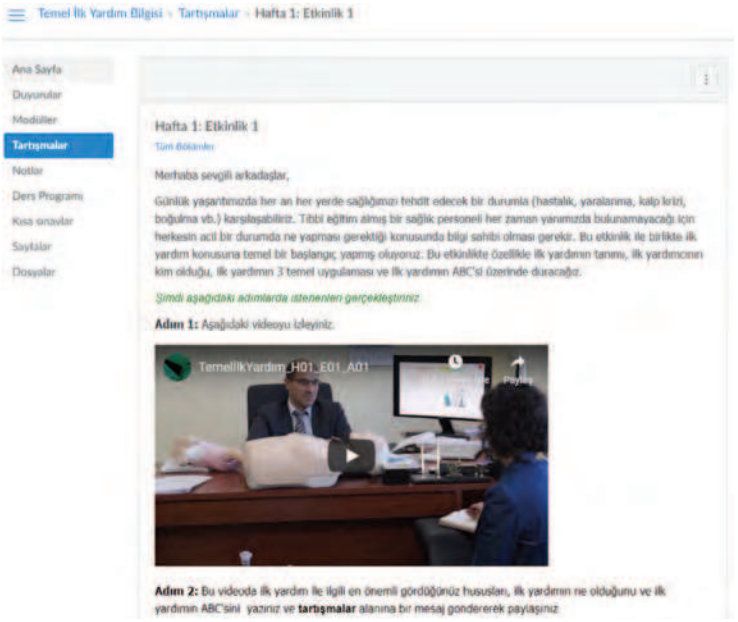
Şeklinde konular 4 hafta boyunca sürmektedir. Temel İlk Yardım Bilgisi dersine çevrimiçi ücretsiz kayıt yaptıran herkes 4 haftalık etkinlikler boyunca uzman eğitmen tarafından belirtilen konularda eğitim almaktadır. Eğitim süreçlerinde o haftanın konusu ile ilgili olarak

a. Genel teorik kavramlar
b. Uzman eğitmen tarafından çekilen video kayıtları
c. Tartışma forumları/soru-cevap platformu
d. Haftalık ders sonu verilen ödev ve cevapları
e. Haftalık test soru çözümü

yapılmaktadır. Dersleri düzenli bir şekilde takip eden, tartışma forumlarına katılan ve yapılan sınavdan 75 puan alan katılımcılar Ders Tamamlama Belgesi almaya hak kazanmaktadırlar.



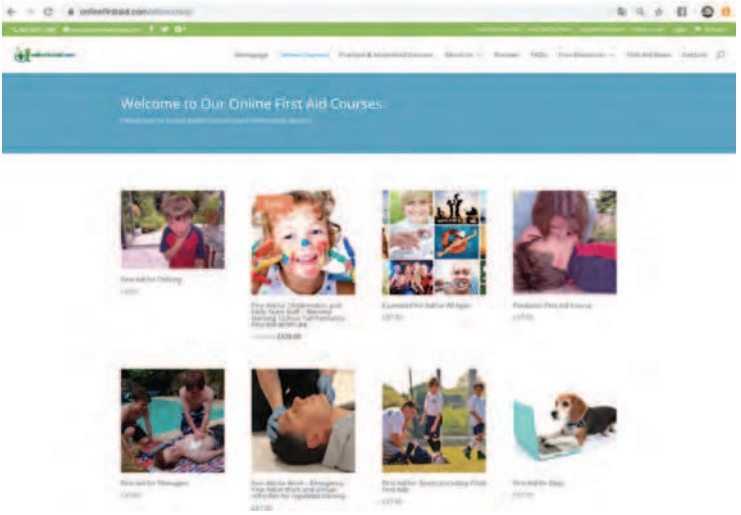
Şekil 1. Akadema Temel İlk Yardım Bilgisi Dersi Tanıtım Videosu



Şekil 2. Akadema Temel İlk Yardım Bilgisi Dersinde Yer Alan Etkinlik

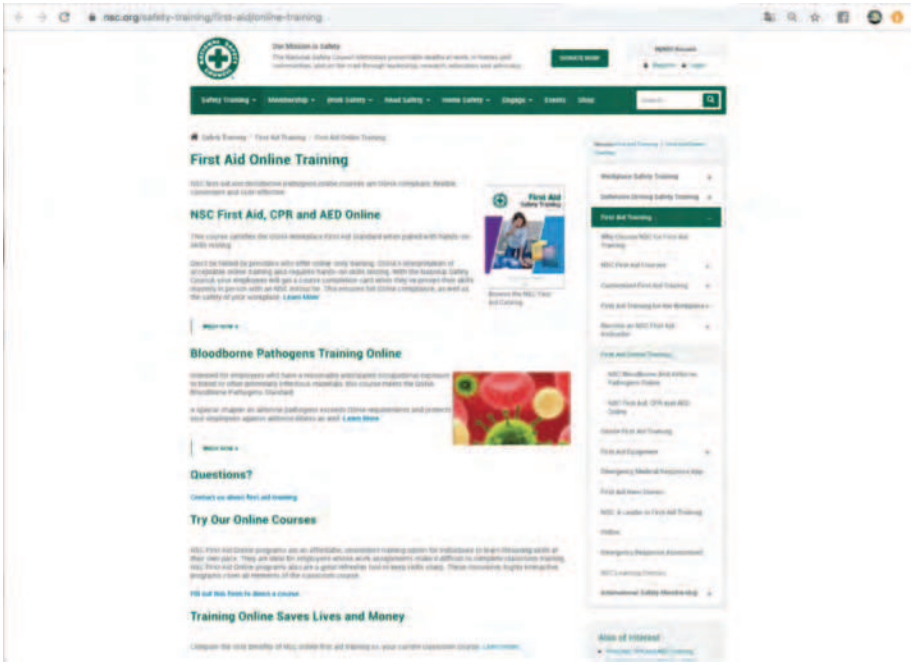
UZAKTAN İLK YARDIM EĞİTİMİ UYGULAMALARI

Uzaktan öğrenme yöntemi ile bireylerin ilk yardım eğitimi almasını sağlayacak pek çok çevrimiçi site ve eğitim materyali bulunmaktadır. Bu platformlardan yaygın olarak kullanılan https://onlinefirstaid.com/ sitesinde, takipçilere bebek, çocuk ve yetişkin insanlara ilk yardım eğitimi verilmesinin yanında, evcil hayvanlar için ilk yardım modülleri de bulunmaktadır. Platformda görsel, metin ve video içerikleri ile eğitim içerikleri paylaşılmaktadır.



Şekil 3. Online FirstAid Platformu

National Safety Counsil de çevrimiçi ilk yardım eğitimleri sunmaktadır. Karma yöntemle ilerlenen derslerde çevrimiçi öğrenme ortamlarından paylaşılan görseller metinlerle desteklenerek sunulmaktadır.



Şekil 4. **National Safety Counsil platformu**

Ücretsiz ilk yardım eğitimi veren fistaidforfree.com ise takipçilerinde ilk yardımın önemi konusunda farkındalık oluşturma ve temel ilk yardım becerisi kazandırmayı amaçlamaktadır.

Şekil 5. **FirstAid platformu**

Yaygın olarak kullanılan bu platformlar ve Akadema ilk yardım eğitimi içeriklerine bakıldığında genel olarak;

- Metin
- Ses
- Görüntü
- Mesajlaşma

Sınav uygulamalarının ilk yardım içeriklerinin sunumunda yaygın olarak tercih edilen içerik ve sunum türleri olduğu söylenebilir.

Bunun yanında, alanyazına bakıldığında, çevrimiçi öğrenme yoluyla ilk yardım eğitiminin verilmesi konusunda pek fazla çalışma olmadığı görülmektedir. Türkiye'de yapılan ve ilk yardımın çevrimiçi öğrenme yöntemi ile sunulmasına yönelik çalışmaların sağlık ve tıp alanı öğrencileri ile yürütüldüğü söylenebilir (Tekedere ve Mahiroğlu, 2012; Seyhan vd, 2013; Özüdoğru ve Özüdoğru, 2017). Oysaki gelişen teknolojinin sunduğu imkânlarla, bireylerin temel ilk yardım bilgi ve becerisini kazanmaları sağlanabilir.

TEMEL İLK YARDIM BİLGİSİ EĞİTİMİNDE KULLANILABİLECEK TEKNOLOJİLER

Günümüzde başlı başına bir sektör haline gelen sağlık teknolojileri, sağlık hizmetlerini kolaylaştırmak, maliyetleri düşürmek ve bakım kalitesini artırmak için tasarlanan tüm cihazları, ilaçları, aşıları, prosedürleri ve sistemleri kapsamaktadır. Bu teknolojiler içerisinde son yıllarda özellikle yapay zekâ (AI), blok zincir, arama ve sağlık asistanları 2019'daki en umut verici sağlık teknolojileri arasında sayılabilir (Reddy, 2019). Ayrıca mobil teknolojiler, Simülasyon teknolojisi, Artırılmış Gerçeklik, Sanal Gerçeklik, Hologram gibi teknolojilerle sağlık eğitimi ve uygulamaları alanlarında yapılan birçok çalışma mevcuttur.

Yapay zekâ ile bireylerin rutin sağlık kontrolleri yapılabilmekte, kaydı tutulabilmekte, risk altındaki bireyler belirlenebilmektedir. Bu noktadan hareketle geliştirilecek bir sistemde; ateşin çıkması, alerjik reaksiyon, kalp krizi ya da beyin kanaması gibi birçok ilk yardım gerektirecek durumun yapay zekâ ile belirlenerek bireyin yanındakilere yardım sinyali vermesi, ilk yardım ekipleri gelene kadar yapılacak müdahaleyi karşı tarafa bilgi olarak vermesi sağlanabilir. Çok az sayıda teknoloji sanal gerçeklik kadar etkileşime girebilir, dolayısı ile ilk yardım eğitiminde VR kullanımı bireylerin onlara sunulan durumu gerçekmiş gibi algılayarak müdahaleyi yapmaları ve o anın tecrübesini birebir deneyimlemeleri sağlanabilir. Kişiselleştirilmiş mobil sağlık asistanları ile bireyler kendi sağlıklarını takip edebildikleri gibi, asistan içerisinden eğitim modül ve içeriklerine ulaşarak ilk yardım eğitimi alabilirler. İlk yardım eğitimi için taşınabilir ve giyilebilir teknolojilerden yapay zekâya birçok farklı teknoloji işe koşulabilir. Bu teknolojilerle geliştirilen uygulamaların ilk yardım eğitimi için kullanılabilirliği değerlendirilmelidir.

SONUÇ VE ÖNERİLER

Çevrimiçi öğrenme ortamlarının ilk yardım eğitiminde kullanılması, günlük hayatta karşılaşılabilecek herhangi bir acil müdahale gerektiren durumla karşı karşıya kalındığında doğru müdahaleyi yapabilecek bireylerin çoğalması adına önemlidir. Mevcut sistemler uygulama ve değerlendirme boyutunda zayıf kalabilmekle birlikte, yeni teknolojilerin işe koşulması ile daha etkili ve verimli öğrenme süreçlerinin oluşması sağlanabilir.

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Medya Okuryazarlığından Yeni Medya Okuryazarlığına: Açık ve Uzaktan Öğrenme Bağlamında Bir Inceleme

Y. Zafer Can UĞURHAN[1], Evrim Genç KUMTEPE[2], Alper Tolga KUMTEPE[3], Abdullah SAYKILI[4]

Özet

Geleneksel anlamda medya araç ve mesajlarının doğru bir biçimde kullanılması ve tüketilmesi temeline dayanarak bireylerin birer bilinçli tüketici olmalarını hedefleyen medya okuryazarlığı, bireylerin kullandıkları araçların özelliklerini yansıtacak biçimde devamlı olarak yeniden şekillenmektedir. Dijital çağ olarak da adlandırılan 21. yüzyılda geliştirilen katılımcı ve bağlantıcı bilgi ve iletişim teknolojileri, bireylerin sadece içerik tüketen değil, aynı zamanda içerik üretenler konumuna geçmesine olanak tanımaktadır. Bu nedenle, söz konusu yeni teknolojilerin etkisiyle medya okuryazarlığından yeni medya okuryazarlığına evirilen medya okuryazarlığı kavramına ilişkin ampirik çalışmalar yapılmasına ihtiyaç duyulmaktadır. Bu bağlamda, bu çalışmanın amacı bilgi ve iletişim teknolojilerine dayalı olarak açık ve uzaktan öğrenme yoluyla öğrenim gören öğrencilerin yeni medya okuryazarlığı becerileri düzeylerinin belirlenmesi ve söz konusu düzeylerin öğrencilerin demografik özellikleri açısından incelenmesidir.

Anahtar Kelimeler: *Medya Okuryazarlığı, Yeni Medya Okuryazarlığı, Dijital Okuryazarlık, Açık ve Uzaktan Öğrenme, Çevrimiçi Öğrenme*

GİRİŞ: MEDYA OKURYAZARLIĞI

En genel anlamda medya, kitle iletişim araçlarını ve ortamlarını temsil etmektedir. Medya okuryazarlığı ise medya içeriklerini anlama, analiz etme ve eleştirme becerilerine sahip olma durumu olarak sesli, görüntülü, basılı ve çoklu ortam mesajlarını üretebilme becerilerine gönderme yapmaktadır (Buckingam, 2007, s. 3). Bu bakımdan medya okuryazarlığı bireylerin medya ortamlarında izledikleri, dinledikleri ve okudukları içeriklerle ilgili analiz ve soruşturma temelinde eleştirel sorular sormaya yönelten çok boyutlu bir beceridir. Bireylerin çeşitli ortamlara erişebilmeleri, bu ortamlardaki iletileri anlayabilmeleri ve kendi iletilerini oluşturabilmeleri de medya okuryazarlığındaki kilit noktalardır.

Geleneksel anlamda medya okuryazarlığı, medya araç ve mesajlarının doğru bir biçimde kullanılması ve tüketilmesi temeline dayanarak bireylerin birer bilinçli tüketici olmalarını hedeflemiştir. Söz konusu bu bilinç aracılığıyla bireylerin medya içerikle-

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rini tüketirken eleştirel bir bakış açısı ile onları değerlendirmelerine öncelik vermiştir (Scheibe, 2009, s. 68-69). Bu bağlamda, medya okuryazarlığı bireylerin bilinçli bir tüketici kimliğiyle medya araçlarını iyi bir biçimde takip eden kullanıcılar olmalarını sağlarken onların etkin bir şekilde medya içeriği üretmeleri ve paylaşmaları konusunda sınırlı bir etkiye sahiptir. Günümüzde dijital iletişim teknolojilerinin hızla gelişim göstermesi, iletişimde zaman, mekân ve araç sınırlarının silikleşmesi ve sanayi toplumunun yerini dijital bir toplumun almaya başlamasının (Christensen & Tufte, 2010, s. 111) yanı sıra özellikle Web 2.0, Web, 3.0 ve Web 4.0 teknolojilerinin medyayla bütünleşerek daha önce benzeri görülmemiş birçok özelliği medyaya katması medya okuryazarlığı alanına yeni bir boyut kazandırmıştır. Özellikle internet ve sosyal medya platformlarını sıklıkla kullanan bireylerin değişen medya okuryazarlığı durumu, yeni medya mecralarına yönelik medya okuryazarlığı becerilerini gerekmektedir. Diğer taraftan günümüzde, sadece web sitesi sahipleri ya da yöneticileri gibi yetkililer değil, tüketici konumundaki sıradan kullanıcı olan bireyler de değerlerini, düşüncelerini ve ideolojilerini temsil edebilmek için içerik oluşturabilir durumu gelmiştir. Bu da enformasyonun gönderici ile alıcı arasındaki sınırlarını bulanıklaştırmıştır. Dolayısıyla, günümüzde yaşanan teknolojik gelişmeler ve bu gelişmelerin günlük hayat pratiklerimize yansıttığı etkiler, gittikçe hem ihtiyaç haline hem de popüler bir hale gelen yeni medya okuryazarlığı becerisini, medya okuryazarlığı alanına yeni bir alan olarak getirmiştir (Erstad, 2010, s. 18-19). Bu nedenle, bu çalışma Türkiye'de bir devlet üniversitesinin açıköğretim sisteminde kayıtlı açık ve uzaktan öğrenme yoluyla öğrenim gören öğrencilerinin yeni medya okuryazarlığı becerileri düzeylerinin belirlenmesini ve söz konusu düzeylerin öğrencilerin demografik özellikleri açısından incelenmesini amaçlamaktadır.

Yeni Medya Okuryazarlığı

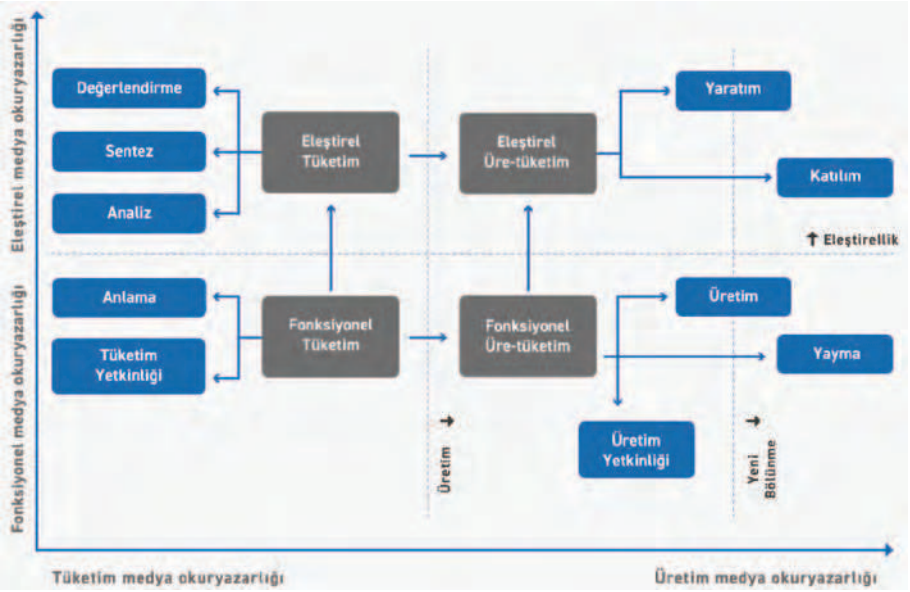
Dijital etkileşim, yaratıcı ve kolektif katılım, bağlanabilirlik, veri manipülasyonu, modülerlik, melezlik ve sanallık gibi birtakım özellikleri bünyesinde barındıran yeni medya kavramı, herhangi bir mesajın yine herhangi bir kullanıcı tarafından dijital olarak kodlandığı (oluşturulduğu) ve dağıtıldığı (dolaşıma sokulduğu) bütün teknoloji tabanlı sosyokültürel platformları temsil etmektedir. Bu bakımdan yeni medya, dijital mesajların herhangi bir yerde ve zamanda, herhangi dijital bir cihaz aracılığıyla her yerde erişilebilir olabildiği bir enformasyon işleme ekosistemine sahiptir (Chen, Wu ve Wang, 2011, s. 84-85).

Gelişen internet teknolojilerinin bir uzantısı olarak Web 2.0 teknolojisinin ortaya çıkmasıyla birlikte yeni medya okuryazarlığı kavramı dikkat çekmeye başlamıştır. Web 2.0 sosyal medya platformlarını, blogları, wikileri ve RSS beslemeleri gibi temeli web tabanına dayanan teknolojileri içermekte olup kitlesel anlamda bilgi ve beceri üretimini kolaylaştırarak koordine etmek gibi anlamlara sahiptir. Medya okuryazarlığına yönelik geleneksel yaklaşım, Web 2.0 teknolojisiyle birlikte bir dönüşüm geçirmiş ve ge-

leneksel yaklaşımda bulunan yalnızca medyaya *"erişebilme"* ve *"tüketebilme"* becerileri genişletilerek *"oluşturabilme"* ve *"dağıtabilme"* olmak üzere iki beceri daha bu çerçeveye eklenmiştir. Dolayısıyla, bu yeni çerçeve bağlamında günümüzde medya içeriğine yalnızca erişilerek onun tüketilmesiyle kalmayıp aynı zamanda içeriğin oluşturulup dağıtılabilmesi yoluyla başkalarıyla etkileşimde bulunulabilmesi açısından dikkat çeken yeni medya okuryazarlığı, hem medya içeriğinin ortak olarak oluşturulabilmesine olanak tanımış hem de aktif katılımı sağlayarak etkileşime imkân vermiştir (Koç ve Barut, 2016, s. 835). Böylelikle bireylerin hem görüşlerini hem de fikirlerini başkalarıyla paylaşmasına olanak sağlayarak bu süreci kolaylaştırmıştır. Medyada gerçekleşen bu yenilikler, bireylerin medya içeriklerini yalnızca tüketmelerinden ziyade onları aynı zamanda üretebilmelerini ön plana çıkarmıştır. Bu bakımdan yeni bir kavram olarak ortaya çıkan yeni medya okuryazarlığı, teknik bilgi ve sosyokültürel faktörleri birbirlerine harmanlayarak bilgisayar ve iletişim teknolojileri aracılığıyla medya üretimi, dağıtımı ve kullanımı biçiminde tanımlanmıştır (Lin, Li, Deng ve Lee, 2013, s. 161). Bu bağlamda ele alınan gelişmelerle birlikte, medya okuryazarlığının yeni medya okuryazarlığı olarak yeniden tanımlanması gerekliliğini ortaya çıkmış ve alanyazında bu tanımlardan hareketle yeni bir çerçeve çizilmiştir (Chen vd., 2011; Lin vd., 2013; Lee vd., 2015).

Chen ve diğerleri (2011) tarafından geliştirilen çerçeve, medya okuryazarlığının odak noktasında bulunan tüketimin yanına üretimi de eklemektedir. Böylelikle, çeşitli teknik becerilere sahip olmaya bağlı olarak medya içeriklerine erişme ve bunları kullanma becerileri altında tanımlanan tüketim, Web 2.0 teknolojisinin ortaya çıkması ve yaygınlaşmasıyla birlikte aynı zamanda medya içeriklerinin üretilmesini de kapsadı. Böylelikle bireyler, medya içeriklerini tüketirken aynı zamanda onları üretmeye de başladı. Bununla birlikte, Chen ve diğerleri (2011) yeni medya okuryazarlığında tanımlanan teknik becerilerin yanı sıra medya içeriğinin analiz edilerek, değerlendirilerek ve eleştirilerek söz konusu içeriğin örtülü ya da açık mesajlarına yönelik farkındalığına çeşitli düzeylerde sahip olunmasını içeren eleştirel okuryazarlık kavramını da bu çerçeveye dahil etmiştir (Chen vd., 2011, s. 86). Lin ve diğerleri (2013) ise geliştirilen bu çerçeveyi tekrar gözden geçirmiş ve yeni medya okuryazarlığı becerileri olarak tanımlanan fonksiyonel üre-tüketim, fonksiyonel tüketim, eleştirel üre-tüketim ve eleştirel tüketim olmak üzere dört becerinin sınırlarını daha açık bir şekilde çizmiştir (Lin vd., 2013, s. 165-166).

Bu çalışmada da Lin ve diğerlerinin (2013) Web 2.0 teknolojilerini temel alarak son aşamaya getirdiği ve Lee ve diğerleri (2015) tarafından ampirik olarak test edilen yeni medya okuryazarlığı modeli esas alınmıştır. Bu modele göre, yeni medya okuryazarlığı fonksiyonel tüketim (FT), eleştirel tüketim (ET), fonksiyonel üre-tüketim (FÜ) ve eleştirel üre-tüketim (EÜ) olmak üzere dört alt boyuttan oluşmaktadır. Şekil 1'de bu boyutlar gösterilmektedir.



Şekil 1. Yeni Medya Okuryazarlığı Modeli

Kaynak: Lin vd., 2013, s.163

Fonksiyonel tüketim, bireylerin medya içeriklerine erişip onları kullanabilmeleri için gerekli olan teknik bilgi ve beceriye sahip olabilmeyi ve bu içeriklerin anlamını kavrayabilmeyi içermektedir. Örneğin bireyin öğrenmek istediği bir bilgiyi bulmak için bilgisayarı nasıl kullanacağını bilmesi, arama motorlarında aramalar yapabilmesi, farklı platformlarda yer alan kullanıcıların fikirlerini anlayabilmesi ve yorumlayabilmesi fonksiyonel tüketimin içindedir (Lin vd., 2013, s. 164). Eleştirel tüketim, bireylerin içerikleri ekonomik, siyasi, kültürel ve sosyal gibi bağlamlar içerisinde çözümleme ve değerlendirme yoluyla yorumlayabilme becerisi olarak tanımlamaktadır. Bu durumda bireyin medya içeriklerini eleştirerek bilgilerin doğruluğunu sorgulayabilmesi ya da sosyal medya platformlarındaki bilgileri analiz edip kendi bakış açısına göre değerlendirebilmesi yeteneği eleştirel tüketimdir (Chen vd., 2011, s. 86).

Fonksiyonel üre-tüketim bireylerin medya içeriklerini oluşturabilmek için gerekli olan teknik bilgi ve beceriye sahip olabilmeyi, bu içerikleri dolaşıma sokabilmeyi (dağıtabilmek) ve metin, ses, resim ve video gibi farklı biçimlerdeki içerikleri çoğaltabilmeyi ve karıştırabilmeyi içermektedir. Örneğin bireyin herhangi bir sosyal medya platformunda bir hesap açabilmesi, başka kullanıcılardan edindiği bilgileri farklı platformlarda paylaşarak yayabilmesi, bununla birlikte metin, resim ve ses gibi dosyaları düzenleyerek video oluşturabilmesi fonksiyonel üre-tüketim becerilerindendir (Lee vd., 2015, s.85). Eleştirel üre-tüketim, bireylerin katılımcı bir kültür oluşturmada medya platformlarına aktif olarak katılabilmeyi, diğer kullanıcılarla iş birliği yapabilmeyi ve kendi girişimleriyle sosyokültürel değerlerini ve ideolojilerini içeren özgün içerikler geliştirebilmeyi kapsamaktadır. Yeni medya ortamlarında ya da sosyal ağ sitelerinde bireyin eleştirel bir bakış açısıyla kendi görüş ve ideolojisine uygun yeni bir yazı yazması eleştirel üre-tüketim becerisine bir örnek olarak verilebilir (Chen vd., 2011, s. 86; Lin vd., 2013, s.164).

YÖNTEM

Nicel araştırma yöntemi kullanılarak ve kesitsel tarama modelinden faydalanılarak yapılan bu çalışmada, Türkiye'de bir devlet üniversitesinin açıköğretim sisteminde kayıtlı açık ve uzaktan öğrenme yoluyla öğrenim gören öğrencilerinin yeni medya okuryazarlığı becerileri düzeylerinin belirlenmesi ve söz konusu düzeylerin öğrencilerin demografik özellikleri açısından incelenmesi amaçlanmıştır. Bu amaçla, öğrencilerin yeni medya beceri düzeylerinin belirlenmesi için Lee ve diğerleri (2015) tarafından geliştirilen ve Genç Kumtepe, Kumtepe, Uğurhan ve Saykili (2019) tarafından Türkçe uyarlaması yapılan yeni medya okuryazarlığı ölçeği kullanılmıştır.

Söz konusu ölçeğe öğrencilerin cinsiyet ve yaş gibi çeşitli demografik özelliklerini içeren sorular eklenerek anket formu, öğrenme yönetim sistemi üzerinden açık ve uzaktan öğretim öğrencileriyle paylaşılmış, çalışmaya gönüllü olarak katılan ve anketi tamamlayan toplamda 1.862 öğrenciden öz yönelimli veri toplama işlemi gerçekleştirilmiştir. Toplanan 1.862 öğrencinin verisi, yapılan ön analizler ve normallik sayıltıları kapsamında incelemeler sonucunda eksik cevaplardan ve uç değerlerden temizlenmiş, bu kapsamda 403 gözlem veri setinden çıkartılmış ve kalan 1.459 veri ile analizler gerçekleştirilmiştir.

Bu bağlamda, yapılan ilk çalışmadan (Genç Kumtepe vd., 2019) farklı olarak bu çalışmada yeni medya okuryazarlığı becerilerinin demografik özellikler ve analitik bilgiler açısından incelemesinin yapılmasının yanı sıra bu çalışmada yalnızca ölçeğe ilişkin söz konusu çalışmalarda elde edilen güvenirlik ve geçerlilik sonuçlarına özet bir şekilde yer verilmiş ve sonuçlar Tablo 1'de paylaşılmıştır. Bu sonuçlara göre kullanılan ölçek hem geçerli hem de güvenilir bir ölçektir.

Beceri	İfade Sayısı	x^2	df	x^2/df	AGFI	SRMR	RMSEA	CFI	Cronbach's α
Lee ve diğerleri (2015);									
FT	6	21,43	9	2,38	0,97	0,02	0,05	0,95	0,88
ET	13	198,02	62	3,19	0,92	0,06	0,06	0,73	0,88
FÜ	13	177,99	62	2,87	0,93	0,05	0,06	0,73	0,91
EÜ	5	11,92	5	2,38	0,98	0,02	0,05	0,98	0,72
Kara vd. (2018);									
FT	6	25,91	8	3,24	-	0,02	0,04	0,98	0,80
ET	13	416,54	57	7,30	-	0,06	0,08	0,93	0,87
FÜ	13	444,30	62	7,16	-	0,05	0,08	0,93	0,89
EÜ	4	12,71	5	2,54	-	0,01	0,04	0,99	0,77
Genç Kumtepe vd. (2019);									
FT	6	15,59	9	1,73	-	0,02	0,03	0,99	0,76
ET	13	197,29	41	4,81	-	0,04	0,07	0,95	0,86
FÜ	13	177,28	40	4,43	-	0,04	0,06	0,96	0,90
EÜ	5	11,78	4	2,94	-	0,02	0,05	0,99	0,79
Sınır Değerler (Hu ve Bentler, 1999)				**<5**	**>0,85**	**<0,05**	**<0,08**	**>0,95**	**>0,70**

Tablo 1. Yeni medya okuryazarlığı ölçeğine ilişkin geçerlilik ve güvenirlik sonuçları

Katılımcılar

Araştırmanın katılımcıları Türkiye'deki bir devlet üniversitesinde açık ve uzaktan öğrenme yoluyla öğrenim gören ve çeşitli bölümlerde kayıtlı 1.459 öğrencidir. Araştırmaya katılan öğrencilerin %35,2'si (n=514) erkek öğrencilerden ve %64,8'i (n=945) kadın öğrencilerden oluşmaktadır. Öğrencilerin yaş aralığı 18 ile 71 arasında değişmektedir ve katılımcıların yaş ortalaması 32,91'dir *(SS: 10,69)*. Katılımcıların yaş aralıkları Tablo 2'de verilmiştir. Buna göre, yaş bağlamında katılımcılar en fazla 23-28 yaş arasında (n=382, %26,20) ve en az olarak ise 53 yaş ve üstündedir.

Yaş Grubu	n	%
18-22	268	18,4
23-28	382	26,2
29-34	238	16,3
35-40	207	14,2
41-46	182	12,5
47-52	97	6,6
53+	85	5,8
Toplam	**1.459**	**100**

Tablo 2. Katılımcıların Yaş Dağılımı

BULGULAR

Bu bölümde araştırmaya katılan öğrencilere ilişkin detaylı demografik özelliklerin yanı sıra, yeni medya okuryazarlığı ölçeğine ilişkin betimsel istatistikler ve öğrencilerin yeni medya okuryazarlık seviyelerinin cinsiyet, kuşak, kayıt türü, program türü yaş, aylık gelir, meslek ve internet kullanım süreleri açısından incelenmesine ilişkin bulgulara yer verilmektedir.

Öğrencilere İlişkin Demografik Özellikler

Aşağıda Tablo 3'te görüldüğü üzere araştırmaya katılan öğrencilerin çoğunluğu (%64,8), kadın öğrencilerden oluşmaktadır. Kuşaklar açısından incelendiğinde, katılımcıların büyük oranının Y kuşağında, 39 yaş ve altı, olduğu görülmektedir (n=1062, %72,80). Öte yandan, katılımcıların %27,2'si ise X kuşağındadır (n=397). Program türü bağlamında incelendiğinde, katılımcılardan yarıdan fazlasının önlisans programlarında kayıtlı olduğu (%53,1), yarıya yakınının da lisans programlarında kayıtlı olduğu görülmektedir (%46,9).

Değişken		n	%
Cinsiyet	Kadın	945	64,8
	Erkek	514	35,2
Kuşak	X	397	27,2
	Y	1062	72,8
Program Türü	Lisans	685	46,9
	Önlisans	774	53,1
Kayıt Türü	İkinci üniversite	762	52,2
	Diğer (DGS, ÖSYM, ek yerleştirme vb.)	697	47,8
Kayıt Yılı	2013 ve öncesi	128	8,8
	2014 – 2017 arasında	569	39,0
	2018	762	52,2
Meslek	Çalışmıyorum	568	38,9
	Ev hanımıyım	81	5,6
	Emekliyim	72	4,9
	Tam zamanlı bir işte çalışıyorum	658	45,1
	Yarı zamanlı bir işte çalışıyorum	80	5,5
Aylık Gelir	500 TL ve altında	54	3,7
	501 TL – 2000 TL arasında	342	23,4
	2001 TL – 4000 TL arasında	573	39,3
	4001 TL – 6000 TL arasında	283	19,4
	6001 TL ve üstünde	207	14,2
İnternet Kullanımı	Günde 1 saat ve altında	120	8,2
	Günde 2 saat – 7 saat arasında	1103	75,6
	Günde 8 saat ve üstünde	236	16,2
TOPLAM		**1459**	**100**

Tablo 3. Katılımcıların demografik bilgileri

Kayıt türü bağlamında, Açıköğretim Sistemine ikinci üniversite olarak kayıt yaptıranlar çoğunluktayken (%52,2), diğer *(DGS, üniversite sınavı, ek yerleştirme vb.)* kayıt türleriyle kayıt yaptıranlar daha azdır (%47,8). Kayıt yılı açısından değerlendirildiğinde, 2018 yılında kayıt yaptıranlar (%52,2) çoğunluğu oluşturmaktadır ve bunu 2014-2017 arasında kayıt yaptıranlar (%39) ve son olarak 2013 yılı ve öncesinde kayıt yaptıranlar (%8,8) yer almaktadır. Meslek bağlamında, tam zamanlı bir işte çalışanların oranı (%45,1) çoğunluktayken, katılımcıların önemli bir oranı (%38,9) herhangi bir işte çalışmamaktadır. Öte yandan, katılımcıların %5,6'sı ev hanımlarından oluşmakta ve en az katılımcı oranını emekli öğrenciler (%4,9) oluşturmaktadır. Aylık gelir açısından çoğunlukla 2001 TL - 4000 TL arasında aylık kazanca sahip katılımcılar, daha az olarak 500 TL ve altında aylık kazanca sahip katılımcılar bulunmaktadır. İnternet

kullanımı açısından günde 2 saat ve 7 saat arasında internet kullananlar (%75,6) çoğunluktayken, günde 1 saat ve altında internet kullananların oranı oldukça düşüktür (%8,2) daha azdır.

Katılımcıların Haber Takibine İlişkin Veriler

Katılımcıların haber takip sıklıklarına bakıldığında, haberleri gazeteden çoğunlukla bazen takip ettikleri (%30,5), TV'den sıklıkla (%30,7), radyodan haberleri çoğunlukla bazen takip ettikleri (%35,6), sosyal medyadan haberleri çok sık takip ettikleri (%44,5) ve haber sitelerinden de çoğunlukla takip ettikleri (%52,8) görülmektedir. Bu bakımdan katılımcıların en çok sosyal medyadan ve haber sitelerinden haberleri takip ettikleri; radyodan ve gazeteden haberleri daha az takip ettikleri yorumu yapılabilir. Bu bilgiler Tablo 4'te verilmiştir.

Platform		Hiç	Nadiren	Bazen	Sıklıkla	Her Zaman
Gazete	n (%)	269 (18,4)	558 (38,2)	448 (30,7)	117 (8)	67 (4,6)
TV	n (%)	113 (7,7)	208 (14,3)	359 (24,6)	460 (31,5)	319 (21,9)
Radyo	n (%)	444 (30,4)	519 (35,6)	324 (22,2)	120 (8,2)	52 (3,6)
Sosyal Medya	n (%)	46 (3,2)	102 (7)	196 (18,4)	466 (31,9)	649 (44,5)
Haber Siteleri	n (%)	24 (1,6)	58 (4)	181 (12,4)	426 (29,2)	770 (52,8)

Tablo 4. Katılımcıların haber takip sıklıklarına ilişkin bulgular

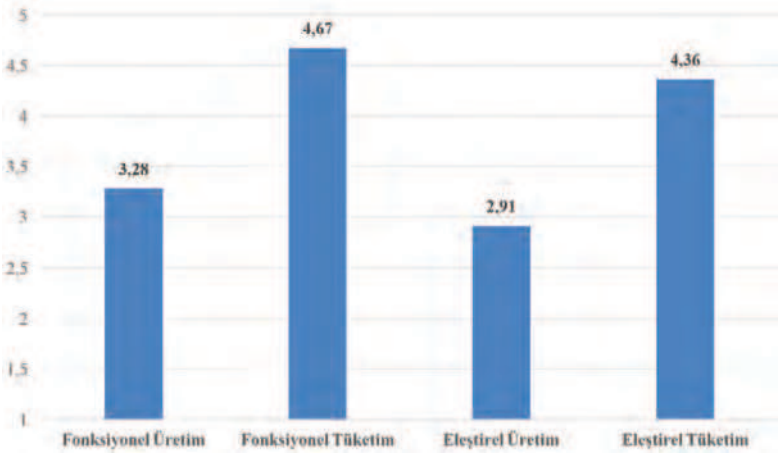
Yeni Medya Okuryazarlığı Ölçeğine Yönelik Betimsel İstatistikler

Yeni medya okuryazarlığı ölçeğine yönelik betimsel istatistikler *(ortalama ve standart sapma)* Tablo 5'te gösterilmiştir.

Faktörler	Ortalama	Standart Sapma
Fonksiyonel Tüketim (FT)	4,67	0,44
Eleştirel Tüketim (ET)	4,35	0,55
ET → Analiz	4,34	0,70
ET → Sentez	4,62	0,53
ET → Değerlendirme	4,08	0,79
Fonksiyonel Üre-tüketim (FÜ)	3,28	0,95
FÜ → Yayma	2,98	1,23
FÜ → Üre-tüketim 1.0	3,36	1,19
FÜ → Üre-tüketim 2.0	3,51	0,89
Eleştirel Üre-tüketim (EÜ)	2,91	1,06
(1 – Kesinlikle Katılmıyorum; 5 – Kesinlikle Katılıyorum; 1 – Hiç; 5 – Her Zaman)		

Tablo 5. Yeni medya okuryazarlığı ölçeğine ilişkin betimsel istatistikler (n=1459)

Açıköğretim sistemine kayıtlı açık ve uzaktan öğretim öğrencilerinin yeni medya okuryazarlıkları bağlamında fonksiyonel tüketim becerisi ortalamalarının 4,67 (*SS*: 0,44), eleştirel tüketim becerisi ortalamalarının 4,35 (*SS*: 0,55), fonksiyonel üre-tüketim becerisi ortalamalarının 3,28 (*SS*: 0,95) ve eleştirel üre-tüketim becerisi ortalamalarının 2,91 (*SS*: 1,06) olduğu görülmektedir (Tablo 5). Bu bağlamda, genel olarak öğrencilerin tüketim becerisi ortalamalarının üre-tüketim becerisi ortalamalarına göre daha yüksek olduğu söylenebilir. Üre-tüketim becerisi bağlamında fonksiyonel üre-tüketim becerisinin eleştirel üre-tüketim becerisine göre daha yüksek olduğu, tüketim becerisi bağlamında ise fonksiyonel tüketim becerisinin eleştirel tüketim becerisine göre daha yüksek olduğu söylenebilir (Şekil 2). Bu bulgu Kara ve diğerlerinin (2018, s. 1018) çalışmasıyla benzerlik göstermektedir. Kara ve diğerleri (2018), öğretmen adaylarının yeni medya okuryazarlığı becerilerini inceledikleri çalışmalarında, öğretmen adaylarının fonksiyonel ve eleştirel üre-tüketim becerilerinin tüketim becerilerine göre daha düşük düzeyde olduğu, üre-tüketim özelinde eleştirel üre-tüketim becerisinin, fonksiyonel üre-tüketim becerisine göre daha düşük olduğu, tüketim becerisinde ise fonksiyonel tüketim becerisinin eleştirel üre-tüketim becerisine göre daha yüksek olduğunu tespit etmişlerdir. Ancak, onların çalışmasından farklı olarak bu çalışmada açık ve uzaktan öğretim öğrencilerinin fonksiyonel ve eleştirel tüketim düzeylerinin daha yüksek olduğu; fonksiyonel üre-tüketim becerilerinin daha düşük ve eleştirel tüketim becerilerinin daha yüksek olduğu görülmüştür. Bunun nedeni açık ve uzaktan öğretim öğrencilerine, entelektüel becerilerinin gelişmesine olanak sağlayan geniş yelpazede ders içeriklerinin sağlanması olabilir. Benzer biçimde, Chen ve diğerlerinin (2018, s. 6) ilkokul ve ortaokul düzeyindeki öğrencilerin yeni medya okuryazarlığı becerilerini ölçümledikleri çalışmalarında, bu öğrencilerin üre-tüketim becerilerinin tüketim becerilerine göre daha düşük düzeyde olduğunu tespit etmişlerdir. Farklı bir bulgu olarak hem üre-tüketim hem de tüketim becerisinin ilkokul öğrencilerinde daha düşükken ortaokul düzeyindeki öğrencilerde daha yüksek olduğunu da tespit etmişlerdir. Fakat, açık ve uzaktan öğretim öğrencilerinin yeni medya okuryazarlığı becerileri ortalamalarının Chen ve diğerlerinin (2018, s. 6) çalışmasından yüksek olması açık ve uzaktan öğretim öğrencilerinin yaşlarının daha büyük olmasından kaynaklanabileceği değerlendirilmektedir. Diğer taraftan, aynı bulguya üniversite öğrencilerinin yeni medya okuryazarlık becerilerini ölçümleyen Koç ve Barut'un (2016, s. 841) da ulaşmış olması, yeni medya tüketim pratiklerinin her zaman kullanılırken, üretim pratiklerinin daha az kullanılmasından kaynaklanmış olabileceği düşünülmektedir.



Şekil 2. Açık ve uzaktan öğrenenlerin yeni medya becerileri

Eleştirel tüketim becerisi bağlamında öğrencilerin eleştirel tüketim sentez becerilerinin ($\overline{x}$: 4,62; *SS*: 0,53), analiz ($\overline{x}$: 4,34; *SS*: 0,70) ve değerlendirme ($\overline{x}$: 4,08; *SS*: 0,79) becerilerinden yüksek olduğu görülmektedir. Öğrencilerin eleştirel tüketim sentez becerilerinin yüksek olması yeni medyayla birlikte birçok alternatif sosyal ağ sitelerinin ortaya çıkmış olmasından dolayı olabilir. Birden fazla kaynaktan gelen çeşitli içeriklere maruz kalarak belirli bir süre sonra sentezleyebilme becerisini de böylelikle öğrenciler geliştirmiş olabilir. Benzer biçimde analiz ve değerlendirme becerisi ortalamalarının sentez becerisine göre nispeten düşük de olsa genel olarak değerlendirildiğinde 5'e yakın olması, yine bu sonuçtan kaynaklanmış olabilir. Fonksiyonel üre-tüketim becerisi bağlamında fonksiyonel üre-tüketim 2.0 becerisinin ($\overline{x}$: 3,51; *SS*: 0,89), fonksiyonel üre-tüketim 1.0 ($\overline{x}$: 3,36; *SS*: 1,19) ve yayma ($\overline{x}$: 2,98; *SS*: 1,23) becerisinin ortalamalarından daha yüksek olduğu görülmektedir. Öğrencilerin fonksiyonel üre-tüketim 2.0 ortalamalarının yüksek olması, onların sosyal ağ sitelerinde içerik hazırlarken ya da paylaşırken söz konusu web sitelerinin sağlamış olduğu çok fazla beceri gerektirmeyen teknik düzenleme ve kurgu programlarını daha kolay bir şekilde kullanabilmelerinden kaynaklanabilir. Ayrıca sosyal ağ sitelerinin nispeten kolay kullanıcı ara yüzüne sahip olması da öğrencilerin bu platformları daha kolay kullanabilmelerine olanak vermektedir. Fonksiyonel 1.0 ortalamalarının da 2.0'a göre düşük olması, öğrencilerin doğrudan beceri gerektiren birtakım teknik programları kullanabilmeye *(photoshop vb.)* ihtiyaç duymasından olabilir. Fonksiyonel üre-tüketim yayma becerisi ortalamasının diğer iki beceriye göre daha düşük olması ise bu becerinin aktif olarak pratik yapmayı gerektirebildiğinden (Kara vd., 2018, s.1023) *(içerik oluşturma, paylaşma vb.)* dolayı kaynaklanabilir. Bu durum ise öğrencilerin üre-tüketim pratiklerini daha az, tüketim pratiklerini ise daha fazla gerçekleştiren kullanıcılar olduğunu göstermektedir.

Yeni Medya Okuryazarlığı Becerilerinin Katılımcıların Demografik Bilgileri Açısından Incelenmesi

Yeni medya okuryazarlığı ölçeğine ilişkin becerilerin *(FÜ, FT, EÜ ve ET)* katılımcıların cinsiyet, kuşak, kayıt türü ve program türü açısından farklılaşıp farklılaşmadığını tespit edebilmek amacıyla Bağımsız Örneklemler T-Test Analizi uygulanmıştır. Sonuçlar değerlendirilirken **cinsiyet** bağlamında FT becerisi için Levene Testi'nde varyansla-

rın homojenliği sağlanamadığı için (p<0,05) anlamlılık değerlendirmesi eşit olmayan varyanslar seçeneğinden; FÜ, EÜ ve ET için ise homojenlik sağlandığından (p>0,05) dolayı eşit varyanslar seçeneğin; **kuşak** bağlamında FÜ, FT ve EÜ becerileri eşit olmayan varyanslar seçeneğinden (p<0,05), ET becerisi eşit varyanslar seçeneğinden (p>0,05); **kayıt türü** bağlamında FÜ, EÜ ve ET becerileri için eşit olmayan varyanslar seçeneğinden (p<0,05), FT becerisi için eşit varyanslar seçeneğinden (p>0,05); **program türü (önlisans-lisans)** bağlamında ise bütün beceriler için eşit varyanslar seçeneğinden (p>0,05) yapılmıştır (Pallant, 2011, s. 241-242). Sonuçlar Tablo 6'da paylaşılmış ve analiz değerlendirmeleri takip eden başlıklarda sırayla ele alınmıştır.

Değişken		Grup	n	$\bar{x}$	SS	t	df	p
Cinsiyet	FÜ	Kadın	945	3,28	0,94	0,090	1457	0,928
		Erkek	514	3,28	0,96			
	FT	Kadın	945	4,70	0,41	3,132	917,42	0,002**
		Erkek	514	4,62	0,48			
	EÜ	Kadın	945	2,86	1,04	-2,369	1457	0,018*
		Erkek	514	3,00	1,08			
	ET	Kadın	945	4,33	0,54	-1,896	1457	0,058
		Erkek	514	4,38	0,55			
Kuşak	FÜ	X	397	3,02	0,88	-6,837	768,739	<0,001
		Y	1062	3,38	0,95			
	FT	X	397	4,54	0,49	-6,230	605,875	<0,001
		Y	1062	4,72	0,40			
	EÜ	X	397	2,59	0,94	-7,669	807,428	<0,001
		Y	1062	3,03	1,08			
	ET	X	397	4,26	0,57	-3,837	1457	<0,001
		Y	1062	4.38	0,54			
Kayıt Türü	FÜ	İkinci Üniversite	762	3,26	0,91	-0,790	1412,98	0,430
		Diğer	697	3,30	0,99			
	FT	İkinci Üniversite	762	4,66	0,44	-1,065	1457	0,287
		Diğer	697	4,68	0,43			
	EÜ	İkinci Üniversite	762	2,87	1,02	-1,263	1418,51	0,207
		Diğer	697	2,94	1,10			
	ET	İkinci Üniversite	762	4,36	0,53	0,619	1423,28	0,536
		Diğer	697	4,34	0,57			
Program Türü	FÜ	Lisans	685	3,29	0,96	0,348	1457	0,728
		Önlisans	774	3,27	0,94			
	FT	Lisans	685	4,68	0,43	0,851	1457	0,395
		Önlisans	774	4,66	0,44			
	EÜ	Lisans	685	2,91	1,07	0,212	1457	0,832
		Önlisans	774	2,90	1,05			
	ET	Lisans	685	4,36	0,54	1,103	1457	0,270
		Önlisans	774	4,33	0,56			

**p<0,01; *p<0,05.

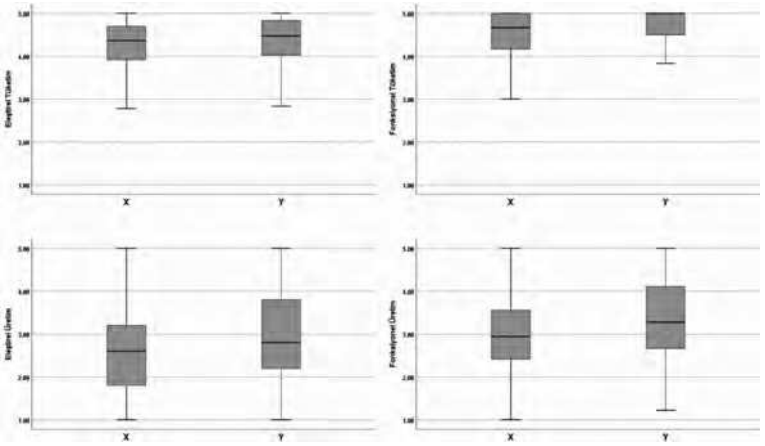
Tablo 6. Cinsiyet, kuşak, kayıt türü ve program türünün yeni medya okuryazarlığı becerileri açısından incelenmesi

Yeni Medya Okuryazarlığı ve Cinsiyet

Tablo 6'da görüldüğü gibi cinsiyet, FT (*t*: 3,132; df: 917,42; *p*<0,01) ve EÜ becerileri (*t*: -2,369; df: 1457; *p*<0,05) açısından anlamlı bir farklılık oluşturmaktadır. Ancak, FÜ ve ET becerileri açısından anlamlı bir farklılık oluşturmamaktadır (*p*>0,05). Bu bağlamda, kadın öğrencilerin FT becerinin erkek öğrencilerle kıyasla daha yüksek; erkek öğrencilerin ise EÜ becerisinin kadın öğrencilere kıyasla daha yüksek olduğu görülmektedir. Diğer taraftan, FÜ ve ET becerileri açısından değerlendirildiğinde ise hem kadın öğrencilerde hem de erkek öğrencilerde bu beceriye ilişkin düzeylerin benzer olduğu yorumu yapılabilir. Bu bulgu Kara ve diğerlerinin (2018, s.1019) bulgusuyla hem benzerlik hem de farklılık göstermektedir. Onlar çalışmalarında yeni medya okuryazarlığı becerilerinin hepsinin cinsiyet açısından farklılık gösterdiğini tespit etmişlerdir. Bu farklılığın da erkek öğretmen adaylarının lehine olduklarını bulmuşlardır. Dolayısıyla, onlara göre erkek öğretmen adaylarının yeni medya okuryazarlığı becerileri, kadın öğretmen adaylarına göre daha fazla olduğu sonucu ortaya çıkmıştır. Bu çalışmada ise yalnızca fonksiyonel tüketim ve eleştirel üre-tüketim becerilerinin cinsiyet açısından farklılık oluşturduğu ortaya koyulmuştur. FT açısından kadın öğrencilerin daha yüksek düzeyde bu beceriye sahip olduğu, EÜ açısından ise erkek öğrencilerin daha yüksek düzeyde bu beceriye sahip olduğu tespit edilmiştir. Bununla birlikte Chen ve diğerlerinin (2018, s.7) çalışmasında cinsiyet, ilkokul ve ortaokul öğrencilerinin yeni medya becerilerin düzeyleri üzerinde anlamlı bir farklılığa sahip olmadığı bulunmuştur. Dolayısıyla, kimi çalışmalarda cinsiyetin yeni medya okuryazarlığı becerileri üzerinde bir farklılık oluşturması ve kimi çalışmalarda ise farklılık oluşturmaması, yeni medya okuryazarlığının sosyal ve kültürel yönleri göz önünde tutulduğunda, cinsiyetin bu yönler üzerindeki rolünden kaynaklanmış olabileceği değerlendirilmektedir.

Yeni Medya Okuryazarlığı ve X, Y Kuşakları

Kuşaklar açısından yeni medya okuryazarlığı becerilerini hepsinin anlamlı bir şekilde farklılaştığı görülmektedir (*p*<0,001). Bu bağlamda, beceri bazında bakıldığında Y kuşağı bireylerinin X kuşağı bireylerine göre bütün yeni medya yetenekleri üzerinde daha yüksek düzeyde beceriye sahip oldukları söylenebilir (Şekil 3). Bu bulgu, alanyazındaki diğer çalışmalarla (Chen vd., 2018, s. 8; Arsenjevic ve Andevski, 2016, s. 1145) benzerlik göstermektedir. Yaşça daha genç olan bireylerin, daha yaşlı olan bireylere göre daha fazla yeni medya okuryazarlığı becerilerine sahip olduğu alanyazında da kanıtlanmıştır.



Şekil 3. **Kuşaklar ve yeni medya okuryazarlığı becerileri**

Yeni Medya Okuryazarlığı ve Kayıt Türü ve Program Türü

Kuşaklar arası istatistiksel olarak anlamlı farklılıklar bulunmasına rağmen, kayıt türü açısından (ikinci üniversite ve diğer kayıt türü) yeni medya okuryazarlığı becerileri anlamlı bir şekilde farklılaşmamaktadır (p>0,05). Dolayısıyla gerek ikinci üniversite gerekse de diğer kayıt türüyle kayıt yaptıran öğrenciler için yeni medya okuryazarlığı becerileri benzer düzeylerdedir. Yine benzer bir şekilde, program türü açısından (önlisans ve lisans) yeni medya okuryazarlığı becerileri anlamlı bir şekilde farklılaşmamaktadır (p>0,05). Hem lisans programlarında olan öğrenciler için hem de önlisans programlarında olan öğrenciler için yeni medya okuryazarlığı becerileri benzer düzeylerdedir.

Yeni Medya Okuryazarlığı ve Yaş, Meslek, Gelir ve İnternette Geçirilen Zaman

Yeni medya okuryazarlığı ölçeğine ilişkin becerilerin (FÜ, FT, EÜ ve ET) katılımcıların yaş, aylık gelir, meslek ve internet kullanım süreleri açısından farklılaşıp farklılaşmadığını tespit edebilmek amacıyla Tek Yönlü ANOVA testi (One-way ANOVA) uygulanmıştır. Sonuçlar değerlendirilirken **yaş** bağlamında ET, FT ve FÜ becerileri için Levene Testi'nde varyansların homojenliği sağlanamadığı için (p<0,05) anlamlılık değerlendirmesi Brown-Forsythe istatistiği üzerinden, EÜ becerisi için ise ANOVA istatistiği (p>0,05) üzerinden; **aylık gelir** bağlamında ET ve EÜ becerileri için Brown-Forsythe istatistiği üzerinden (p<0,05), FT ve FÜ becerileri için ANOVA istatistiği üzerinden (p>0,05); **meslek** bağlamında EÜ ve FT becerileri için Brown-Forsythe istatistiği üzerinden (p<0,05), ET ve FÜ becerileri için ANOVA istatistiği üzerinden (p>0,05); günlük **internet kullanımı** bağlamında ET, EÜ ve FT becerileri için Brown-Forsythe istatistiği üzerinden (p<0,05), FÜ becerisi için ANOVA istatistiği üzerinden (p>0,05) yapılmıştır (Pallant, 2011, s. 253).

Değişken		Grup	n	$\overline{x}$	SS	F	p
Aylık Gelir	FÜ	500 TL ve altında	54	3,49	1,02	0,769	0,545
		501 - 2000 TL	342	329	0,98		
		2001 TL - 4000 TL	573	3,26	0,97		
		4001 TL - 6000 TL	283	3,27	0,91		
		6001 TL ve üstünde	207	3,29	0,87		
	FT	500 TL ve altında	54	4,66	0,45	0,326	0,860
		501 - 2000 TL	342	4,66	0,44		
		2001 TL - 4000 TL	573	4,66	0,45		
		4001 TL - 6000 TL	283	4,69	0,41		
		6001 TL ve üstünde	207	4,68	0,41		
	EÜ	500 TL ve altında	54	3,13	1,17	0,773 Brown-Forsythe	0,543
		501 - 2000 TL	342	2,88	1,09		
		2001 TL - 4000 TL	573	2,93	1,08		
		4001 TL - 6000 TL	283	2,88	1,02		
		6001 TL ve üstünde	207	2,89	0,95		
	ET	500 TL ve altında	54	4,41	0,50	1,748 Brown-Forsythe	0,138
		501 - 2000 TL	342	4,29	0,59		
		2001 TL - 4000 TL	573	4,35	0,55		
		4001 TL - 6000 TL	283	4,36	0,54		
		6001 TL ve üstünde	207	4,41	0,47		

Tablo 7. Yeni medya okuryazarlığı becerilerinin aylık gelir açısından incelenmesi

Tablo 7'de yeni medya okuryazarlığı becerilerinin aylık gelir durumu açısından anlamlı bir farklılık oluşturmadığı görülmektedir (p>0,05). Bu bakımdan, aylık gelir gelirin yeni medya okuryazarlığı becerileri üzerinde bir farklılık oluşturmadığı söylenebilir. Bu bulgu, Arsenijevic ve Andevski'nin (2016, s. 1147) çalışmasındaki bulgudan farklılık göstermektedir. Onlar çalışmalarında aylık gelirin yeni medya okuryazarlığı becerileri üzerinde farklılık oluşturduğunu, geliri yüksek bireylerin daha yüksek okuryazarlık becerilerine sahip olduğunu tespit etmişlerdir. Ancak, çalışmalarında sadece öğrencilerin dışında, üniversite hocaları gibi eğitim ve öğretimle ilişkisi olan kişilere de ulaşmaları, hali hazırda becerisi yüksek olan kişiler olabileceğinden dolayı böyle bir sonuca yol açmış olabileceği düşünülmektedir. Bu çalışmada ise açık ve uzaktan öğretim öğrencilerinin aylık gelir açısından yeni medya okuryazarlığı becerileri farklılaşmamaktadır. Bu da söz konusu bu bireylerin, enformasyon çağında bilgiye yeni medya kaynaklarından ulaşarak yeni medya okuryazarlığı becerilerini aylık gelirin çok fazla bir etkisi olmadan geliştirebildiklerini göstermektedir.

Değişken		Grup	n	$\overline{x}$	SS	F	p
Meslek	FÜ	Çalışmıyorum	568	3,35	0,97	3,491	0,008**
		Ev hanımıyım	81	3,00	0,93		
		Emekliyim	72	3,09	0,92		
		Tam zamanlı bir işte çalışıyorum	658	3,27	0,94		
		Yarı zamanlı bir işte çalışıyorum	80	3,38	0,86		
	FT	Çalışmıyorum	568	4,71	0,40	3,764 Brown-Forsythe	0,005**
		Ev hanımıyım	81	4,66	0,45		
		Emekliyim	72	4,50	0,54		
		Tam zamanlı bir işte çalışıyorum	658	4,66	0,45		
		Yarı zamanlı bir işte çalışıyorum	80	4,65	0,44		
	EÜ	Çalışmıyorum	568	2,99	1,11	2,649 Brown-Forsythe	0,033*
		Ev hanımıyım	81	2,68	0,95		
		Emekliyim	72	2,72	0,98		
		Tam zamanlı bir işte çalışıyorum	658	2,89	1,04		
		Yarı zamanlı bir işte çalışıyorum	80	2,86	0,96		
	ET	Çalışmıyorum	568	4,38	0,54	2,466	0,043*
		Ev hanımıyım	81	4,20	0,60		
		Emekliyim	72	4,32	0,52		
		Tam zamanlı bir işte çalışıyorum	658	4,35	0,55		
		Yarı zamanlı bir işte çalışıyorum	80	4,28	0,57		

**p<0,01; *p<0,05.

Tablo 8. Yeni medya okuryazarlığı becerilerinin meslek açısından incelenmesi

Tablo 8'de yeni medya okuryazarlığı becerilerinin, FÜ (*F*: 3,491; *p*: 0,008), FT (*F*: 3,764; *p*: 0,005), EÜ (*F*: 2,649; *p*: 0,033) ve ET (*F*: 2,466; *p*: 0,043), meslek açısından anlamlı bir farklılık oluşturduğu görülmektedir ($p<0,05$). FÜ becerisi için hangi meslek grupları arasında anlamlı farklılık olduğunu tespit edebilmek için işlem sonrası testlerinden *"Tukey"* testi sonuçlarına bakıldığında, herhangi bir işte çalışmayanlar ile ev hanımı olanlar arasında (md: 0,34; $p<0,05$) anlamlı farklılık olduğu görülmüştür. Çalışmayanların, ev hanımlarına göre daha fazla EÜ becerisine sahip oldukları söylenebilir. FT becerisi için hangi meslek grupları arasında anlamlı farklılık olduğunu tespit edebilmek için işlem sonrası testlerinden *"Tamhane"* testi sonuçlarına bakıldığında, bir işte çalışmayanlar ile emekliyim diye belirtenler arasında (md: 0,21; $p<0,05$) anlamlı farklılık olduğu görülmüştür. Çalışmayanların, emeklilere göre daha fazla EÜ becerisine sahip olduğu söylenebilir.

EÜ becerisi için hangi meslek grupları arasında anlamlı farklılık olduğunu tespit edebilmek için işlem sonrası testlerinden *"Tamhane"* testi sonuçlarına bakıldığında, bir işte çalışmayanlar ile ev hanımları arasında (md: 0,30; $p<0,05$); bir işte çalışmayanlar ile emekli olanlar arasında (md: 0,26; $p<0,05$) anlamlı farklılık olduğu görülmüştür. Çalışmayanların, ev hanımlarına ve emeklilere göre daha fazla EÜ becerisine sahip olduğu söylenebilir. ET becerisi için hangi meslek grupları arasında anlamlı farklılık

olduğunu tespit edebilmek için işlem sonrası testlerinden *"Tukey"* testi sonuçlarına bakıldığında, bir işte çalışmayanlar ile ev hanımı olanlar arasında (md: 0,18; p<0,05) anlamlı farklılık olduğu görülmüştür. Çalışmayanların, ev hanımlarına göre daha fazla ET becerisine sahip olduğu belirtilebilir.

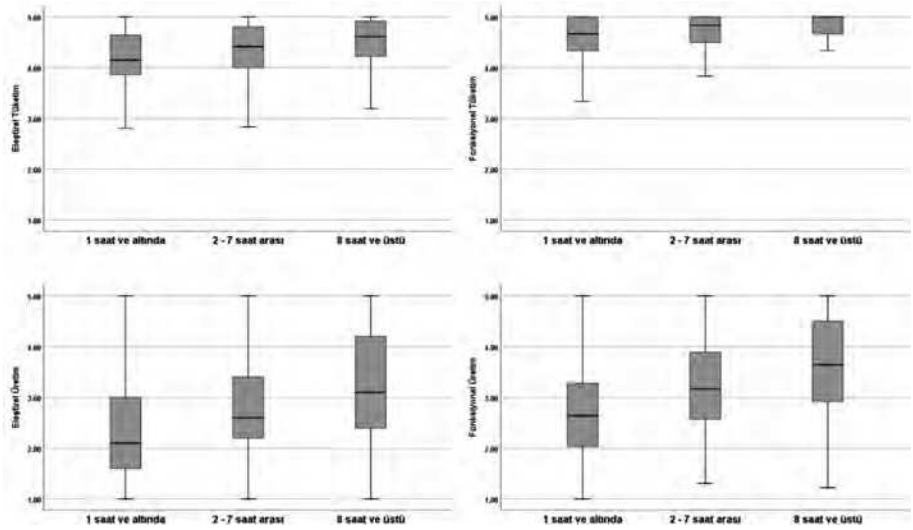
Bu bulgular ışığında, herhangi bir işte çalışmadığını ifade edenlerin yeni medya okuryazarlığı becerilerine ilişkin ortalamaların diğer gruplara göre daha yüksek olması, yapmak zorunda oldukları herhangi bir işe ilişkin iş yüklerinin olmamasından dolayı internette daha çok vakit geçirmeye fırsat bulabildiklerinden kaynaklanabileceği değerlendirilmektedir. Çünkü bir birey, internette ne kadar çok süre geçirirse o kadar çok yeni medya okuryazarlığı becerilerini geliştirebilmektedir (Literat, 2014, s. 22).

Değişken		Grup	n	$\overline{x}$	SS	F	p
Günlük İnternet Kullanımı	FÜ	1 saat ve altında	120	2,81	1,03	34,332	<0,001
		2 – 7 saat arasında	1103	3,25	0,91		
		8 saat ve üstü	236	3,64	0,94		
	FT	1 saat ve altında	120	4,54	0,52	8,652 Brown-Forsythe	<0,001
		2 – 7 saat arasında	1103	4,67	0,43		
		8 saat ve üstü	236	4,75	0,40		
	EÜ	1 saat ve altında	120	2,44	1,12	25,747 Brown-Forsythe	<0,001
		2 – 7 saat arasında	1103	2,88	1,02		
		8 saat ve üstü	236	3,29	1,10		
	ET	1 saat ve altında	120	4,13	0,65	16,532 Brown-Forsythe	<0,001
		2 – 7 saat arasında	1103	4,34	0,54		
		8 saat ve üstü	236	4,50	0,51		

Tablo 9. Yeni medya okuryazarlığı becerilerinin günlük internet kullanımı açısından incelenmesi

Tablo 9'da yeni medya okuryazarlığı becerilerinin hepsinin, günlük internet kullanımı açısından anlamlı bir farklılık oluşturduğu görülmektedir (p<0,001). Farklılığın hangi gruplar arasında olduğuna ilişkin işlem sonrası testlerinden Tukey testi sonuçlarına bakıldığında **FÜ** becerisi açısından internette günlük 1 saat ve altında süre geçirenler ile 2 – 7 saat arasında süre geçirenler (md: -0,44; p<0,001), 8 saat ve üstünde süre geçirenler (md: -0,83; p<0,001) arasında anlamlı bir farklılık bulunmuştur. 2 – 7 saat arasında süre geçirenler ile 8 saat ve üstünde süre geçirenler (md: -0,39; p<0,001) arasında anlamlı bir farklılık bulunmuştur. **FT** becerisi açısından işlem sonrası testlerinden Tamhane testi sonuçlarına bakıldığında internette günlük 1 saat ve altında süre geçirenler ile 2 – 7 saat arasında süre geçirenler (md: -0,12; p<0,05), 8 saat ve üstünde süre geçirenler (md: -0,21; p<0,001) arasında anlamlı bir farklılık bulunmuştur. 2 – 7 saat arasında süre geçirenler ile 8 saat ve üstünde süre geçirenler (md: -0,08; p<0,05) arasında anlamlı bir farklılık bulunmuştur. **EÜ** becerisi açısından işlem sonrası testlerinden Tamhane testi sonuçlarına bakıldığında internette günlük 1 saat ve altında süre geçirenler ile 2 – 7 saat arasında süre geçirenler (md: -0,43; p<0,001), 8 saat ve üstünde süre geçirenler (md: -0,85; p<0,001) arasında anlamlı bir farklılık bulunmuştur. 2 – 7 saat arasında süre geçirenler ile 8 saat ve üstünde süre geçirenler (md: -0,41; p<0,001)

arasında anlamlı bir farklılık bulunmuştur. **ET** becerisi açısından işlem sonrası testlerinden Tamhane testi sonuçlarına bakıldığında internette günlük 1 saat ve altında süre geçirenler ile 2 – 7 saat arasında süre geçirenler (md: -0,21; p<0,01), 8 saat ve üstünde süre geçirenler (md: -0,36; p<0,001) arasında anlamlı bir farklılık bulunmuştur. 2 – 7 saat arasında süre geçirenler ile 8 saat ve üstünde süre geçirenler (md: -0,15; p<0,001) arasında anlamlı bir farklılık bulunmuştur. Bu sonuçlardan hareketle söylenebilir ki; günlük internette daha fazla süre geçiren katılımcılar, daha yüksek düzeyde yeni medya becerilerine sahip olmaktadır. Dolayısıyla, bu durum günümüzde yeni medya teknolojilerinin, internet tabanlı gelişmelerin bir sonucu olarak gelişim göstermesinden kaynaklandığı düşünülmektedir. Yeni medya araçlarının gerek bilgisayar teknolojileri gerekse de mobil teknolojiler aracılığıyla internet ağlarına bağlılığı ve bireylerin bu ağlar üzerinde daha fazla süre geçirmesi, yeni medya becerilerinden hem tüketim hem de üre-tüketim becerilerinin gelişmesine olumlu yönde katkı sağlamaktadır (Şekil 4).

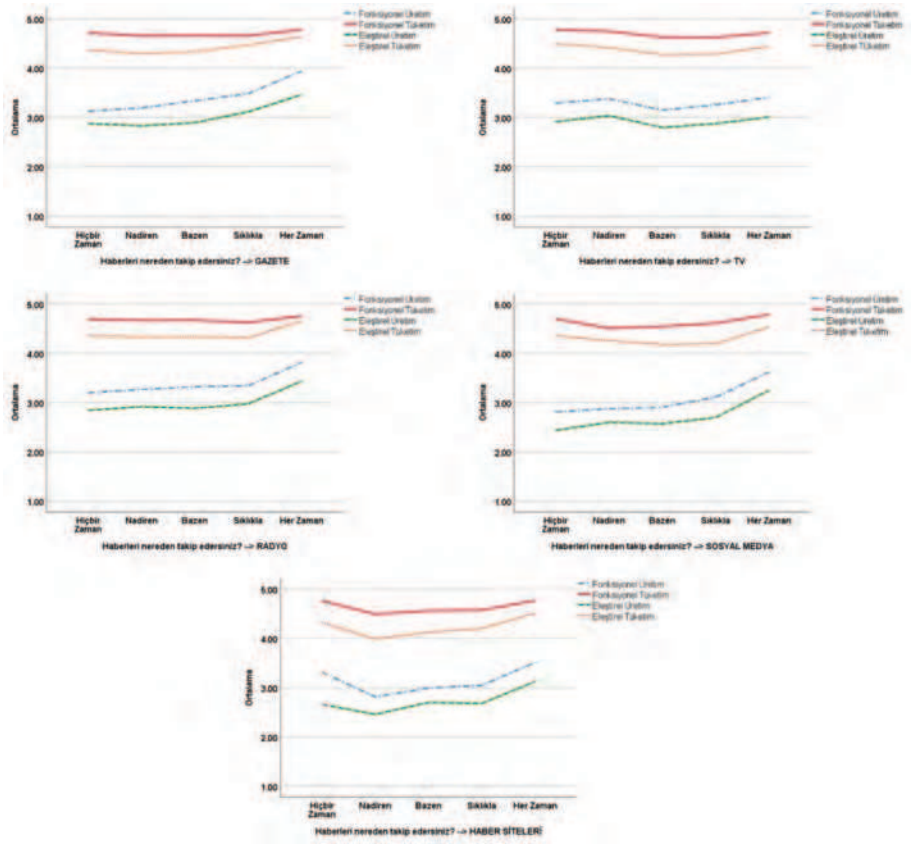


Şekil 4. Günlük internet kullanım süresi ve yeni medya okuryazarlığı becerileri

Haber Takip Sıklığı ve Yeni Medya Okuryazarlığı Becerilerinin Incelenmesi

Haber takip sıklıkları ve yeni medya okuryazarlığı becerilerinin düzeyleri, çizgi grafikler üzerinden incelenmiş ve genel olarak her bir haber takip platformunda takip sıklığının artması sonucunda yeni medya okuryazarlığı becerilerinin de yükselmekte olduğu görülmüştür (Şekil 5).

Özel olarak, haber takip sıklıkları bağlamında yeni medya okuryazarlığı becerilerini incelendiğinde, haber takip sıklığının artmasının bir sonucu olarak genel anlamda bu becerilere ilişkin düzeylerin yükseldiği söylenebilir. Diğer taraftan, üre-tüketim ve tüketim becerileri bağlamında düşünüldüğünde ise tüketim becerileri her bir medya aracının haber takip sıklığı açısından nispeten düşük düzeyde artış göstererek bir ilerleme gösterse de üre-tüketim becerileri bağlamında bütün medya araçları için haber takip sıklığındaki artışın üre-tüketim becerilerini de önemli ölçüde arttırdığı ifade edilebilir. Dolayısıyla, her bir medya aracı takip sıklığı kapsamında tüketim becerileri için benzer düzeyleri sunsa da üre-tüketim becerileri açısından bu araçlardaki haber takip sıklığının üre-tüketim becerisini dramatik olarak geliştirdiği yorumlanabilir.



Şekil 5. Haber takip sıklıkları ve yeni medya okuryazarlığı becerileri

TARTIŞMA VE SONUÇ

Geleneksel anlamda medya araç ve mesajlarının doğru bir biçimde kullanılması ve tüketilmesi temeline dayanarak bireylerin birer bilinçli tüketici olmalarını hedefleyen medya okuryazarlığı bireylerin kullandıkları araçların özelliklerini yansıtacak biçimde devamlı olarak yeniden şekillenmektedir. Dijital çağ olarak da adlandırılan 21. yüzyılda geliştirilen katılımcı ve bağlantıcı bilgi ve iletişim teknolojileri bireylerin sadece içerik tüketen değil, aynı zamanda içerik üretenler konumuna geçmesine olanak tanımaktadır. Bu nedenle, söz konusu yeni teknolojilerin etkisiyle medya okuryazarlığından yeni medya okuryazarlığına evirilen medya okuryazarlığı kavramına ilişkin ampirik çalışmalar yapılmasına ihtiyaç duyulmaktadır. Bu nedenle bu çalışma, bilgi ve iletişim teknolojilerine dayalı olarak açık ve uzaktan öğrenme yoluyla öğrenim gören öğrencilerin yeni medya okuryazarlığı becerileri düzeylerinin belirlenmesini ve söz konusu düzeylerin öğrencilerin demografik özellikleri açısından incelenmesini amaçlamaktadır.

Araştırmada elde edilen veriler katılımcıların fonksiyonel tüketim (FT) ve eleştirel tüketim (ET) seviyelerinin fonksiyonel üre-tüketim ve eleştirel üre-tüketim seviyelerine kıyasla daha yüksek olduğunu göstermektedir. Bu durum, araştırmanın katı-

lımcılarının özellikle üretim becerilerini tüketim becerileri kadar işe koşmadıklarını göstermektedir. Bunun nedeni, söz konusu öğrencilerin üretim becerini öğrenme süreçlerinde işe koşmak durumunda olmamalarından kaynaklanmış olabileceği değerlendirilmektedir. Ancak, söz konusu durumun nedenlerine ilişkin derinlemesine araştırma yapılması gerekmektedir.

Yeni medya okuryazarlığı becerileri cinsiyet bağlamında değerlendirildiğinde FÜ ve ET becerileri açısından anlamlı bir farklılık bulunmamasına rağmen, FT ve EÜ becerileri açısından anlamlı bir farklılık saptanmıştır. Bu bağlamda, kadın öğrencilerin FT becerinin erkek öğrencilerle kıyasla daha yüksek; erkek öğrencilerin ise EÜ becerisinin kadın öğrencilere kıyasla daha yüksek olduğu görülmektedir. Kuşaklar açısından ise yeni medya okuryazarlığı becerilerinin hepsinin anlamlı bir şekilde farklılaştığı belirlenmiştir. Özellikle beceri bazında bakıldığında Y kuşağı bireylerinin X kuşağı bireylerine göre bütün yeni medya yetenekleri üzerinde daha yüksek düzeyde beceriye sahip oldukları dikkat çekmektedir. Buna ek olarak, yeni medya okuryazarlığı becerilerinin (FÜ, FT, EÜ ve ET) meslek açısından anlamlı bir farklılık oluşturduğu görülmüştür. Herhangi bir işte çalışmadığını ifade edenlerin yeni medya okuryazarlığı becerilerine ilişkin ortalamaların diğer gruplara göre daha yüksek olması, yapmak zorunda oldukları herhangi bir işe ilişkin yüklerinin olmamasından dolayı internette daha çok vakit geçirmeye fırsat bulabildiklerinden kaynaklanabileceği değerlendirilmektedir. Benzer bir şekilde, internette geçirilen zamanın tüm beceriler bağlamında etkili olduğu görülmüştür. Günlük internette daha fazla süre geçiren katılımcıların daha yüksek düzeyde yeni medya becerilerine sahip olduğu saptanmıştır. Son olarak, haber takip sıklıkları ve yeni medya okuryazarlığı becerileri düzeyleri incelenmiş ve her bir haber takip platformunda takip sıklığının artması sonucunda yeni medya okuryazarlığı becerilerinin de genel olarak yükselmekte olduğu görülmüştür. Öte yandan, kayıt türü, program türü, aylık gelir durumu, açısından yeni medya okuryazarlığı becerileri anlamlı bir şekilde farklılaşmamaktadır. Dolayısıyla, gelecek çalışmalar demografik özellikler bağlamında yeni medya okuryazarlığı becerileri açısından farklılıkların oluşma nedenlerine odaklanabilir. Ayrıca, bu çalışmada dahil edilmeyen değişkenlerden olan öğrencilerin okudukları bölüm ve aldıkları ders türlerinin söz konusu becerilerle ilişkisinin olup olmadığının incelenebilir. Son olarak, yüzyüze programa kayıtlı öğrenciler ile açık ve uzaktan öğrenme yoluyla öğrenim gören öğrencilerin yeni medya becerilerinin kıyaslanmasının öğrenim türünün etkisinin araştırılmasına katkı sağlayacağı değerlendirilmektedir.

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Açık ve Uzaktan Öğrenmede Öğrenen Destek Hizmetleri

Belgin Boz Yüksekdağ[1]

Özet

Açık ve uzaktan öğrenmede destek hizmetler, öğrenenlerin öğrenme sürecini yönlendirme ve kolaylaştırmada etkili olan hizmetlerdir. Öğrenen ve öğreticiler arasındaki fiziksel uzaklık, öğrenenlerin değişen profili, öğrenme gereksinimlerinin farklılığı ve öğrenen sayısının artması nedeniyle bu hizmetler, uzaktan eğitim sisteminin devamlılığını ve etkililiğini sağlamada planlanması gereken en temel hizmetlerdir. Bu çalışmada amaç açık ve uzaktan öğrenmede destek hizmetlerin önemini öğrenenler açısından ele almak ve öğrenen desteğini geliştirmeye yönelik öneriler sunmaktır.

Anahtar Kelimeler: *Açık ve Uzaktan Öğrenme, Destek Hizmetler.*

GİRİŞ

Açık ve uzaktan öğrenmede destek hizmetler, eğitim sürecini yönlendirme ve kolaylaştırmada etkili olan çeşitli insan ve insan dışı kaynaklarla ilgili hizmetlerdir. Bu hizmetler öğrenen ve öğreticilerin fiziksel uzaklığı, öğrenen sayılarının artması, öğrenenlerin profili, öğrenme gereksinimlerinin çeşitliliği nedeniyle uzaktan eğitim sisteminin devamlılığını ve etkililiğini sağlamada, aidiyet duygusunun ve sosyal bulunurluğun oluşturulmasında ele alınması gereken en temel konulardan biridir.

Uzaktan Eğitimde Öğrenen Destek Hizmetleri

Uzaktan eğitim programlarında öğrenenlerin yalnızlık duygusu, özyönlendirme ve yönetim eksikliği sonucunda yaşadıkları motivasyon düşüklüğü, öğrenenlerde kuruma ve öğrenme ortamına bağlılıkta soruna neden olur. Yapılan araştırmalarda uzaktan eğitim ortamları ile ilgili en tutarlı problemlerden biri etkileşim eksikliğinden dolayı öğrenenlerin hissettikleri yalnız duygusudur(Hardman ve Dunlap, 2003). Öğrenenlerde aidiyet duygusu ve sosyal bulunurluk hissinin oluşturulmasında uzaklık algısını yok etmek uzaktan eğitim veren kurumların ele alması gereken önemli sorunlardan biridir. Çünkü öğrenenleri sisteme çekme ve tutma başarısının bir yolu, öğrenme sürecinde öğrenenlerde yalnız olmadıkları hissini oluşturmaktır.

Uzaktan eğitimin en belirgin özelliği öğretici ve öğreneni birbirinden ayıran fiziksel ve psikolojik-etkileşimsel uzaklık olduğundan sürdürülebilir bir uzaktan eğitim için, güçlü bir öğrenen destek sistemi gerekir. Uzaktan öğrenenler var olan bilgiyi netleştirmek, tartışmak ya da geri bildirimde bulunmak için genellikle öğreticilerin ve diğer öğrenenlerin fiziksel olarak hazır bulunmadığı benzersiz bir konuma yerleştirilmektedir(Gunawardena, 1988). Bu bağlamda uzaktan eğitim sisteminde öğretme-öğrenme deneyiminin etkinliğini analiz etmenin önemli bir yolu, öğrenen destek sisteminin analizidir (Hodgson, 1986).

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Açık ve uzaktan öğrenme programlarında, öğrenenlerin kendi öğrenmeleri için yüksek düzeyde sorumluluk ve inisiyatif almaları yönünde bir beklenti vardır. Yetişkin olan uzaktan öğrenenlere verilen destek hizmetlerinde proaktif olmak ve gerektiğinde yönlendirici destek vermek benimsenen yaklaşımlardan biridir (Hardman ve Dunlap, 2003). Proaktif kişiler, değişim odaklı olduklarından bulundukları çevrede kendilerine uygun olmayan koşulları belirleyerek, yeni çevresel şartlar oluşturmaya çalışmaktadırlar (Van Vianen ve De Pater, 2012). Açık ve uzaktan öğrenme ortamlarında öğrenenlerin akademik başarılarının artmasına katkı sağlayan proaktif destek, iletişim ve etkileşim yoluyla öğrenenlere güçlü yönlerini tanımaları ve bunu öğrenme süreçlerine yansıtmalarını sağlamaya çalışmaktır. Öğrenen desteği en genel anlamda bilişsel, duyuşsal ve sistemik olmak üzere üç alanda ele alınmıştır:

Bilişsel: Ders materyallerinin bireysel öğrenenler için yapılandırılması

Duyuşsal: Öğrenenlerde aidiyet duygusu ve özgüveni geliştiren ortamların yaratılması

Sistemik: Etkili, şeffaf ve öğrenen dostu idari süreçler ve bilgi yönetim sistemlerinin oluşturulmasıdır (Tait, 2000).

Bilişsel ve duyuşsal öğrenen desteği; danışmanlık, yönlendirme, yardım, cesaretlendirme, uyum, beceri kazandırma gibi etkinliklerden oluşmaktadır. Sistemik destek ise daha çok teknolojiler ile verilen hizmetlerdir. Tüm bu hizmetler, öğrenenlerin öğrenme sürecinde kendi öğrenme sorumluluklarını almalarına yardım eden hizmetlerdir. Uzaktan eğitimin ilk yıllarında bireyin eğitim materyalleri ve ortamlarıyla girdiği etkileşimi ve buna yönelik destek hizmetlerinin yerini 2010'lu yıllarda öze dönük ve bireylerarası etkileşimi destekleyen hizmetler almıştır (Kumtepe, vd., 2019).

Açık ve uzaktan eğitim veren kurumların çeşitliliği nedeniyle literatürde pek çok destek hizmet modelleri vardır. Destek hizmetlerinin yapısında değişiklik yaratabilen unsurlardan bazıları kurumların yapısı, öğrenen-öğreten profilleri, sosyo-kültürel ve ekonomik faktörlerdir. Bu bağlamda, destek hizmetler, öğrenen sayısına, çeşitliliğine, öğrenme çıktılarına, sertifika, önlisans, lisans ve lisansüstü programlara; sosyal, fen ve sağlık bilimleri gibi disiplinlere; mevcut altyapı ve kaynaklara göre şekillenmektedir (Genç Kumtepe, vd, 2019). Genç Kumtepe, vd, (2019), geliştirdiği "Açık ve Uzaktan Eğitim Destek Hizmetleri Modeli"nde öğrenen desteği, aday ve kayıtlı öğrenenler için destek hizmetler olarak ayrılmıştır. Sistemin tanıtımından oluşan aday destek hizmetlerinin dışında kayıtlı öğrenenler için akademik, yönetsel, teknik ve sosyal destek hizmetleri yer almaktadır. Bunların alt başlıklarına bakıldığında akademik destek öğrenme ve danışmanlık hizmetleri, öğrenme kaynakları ve üniversite dışındaki kişi ve kurumlara sunulan eğitim hizmetleridir. Yönetsel destek, öğrenenlere haklarını, rollerini ve sorumluluklarını bildiren bilgiler ya da kılavuzlar sağlanmaktadır. Aynı zamanda derslere programlara ilişkin tüm formlar, esaslar ve yönergeler bu destek biçiminde verilir. Teknik destek, öğrenenlerin teknolojiye erişimleri ve kullanımları farklılık göstereceğinden öğrenme yönetim sistemini kullanacak kurumlar öğrenenleri hangi teknik alt yapıya gereksinimleri olduğu konusunda bilgilendirirler. Sosyal destek, öğrenenlerin aidiyet duygusu ve sosyal bulunurluk hissini geliştirmek ve artırmak için pek çok etkinlik yapılmaktadır.

UZAKTAN EĞİTİMDE ÖĞRENEN DESTEK HİZMETLERİNE İLİŞKİN ÇALIŞMA SONUÇLARI

Yapılan bir araştırmada öğrenme sisteminin teknik karmaşıklığının, öğrenmeyi engellediği, sistemi kullanmada deneyimli öğrenenlerin bile kendilerine nadiren tam güven duyduğu ve teknik desteğin az ya da hiç olmadığı durumlarda öğrenenlerin daha fazla stres yaşadıkları belirtilmiştir (Rennie, 2003).

Kenny (2002) öğrenenlerin bilgisayar teknolojisi ile karşılaştıklarında endişe, korku, engellenme duyguları yaşadıklarını, çok az bilgisayar deneyimlerine sahip olduklarını belirterek yeterli teknik desteğin, uzaktan eğitimdeki önemine vurgu yapmıştır.

Atack (2003) öğrenenlerin yardım istemeyi bilmedikleri ya da teknik görevlinin vereceği önerileri anlamamaktan korktukları için teknik destek görevlileri ile iletişim kurmadıkları ortaya çıkmıştır. Öğrenenlerin en çok eposta kullanma, ders anında tartışma ortamına mesaj gönderme, dersin içeriğine ilişkin CD'leri indirme, ekler gönderme ve çevrimdışı çalışma gibi alanlarda kendilerini yetersiz hissettiklerini ifade etmiştir (Atack, 2003).

Öte yandan başka bir çalışmada eğitsel ve teknik destek yokluğunun, öğrenenlerin bilgisayar teknolojisini kullanma motivasyonunu engellediği belirtilmektedir (Sinclair vd. 2001). Bilgisayar ve bilgi okuryazarlığı becerileri uzaktan öğrenenlerin öğrenmeleri üzerinde oldukça etkilidir. Bir araştırmada bilgisayar ve bilgi okuryazarlığı becerilerinin öğrenenlerin çevrimiçi öğrenme ortamlarından memnuniyetini etkilediği bulunmuştur (Chai, 2006).

Bir başka çalışmada kullanım kolaylığı, yararlılık ve uygunluk gibi özelliklerin öğrenenlerin teknolojik araçlarla öğrenme isteklerinde olumlu etki bıraktığı, bütün yaş gruplarındaki öğrenenlerin en çok da daha yaşlı olanların eğitimsel amaçlar için teknolojik araçları kullanmak istedikleri vurgulanmıştır (Pilcher, 2010).

Lee vd. (2005) ise genç öğrenenlerin, yaşlı ve daha az eğitimli olanlara göre bilgisayar teknolojisi kullanmada daha motive olduğunu, aynı zamanda daha fazla bilgisayar kullanım becerilerine sahip öğrenenlerin çalıştıkları yerlerde bilgisayar uygulamalarında daha fazla zaman harcadıklarını belirtmektedir.

Thomas(2010), çevrimiçi öğrenmede pek çok öğrenenin bilgisayar ve Internet kullanımına karşı isteksiz olduğunu bunun en önemli nedenlerinden birini teknik sorunların oluşturduğunu, yaşlı öğrenenlerin, gençlere göre teknik becerilerde daha çok sorun yaşadığını belirtmektedir.

TARTIŞMA VE SONUÇ

Uzaktan öğrenenler için bir kurumun sunabileceği destek hizmetlerin miktarı, söz konusu kurumun elindeki kapasiteye ve kaynaklara bağlıdır. Ama genel olarak öğrenen desteği; danışmanlık ve rehberlik içeren akademik, kabul ve kayıt, kayıt tutma, bilgi sağlama ve çalışma materyallerinin dağıtımı gibi idari hizmetlerden oluşan akademik olmayan destek hizmetlerden oluşmaktadır(Molefi, 2002).

Destek hizmetlerinden bazıları kütüphane materyallerine ve olanaklarına erişim, ders materyallerinin dağıtımı, geleneksel posta hizmetleri, danışmanlık, mentorluk (yol gösterici), işe yerleştirme ve akran etkileşimidir. Öğrenenlerin akademik danışmanlık hizmetlerine erişmeleri gerekir. Öğrenenlerin akademik danışmanlarla iletişimi çok önemlidir, çünkü hem öğrenenlerin hem de kredi veren kurumun, öğrenenlere verilen bilgilerin uygun ve doğru olduğundan emin olması gerekir. Öğrenenler ayrıca kendileri için ilgi çekici olabilecek dış kaynaklara erişime de ihtiyaç duyarlar. Geleneksel öğrenenler için sağlanan tüm hizmetlerin tümü uzaktan öğrenenler için bir şekilde ele alınmalı ve uygun hale getirilmelidir (Usun, 2004).

Literatür taraması, telekonferans teknolojilerini kullanan sistemlerin, öğrenen kontrolü için daha fazla fırsat sağladığının ve diyalogda daha yüksek ve yapı olarak daha düşük olma eğiliminde olduğuna dair kanıt sunmaktadır. Bununla birlikte, literatür ayrıca, iki yönlü etkileşimli sistemlerin, öğrenenlerin ihtiyaçlarına, yani diyaloga olan ihtiyaçtan ziyade kurumsal ihtiyaçlara ve yapılara daha duyarlı olma eğiliminde olduklarını göstermektedir. Ayrıca etkileşimli sistemlerde, diyalog ve yapı miktarının, öğretim elemanının öğreneninkinden daha fazla bir işlevi olduğunu da bildirmektedir (Dillon ve Blanchard, 1991).

Yapılan çalışmalarda öğrenenlerin performanslarını olumsuz etkileyen faktörler arasında öğretim elemanının uzaktan öğrenenlere yönelik olumsuz tutumu, öğretim elemanlarıyla iletişim kurulamaması, öğretim elemanının geri bildirim eksikliği, kütüphane kaynaklarının kullanılamaması, sesle ilgili teknik sorunlar, öğretim elemanı ve öğrenenler için medyanın kullanımı, ders materyallerinin dağıtılmasında sorunlar sayılmıştır(Dillon, Gunawardena ve Parker, 1992). Bu bağlamda uzaktan eğitim sisteminde öğrenen desteğini arttırmak için aşağıdaki uygulamalar önerilebilir:

- Öğrenenlerde aidiyet hissini oluşturmak ve yalnızlık algısını yok etmek için boş zamanlarında müzik, drama, spor etkinlikleri, eğitim etkinlikleri ve iş danışmanlığı sunan kültürel bağlamda merkezler kurulmalıdır.
- Tek merkez yerine her bölgede öğrenenlere danışmanlık hizmetinin verildiği çalışma merkezleri kurulmalıdır.
- Uzaktan öğrenenlerin her birine danışmanlık hizmeti sağlanmalıdır.
- Uzaktan eğitim veren uluslararası ve ulusal eğitim kurumları arasında işbirliği geliştirilmelidir.
- Uzaktan öğrenenlerin öğrenme özellikleri, gereksinimleri belirlenerek destek hizmetler bireyselleştirilmelidir. Örneğin sınav ya da öğrenme materyalleri.
- Uzaktan eğitim kurumlarındaki öğretim elemanları düzenli olarak teknolojik yenilikler konusunda bir araya gelmelidir.
- Uzaktan eğitim verecek öğretim elemanları çevrimiçi öğrenmeye geçişte desteklenmeli; yazılım, öğretim tasarımı, ortam seçimi gibi konularda uygun eğitim almaları önemlidir.

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Uzaktan Eğitim Hizmetlerinin Sunumunda Maliyetlerin Önemi: Uzaktan Eğitim Ekonomisi Kapsamında Genel Bir Değerlendirme

Eren KESİM[1]

Özet

Değişim süreci karşısında tüm ülkeler rekabet güçlerini koruyabilmek amacıyla yeni ve güncel politikalar geliştirmektedirler. Toplumsal yapının merkezini oluşturan eğitim kurumları kapsamında hazırlanacak eğitim politikaları da bilgi toplumunda stratejik öneme sahiptir. Bu politikaların odağı, bilginin eskime hızı karşısında hızlı ve pratik bir biçimde bireylerin bilgi ve becerilerinin nasıl geliştirilebileceği gerçeğidir. İnternet alt yapısı ve gelişen yeni teknolojilerin kullanımıyla, öğrenme sürecini dinamik hale getirme çabasında olan bireyler için bilgi gereksinimlerinin karşılandığı esnek öğrenme yaklaşımlarından birisini karakterize eden uzaktan eğitim, günümüzde daha fazla insana, daha hızlı eğitim verebilme gayesiyle sürekli gelişmektedir. Değişim sürecinin mevcut dinamik yapısı tüm bilimsel alanların da alt uzmanlık alanları çerçevesinde gelişimini zorunlu hale getirmiştir. Bu alanlardan birisi de uzaktan eğitim ekonomisidir. Eğitim hizmetlerinin sunumunda doğal olarak katlanılan maliyetler, uzaktan eğitim yönetimi için de belirlenen amaçlara ulaşma sürecinde önemli bir konu başlığını temsil etmektedir. Bu çalışmada, uzaktan eğitim hizmetini sunan eğitim örgütlerinin belirledikleri amaçları gerçekleştirmeleri için teknoloji yönetimi sürecinde katlanmaları gereken maliyetlerin öneminin kavramsal olarak değerlendirilmesi ve uzaktan eğitim ekonomisi alanı kapsamında eğitim kurumları için bir gelecek perspektifi sunulması amaçlanmıştır.

Anahtar Kelimeler: *Uzaktan Eğitim, Eğitim Ekonomisi, Uzaktan Eğitim Ekonomisi, Uzaktan Eğitimin Yönetimi, Uzaktan Eğitimde Maliyetler.*

GİRİŞ

Eğitim, geçmişte olduğu gibi bugün de ekonomik boyutu olan bir süreci temsil etmektedir. Eğitimin mevcut ekonomik boyutu, öncelikle eğitim hizmetlerinin sunumunda bazı kaynakların zorunlu olarak kullanılma zorunluluğuyla açıklanmaktadır. Eğitim hizmetlerinin sunumunda sadece finansal kaynakların kullanımı yeterli değildir. Bu süreçte ayrıca yeni bilgilerin genç nesillere aktarılması ve öğrencilerin mevcut yeterliklerinin geliştirilmesi için yapılan insan kaynağına yapılan yatırımların da maliyeti söz konusudur. Ayrıca, eğitimin ekonomik bir etkinlik olarak ele alınmasında ‘’fırsat maliyetleri” de büyük önem taşımaktadır. Bireyler bugün aldıkları eğitim hizmeti karşısında belirli bir maliyete katlanmaktadırlar. Eğitime bugün yapılan mevcut yatırımın bireylerdeki gelecek algısı, geçen zaman ve katlanılan maliyetlerin ötesinde üretim sü-

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recinde kazanacakları verimlilikler ve alacakları ücretlerdeki mevcut artışlar olarak değerlendirilmektedir (Rumble, 2014, s.197).

Bilgi ekonomisi, özü itibariyle yoğun bir değişim ve dönüşüm sürecini yansıtmaktadır. Bu bağlamda dijital teknolojilerde meydana gelen gelişim trendi küresel dünyada yeni meslekler ortaya çıkarmış, yeni istihdam ve iş olanaklarını bireyler için odak noktası haline getirmiştir. Bu durum bilgi ekonomisi için gereksinim duyulan yetişmiş insan kaynağının yetiştirilme sürecinin her geçen gün alternatif bakış açıları perspektifinden yeniden sorgulanmasına yol açmıştır. Hayat boyu öğrenme sürecinde belirli bir mekana ve zaman baskısına maruz kalmadan bireylerin sürekli değişim sürecine uyum sağlamaları gerçekliğinde açık ve uzaktan öğrenmeye olan ilgi gün geçtikçe artmaktadır (Fırat, 2019).

AMAÇ

Bu çalışmada, uzaktan eğitim hizmetini sunan eğitim örgütlerinin belirledikleri amaçları gerçekleştirmeleri için teknoloji yönetimi sürecinde katlanmaları gereken maliyetlerin öneminin kavramsal olarak değerlendirilmesi ve uzaktan eğitim ekonomisi alanı kapsamında eğitim kurumları için bir gelecek perspektifi sunulması amaçlanmıştır.

TARTIŞMA

Bu bölümde önce uzaktan eğitim kurumlarının eğitim hizmetlerini etkili bir şekilde sunarken teknoloji kullanım sürecinde dikkat etmeleri gereken temel etmenler, Bates (2005, s.210) tarafından yapılan sınıflandırma kapsamında ele alındıktan sonra, uzaktan eğitimin doğası gereği yaratacağı ölçek ekonomisi ve uzaktan eğitime özgü maliyet yönetim süreçleri üzerine genel bir değerlendirme yapılacaktır.

Uzaktan Eğitim Hizmetlerinin Sunumunda Teknoloji Kullanımı

Gelişen yeni teknolojiler, ülkelerin ekonomik büyüme sürecini hızlandıran değişkenlerden birisidir. Bilimsel araştırma süreçlerinin bir ürünü olan yeni teknolojiler, toplumsal bir sistem olarak ekonominin verimliliğini arttırmaktadır (Parasız, 2008). Teknolojik gelişim süreci ve yeni teknolojilerin eğitim kurumlarında kullanımı da stratejik öneme sahip bir konu başlığını temsil etmektedir. Özellikle uzaktan eğitim hizmetlerinin, mesafelerin fazla olduğu bir gerçeklikte sunulması zorunluluğu, gelişen yeni teknolojilerin uzaktan eğitim kurumlarında da yoğun olarak kullanılmasını gerektirmektedir (Tufan, 2018).

Uzaktan eğitim hizmetlerinin yürütülmesinde uygun eğitim teknolojilerinin kullanımı konusunda dikkat edilmesi gereken kriterler, Bates (2005, s.210) tarafından yedi temel boyutta incelenmiş ve bu boyutlar Şekil 1'de gösterilmiştir. Karar verme, tüm örgütler için olduğu kadar uzaktan eğitim hizmeti sunan kurumlar için de stratejik bir süreci vurgulamaktadır. Özellikle yeni teknolojilerin kullanılması sürecinde verilecek kararlar, uzaktan eğitim kurumlarının belirledikleri hedeflere ulaşmalarını kolaylaştırmaktadır. Şekil 1 incelendiğinde erişim, öğretme ve öğrenme süreçlerinin doğru yapılandırılması, kullanıcı dostu teknolojilerin seçilmesi ve etkileşimlilik, örgütsel konular, kullanılan teknolojilerin güncelliği, ders içeriklerinin değişim sürecinde hızlı güncellenebilmesi ve maliyetler, uzaktan eğitim hizmetlerinin yürütülmesinde uygun

eğitim teknolojilerinin kullanımı konusunda dikkat edilmesi gereken kriterler olarak ön plana çıkmaktadır (Bates, 2005, s.210).

Bates, (2005, s.210)'ten uyarlanmıştır.

Şekil 1. Uzaktan Eğitim Hizmetlerinin Yürütülmesinde Uygun Eğitim Teknolojilerinin Kullanımı Konusunda Dikkat Edilmesi Gereken Kriterler

Uzaktan eğitim kurumlarında öğrencilerle öğretim üyeleri arasındaki iletişimin kesintisiz olarak yürütülebilmesi için birden fazla teknolojinin birbirleriyle uyumlu hale getirilmesi oldukça önemlidir. Öğretme-öğrenme süreçlerinin genel olarak sanal ortamlarda yapılandırılması, gelişen yeni öğretim- yöntem ve tekniklerinin yeni teknolojilerle birlikte uzaktan eğitim kurumlarında kullanılmasını gerektirmektedir (Gürer, 2019).

Şekil 1 de belirtilen her bir teknoloji seçimi kriteri için bazı temel noktaların stratejik olarak analiz edilmesi gerekmektedir. Başlangıç noktası olarak erişim kriteri ele alındığında uzaktan eğitim hizmeti veren kurumların öğrencilerinin, sunulan teknolojilere ne kadar erişebildikleri bir başka deyişle mevcut teknolojilerin ne kadar erişilebilir olduğu oldukça önemlidir. Öğretme ve öğrenme süreçlerinin doğru yapılandırılması kriteri açısından öğrencilerin mevcut öğrenme gereksinimleri doğru saptanmalı ve bu gereksinimleri karşılayacak en iyi teknolojilerin doğru bir şekilde belirlenmesine önem verilmelidir (Bates, 2005, s.210).

Uzaktan eğitim kurumlarının mevcut dersler kapsamında hazırladıkları ders materyalleri için, bu materyalleri hazırlayan öğretim tasarımcıları bazı kararlar alıp temel bazı konular kapsamında tercihlerde bulunabilmektedirler. Hazırlanacak dersler kapsamında geliştirilecek olan ders materyalleri kapsamında alınacak kararlar zaman zaman ''pedagojik nedenlerle'', bazen ''erişilebilirlik ilkesi'' temelinde bazen de ''maliyet kriteri'' bağlamında alınabilmektedir. Özetle ders materyali tasarım aşamasında üç temel değişken çerçevesinde alınacak kararlar oldukça stratejiktir. Burada önemli bir diğer konu da, öğretim tasarımcılarının belirli bir teknolojiyi ders tasarımı sürecinde kullanmaya karar vermesi durumunda, mevcut teknolojinin güçlü ve zayıf yönlerini de doğru analiz etmeleridir. Seçilen teknolojiler örneğin basılı bir kitap ta olsa, sanal gerçeklik teknolojisi de olsa, kullanım sürecinde sistem yaklaşımıyla mutlaka uzaktan eğitim kurumunda yaratacağı etki bağlamında mevcut karar alma aşamasında stratejik bir yaklaşımla ele alınmalıdır (Shearer ve Park, 2019, s.277).

Kullanıcı dostu teknolojilerin seçilmesi ve etkileşimlilik kriteri bağlamında uzaktan eğitim hizmeti veren kurumların kullandığı teknolojilerin kullanımının kolay olması ve çift yönlü bir etkileşime olanak sağlaması oldukça önemlidir. Örgütsel konular kriteri açısından mutlaka uzaktan eğitim hizmetini sunan örgütün gereksinimleri doğru saptanmalı, teknoloji kullanımı konusunda olası mevcut engellerin ortadan kaldırılmasına önem verilmelidir. Kullanılan teknolojilerin güncelliği kriteri bağlamında mutlak surette kullanılan teknolojilerin sürekli güncellenmesi gerekmekte ve bu teknolojilerin ne kadar yeni olduğu sorusu sürekli göz önünde bulundurulmalıdır (Bates, 2005, s.210).

Uzaktan eğitim hizmetlerinin yönetiminin en kritik notalarından birisinin de tek bir en iyi teknoloji olmadığı gerçeğidir. Uzaktan eğitim hizmeti veren kurumlar, hazırlayacakları dersler için ve bu dersler aracılığıyla öğrencileri belirledikleri hedeflere ulaştırmak için birkaç teknolojiyi belirli bir kombinasyonla kullanmalıdırlar (Shearer ve Park, 2019). Ders içeriklerinin değişim sürecinde hızlı güncellenebilmesi bir başka önemli kriterdir. Bu kriter bağlamında uzaktan eğitim hizmeti sunan kurumların programlarındaki derslerin mevcut teknolojilerle hızlı bir şekilde sunulmasına önem verilmeli, ders materyallerinin hızlı bir şekilde güncellenmesi sağlanmalıdır. Uzaktan eğitim hizmetlerinin yürütülmesinde uygun eğitim teknolojilerinin kullanımı konusunda dikkat edilmesi gereken kriterlerden sonuncusu maliyetlerdir. Maliyet kriteri bağlamında uzaktan eğitim hizmeti sunan kurumların teknoloji alt yapı maliyetleri rasyonel biçimde analiz edilmeli ve özellikle öğrenci başına düşen maliyetlerin ne olduğu sorusuna yanıt aranmalıdır (Bates, 2005, s.210).

Uzaktan eğitim ekonomisi kapsamında bir diğer konu da maliyetlerin rasyonel bir şekilde nasıl yönetileceğidir. Uzaktan eğitim hizmetleri kapsamında öğrencilerin öğrenme deneyimlerinin kalitesine etki eden tüm değişkenlerin analizi özünde başarılı bir maliyet yönetimine işaret etmektedir. Maliyetleri yalnızca ekonomiklik ilkesini hayata geçirmek amacıyla teknik bir şekilde yönetmek yeterli değildir. Eğitim hizmetlerinin maliyet etkinliğini de sağlayacak şekilde sunulmasında mutlaka öğrencilerin bireysel öğrenme gereksinimlerinin karşılanması kapsamındaki değişkenlerin de göz önünde bulundurulması gerekmektedir (Inglis, 2008).

Uzaktan Eğitimde Maliyet Yönetimi Süreci

Uzaktan eğitim süreci, yüz yüze yapılan eğitimden bazı yönleriyle farklılaşmaktadır. Bu farklılığın en belirgin yönlerinden birisi, uzaktan eğitim sürecinde öğrencilerin ve ders veren uzman kişilerin arasında coğrafi olarak büyük mesafelerin olabileceği gerçeğidir. Bu mevcut coğrafi uzaklığın ortaya çıkardığı mevcut durum, uzak eğitim hizmetlerinin sunumu kapsamında katlanılan maliyetlerin yine uzaktan eğitim ekonomisi bağlamında kendine özgü bir yaklaşımla ele alınmasını gerektirmektedir. Fiziksel olarak eğitimci ve öğrencilerin aynı eğitim ortamında bulunmamaları sonucunda uzaktan eğitim hizmeti sunan eğitim kurumlarının öğrenci sayısı çok yüksek olabilmektedir. Uzaktan eğitimin ortaya çıkardığı ölçek ekonomisi bu bağlamda geleneksel yüz yüze verilen eğitime göre daha önemli ve belirgindir (Li, 2017).

Uzaktan eğitimin ortaya çıkardığı ölçek ekonomisi, basit bazı formüllerle daha iyi anlaşılabilecektir. Toplam maliyetler, sabit ve değişken maliyetlerin toplamıdır, değişken maliyetler de öğrenci başına değişken maliyetlerin öğrenci sayısıyla çarpımıdır: Toplam Maliyet = Sabit Maliyetler + Değişken Maliyetler = Sabit maliyetler + (öğrenci başına değişken maliyet x Öğrenci Sayısı). Buna istinaden öğrenci başına ortalama maliyetler ise toplam maliyetlerin öğrenci sayısına bölümüdür: Öğrenci başına ortalama maliyet = Toplam maliyetler / Öğrenci Sayısı = (Sabit maliyetler + Değişken maliyetler) / Öğrenci sayısı = Sabit maliyetler / Öğrenci Sayısı + Değişken maliyetler / Öğrenci sayısı. Sonuçta denklem şu şekilde oluşmaktadır: Öğrenci başına ortalama maliyetler = Sabit maliyetler / Öğrenci sayısı + öğrenci başına değişken maliyetler. Bu denklemde görüldüğü gibi, öğrenci sayısında artış oldukça ortalama maliyetler azalmakta ve sanal eğitimde daha yüksek sabit maliyetler daha fazla öğrenciye sunulabilmektedir (Jung, 2008, s.151).

Uzaktan eğitimin güçlü yönlerinden birisi de kendine özgü maliyet yapısıdır. Bu yapıda eğitim hizmeti sunarken bir yandan yüksek kalitede eğitim materyali hazırlama olanağı varken, bir diğer taraftan mevcut "ölçek ekonomisi"sayesinde öğrenci başına ortalama maliyetlerin düşmesi sağlanabilmektedir. Bu konu yükseköğretim politikaları bağlamında değerlendirildiğinde, uzaktan eğitimin maliyet etkinliği sağlama ve öğrenciler için esnek ders saatleri ve öğrenme ortamları sunma özellikleri yükseköğretime erişim olanaklarını toplumsal gerçeklikte arttırmaktadır (Hülsmann, 2008, s.246).

Bilgi ve iletişim teknolojileri, uzaktan eğitim sürecinde çok geniş bir sınıflandırma çerçevesiyle ele alınmaktadır. Televizyon, radyo ve uydu iletişimi, ağ donanımları, yazılımlar, wi-fi, bulut bilişim, arttırılmış gerçeklik, üç boyutlu yazıcılar, açık ders malzemeleri ve kitlesel açık çevrim içi dersler gibi bir çok farklı uygulama bu kapsamda ön plana çıkmaktadır. Uzaktan eğitim ekonomisi kapsamında elbette ki bu uygulamalar bireylerin uzaktan eğitim süreçlerini daha etkili hale getirebilmektedirler. Ancak bu noktada bilgi ve iletişim teknolojileri kapsamında ön plana çıkan uygulamaların açık ve uzaktan eğitim sürecinde kullanımının maliyet etkinliği gerçekçi bir şekilde analiz edilmelidir (Latchem, 2018, s.11).

Uzaktan eğitim ekonomi açısından eğitim hizmetlerinin sunumunda maliyetleri etkileyen faktörlerin ele alınması oldukça önemlidir. Bu faktörleri Rumble (2014, ss.202-203) şu başlıklarda sınıflandırmıştır:

- Kullanılan teknolojiler
- Uzaktan eğitim programlarına kayıtlı öğrenci sayısı
- Mevcut bir dersin, (özellikle dersin sunumunda uzman eğitimciler tarafından hazırlanan) materyallere bağlı olma derecesi
- Sunulan derslerin sayısı (daha fazla dersin olması, daha yüksek miktarda öğrenme materyalinin hazırlanmasını gerektirmektedir)
- Tasarlandıktan sonra derslerin kaç yıl sunulacağı ve dolayısıyla materyallerin olası yenilenme veya değiştirilme sıklığı
- Kurumsal yapı (eğitim teknolojisi ve eğitim hizmetlerinin kurum içinde desteklenmesi oranı veya mevcut teknolojilerin kurum dışı kaynaklardan eğitim hizmeti olarak satın alınma durumu)
- Uzaktan eğitim kurumunun mevcut çalışma uygulamaları (Ders içeriği kapsamında yazarların kendi editörlüklerini yapmaları bekleniyor mu yoksa tüm metinleri kurum dışındaki profesyonel editörler mi düzenliyor?)

Eğitim ekonomisi alanı kapsamında hem yüz yüze eğitim hem de uzaktan eğitim süreçleri, eğitim hizmetlerinin yürütülmesinde öğretim elemanlarına, öğrenci destek hizmetlerine, eğitim teknolojilerine gereksinim duyarlar ve bu değişkenlerin her iki eğitim olanağı kapsamında da maliyetleri vardır. Bu durumda uzaktan eğitim kapsamında sadece sınıflar maliyet bileşeni olarak ekonomik analiz kapsamının dışındadır. Ancak uzaktan eğitim hizmetlerinin etkili bir şekilde yürütülebilmesi için güncel teknolojilere, yazılımlara ve öğrencilerin esnek çalışma saatleri kapsamında onların gereksinimleri karşılayacak öğrenci destek hizmetlerine daha fazla yatırım yapılması gerekmektedir (Poulin ve Straut, 2018).

TARTIŞMA VE SONUÇ

Günümüzde uzaktan eğitim hizmetlerinin sunumunda tüm örgütler, yöneticiler ve öğrenciler için avantajlarının ve sınırlılıklarının doğru analiz edildiği bir öğrenme ekosisteminin yapılandırılması büyük önem taşımaktadır. Bu ekosistemin tasarımında en büyük zorluklardan birisi, hem çalışan hem de hayat boyu öğrenme sürecinde kendini geliştirmek isteyen bireyler için her zaman, her yerde ve güncel eğitim içeriklerinin hazırlanmasıdır. Kitlesel açık çevrimiçi dersler kullanılarak yüz yüze yapılan dersleri takviye eden ders menüleri aracılığıyla öğrenme ekosistemi zenginleştirilebilir (Jagannathan, 2019).

''Öğrenme ekosistemlerinin" uzaktan eğitim sürecinde kitlesel açık çevrimiçi derslerle de zenginleştirilmesi, uzaktan eğitim ekonomisi için güncel ve önemli yeni konu başlıklarının ortaya çıkmasını sağlamıştır. Gelişen yeni teknolojiler uzaktan eğitim ekonomisi alanında yeni konu başlıkları kapsamındaki çalışılmaların artacağına işaret etmektedir. Uzaktan eğitim hizmeti alan öğrencilerin yükseköğretim kurumlarına devam edememe sebepleri, uzaktan eğitimin bireylere sağladığı maddi olan ve olmayan faydalar, beşeri sermayenin gelişimi, yeni teknolojilerin ortaya çıkardığı maliyet bileşenleri bu konu başlıklarından bazılarını temsil etmektedir (Li, 2017, s.382).

Uzaktan eğitim ekonomisi kapsamında tasarruf ve maliyet etkinliği kapsamında bazı temel alternatif çözümleri Poulin ve Straut (2018, s.21) aşağıdaki başlıklarda analiz etmiştir:

- **Açık Ders Malzemeleri:** Uzaktan eğitim veren yükseköğretim kurumlarında görev yapan akademik personelin hazırlayacakları sürekli güncellenebilir ders materyalleri, maliyetleri azaltıcı bir rol oynayabilir. Açık ders kaynaklarının kullanımı aynı zamanda eğitim hizmetini alan öğrencilerin de ders malzemeleri için katlandıkları maliyetleri de azaltan bir yapıya sahiptir.
- **İşbirliği:** Uzaktan eğitim hizmeti sunan yükseköğretim kurumları mevcut derslerin hazırlanması, öğrenci destek hizmetlerinin oluşturulması ve teknoloji kullanımı konusunda güçlerini birleştirebilirler.
- **Harmanlanmış öğrenme:** Yükseköğretim kurumlarında yapılan eğitimlerin bir bölümünü uzaktan eğitim deneyimleriyle zenginleştirmek, eğitim hedeflerine ulaşma sürecinde fiziksel olarak sınıflara olan gereksinimi azaltmaktadır.
- **Yeterlilik tabanlı eğitim:** Başlangıç maliyeti diğer alternatiflere göre daha yüksek olmakla birlikte, öğrencilerin gelecek için kendilerini hazır hissetmedikleri alanlarda bilgi ve becerilerinin geliştirilmesi için sürekli öğrenme olanaklarının geliştirilmesi gerekmektedir. Yapılandırılacak eğitim ortamları öğrencilerin sürekli yeterlik tabanlı mesleki gelişimlerine odaklandığında, bu durumun uzun vadede getirisi öğrenciler için yüksek olabilecektir.

Uzaktan eğitim kurumları yöneticileri için uzaktan eğitim kavramının tarihsel gelişim sürecinin ve geçirdiği evrelerin bilinmesi oldukça önemlidir. Uzaktan eğitim; dağıtılmış öğrenme, esnek öğrenme, sanal eğitim, çevrimiçi öğrenme ve harmanlanmış öğrenme gibi birçok uygulamayı kapsayarak günümüze kadar gelişerek gelmiştir. Bu süreçlerin uzaktan eğitim kurumları yöneticileri tarafından doğru analiz edilmesi, uzaktan eğitimin yönetimi ve ekonomisi alanında bugün ve gelecekte alınacak kararlara olumlu katkı sağlayabilecektir (Bramble ve Panda, 2008).

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Açık ve Uzaktan Öğrenmede Akıllı Rehber Destekli Eğitim

Derya UYGUN[1]

Özet

Öğreten yerine öğrenen odaklı eğitim paradigmasında öğrenenlerin bireysel farklılıkları açık ve uzaktan eğitim etkinliklerinin ve içeriklerinin tasarlanmasında önemli bir konu haline gelmiştir. Çok sayıda kullanıncaya hitap eden açık ve uzaktan öğrenme sistemlerinin, öğrenenlere bireysel özelliklerine göre eğitim imkanı sunmasında akıllı sistemler ön plana çıkmaktadır. Akıllı rehber destekli öğrenme sistemleri öğrenenlere bireysel özellikleri doğrultusunda anında ve etkili destek olunması amacıyla geliştirilmiştir. Akıllı sistemler, gittikçe önem kazanmakta ve geleceğin sistemleri olarak görülmektedir. Ülkemizde de diğer ülkelerde olduğu gibi bu alanın fark edilmesi ve bu yönde etkin çalışmalar yapılması gerekmektedir. Bu gerekçeden hareketle bu çalışma kapsamında akıllı rehber destekli öğrenme ile ilgili yapılmış çalışmaların incelenmesi ve özetlenmesi hedeflenmiştir.

Anahtar Kelimeler: *Akıllı sistemler, rehber destekli öğrenme, akıllı rehber destekli eğitim*

GİRİŞ

Her insan benzersizdir. Genler, çevre ve yaşam deneyimleri gibi faktörler her bireyin aynı gibi görünen durumlarda farklı tepkiler vermesine yol açabilmektedir. Dolayısıyla eğitim öğretim sürecinde tek bir genel ilkenin kullanılmasından bahsedilemez (Kumral, 2010). Gerek örgün eğitimde gerekse açık ve uzaktan eğitimde eğitim öğretim süreci tasarlanırken öğrenenlerin bireysel özelliklerinin dikkate alınması gerektiği ifade edilebilir.

Bireysel farklılıklar, öğrenmede son yıllarda görülen değişimin kaynaklarından biridir. Öğrenenler arasında görülen bireysel farklılıkların bir karmaşa değil zenginlik olduğu anlayışı öğrenenlerin bireysel öğrenmelerini öne çıkaran bir öğrenme dünyası ortaya çıkarmıştır. Öğrenme sürecinde kullanılan sistemlerin öğrenenlerin ihtiyaçlarına ve bireysel farklılıklarına cevap verebildiği sürece işlevsel olduğu ifade edilebilir. Öğrenenlerin eğitim uygulamalarında faydalanma düzeyleri bireysel özelliklerine göre farklılaşmaktadır. Bu nedenle öğrenenlerin bireysel ihtiyaçları ve özellikleri dikkate alınarak geliştirilen sistemlerin öğrenmeyi daha etkili, verimli ve kalıcı hale getirdiği belirtilebilir. Eğitim öğretim sürecinde öğrenenlerin bireysel farklılıklarının gözetilmesi ve onların bireysel özelliklerine göre şekillenen sistemlerin kullanılması kazanımların edinilmesi açısından oldukça önemlidir.

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Bu bağlamda, akıllı rehber destekli öğrenme sistemi öğrenenlerin; bireysel özelliklerine göre şekillenen ve onların gereksinimlerini, beklentilerini, ilgilerini, isteklerini ve yeteneklerini karşılayacak olanaklar sunabilen sistemler olarak karşımıza çıkmaktadır.

Yılda ortalama 300.000- 400.000 öğrenci açık ve uzaktan öğrenme sistemine kayıt olmaya devam etmektedir. 2010-2011 öğretim yılında yüksek öğretim kurumlarına kayıtlı üç milyondan fazla öğrencinin %50'ye yakını açık ve uzaktan öğrenme yoluyla eğitim almaktadır (Aydın, 2011). Öğrenen sayısının bu kadar çok olduğu açık ve uzaktan eğitimde, eğitim öğretim sürecinin öğrenenlerin bireysel özellikleri gözetilerek yürütülmesi ilk başta zor gibi görünmektedir. Ancak akıllı sistemler bu zorluğun aşılmasında bir alternatif olarak karşımıza çıkmaktadır. Bu nedenle bu çalışma kapsamında akıllı rehber destekli eğitim sistemleri konusunda daha önce yapılmış olan çalışmalar özetlenmiştir. Akıllı rehber destekli öğrenme sistemlerin daha iyi anlaşılabilmesi açısından öncelikle rehber destekli öğrenme açıklanmış, rehber destekli öğrenmede kullanılan geleneksel yöntemlerden bahsedilmiş ve ardından akıllı rehber destekli öğrenme uygulamaları özetlenmiştir.

REHBER DESTEKLİ ÖĞRENME (TUTORİNG)

Günümüzde öğrenme sürecinde ezberin önemini yitirmesi doğrultusunda rehber (tutor) destekli eğitimin yeni uygulama alanları bulan önemli bir bilgi ve tecrübe paylaşım alanı olduğu söylenebilir. Rehber destekli eğitim, öğrenenlerin eksik oldukları, anlamakta güçlük çektikleri konularda bireysel destek almasına ilişkin bir öğretim tekniğidir. Kersaint, Dogbey, Barber ve Kephart' e göre (2011) rehber eşliğinde öğrenme, öğrenenlere bireysel bir destek sağlamasının yanında eğitim öğretim sürecinde bağımsız oldukları aşamada ihtiyaç duydukları desteğin sağlanmasıdır. Özel eğitim, yabancı dil öğretimi, matematik gibi alanlar rehber destekli eğitim uygulamalarının en sık görüldüğü alanlardır (Topping, 1992). İngilizce öğrenen bir öğrencinin yazma ödevinde hatalarının kendisine bireysel olarak açıklanması, öğrenciye yanlış veya eksikliklerini giderici bilgiler verilmesi ve bu bilgiler ışığında öğrencinin ödevini bir daha yapması ve tekrar dönüt alması rehber destekli öğretim etkinliklerine örnek olarak verilebilir.

Rehber destekli eğitim kavram olarak yeni olsa da uygulama biçimi oldukça eskidir. Tarih boyunca farklı ülkelerde ve kültürlerde bu uygulama gelişimini farklı yaklaşımlarla sürdürmüş olup günümüze kadar ulaşmıştır. Burada desteği sunan kişi sadece öğretmen değil bireyin ihtiyaç duyduğu konuya hâkim biri de olabilir. Kültürümüzü oluşturan yönetim anlayışında; bey ile atabey, şehzade ile lala, iş dünyasında; usta ile çırak arasında yaşanan ilişkiler rehber destekli eğitime örnek olarak verilebilir.

Yüz yüze gerçekleştirilen uygulamalarda, uygun olmayan eşleştirme, görüşmelerin uygun zamanlanamaması, coğrafi engel ve beklentilerin karşılanmaması gibi problemlerle karşılaşılmaktadır. Teknolojideki gelişimler sonucunda rehber destekli eğitimin çevrimiçi yürütülmesinin daha kullanışlı olduğu ifade edilebilir. Çevrimiçi rehber destekli eğitim, öğretenlerin ve öğrenenlerin zaman ve mekan olarak ayrıldıkları çevrimiçi, sanal bir ortamda ya da ağ ortamında ders yürütme sürecidir (MacDonald, 2008).

ÇEVRİMİÇİ REHBER DESTEKLİ ÖĞRENME (ONLINE TUTORİNG)

Çevrimiçi rehber desteğinde eğitim için kullanılan platform ile ilgili farklı seçeneklerin karşımıza çıktığı görülmektedir. Çevrimiçi rehber destekli eğitim WhiteBoard gibi yazılımlarla eşzamanlı sunulabileceği gibi; e-posta ya da forumlarla da eş zamansız şekilde sunulabilir. Ancak son dönemde tasarlanan uygulamalarda, rehber (tutor) ve öğrenenin (tutee) başta e-posta olmak üzere, forum, wikiler, bloglar ve sesli-görüntülü sohbet yazılımları ile etkileşime geçtikleri belirtilmektedir (MacDonald, 2008). Sürecinin koordine edilmesinde, etkileşimin sağlanmasında, kayıtların tutulmasında mevcut yazılımlardan birinin seçimi ya da sıfırdan bir yazılım geliştirilmesi mümkündür.

Avrupa'da yapılan çalışmalarda genelde Atutor, Moodle ve Docebo gibi Öğrenme Yönetim Sistemi (Learning Management System) yazılımlarının tercih edildiği söylenebilir. Bunun önemli nedenlerinden biri açık kaynak kodlu olmaları diğeri ise yazılım maliyetin olmamasıdır (MacDonald, 2008). Platform seçiminin yanında sürecin nasıl yönetileceği de önemli olduğu söylenilebilir. Bu nedenle herhangi bir yazılım seçilirken temel ve gerekli özelliklerinin yanında sürecin en az sorunla yürütülmesi için sağlanacak teknik destekte göz önünde bulundurulmalıdır (Smet, Keer ve Valceke, 2006).

Çevrimiçi rehber destekli eğitim sürecinin düzenlenmesinde genel olarak kullanılan platformlarda hem rehber hem de öğrenenin erişim sağladığı ortak alan olabilir. Ortak alan genelde koordinatör tarafından düzenlenir ve bu alanda rehber ve öğrenenler genel olarak bilgilendirilir ve ortak mesajlar paylaşılabilir. Bununla birlikte sadece rehberlerin ve koordinatörlerin erişimi için düzenlenen bir alan oluşturulabilir; rehberlerin süreçte nelere dikkat edeceği ve süreçle ilgili dokümanların paylaşımı yanında rehberlerin kendi aralarında etkileşimi bu alanda gerçekleştirilebilir. Ayrıca sadece koordinatörler ve öğrenenlere açık olan bir alan da tasarlanabilir. Bu alanda öğrenenler için hazırlanmış dokümanlar bulunur, ayrıca öğrenenlerin kendi arasında etkileşimi de mümkündür.

Çevrimiçi rehber destekli eğitimin tasarımı üç aşamadan oluşmaktadır. Bunlar; planlama, süreç ve değerlendirme şeklinde sıralanabilir. Planlama aşamasında, ilk olarak destek verilmesi amaçlanan alanla ilgili deneyimi ve bilgisi olan rehber (tutor) seçimi yer almaktadır. Rehber seçimi sürecinde koordinatör tarafından uygulayıcı güvenilirliği belirlenmelidir. Ardından somut hedefler belirlenir ve eşleştirmeler gerçekleştirilir. Süreç aşamasında rehberler, rehberlik becerilerini kullanarak öğrenenin pedagojik olarak gelişimine destek verirler. Bütün bu süreçlerde ara değerlendirmeler yapılır, ayrıca program sonunda genel değerlendirmeler de gerçekleştirilir.

İlgili alan yazın incelendiğinde çevrim içi rehber destekli eğitimle ilgili birçok uygulama olduğu gözlemlenmiştir. Ancak bu çalışma kapsamında sadece etkililikleri bilimsel araştırmalarla kanıtlanmış uygulamalara yer verilmiştir. Smith (1998, s. 129) araştırmacıların, uygulamaların etkililiğini deneysel çalışmalarla ölçmeleri ve hangi yönleri etkili hangileri değil belirlemeleri gerektiğini vurgulamaktadır. Teori ve pratik arasında bağ kurabilmek için daha fazla deneysel çalışmaya yer verilmesi gerektiği ifade edilebilir.

Vasquez, Forbush, Mason, Lockwood ve Gleed (2011) tarafından yapılan çalışmada öğrencilerin okuma becerisinin geliştirilmesine rehber destekli eğitim uygulaması kullanılmış ve bu uygulamanın etkililiği deneysel bir çalışmayla kanıtlanmıştır. Araştırmada 4. Sınıf öğrencilerin okuma becerilerinin geliştirilmesinde çevrimiçi rehber destekli eğitimin etkisini incelemişlerdir. Araştırmada Utah State University'de okuyan üniversite öğrencileri rehberliğinde öğretmenleri tarafından seçilen, 3 tane Afrika kökenli Amerikan öğrencilerine çevrimiçi telekonferans yöntemiyle okuma becerisini geliştirme konusunda rehber destekli eğitim uygulaması gerçekleştirilmiştir. İlkokul öğrencilerinin okuma becerileri uygulama öncesinde ve sonrasında Corrective Reading testiyle ölçülmüştür. Araştırmada, çocukların ön test ve son test puan ortalamaları arasındaki farkın anlamlı olduğu rapor edilmiştir. Araştırma sonucu elde edilen bulgular neticesinde rehber destekli eğitimin öğrencilerin okuma becerilerini geliştirdiği ifade edilebilir. Ancak araştırmada katılımcı sayısının az olmasının araştırmanın genellenebilirliğini sınırlandırdığı ifade edilebilir.

Almassaad ve Alotaibi (2012) tarafından yapılan araştırmada ise çevrimiçi rehber destekli eğitim konusunda öğrenenlerin tutumlarının ve düşüncelerinin belirlenmesi amaçlanmıştır. Çalışmanın katılımcı grubu Suudi Arabistan'da bulunan Kral Suud Üniversitesinde okuyan 47 öğrenciden oluşmaktadır. Araştırmanın uygulama aşamasında Bilgisayar Destekli Öğrenme dersi için rehber destekli eğitim ortamı tasarlanmıştır. Çalışmada rehber olarak daha önce bu dersi almış, başarıyla tamamlamış ve deneyimi olan yüksek lisans öğrencileri rehber görevini üstlenmişlerdir. Öğrenenler ise bu dersi alan lisans öğrencileridir. Uygulama kapsamında rehberler öğrenenlerle iletişim kurmak amacıyla Facebook, canlı sohbet kanalları, mobil cihazlar, Youtube ve wikileri kullanmışlardır. Çalışmada veri toplama amacıyla elektronik anket ve mülakatlar kullanılmıştır. 28 maddeden oluşan likert tipli bir ölçekle öğrencilerin çevrimiçi rehber destekli eğitim uygulamasına karşı tutumları ölçülmüştür. Ayrıca, bu araştırmada katılımcıların açık uçlu soruları cevaplaması istenmiştir. Sonuç olarak öğrenenlerin ve rehberlerin çevrimiçi rehber uygulamasına ilişkin tutumlarının olumlu olduğu rapor edilmiştir. Yukarda belirtilen araştırma sonuçlarının da gösterdiği üzere rehber destekli eğitimin (online tutoring) öğrencilerin akademik gelişimleri ve tutumları üzerinde etkili olduğu ifade edilebilir.

AKILLI REHBER DESTEKLİ ÖĞRENME SİSTEMLERİ (INTELLIGENT TUTORİNG SYSTEMS)

Çevrim içi rehber destekli öğrenmede akıllı sistemler son yıllarda önemli ölçüde artmıştır. Çevrim içi rehber destekli öğrenmede kullanılan akıllı sistemler öğrenme sürecinde öğrencilere ve öğretmenlere yardımcı olan bir uzman sistemidir. Burada rehber görevinde insan faktörü devre dışı kalmakta ve öğrenenlere rehberlik eden, yardımcı olan akıllı bir sistemden bahsedilmektedir. Bahçeci ve Gürol (2010)'a göre akıllı rehber destekli öğrenme (intelligent tutoring systems), modern teknolojilerin işe konulmasıyla öğrenciye hem zaman hem de mekândan bağımsız, öğrencinin kendisine göre uyarlanmış, çevrimiçi rehber destekli öğrenmenin getirebileceği sorunlardan arındırılmış bir öğretme ve öğrenme olanağı sunmaktadır. Akıllı sistemler, öğretme ve öğrenme sürecinde, öğrencilerinin cevaplarının yanlış olup olmadığını, soruları cevaplayıp cevaplamadıklarını, doğru sırada yapıp yapmadıklarını karşılaştırır ve öğrencileri bireysel ihtiyaçlarına göre yönlendirir.

Avrupa'da genellikle rehber destekli öğrenme uygulamasının en ucuz olan yöntemle yürütülmesi önerilmiştir. İlk olarak bakıldığında akıllı sistemlerin rehber destekli öğrenme uygulamasının yürütülmesinde pahalı bir yöntem olduğu düşünülmektedir. Ancak çevrimiçi yürütülen uygulamalarda anında cevap alınamaması ve uygulamanın yeterince kişiselleştirilmiş olmaması gibi sorunlarla karşılaşılmakta ve akıllı sistemler bu sorunlara bir çözüm olarak karşımıza çıkmaktadır. Beck (2005) akıllı rehber destekli öğrenmenin popüler olmasının nedenlerini; öğrenci başarısının arttırılması ve öğrenciler için gerekli olan bilgi ve becerilerin en kısa sürede kazandırılabilmesi olarak açıklamaktadır.

Akıllı sistemler, öğrenme sürecinin istenilen şekilde yönetilmesini ve motivasyon, materyaller gibi farklı konular hakkında uygun kararlar alınmasını sağlamaktadır (Muñoz-Merino, Molina, Muñoz-Organero ve Kloos, 2012). Öğrenenlere kişiselleştirilmiş geribildirimler ve problemler sunabilir. Öğrenenlerin bireysel özelliklerine göre rehberlik yaparak öğrenme ve öğretme süreçlerini düzenleyebilir. Geleneksel öğretim metotları yerine kullanıldıklarında, öğrenciye daha kısa zamanda ve etkili öğrenme fırsatı verebilir. Dağ ve Erkan (2004) akıllı sistemlerin öğrenenlere bilgi düzeylerine uygun bir öğrenme ortamları sunarak onların daha hızlı, kolay ve kalıcı bir şekilde öğrenmelerini sağladığını belirtmektedir. Anderson (1988) Foundations of Intelligent Tutoring Systems kitabında Carniage-Mellon Üniversitesinde bilgisayar destekli öğrenme ile akıllı sistemlerin karşılaştırıldığını ve akıllı sistemlerin öğrenme kalitesini %43 arttırdığını ve öğrenme süresini %30 düşürdüğünü belirtmektedir.

Akıllı Rehber Destekli Eğitim Sisteminin Bileşenleri

Akıllı rehber destekli öğrenmeye olan ilgi, 1970'lerde başladı. O yıllarda öğrenene en uygun şekilde uyan ve öğrenmeyi optimize eden stratejiyi formüle edecek etkili akıllı algoritmalar kullanılmaktaydı. 1990'ların sonlarında ve 2000'lerin başında, akıllı rehber destekli öğrenme sistemleri hata tanımlama ve düzeltme, sınır öğrenimi (öğrencinin zaten bildiklerine bağlı olarak genişleyen), öğrenci modellemesi ve doğal gelişen diyaloglar gibi ders stratejilerini içermekteydi (Malekzadeh, Mustafa ve Lahsasna, 2015).

Bahçeci ve Gürol (2005) akıllı rehber destekli sistemlerin neyi öğreteceğini, kime öğreteceğini ve nasıl öğreteceğini bilen, yapay zekâ ortak oluşumunda yer alan tekniklerden yararlanılarak hazırlanmış bilgisayar programları olduğunu belirtmektedir. 1973 yılında Hartley ve Sleeman tarafından ortaya konan akıllı rehber destekli öğretim sistemleri; öğretim içeriğinin, öğrenci davranışlarının ve öğretim yaklaşımlarının her birinin bir modelde temsil edildiği üç bileşenden oluşur. Bu yapıya daha sonra dördüncü bir bileşen olarak kullanıcı ara birimi modeli de eklenmiştir. Bu bileşenlerin her biri birbirleri ile iletişim içindedir (Dağ ve Erkan, 2003). Rehber destekli akıllı sistemler genellikle Şekil 1' de görüldüğü üzere dört modülden oluşmaktadır.

Bilgi alanı (uzman) modülü temel alan bilgisinin saklandığı, belirli içeriklerin yer aldığı veri tabanıdır. Rehber sistemin öğrenciyi alan bilgisine ulaştırmada yardımcı olan parçasıdır. Öğretenler tarafından sisteme aktarılan ve alan bilgisi içinde bir veri tabanında saklanan ders içeriğinin her öğrencinin bilgi seviyesine göre farklı seviyelerde sunabilmesi için kavram haritasına ihtiyaç vardır (Dağ ve Erkan, 2003). Bu bölüm kullanıcıdan gelen bilgilerle öğrenenlere uygun ders içerikleri vermek amacıyla yenilenir.

Pedagojik modül (farklı stratejiler) öğretme yöntemlerine karar verme bilgisini içermektedir. Akıllı rehber destekli öğrenme sistemleri sadece yapay zeka alanı ve teknoloji alanını kapsamamaktadır. Burada öğretim teknikleri ve yöntemleri de önemlidir. Bir başka deyişle teknolojik altyapı başarılı bir öğrenme ortamı için yeterli değildir, bu teknolojik altyapının öğrenme kuramları ya da yaklaşımları ile desteklenmesi gerekmektedir. Bu bağlamda, akıllı rehber destekli öğrenme sistemlerinde teknoloji boyutundan bahsedilirken öğrenme boyutunun da göz ardı edilmemesi gerektiği ifade edilebilir.

Kullanıcı modülü öğrenenlerin hem bilgilerini hem davranışlarını kapsar. Bu modül, öğrenen sistemde zaman geçirdikçe kendini günceller ve farklı öğrenen profillerine adapte olabilir. Burada amaç öğrenenlere zorlandıkları konularda yardımcı olmak ve onların problem çözme becerilerini geliştirmektir. Öğrenenlerin bilgisi bilgi alanı bölümünün oluşturulmasında etki etmektedir. Amaç öğrenci bilgisini alan bilgisinin seviyesine getirmektir.

Ara yüz modülü öğretmen ve öğrencilerin sistemde etkileşime girdiği modüldür. Diğer modüllerin iletişim halinde kalmalarını sağlamaktadır. Oluşturulan modelle öğrencilerin bilgilerinin ve seviyelerinin örtüşmesi gerekmektedir.

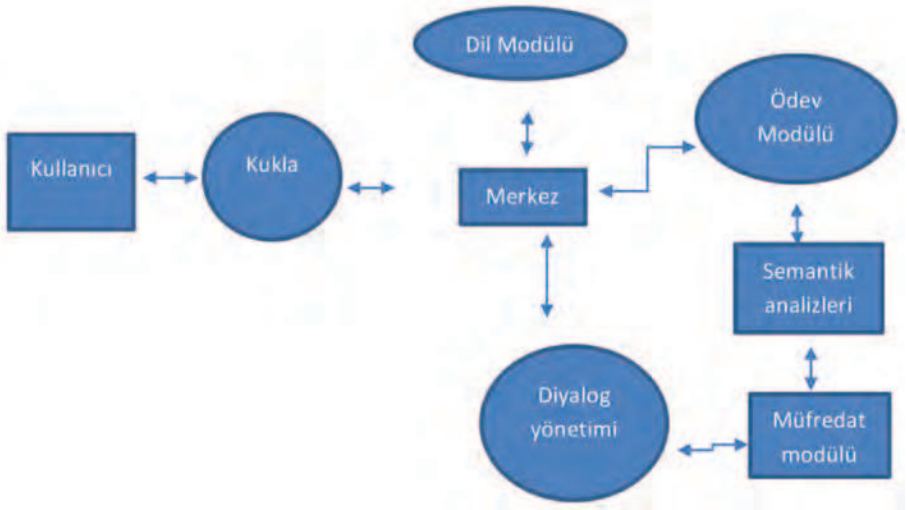
Şekil 1. Akıllı rehber destekli eğitim sisteminin bileşenleri

Akıllı Rehber Destekli Eğitim Uygulamaları

Auto Tutor

Graesser, Chipman, Haynes ve Olney (2005) tarafından geliştirilen Auto Tutor yazılımı öğrenenlere kendi anadillerinde rehber destekli öğrenme hizmeti sunan akıllı bir sistemdir. Auto Tutor uygulamasının yazılım özellikleri Şekil 2'de görüldüğü gibidir.

Diyaloglar, öğrencinin katılımını ve öğrenmenin kalıcılığını arttırmak için animasyonlu bir konuşma figürü ve üç boyutlu (3 D) etkileşimli simülasyonlar tarafından yürütülmektedir. Yapılandırmacı öğrenme yaklaşımına dayanan AutoTutor, öğrenenlere aktif olarak açıklamalar, gerekçeler ve fonksiyonel prosedürler sunmakta ve daha etkili ve kalıcı bir öğrenme ortamı sağladığı varsayılmaktadır. Yazılımın sözel yönünün güçlü olduğu ve orta ve zayıf düzeyde ödevlere yönelik etkili olduğu ifade edilmiştir. Yazılımı geliştiren araştırmacılar geleneksel rehber destekli öğrenme uygulamalarıyla geliştirdikleri yazılımı karşılaştırmışlardır. Sonuç olarak geleneksel uygulamalarda beklentilerin karşılanması yüzdesi %50 iken akıllı sistemde bu oran %86 olarak rapor edilmiştir. Ancak programın, matematik konularda etkisinin düşük olabileceği ayrıca espri yapılmasını talep eden kullanıcıların bu ihtiyacını karşılama olasılığının olmadığı belirtilmektedir. Yüksek düzeyde zorluk içeren ödevlere yönelik özelliğinin zayıf olduğu ifade edilmiştir.



Şekil 2. Auto Tutor yazılım özellikleri

ELM-ART

Weber ve Brusilovsky (2001) tarafından geliştirilen ELM-ART (Episodic Learner Model Adaptive Remote Tutor) akıllı bir rehber destekli öğrenme sistemidir. Sistem hiyerarşik bir yapı içermektedir ve öğrenci en alt düzeyden başlayarak sorumluluklarını yerine getirerek en üst düzeye ulaşabilmektedir. Ayrıca uygulamada dört bilgi düzeyi bulunmakta, öğrencilere bilgi düzeylerine ve becerilerine uygun ipuçları verilerek sistemde ilerlemeleri sağlanmakta olup öğrencilere ait bu bilgiler sistem tarafından izlenmekte ve güncellenmektedir.

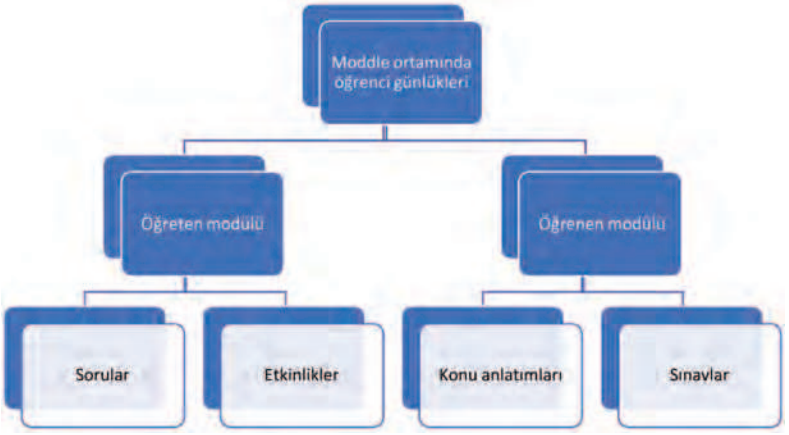
ELM-ART'ın son sürümünde, etkileşimli alıştırmalar ve problem çözme desteği ile başlangıçta öngörülen ders kitabının yanı sıra birçok özellik de sunulmuştur. Öğrenen tarafından denetlenebilir ve değiştirilebilir açık öğrenen modeli kullanılmıştır. Ayarlanabilir bir özellik olarak öğrenci tarafından tercihlerini ayarlamak ve değiştirmek gibi imkanlar bulunmaktadır. Ayrıca bir tartışma listesi, bir sohbet aracı ve alan uzmanlarına soru gönderme bölümü gibi iletişim araçları eklenmiştir.

ELM-ART'ı geliştiren araştırmacılar sistemin kullanıcılar tarafından beğenildiğini belirtmektedirler (Weber ve Brusilovsky, 2001). Ancak öğrenenlere kişisel destek sunmak amacıyla geliştirilmiş olan sistemin birtakım sınırlılıkları da vardır. Öğrenme alanları ve zor problemleri çözmede birtakım sıkıntılar mevcuttur. Kullanıcılar öğrenme alanlarının az olduğunu ve bu durumun geliştirilmesi gerektiğini belirtmişlerdir.

ARITMAT

Nabiyev, Karal, Arslan, Erümit ve Çebi (2015) matematik dersinde öğrenenlere yardımcı olabilecek akıllı bir sistem geliştirmişlerdir. Sistemin genel yazılım özellikleri Şekil 3'de görüldüğü gibidir. Moodle ara yüzü kullanılmıştır. Öğrenen ve öğretici modülü olmak üzere iki modülden oluşmaktadır. Öğreten modülünde etkinlikler ve sorular yer almaktadır. Öğretmen modülünde kaydedilen sorun, yapay zeka uygulamalarında önemli bir yer alan ileri zincirleme ve geri zincirleme yöntemlerini kullanarak bir modelle bilgisayar tarafından otomatik olarak çözülmektedir. İleri zincirleme, endüktif yaklaşımın verilerden elde edilen sonuca doğru uygulanmasıdır. Geriye doğru zincirleme, doğrudan sonuca doğru tümdengelim yaklaşımının uygulanmasıdır. Öğrenen modülü ise konu anlatımlarının ve sınavların olduğu alandır. Kullanıcı ders sayfasını kullanabilir, problem çözme sistemine girebilir veya test sınavını birbirinden bağımsız olarak kullanabilir. Kullanıcı Problem Çözme sistemine giriş yaparsa; başlangıçta zorluk seviyesine göre gruplandırılmış soru havuzundan rasgele bir soru ile çalışmaya başlayınca, sistem kullanıcının seviyesine göre yönlendirmeler yapmaktadır.

Nabiyev, Karal, Arslan, Erümit ve Çebi (2015) öğrenenlere matematik dersinde yardımcı olması amacıyla geliştirdikleri ARİTMAT uygulamasıyla ilgili öğretenlerin ve öğrenenlerin görüşleriyle ile ilgili karma desenli bir araştırma yürütmüşlerdir. Çalışmada katılımcı grubu olarak 59 tane onuncu sınıf öğrencisi ve 4 öğretmen seçilmiştir. Araştıranın veri toplama aracı olarak kullanıcıların görüşlerinin belirlenmesi amacıyla bir anket geliştirilmiştir. Nitel veriler ise görüşme formu kullanılarak toplanmıştır. Sonuç olarak öğrencilerin sistemin bütün bölümlerini kullandıkları ve memnun kaldıkları belirtilmiştir. Öğretmenler ise ARİTMAT' ın öğrencilerin problem çözme becerilerini geliştirmede etkili olabileceğini ifade etmişlerdir. Ancak sistemin etkililiğine dair herhangi deneysel bir çalışma yürütülmemiştir.



Şekil 3. ARİTMAT yazılım özellikleri (Nabiyev, Karal, Arslan, Erümit ve Çebi, 2015).

Beetle II System

Dzikovska, Moore, Steinhauser, Campbell, Farrow ve Callaway (2010) tarafından geliştirilen Beetle II System, elektrik ve elektronik dersi için öğrenenlere yardımcı olma amacıyla geliştirilmiştir. Sistem, ayrıntılı geri bildirim vermek ve doğrudan cevabı vermeden öğrencilerin doğru açıklamalara ulaşmalarını sağlamak için tasarlanmıştır. Elektrik elektronik alanında uzman iki araştırmacı tarafından tartışma, egzersiz ve etkinlikler içeren bir öğretim programı hazırlanmıştır. Şekil 4'de öğrenen ve rehber arasında geçen örnek bir diyalog verilmiştir.

Rehber: Y açık, Z kapalıyken A ampulü neden yanıyordu?

Öğrenci: Çünkü kapalı bir yol vardı.

Rehber: Çok güzel devam et.

Öğrenci: Kapalı yol bataryaya bağlıydı.

Şekil 4. Beetle II System örnek diyalog (Dzikovska, Moore, Steinhauser, Campbell, Farrow ve Callaway, 2010).

Araştırmacılar sistemi test etmek amacıyla deneysel bir çalışma yürütmüşlerdir. Çalışmanın katılımcı grubu, alana dair bilgisi olmayan South-East US Üniversitesinde okuyan 76 tane lisans öğrencisinden oluşmaktadır. Uygulanan başarı testi sonucunda öğrencilerin ön test ve son test skorları arasında anlamlı bir farklılık olduğu rapor edilmiştir. Bu nedenle Beetle 2 sisteminin elektrik elektronik dersinde etkili olduğu söylenebilir.

ICE3 (Integrating CALL in Early Educational Enviroments)

Badia, Domingo, Easton, Gabureanu, Olimpius, Quixal, Sharwood Smith, Schmidt ve Vasilescu (2011) tarafından geliştirilen ICE3 Almanca, İngilizce ve Rumence öğrenimine yardımcı olmak amacıyla geliştirilmiştir. Öğrenenler, içeriği ve kullanılacak olan öğrenme yaklaşımlarını kendileri belirlemektedirler. Programın teknolojik alt yapısı Auto Tutor' dan alınmıştır.

ICE3 sisteminde öğrenenlere otomatik geribildirim sağlamak için state-of-the-art (bir yapay zekâ platformu) öğrenme platformları kullanılmaktadır. Diğer öğrenme platformları otomatik geri bildirim sağlamaktadırlar ve bu durumun pedagojik açıdan motive edici olmadığı ifade edilebilir. Örneğin, bir öğrenciye bir boşluk doldurma egzersizi için verilen geri bildirim türü "cevabınızın ilk iki harfi doğrudur" şeklinde olmasının öğrenenleri düşünmeye zorlamadığı söylenebilir. Geliştirilen sistem, öğrenenleri doğru cevaba yönlendirmekte ve onlara doğru cevaba ulaşmalarında rehberlik yapmaktadır.

ICE3 sisteminin hedefleri şu şekilde sıralanabilir:

- Hem geliştiriciler, öğretmenler ve öğrenciler açısından okul bağlamlarda CALL (Computer Asisted Language Learning- Bilgisayar Destekli Dil Öğretimi) tabanlı faaliyetleri değerlendirmek.

- Öğretmenleri materyal oluşturma sürecine dahil etmek, bilgi ve iletişim teknolojilerini kullanarak öğrencilerin özerkliğini ve yaratıcı düşünme becerisini arttırmak.
- Yazım, dilbilgisi ve içerik denetimi ile İspanyolca, Almanca ve Rumence dillerini platforma dahil ederek öğrenenlerin dil öğrenimini desteklemek.

Gabureanu ve Istrate (2013) Alman, İngiliz, Rumen ve İspanyol bir ekip tarafından geliştirilen ICE3 sistemini kullananların memnuniyetlerini ölçmek amacıyla bir araştırma yürütmüşlerdir. Araştırmacılar tarafından geliştirilen bir anket 513 tane öğrenci ve 40 öğretmene uygulanmıştır. Kullanıcılar dil bilgisi (grammar) ve heceleme (spelling) etkinliklerini faydalı bulmuşlardır. Öğretmenler sistemin bireysel ve bağımsız çalışmaya yönlendirdiğini ve öğrenenlerin dil gelişimine katkı sağladığını belirtmişler. Yazılımın sadece dil öğretimi değil farklı alanlarda da destek olması gerektiği ifade edilmiştir.

SONUÇ

Açık ve uzaktan öğrenme bünyesinde milyonlarca öğreneni barındıran bir sistemdir. Dolayısıyla tek bir öğretim tasarımı ile kitlesel öğrenenlerin öğrenme ihtiyaçlarını karşılamak zordur. Günümüzde geleneksel öğrenme ortam ve araçlarının yanında çevrimiçi teknolojilerle ortaya çıkan araçlar, hizmetler ve ortamlar pragmatist bir yaklaşımla açık ve uzaktan öğrenme tanımında yer alan sınırlılıkları ortadan kaldırmak için kullanılmaktadır. Akılı sistemlerin işe koşulmasıyla öğrenenlere bireysel özellikleri bağlamında destek sunulmasının faydalı ve önemli olduğu düşünülmektedir. Akıllı rehber destekli öğrenme sistemleri kullanılarak, farklı öğrenme geçmişlerine ve deneyimlerine sahip öğrenenler için öğrenme fırsatı sunmak etkili sonuçlar alınmasını sağlayabilir.

Alan yazın incelendiğinde rehber destekli öğrenme uygulamalarının genellikle geleneksel yöntemlerle yürütüldüğü görülmektedir. Çevrim içi yapılan uygulamalarda öğrenme yöneyim sistemleri, e-posta, sosyal medya, anlık mesajlaşma gibi teknolojik araçların kullanıldığı görülmektedir. Araştırmacılar çevrim içi yapılan uygulamalarda genellikle en ucuz ve kolay olan aracın seçilmesi gerektiğini vurgulamaktadırlar. Ancak çevrim içi uygulamalarda anında cevap alınamaması ve yürütülen uygulamanın yeterince bireysel olmaması gibi sorunlarla karşılaşıldığı ifade edilmektedir. Bu sorunların çözümü olarak karşımıza akıllı sistemler çıkmaktadır.

Akıllı rehber destekli öğrenme sistemleri, çok sayıda öğrenenlere bireysel özellikleri doğrultusunda destek sağlaması ve anında ulaşılabilmesi gibi özellikleriyle ön plana çıkmaktadır. Ayrıca öğrenenlere kendi bilgi düzeylerine uygun öğrenme ortamı sağlaması açısından akıllı sistemlerin geleneksel uygulamalara göre daha etkili oldukları ifade edilebilir. Rehber destekli öğrenmede akıllı sistemlerin, geleceğin teknolojisi olması nedeniyle önemli olduğu söylenebilir. Bu nedenle ülkemizde de bu yönde çalışmaların hızlanması gerektiği vurgulanabilir.

Bu çalışma kapsamında akıllı rehber destekli öğrenme ile ilgili uygulamalar incelenmiştir. Bu uygulamalar arasında ELM-ART, ARİTMAT, Auto Tutor, Beetle II System ve ICE3 yer almaktadır. Alan yazın incelendiğinde uygulamaların genellikle dil (ICE3, Auto Tutor) ve matematik (ARİTMAT) alanlarına yoğunlaştıkları gözlemlenmiştir. Bunun nedeni olarak öğrenenlerin genellikle dil öğrenme ve matematikte zorlandıkları ve desteğe ihtiyaç duydukları gösterilebilir. Öğrenenlerin desteğe ihtiyaç duyması gereksiniminden hareket eden araştırmacılar bu yönde çalışmalara yoğunlaşmıştır diyebiliriz.

Sonuç olarak bu çalışma kapsamında rehber destekli öğrenme (tutoring), çevrim içi rehber destekli öğrenme (online tutoring) ve akıllı rehber destekli öğrenme (intelligent tutoring systems) ile ilgili araştırmalar incelenmiştir. Akıllı rehber destekli öğrenmenin gelişmekte ve son yıllarda yaygınlaşmakta olduğu ifade edilebilir. Teknolojik gelişmelere paralel olarak akıllı sistemlerin eğitim öğretim sürecinde daha sık ve yaygın kullanılacağı düşünülmektedir.

ÖNERİLER

Bu çalışmanın sonuçları göz önüne alındığında, ileride yapılacak araştırmalara aşağıda sıralanan önerilerde bulunulabilir.

Türkiye'de yükseköğretimde öğrenim gören öğrenenlerin yaklaşık yarısı açık ve uzaktan öğrenme sisteminde yer almaktadır. Dolayısıyla açık ve uzaktan öğrenme hizmetleri sunan yükseköğretim kurumlarının akıllı rehber destekli öğrenme sistemleri kullanarak bireysel öğrenme fırsatı yaratmalarının ve uyarlanabilir öğrenme içerikleri sunmalarının etkili ve verimli sonuçlar yaratacağı düşünülmektedir. Bu düşünceler ışığında çevrimiçi ortamlarda öğretim faaliyetlerini sürdüren yükseköğretim kurumlarına öğrenenleri desteklemek amacıyla akıllı rehber destekli öğrenme sistemlerini kullanmaları önerilebilir.

Açık ve uzaktan eğitim hizmeti veren kurumlara öğrenenlere destek olunması amacıyla akıllı bir sistem geliştirmeleri önerilebilir. Bu sistemin etkililiğinin deneysel çalışmalarla test edilmesine yönelik araştırmalar yapılması önerilebilir. Buna ek olarak uygulamayı kullananların uygulamadan nasıl etkilendiklerinin belirlenmesi amacıyla nitel araştırmalar da gerçekleştirilebilir.

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Lise Son Sınıf Öğrencilerinin Açıköğretim Sistemi Tercih Eğilimleri: Eskişehir Örneği

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Özet

Açıköğretim; "Zaman ve mekân kısıtlaması olmayan, öğrenenlerin kendi kendilerine öğrenmesine dayanan, açık kaynaklar ile desteklenen, ihtiyaç duyulduğunda öğretim elemanlarının desteğine başvurulan bir öğretim yaklaşımıdır." Anadolu Üniversitesi, Açıköğretim Sistemi ile 1982'den bu yana Türkiye'de uzaktan eğitimi başarı ile sürdüren bir yüksek eğitim kurumudur. Bu çalışmada; lise son sınıf öğrencilerinin üniversite tercihlerinde Açıköğretim Sistemi ile öğrenim görme konusunda istekli olup olmama durumları ve nedenlerinin araştırılması amaçlanmıştır. Bu amacı gerçekleştirmek için Eskişehir il merkezinde bulunan 19 devlet lisesi araştırma kapsamına alınmış ve Mart 2018'de 1454 öğrenciye 10 sorudan oluşan bir anket uygulanmıştır. Sonuçlara göre öğrencilerin üçte birinin istekli olduğu, yarıya yakın öğrencinin ise isteksiz olduğu saptanmıştır. İstekli olma ya da olmama nedenleri farklı değişkenler açısından değerlendirilmiştir. Açıköğretim Sistemini tercih etme nedenleri arasında ikinci üniversite şansı ilk sırada yer alırken, hem çalışıp hem okumak ikinci, puanının sadece AÖS için yeterli olması ise üçüncü sırada yer almıştır. Tercih etmeme nedenleri arasında ise istedikleri bölümün bu sistemde olmaması ilk sırada yer alırken, sistemi beğenmeme-yetersiz-yararsız bulma gerekçesi ikinci sırada, mezuniyet sonrası iş imkânlarının kısıtlı olduğu düşüncesi üçüncü sırada yer almıştır.

Anahtar kelimeler: *Açıköğretim Sistemi, Anadolu Üniversitesi, Lise Son Sınıf Öğrencileri, Üniversite Tercihi.*

GİRİŞ

Üniversiteler bireylere, meslek seçimi ile birlikte yaşamlarının her alanını etkileyecek olan kariyer seçimini yapma olanağı tanımaktadır. O nedenle tercih edilecek olan üniversite eğitimi önemlidir. Çünkü bu seçim, kişiyi hayatını kazanacağı mesleğe yöneltirken yaşam biçimini belirleyecektir. Meslek seçimi, kişinin birçok meslek arasından kendi kişiliğine, özelliklerine ve yeteneklerine en uygun olduğunu düşündüğü ve doyum alacağına inandığı işe yönelmesidir (Baykan'dan Akt. Önler ve Saraçoğlu, 2010, s.78).

Türkiye'de 12 yıllık zorunlu eğitimin son dört yılını lise eğitimi oluşturmaktadır. Bu dönem öğrencilerin gelecekte yapmak istedikleri meslek/kariyer seçiminin

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yapıldığı, kararının verildiği bir dönemdir. Bu eğitim sisteminde ilk sekiz yılın sonunda girilen Liseye Geçiş Sınavı(LGS) ile de öğrencilerin, öğrenim görecekleri liseler belirlenmektedir. Bu liseler farklı kurumlara bağlı olarak çeşitlenmektedir. Ortaöğretim Genel Müdürlüğü'ne bağlı Anadolu, Fen, Güzel Sanatlar, Spor ve Sosyal Bilimler liseleri, Mesleki ve Teknik Eğitim Genel Müdürlüğü'ne bağlı Anadolu Meslek Liseleri, Din Öğretimi Genel Müdürlüğü'ne bağlı Anadolu İmam Hatip liselerdir. Öğrencilerin mezun oldukları lise türüne göre, yükseköğrenim hedefleri de değişmektedir. Yükseköğrenime devam etmek isteyen lise mezunları için Türkiye'de 2018 yılı itibariyle 129 devlet, 72 vakıf olmak üzere toplam 201 üniversite bulunmaktadır. Bu üniversitelerin bazılarında uzaktan ya da açıköğretim sistemi ile eğitim veren fakülteler bulunmaktadır.

Anadolu Üniversitesi 1982 yılından bu yana Açıköğretim Sistemiyle (AÖS) yükseköğrenim veren başlıca kurum olarak, 2017-2018 Öğretim Yılı itibariyle, bünyesinde bulunan üç fakülte aracılığıyla İngilizce eğitim veren bölümleri de bulunan 19 lisans, 39 önlisans programına sahiptir. Aktif öğrenci sayısı Mart 2018 itibarıyla; 389.027 kadın, 535.437 erkek olmak üzere toplam 924.464'dür (Anadolu Üniversitesi 2019).

Araştırmanın amacı, Eskişehir il merkezinde farklı lise türlerinde öğrenim gören lise son sınıf öğrencilerinin, üniversite tercihlerinde Açıköğretim Sistemi konusunda istekli olup olmama durumlarını ve nedenlerini; okul türü, cinsiyet, alan, gelir durumu ve ailedeki kişi sayısı değişkenleri açısından değerlendirmektir.

YÖNTEM

Anadolu Üniversitesi Açıköğretim Fakültesi tarafından bürolar aracılığı ile liselere düzenli olarak, AÖS tanıtım etkinlikleri düzenlenmektedir. Bu araştırma 2017-2018 yılında Eskişehir il merkezinde bulunan devlet liselerinde yürütülen tanıtım etkinliklerine paralel olarak gerçekleştirilmiş, anket kullanılarak nicel verilere erişilmiştir.

Evren ve Örneklem

Araştırmanın genel evrenini, Eskişehir ilinde öğrenim gören lise son sınıf öğrencileri oluşturmaktadır. 2017-2018 Öğretim Yılında Eskişehir il merkezinde yer alan lise düzeyindeki okul sayısı, Eskişehir İl Milli Eğitim Müdürlüğü'nden alınan bilgilere göre 73'tür. Tanıtım etkinlikleri kapsamında özel liseler ile Güzel Sanatlar, Müzik ve Sahne Sanatları Lisesi ve Spor Lisesi bulunmamaktadır. Dolayısıyla bu okul türleri örneklem dışında bırakılmıştır. Araştırma için hazırlanan anket 43 lisenin 19'undaki 1454 öğrenciye uygulanmıştır. Bu evrenin %23'ünü oluşturmaktadır.

Örneklemin oluşturulmasında, kendi içinde benzerlikler gösteren ve doğal olarak oluşmuş gruplarla çalışma seçeneği olması nedeniyle, olasılık temelli örnekleme yöntemlerinden biri olan küme örnekleme yöntemi seçilmiştir. Okul türleri, sayısı ve son sınıfta bulanan öğrenciler ile örneklem sayıları Tablo 1'de verilmiştir.

Okul Türü	Evren		Örneklem		
	Okul Sayısı	Öğrenci Sayısı	Okul Sayısı	Öğrenci Sayısı	Yüzde
Anadolu Lisesi	24	2722	8	653	24,0
Mesleki ve Teknik Anadolu Lisesi	15	3221	7	560	18,4
Anadolu İmam Hatip Lisesi	2	322	2	135	42,0
Fen Lisesi	1	115	1	69	60,0
Sosyal Bilimler Lisesi	1	68	1	37	54,4
Toplam	43	6448	19	1454	23,0

Tablo 1. Okul Türlerine Göre Evren ve Örnekleme Giren Öğrenci Sayıları

Verilerin Toplanması ve Analiz

Bu araştırmanın verileri 7 kapalı, 3 açık uçlu olmak üzere toplam 10 sorudan oluşan bir anket ile toplanmıştır. AÖS'ni tercih etme ve etmeme nedenleri ile üniversite hedeflerinin belirlenip belirlenmediğinin sorgulandığı sorular kapalı uçlu soruların sınırlayıcı olabileceği gerekçesiyle açık uçlu olarak hazırlanmıştır. Açık uçlu sorular, içerik analizi yöntemiyle analiz edilmiştir. Ankette yer alan açık uçlu sorular; kavramlaştırma aşamasında oluşturulan kodlama yönergesi doğrultusunda, araştırmacılar tarafından ayrı ayrı kodlanmış ve kodlamanın geçerlik-güvenirliği konusunda yapılan karşılaştırmalı çalışmalarla, kodlama yönergesi son biçimini almıştır. Kodlamaları yapılarak sayısal verilere dönüştürülen sonuçlar, SPSS aracılığıyla tablolaştırılarak okul türü, cinsiyet, gelir düzeyi, ailedeki kişi sayısı ve eğitim aldıkları alan değişkenleri açısından değerlendirilmiştir.

Bulgular

Çalışma Kümesi

Milli Eğitim Müdürlüğünden alınan bilgiler doğrultusunda, araştırma kapsamına beş lise türü alınmıştır. Araştırmaya katılan 1454 lise son sınıf öğrencisinin, %44,9'u Anadolu Lisesi, %38,5'i Mesleki ve Teknik Anadolu Lisesi, %9,3'ü İmam Hatip Lisesi, %4,7'si Fen Lisesi ve %2,5'i Sosyal Bilimler Lisesinde öğrenim görmektedir. Bu öğrencilerin %56,6'sı kız, %43,4'ü erkektir. Öğrencilerin ailelerinin %43,3'ünün gelir düzeyi 1601-3000 TL arasındadır. İkinci sırada ise %22,5 oranıyla gelir düzeyi 3001-5000 TL arasında olan aileler gelmektedir. Öğrencilerin ailelerinde bulunan kişi sayısına bakıldığında; %78,1'inin 4-6 kişiden, %13,7'sinin 1-3 kişiden oluştuğu görülmüştür. Öğrencilerin eğitim aldıkları alanların dağılımları ise %40,1 sayısal, %33,6 eşit ağırlık, %18,7 sözel ve %6,9 dil alanıdır.

Araştırmaya katılan öğrencilerden üniversite eğitimi konusunda ne kadar kararlı olduklarını anlamak amacı ile gitmek istedikleri üniversite adı ve bölümlerini yazmaları istenmiştir. Öğrencilerin %87,8'si girmek istediği üniversitenin adını vererek bu konuda kararlı olduğunu göstermiştir. Ayrıca üniversite-bölüm tercihinde kimin etkili

olduğu sorgulanmış ve %61,3 ile kendi görüşüm cevabı alınmıştır. Araştırmaya katılan lise son sınıf öğrencilerine daha sonra da AÖS bölümlerinden birini tercih edip etmeyecekleri ve tercih etme ve etmeme nedenleri sorulmuştur.

Açıköğretim Sistemi Tercihi

Araştırmaya katılan öğrencilerin "AÖS bölümlerinden birini tercih eder misiniz?" sorusuna genel toplamda %30'u evet cevabını verirken, %47,2'si hayır cevabını vermiştir. Lise son sınıf öğrencilerinin AÖS tercih oranları Tablo 2'de yer almaktadır.

Tercih	Sayı	Yüzde
Kodlanamaz	14	1,0
Hayır	686	47,2
Evet	437	30,0
Cevapsız	221	15,2
Kararsız	96	6,6
Toplam	1454	100,0

Tablo 2. Açıköğretim Sistemi Tercihi

"AÖS bölümlerinden birini tercih eder misiniz?" sorusuna "evet" ve "hayır" cevabı veren öğrencilerin lise türü açısından görünümüne bakıldığında; "evet" diyenler içinde en yüksek oran %33,4 oranı ile Mesleki ve Teknik Anadolu Lisesi öğrencilerine ait iken, "hayır" diyenlerde en yüksek oran %75,4 ile Fen Lisesi öğrencilerine aittir. "Evet" cevabı veren öğrenciler arasında en düşük oran %9,6 oranı ile Anadolu İmam Hatip Lisesi öğrencilerine, "hayır" cevabını veren öğrenciler arasında en düşük oran ise %35,1 ile Mesleki ve Teknik Anadolu Lisesi öğrencilerine aittir.

Öğrencilerin, AÖS bölümlerini tercih edip etmeme oranları cinsiyet açısından değerlendirildiğinde; "evet" cevabı veren kız öğrencilerin oranı %,30,1 iken, "hayır" veren kız öğrencilerin oranı %42,8'dir. "Evet" cevabı veren erkek öğrencilerin oranı % 22,5, "hayır" cevabı veren erkek öğrencilerin oranı ise %43,1'dir.

AÖS'ni tercih eden öğrenciler gelir düzeyi açısından değerlendirildiğinde ilk sırada %34,9 oranı ile geliri 1600 TL ve altında olanlar yer almıştır. Onları geliri 1601-3000 TL arası olanlar %27,9, geliri 3001-5000 TL arası olanlar %24,5, geliri 5001 TL üstü olanlar %20 oranı ile takip etmektedir. "Hayır" cevabı veren öğrenciler arasında en yüksek oran, %55,6 ile 5001 TL ve üstü gelir grubuna, en düşük oran ise %30,9 ile 1600 TL ve altı gelir grubuna aittir. Ailenin gelir düzeyi arttıkça öğrencilerin AÖS bölümlerinden birini tercih etme oranı da düşmektedir.

Ailedeki kişi sayısına göre değerlendirildiğinde; "evet" diyenler arasında en yüksek oran, % 31,9 ile 7-9 kişiden oluşan ailelerde yaşayan öğrencilere, "hayır" diyenler arasında en yüksek oran ise %44,7 ile 1-3 kişiden oluşan ailelerde yaşayan öğrencilere aittir. Ailedeki kişi sayısı arttıkça öğrencilerin AÖS bölümlerinden birini tercih etme oranı yükselmektedir.

AÖS ile üniversite eğitimine "evet" diyen öğrenciler eğitim aldıkları alanlara göre değerlendirildiğinde ise ilk sırada %36,4 oranı ile sözel alanda eğitim alanlar yer almıştır.

Onları sırasıyla %28,2 oranı ile eşit ağırlık, %24,8 oranı ile dil ve %21,4 oranı ile sayısal eğitim alan öğrenciler takip etmiştir. "Hayır" diyen öğrenciler arasında ilk sırada %50,9 oranıyla sayısal, %47,5 oranıyla dil, %39,3 oranıyla eşit ağırlık ve %32,4 oranıyla sözel alanda eğitim alan öğrenciler yer almıştır. Sözel alanda eğitim alanlar, AÖS bölümlerinden birini diğer alanlarda eğitim alan öğrencilere göre daha yüksek oranda tercih edebileceklerini belirtmişlerdir. Bu sonuç alanlarının AÖS bölümlerine daha uygun olmasıyla açıklanabilir.

Açıköğretim Sistemi Tercih Nedenleri

Lise son sınıf öğrencilerine AÖS bölümlerinden birini tercih etme nedenleri sorulmuş, bu nedenler ve oranları Tablo 3'de verilmiştir.

Tercih etme nedenleri	Sayı	Yüzde
Kodlanamaz	25	5,7
İkinci Üniversite Okumak	120	27,4
Hem Çalışıp Hem Okumak	75	17,2
Puanının Sadece AÖS İçin Yeterli Olması	44	10,1
İlgi Duyduğu Alanda Eğitim Görmek	42	9,6
Genel Kültür-Kendini Geliştirme	39	8,9
Bir Üniversite Diplomasına Sahip Olmak	35	8,0
Yeni Bir İş İmkânı	23	5,2
Devam Zorunluluğu Olmaması	16	3,7
İşiyle İlgili Kendini Geliştirmek	12	2,8
Bir Meslek Sahibi Olmak	6	1,4
Toplam	**437**	**100,0**

Tablo 3. Açıköğretim Sistemi Tercih Nedenleri

AÖS bölümlerinden birini tercih etme nedenlerini açıklayanların verdiği cevaplara göre; genel toplamda %27,4 oranıyla İkinci Üniversite okumak ilk sırada yer alırken, %17,2 oranıyla hem çalışıp hem okumak ikinci sırada, %10,1 oranında puanının sadece AÖS için yeterli olması gerekçesi ise üçüncü sırada yer almıştır. Bir meslek sahibi olma gerekçesi ise %1,4 oranıyla en az belirtilen gerekçe olmuştur.

Bu gerekçelerin lise türleri açısından görünümü şöyledir: İlk sırada yer alan İkinci Üniversite okumak Anadolu Liseleri öğrencileri için %38,2 ve Sosyal Bilimler Lisesi öğrencileri için %50,0 gibi yüksek bir oranla ilk sırada yer alan gerekçedir. Mesleki ve Teknik Anadolu Liselerinde öğrenim gören öğrenciler için ilk tercih nedeni %29,5 oranında hem çalışıp hem okumaktır. Anadolu İmam Hatip Liseleri öğrencileri için ilk gerekçe %30,8 oranında puanının sadece AÖS için yeterli olmasıdır. Fen Lisesi öğrencileri ise ilk gerekçe olarak %33,3 oranında ilgi duydukları alanda eğitim görme olanağının olduğunu belirtmişlerdir.

Öğrencilerin, AÖS'de eğitim görmeyi isteme nedenlerine cinsiyet değişkeni açısından bakıldığında; kız öğrencilerde ilk sırada ikinci üniversite okumak (%32,4), ikinci sırada hem çalışıp hem okumak (%15,2), üçüncü sırada da genel kültür ve kendini geliştirme (%11,0) yer almaktadır. Erkek öğrencilerde ise hem çalışıp hem okumak/ikinci üniversite okumak (%20-%20) ilk sırada, puanının sadece AÖS için yeterli olması (%12,0) ikinci sırada, bir üniversite diplomasına sahip olmak (%8,0) üçüncü sırada yer almıştır.

AÖS tercih nedenleri gelir düzeyi açısından değerlendirildiğinde; geliri 1600 TL ve altı gelir grubunda olanlar için ilk sırada hem çalışıp hem okumak olanağı yer alırken, ikinci üniversite okumak seçeneği 1601-3000 TL gelir grubunda %25,0, 3001-5000TL gelir grubunda %25,2, 5001 TL ve üstü gelir grubunda ise %45,0 oranlarıyla ilk sırada yer almıştır. Düşük gelire sahip olan öğrenciler için hem çalışıp hem okumak önemliyken, gelir düzeyi arttıkça ikinci üniversite okumak seçeneği öne çıkmaktadır.

AÖS tercih nedenleri ailedeki kişi sayısı açısından değerlendirildiğinde; ikinci üniversite okumak nedeni tüm gruplar için ilk sırada yer almıştır. Bu oranlar 1-3 kişi grubunda %31,6, 4-6 kişi grubunda %27,4, 7-9 kişi grubunda %28,5'dir. Hem çalışıp hem okumak nedeni de, 4-6 kişi grubunda ikinci sırada (%18,6), 7-9 kişi grubunda ise üçüncü sırada (%14,3) yer almıştır. Ailedeki kişi sayısı arttıkça hem çalışıp hem okumak seçeneği de tercih nedenleri arasında yer almaktadır.

AÖS bölümlerinden birini tercih etme nedenini belirten öğrenciler eğitim aldıkları alanlar açısından değerlendirildiğinde; ikinci üniversite okumak nedeni eşit ağırlık alanında eğitim alanlar için %28,5, sözel alanda eğitim alanlar için, %28,0 ve sayısal eğitim alanlar için %27,8 oranıyla ilk sırada yer almıştır. Dil alanında eğitim alanlar için ise, ilgi duyduğu alanda eğitim görmek %22,2 oranıyla ilk sıradadır. Hem çalışıp hem okumak seçeneği; dil eğitimi alanlar dışında, diğer alanlar için ilk üç neden arasındadır.

Açıköğretim Sistemini Tercih Etmeme Nedenleri

Lise son sınıf öğrencilerinin AÖS bölümlerinden birini tercih etmeme nedenleri sorgulanmış, bu nedenler ve oranları Tablo 4'de verilmiştir.

Tercih Etmeme Nedenleri	Sayı	Yüzde
Kodlanamaz	20	2,9
Bölümü yok	402	58,6
Beğenmiyor, yetersiz-yararsız buluyor	151	22,0
İş imkânlarını kısıtlı buluyor	55	8,0
Kararsız	47	6,9
Yükseköğrenim düşünmüyor	11	1,6
Toplam	**686**	**100,0**

Tablo 4. Açıköğretim Sistemini Tercih Etmeme Nedenleri

AÖS bölümlerinden birini tercih etmeyenlere nedenleri sorulduğunda, genel sonuçlarda istedikleri bölümün bu sistemde olmaması %58,6 ile ilk sırada yer alırken, sistemi beğenmeme, yetersiz-yararsız bulma gerekçesi %22,0 ile ikinci sırada, mezuniyet sonrası iş imkânlarının kısıtlı olduğu düşüncesi ise %8,0 oranıyla üçüncü sırada yer almıştır. Tüm değişkenler için bu nedenler ve sıralaması değişmemektedir.

İlk sırada yer alan tercih etmeme nedeni olan "**istedikleri bölümün bu sistemde olmaması"**nın, değişkenler açısından dağılımı şöyledir: Okul türü açısından ilk sırada Fen Lisesi %63,5 oranıyla yer alırken, onu Anadolu Lisesi %60,2, Anadolu İmam Hatip Lisesi %56,1, Mesleki ve Teknik Anadolu Lisesi %57,0 ve Sosyal Bilimler Lisesi %47,3 oranıyla takip etmektedir. Cinsiyet açısından; kız öğrenciler için bu oran %62,5, erkek öğrenciler için ise %53,8'dir. Gelir düzeyi açısından değerlendirildiğinde; ilk sırada %62,5 oranı ile 1600 TL ve altı gelir grubundakiler yer almaktadır. Onları %60,8 oranı ile geliri 1601-3000 TL grubundakiler, %57,6 oranı ile geliri 3001-5000 TL arası olanlar ve %56,8 oranıyla 5001 TL üstü gelir grubundakiler takip etmektedir. Kişi sayısı açısından bakıldığında; 4-6 kişi olanlar %60,4 oranıyla ilk sırada yer alırken, 1-3 kişi olanlar %58,6 oranıyla ikinci sırada, 7-9 kişi olanlar ise %43,2 oranıyla üçüncü sırada yer almıştır. Öğrenciler alanlarına göre değerlendirildiğinde; % 60,5 oranı ile eşit ağırlık ilk sırada yer alırken, onları %59,4 oranı ile sayısal, %59,3 oranıyla dil, %52,1 oranı ile sözel alanda eğitim alanlar izlemiştir.

İkinci sırada yer alan tercih etmeme nedeni olan "**beğenmeme, yetersiz-yararsız bulma"**nın değişkenler açısından dağılımı şöyledir: Okul türü açısından; Sosyal Bilimler Lisesi %36,8, Anadolu İmam Hatip Lisesi %25,6, Anadolu Lisesi %21,9, Fen Lisesi %21,2, Mesleki ve Teknik Anadolu Lisesi için %19,6 oranındadır. Cinsiyet açısından, erkek öğrencilerin oranı (%25,8), kız öğrencilere göre (%19,1) daha yüksektir. Gelir düzeyi açısından değerlendirildiğinde; %29,4 oranında geliri 5001 TL üstü olanlar ilk sırada yer alırken, %22,7 oranıyla 1600-3000 TL gelir grubu ikinci sırada, %20,2 oranıyla 3001-5000 TL gelir grubu üçüncü sırada ve %15,6 oranıyla 1600 TL ve altı gelir grubu son sırada yer almıştır. Ailedeki kişi sayısı açısından ilk sırada 7-9 kişi %35,0 oranıyla yer almış, onu %21,2 oranıyla 1-3 ve yine aynı oranla 4-6 kişiden oluşan aile grubu izlemiştir. Eğitim alanları açısından oranlar; dil alanında eğitim alanlar için %25,9, sayısal alanda eğitim alanlar için %22,7, sözel alanda eğitim alanlar için %22,3 ve eşit ağırlık alanında eğitim alanlar için %19,3'dür.

Üçüncü sırada yer alan tercih etmeme nedeni olan **"iş imkânlarını** kısıtlı **bulma"**nın değişkenler açısından dağılımı şöyledir: Okul türü açısından oranlar, Mesleki ve Teknik Anadolu Lisesi %10,3, Anadolu İmam Hatip Lisesi %8,5, Anadolu Lisesi %7,2, Sosyal Bilimler Lisesi %5,3 ve Fen Lisesi %3,8'dir. Cinsiyet açısından bakıldığında; kız öğrenciler için oran %8,8 iken, erkek öğrenciler için %6,8'dir. Gelir düzeyi açısından bakıldığında; 3001-5000 TL gelir grubunda %11,6, 1600 TL ve altı ve 5001 TL ve üstü gelir grubunda %7,8, 1601-3000 TL gelir grubunda %7,1'dir. Ailedeki kişi sayısı açısından görünüm; 1-3 kişi grubunda %11,1, 7-9 kişi grubunda %8,1 ve 4-6 kişi grubunda %7,4 olarak gözlenmiştir. Eğitim alanı açısından bakıldığında; ilk sırada %9,4 oranıyla eşit ağırlık grubu yer alırken, ikinci sırada %8,5 oranıyla sözel, üçüncü sırada %7,4 oranıyla dil ve son olarak %7,0 oranıyla sayısal grubu yer almaktadır.

TARTIŞMA VE SONUÇ

Araştırmanın sonucunda Anadolu Üniversitesi Açıköğretim Sisteminin sağladığı "İkinci Üniversite olanağı" araştırmaya katılan lise son sınıf öğrencilerinin en önemli tercih nedeni olarak ortaya çıkmıştır. Bu sonuç, öğrencilerin öncelikli tercihlerinin örgün bölümlere devam etme isteği olduğunu, bunun yanında ilgi duydukları bir başka alan için sistemi tercih edeceklerini, ayrıca ikinci üniversite olanağının bilinirlik düzeyinin yüksek olduğunu göstermektedir. Tercih nedeni olarak ikinci sırada "hem çalışıp hem okumak olanağının" yer almış olması, düşük oranda da olsa sistemi tanıyan öğrencilerin, uzaktan eğitimin en önemli avantajlarından birinin farkında olduklarını göstermektedir. "Puanının sadece AÖS için yeterli olması" seçeneğinin üçüncü sırada yer alması, bu sistemin lise son sınıf öğrencileri için üniversite eğitimi alabilme konusunda bir olanak olarak fark edildiğini göstermektedir.

Genel sonuçlar değerlendirildiğinde, Eskişehir ilinde, lise son sınıf öğrencileriyle yapılan bu araştırma sonuçları ve araştırmacıların gözlemleri, Açıköğretim Sistemi ile ilgili olarak öğrencilerin yeterli - doğru bilgiye sahip olmadıklarını ve bazı olumsuz yargılara sahip olduklarını göstermiştir. Genel olarak istediği bölümün olmadığını belirten öğrencilerin oranının yüksek olması, tüm lise türlerinde AÖS programlarının yeterince tanınmadığını ve tanıtımların arttırılması gerektiğini göstermektedir.

Yararlanılan Kaynaklar

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Açık ve Uzaktan Öğrenmede Kalite Güvencesi ve Avrupa Yükseköğretim Alanında Kalite Güvence Standartları ve Yönergeleri

Eylem KORAL GUMUSOGLU[1], Elif TOPRAK[2], Asuman Nurhan ŞAKAR[3]

Özet

Son yıllarda öğrenen beklentileri, ihtiyaçları ve donanımları her geçen gün değişmekte ve gelişmektedir. Bu dönüşümün karşısında yükseköğretim kurumlarının dinamiklerinin de ilgili teknolojiler bağlamında bireylerin ihtiyaçlarına cevap verebilmek için gözden geçirilmesi 21. yy'ın en büyük gereksinimlerinden biri haline gelmiştir. Gerek yüz yüze gerekse yaşam boyu öğrenme ihtiyaçlarına ortam sunarak yaygınlaşan uzaktan öğretim veren kurumların hizmet kalitesi ve hesap verebilirliği ve saydamlığı gibi konular ön plana çıkmaktadır. Yükseköğretim kurumlarında hem öğrenen hem de öğretim elemanı hareketliliğinin artması ve bilgiye her yerde her zaman ulaşabilme özgürlüğü, ülkelerin yükseköğretim kurumları aracılığıyla verilen hizmetin kalitesinin kalite güvencesi sürecinde iç ve dış kalite standartları belirlemesine ve kurumun kendi içinde verilen öğretimin her boyutuyla değerlendirilmesine sebep olmuştur. Ayrıca dış kalite değerlendirme sürecinin bir yöntemi olarak akreditasyon sürecinde de yine kurumların başka kurumlara karşı saydam ve hesap verebilir konuma gelmesi sağlanmıştır. Bütün bu gelişmelerin Avrupa çapında başlangıç noktası Türkiye'nin de dahil olduğu Bologna süreci olup, kurumlara kalite değerlendirme süreçlerinde rehberlik edecek Avrupa yükseköğretim alanında kalite güvence standartları ve yönergelerinin oluşturulmasıyla dönüm noktası sayılabilecek bir adım atılmıştır.

Anahtar Kelimeler: *Kalite güvencesi, kalite güvence standartları ve yönergeleri, akreditasyon*

GİRİŞ

Dünyada her alanda olduğu gibi eğitim öğretim alanında da hem ulusal hem uluslararası hareketliliğin artması Bologna sürecinin de devreye girmesiyle yükseköğretim kurumlarına belirli standartlar getirilmesini zorunlu kılmıştır. Ülkeler değişen eğitim ve öğretim paradigmalarına göre kendilerini geliştirmek ve rekabet edebilmek için yükseköğretim kurumlarını gözden geçirme ve başta öğrenme çıktıları olmak üzere, ders geliştirme süreci, öğretme ve öğrenme süreci, ders yapısı, dersin içeriği, öğretim tasarımı, materyal tasarımı, ölçme değerlendirme, öğrenen etkileşimi ve katılımı, teknoloji kullanımı gibi alanlarda uluslararası standartlara uyum sağlama gereği duymuşlardır. Bu noktada kalite güvence, bu revizyon ve iyileştirme sürecinin dayandırıldığı en önemli temellerden biridir. Ülkeler, bir taraftan kendi yükseköğretim sistemleri içindeki yükseköğretim kurumlarının ne derece kaliteli olduğu ile ilgili mekanizmalar oluşturmaya çalışırken, diğer taraftan da uluslararası yükseköğretimde kalite güvence sistemi yaklaşımlarındaki değişimlere göre kendi kalite güvence mekanizmalarını kurmaya ve geliştirmeye çalışmaktadır (ENQA, 2008).

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Kalite Güvence ve Akreditasyon Süreçleri

Amerika Birleşik Devletlerinde (ABD) akreditasyon sürecini federal düzeyde yürüten bir otorite olan Yükseköğretim Akreditasyon Konseyi kaliteyi, amaç için uygunluk olarak tarif etmektedir (CHEA, 2001). Eğitim bilimleri alanında ise kalite, öğretimi tamamlama oranı, öğrenci performansı ve öğrenme tecrübelerinin değerlendirilmesi gibi nicel bileşenlerin yanında öğretim yöntemleri, öğrenme ortamları, materyaller, öğrenme süreci, etkinlikler, içerik ve öğrencilere sunulan destek hizmetleri gibi nitel bileşenlerin nasıl etkili ve verimli uygulanabileceğine yol gösteren bir göstergeler bütünüdür (Cavanaugh, 2002, s.176). Kalite güvence ise yükseköğretimde öğretim standartlarının, bilim ve niteliğin korunması ve geliştirilmesini garanti altına alabilecek bütün planlı ve sistemli faaliyetler olarak tanımlanabilir (Altbach ve Peterson, 1999).

Gelişen teknoloji, artan rekabet ve değişen öğrenen ihtiyaçları doğrultusunda kendilerini geliştirme ihtiyacı duyan yükseköğretim kurumları, öğrenenlerin giderek artan zamandan ve mekandan bağımsız yaşam boyu öğrenme ihtiyaçlarına cevap verecek şekilde çevrimiçi öğrenmeye önem vermeye başlamıştır. Bu bağlamda dünyanın dört bir yanında açık ve uzaktan öğrenme kurumları açılmaya ve öğretim hizmeti vermeye başlamıştır. Yüz yüze öğretim kurumları için tartışılan kalite kavramı açık ve uzaktan öğrenme kurumları için de bir araştırma konusu olmuştur. Açık ve uzaktan öğrenme yüz yüze öğrenmeye göre çok farklı dinamiklere sahip olduğundan, açık ve uzaktan öğrenmenin kendi parametreleri dikkate alınarak farklı ortam ve özellikleri doğrultusunda kalite standartları geliştirilmesi gerekmektedir (Middlehurst, 2000; Twigg, 2001,). Uzaktan eğitimde kalite güvence olarak adlandırılan standart belirleme çalışmaları, bir kurum veya programın alt yapısını, sürekli iyileştirme faaliyetlerini kapsayan, uluslararası kabul gören uzaktan eğitim standartlarını belirlemek için planlı ve sistematik bir şekilde gözden geçirme ve değerlendirme sürecini ifade etmektedir (CHEA, 2001). Yükseköğretim için uzaktan eğitimin kalite standartlarını belirlemeye yönelik yapılan ilk çalışma, Chickering ve Gamson (1987) tarafından yapılmış ve "Yükseköğretimde İyi Uygulama için Yedi İlke" başlıklı yayın ile duyurulmuştur. Chickering ve Ehrmann (1996) ise bu ilkelerin nasıl uygulandığını gösteren bir başka çalışma yürütmüşlerdir. Çalışmada yedi ilkenin uygun ve etkili bir yolla yürütülmesi için bilgisayar, video ve iletişim teknolojilerinin kullanımına dikkat çekilmiştir. Bu ilkeler, özellikle 1990'lı yıllarda, akademisyenler ve ders tasarımcıları için önemli bir rehber haline gelmiştir (Chao, Saj, & Tessier, 2006).

Alanyazında uzaktan öğretimin kalite standartlarını belirlemeye yönelik çalışmalar incelendiğinde uzaktan öğretimin birçok öğesine değinildiği görülmektedir. Bunlardan en sıklıkla vurgulananlar; öğretim elemanı, öğretim programları ve öğrenme, ölçme ve değerlendirme, kütüphane ve öğrenme kaynakları, öğrenci destek hizmetleri, kurumsal işleyiş, ders geliştirme, öğretme ve öğrenme süreçleri, kurumun misyonu ile öğrenme hedefleri ve çıktılarıdır (Alley & Jansak, 2001; Barker, 2007; Chickering & Gamson, 1987; IDECC, 2005; NCPSA, 2010)

Bir yükseköğretim kurumunu değerlendirebilecek standartları belirleyerek ve geliştirerek, kalitenin gelişimine yardımcı olmak, sürekli bir iç ve dış değerlendirme mekanizması oluşturarak gelişmeyi teşvik etmeyi gerektirmektedir (Göksoy, 2014). Dış değerlendirme; bir yükseköğretim kurumunun veya programının kalitesinin bağımsız dış değerlendirme ve akreditasyon kuruluşları tarafından değerlendirilme sürecidir (YÖKAK Tanım ve Terimler Sözlüğü, 2019). Dolayısıyla bir yükseköğretim kurumunun veya programının, eğitim-öğretim ve araştırma faaliyetleri ile idarî hizmetlerinin kalitesinin, Yükseköğretim Kalite Kurulu (YÖKAK) tarafından yetkilendirilen dış değerlendiriciler veya Yükseköğretim Ku-

rulunca tanınan, bağımsız Kalite Değerlendirme Tescil Belgesine sahip dış değerlendirme kuruluşları tarafından yürütülen sürece verilen ortak isimdir. Kalite Güvence Sistemi ise yükseköğretim kurumlarının eğitim-öğretim, araştırma ve toplumsal katkı faaliyetleri ile idari hizmetlerinin iç ve dış kalite güvencesi ve akreditasyon süreçlerini planlama ve uygulama esaslarının tümünü kapsar. Akreditasyon; bir akreditasyon kuruluşu tarafından belirli bir alanda önceden belirlenmiş, akademik ve alana özgü standartların bir yükseköğretim programı tarafından karşılanıp karşılanmadığını ölçen değerlendirme ve dış kalite güvence sürecini ifade etmektedir. Türkiye'de akreditasyon kuruluşlarının yetkilendirme ve tanınma faaliyetlerinden Yükseköğretim Kalite Kurulu sorumludur. Ulusal akreditasyon kuruluşlarının yetkilendirilmesi ve uluslararası akreditasyon kuruluşlarının tanınması süreci YÖKAK tarafından belirlenen ilke ve ölçütler kapsamında yürütülmektedir (YÖKAK, 2019).

Açık ve uzaktan öğrenme hizmeti veren yükseköğretim kurumlarında da aynı yüz yüze eğitimde olduğu gibi kalitenin sağlanabilmesinin önemli yöntemlerinden biri, akreditasyon uygulamalarıdır (Bakioğlu ve Can, 2013). Lockee, Burton & Potter'ın (2010) da belirttiği gibi; yükseköğretimde kalite güvence çalışmalarının artmasıyla birlikte; uzaktan eğitim veren yükseköğretim kurumlarının açtığı derslerin kalitesi konusunda endişelerin ortadan kaldırılması amacıyla, uzaktan eğitimde akreditasyon konusu gündeme gelmiştir. Uzaktan eğitimde akademik değerlendirme, kalite güvence ve akreditasyon, son yıllarda dünyada yükseköğretim gündeminin ilk sıralarında yer almaktadır (YÖK, 2009). Bazı uzmanlar kalite güvence ve akreditasyon sürecinde uzaktan eğitimin örgün eğitimde kullanılan ölçütlerle değerlendirilmesi gerektiğini ileri sürerken, bazı uzmanlar ise uzaktan eğitimin farklı ölçütlerle değerlendirilmesini savunmaktadır (Stella ve Granam, 2004; Welch ve Glennie, 2005). Ülkelere göre farklılık gösteren akreditasyon ve benzeri uygulamalar 3 grupta incelenebilir (Koçdar, 2011):

1. Uzaktan eğitimi mevcut akreditasyon ve kalite güvencesi kuruluşları bünyesinde örgün eğitimle aynı biçimde akredite eden ülkeler (Örn. Avustralya, Hong Kong, Tayvan),
2. Mevcut akreditasyon ve kalite güvencesi kuruluşları bünyesinde uzaktan eğitimle ilgili ölçütlerin geliştirildiği ülkeler (Örn. İngiltere, Romanya, Avusturya),
3. Birinci ve ikinci maddelerdeki uygulamaların yanı sıra, uzaktan eğitim için ayrı bir kalite güvencesi ve akreditasyon kuruluşuna sahip ülkeler (Örn. ABD, İngiltere, Hindistan).

Açık ve uzak öğretim kurumlarını akredite eden kuruluşlar, uzaktan eğitimin kalitesini incelerken sistem yaklaşımıyla kurumsal faaliyetlerin yedi önemli alanını inceler ve temel olarak aşağıdaki sorulara yanıt aranır (CHEA, 2012):

1. Kurumsal Misyon: Kurumda uzaktan eğitim öncelikli faaliyet alanı mı?
2. Kurumsal Organizasyon Yapısı: Kurum kaliteli uzaktan eğitim sunmak için uygun şekilde yapılandırılmış mı?
3. Kurumsal Kaynaklar: Kurum, kaliteli uzaktan eğitim sunmak için yeterli bütçe ve kaynağa sahip mi?
4. Eğitim Programı ve Öğretim: Kurum, kaliteli uzaktan eğitim sunmak için uygun eğitim programı ve öğretim tasarımına sahip mi?
5. Öğretim Elemanı Desteği: Uzaktan eğitim sunan kurum yeterli insan kaynağına, tesislere ve ekipmana sahip mi?
6. Öğrenci Desteği: Öğrencilerdestek hizmetlerine, danışmanlığa, ekipmana, tesislere ve uzaktan öğrenmeyi sürdürmeyi sağlayacak materyallere sahip mi?

7. Öğrenme Çıktıları: Kurum, öğrenci başarısını ve mezun yeterliliklerini dikkate alarakuzaktan öğrenmenin kalitesini düzenli şekilde değerlendiriyor mu?

BOLOGNA SÜRECİ VE AVRUPA YÜKSEKÖĞRETİM ALANINDA KALİTE GÜVENCE STANDARTLARI VE YÖNERGELERİ

Gerek yüz yüze gerekse açık ve uzaktan öğrenme faaliyeti gösteren yükseköğretim kurumlarının eğitim kalitelerinin artan uluslararası rekabet ortamında hesap verebilir şeffaflıkta olması ve standardizasyonun sağlanması gibi gereksinimlerle Avrupa'da 1999 yılında 29 Avrupa ülkesinin yükseköğretimden sorumlu bakanları Bologna'da toplanarak Avrupa'da ortak bir yükseköğretim alanı oluşturmak için Bologna Bildirisini imzalamıştır. Bologna Sürecinin temel hedefi, 2010 yılına kadar Avrupa Yükseköğretim Alanı (AYA) oluşturmaktı. Bu çerçevede, Avrupa'nın yükseköğretimdeki rolünü ve etkinliğini geliştirmek için öğrenenlerin ve öğretim elemanlarının hareketliliğini yaygınlaştırmak, Avrupa Kredi Transfer Sistemini (AKTS) uygulamak, kolay anlaşılır ve birbirleriyle karşılaştırılabilir yükseköğretim diploma ve/ veya dereceleri oluşturmak, yükseköğretimde kalite güvencesi sistemleri ağını oluşturmak ve yaygınlaştırmak hedeflenmişti. Türkiye'nin 2001 yılında dâhil olduğu ve başlangıçta Avrupa yükseköğretim alanını oluşturmayı hedefleyen süreç, Avrupa dışındaki ülkelerin katılımı ile yaygın etkiye sahip olmuştur. (Çelik, Z.,2012). Avrupa Kalite Güvence Sisteminde Bologna Sürecini takip eden ve katkı sağlayan dört organizasyon öne çıkmaktadır. Bunlar baş harflerinden dolayı E4 olarak da isimlendirilmektedir: ENQA (European Association for Quality Assurance in Higher Education – Yükseköğretimde Avrupa Kalite Güvence Birliği); ESU (European Students' Union- Avrupa Öğrenci Birliği); EUA (European University Association– Avrupa Üniversiteleri Birliği); EURASHE (European Association of Institutions in Higher Education- Avrupa Yükseköğretim Kurumları Birliği). Avrupa Yükseköğretim Alanında Kalite Güvence Standartları ve Yönergeleri (European Standards and Guidelines for Quality Assurance in the European Higher Education Area-ESG) üye ajanslar ve E4 Grubu (ENQA, EUA, EURASHE ve ESU) ile işbirliği ve istişare içinde, ENQA tarafından hazırlanmıştır (ENQA, 2019).

Avrupa Standartları ve Yönergelerinin (ASY/ESG) ardındaki mantık, Avrupa bütünleşmesinde/entegrasyonunda yükseköğretimde ortak bir kalite güvence anlayışı sağlamaktır. Özellikle dış kalite güvence süreçleri açısından (örneğin akreditasyon bağlamında), şeffaflığın artmasına ve kurum ve kuruluşlar arasında birbirlerinin nitelik ve programlarının daha iyi tanınmasına ve karşılaştırılabilir olmasına yol açan şeffaflığın artmasına ve karşılıklı güven duyulmasına yol açmaktadır (Toprak, E., & Şakar, A. N.,2018). ASY yükseköğretimde iç ve dış kalite güvencesi için bir dizi standartlar ve yönergeler bütünüdür. ASY, kuruluşlar ve kalite güvence ajansları tarafından yükseköğretimde iç ve dış kalite güvencesi sistemlerinde referans doküman olarak kullanılmaktadır. ASY kalite için standartları ve nasıl uygulanacağını tanımlamak yerine sürekli iyileşmenin sağlanması ve öğrenme ortamlarının hayati alanlarına dikkat çekerek kurumlara rehberlik eder. Ayrıca, ASY kalite güvence ajanslarının kaydından sorumlu Avrupa Kalite Güvencesi Kayıt Ajansı (EQAR) tarafından da kullanılmaktadır. Dolayısıyla Bologna süreci temelli yükseköğretim rejiminde ASY kalite ayağını yönlendirmektedir. Öğretim şekli veya hizmetin sunum yerine bakılmaksızın AYA içerisinde sunulan tüm yükseköğretim hizmetlerinde ASY'ye başvurulur. Böylelikle ASY, ulusal, bölgesel ve uluslararası olmak üzere tüm yükseköğretim alanlarına uygulanır. ASY'nin amaçları Avrupa düzeyinde, ulusal düzeyde ve kurumsal düzeyde öğrenme ve öğretme süreçlerinde kalite güvence

sistemleri için ortak bir çerçeve oluşturmak; Avrupa yükseköğrenim alanında yükseköğrenimin kalitesinin sağlanmasına ve iyileştirilmesine olanak sağlamak; karşılıklı güveni desteklemek ve böylelikle ulusal sınırların dışında ve içerisinde hareketlilik ve tanınmayı kolaylaştırmak ve AYA içerisinde kalite güvence hakkında veri sağlamaktır (ESG,2015).

- ASY'de kalite güvencesi standartları üç bölüme ayrılmıştır:
- İç kalite güvencesi
- Dış kalite güvencesi
- Kalite güvence ajansları

Bununla birlikte, üç bölümün birbirine bağlı olduğu ve birlikte bir Avrupa kalite güvence çerçevesinin temelini oluşturduğu unutulmamalıdır. Bölüm 2'deki dış kalite güvencesi, Bölüm 1'deki iç kalite güvencesi standartlarını tanır, böylece kurumlar tarafından yürütülen iç işlerinin, yürüttükleri dış kalite güvencesiyle doğrudan ilgili olmasını sağlar. Aynı şekilde, Bölüm 3, Bölüm 2'ye atıfta bulunur. Bu nedenle, bu üç bölüm, yükseköğretim kurumlarında ve kurumlarda tamamlayıcı bir temelde çalışır ve ayrıca diğer paydaşların çerçeveye katkıda bulundukları anlayışıyla çalışır. Sonuç olarak, üç bölüm bir bütün olarak düşünülmelidir (ESG, 2015, p. 9).

Öğrenme kazanımları ASY'nin en çok odaklandığı konulardan biridir t. Gerek Avrupa Yeterlilikler Çerçevesi gerekse Ulusal Yeterlilikler Çerçeveleri, öğrenme kazanımları temeli üzerine inşa edilmiştir. Bologna Sürecinin ortaya koyduğu en önemli yenilik "öğrenme kazanımları" paradigmasıdır. Bir program mezununun bilmesi, anlaması ve yapması beklenen kazanımlara, öğrenme kazanımları/program çıktıları/mezun yeterlilikleri adı verilmektedir Öğrenme kazanımları ve öğrenci merkezli öğrenme, Bologna uygulamasının merkezindedir. Öğrenme kazanımları; Bologna Sürecinde bilgi, beceri ve yetkinlik şeklinde üç göstergeyle tanımlanmıştır. Bu üç göstergenin toplamı, yeterliliği oluşturmaktadır (Günay,2012). ENQA (2010)'a göre öğrenme kazanımları amaçlanmış, başarılmış, gerçek ve beklenen öğrenme kazanımları olmak üzere 4 ana başlıkta toplanmıştır. ASY'nin öğrenen merkezli ve öğrenme kazanımlarına dayalı bir kalite yönetimi sürecinde kilit rol oynaması ve rehberlik etmesi yükseköğretim kurumlarının sürekli iyileştirme çalıştırmalarının odağını bu noktaya kaydırmalarına sebep olmuştur.

SONUÇ

ASY'nin yükseköğretimde kalite güvencesi süreçlerine rehber olması, Bologna sürecine dahil olan Türk yükseköğretiminde de iç ve dış kalite süreçlerinde yol haritası olarak benimsenmesine yol açmıştır. YÖKAK tarafından yetkilendirilen ulusal akreditasyon kuruluşlarının/kalite ajanslarının; ulusal ve uluslararası standartlara uygun özellikle ASY kapsamındaki ilkeleri yerine getiren, güvenilir, geniş paydaş katılımına dayanan ve çıktı odaklı program akreditasyonunu temel alan kuruluşlar olması beklenmektedir. Bu kapsamda açık ve uzaktan öğrenmeye özel koşullar ile ASY tarafından çizilen çerçeveyi bir araya getiren bir kuruluş Açık ve Uzaktan Öğretim Programlarını Değerlendirme ve Akreditasyon Derneği'dir (AUDAK). Dernek 2017 yılında kurulmuş olup, henüz YÖKAK'a başvuru aşamasındadır. Açık ve uzaktan öğrenmenin değerlendirilmesinde ayrı ölçütlerin gerektiği noktasından hareket eden dernek, ASY'nin program çıktılarına dayalı akreditasyon ve kurum değerlendirmesi çatılarını bir arada ele alarak; programların teknolojik, pedagojik ve akademik yeterliliklerini inter-disipliner bir anlayışla değerlendirmeyi hedeflemektedir (AUDAK, 2019). Avrupa ve diğer uluslararası standartların dikkate alınmasıyla geliştirilen kalite ölçüt ve süreçleri, Türk yükseköğretiminin gelişimi açısından ivmelendirici bir role sahip olacaktır.

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Öğretmenlerin Uzaktan Eğitime Yönelik Tutumlarının Farklı Değişkenler Açısından İncelenmesi: Eskişehir Örneği

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Özet

Uzaktan Eğitim, bireylerin birbirinden zaman ve mekân olarak ayrı olabildiği, bilgi ve iletişim teknolojilerinin üst düzeyde kullanıldığı eğitim şeklidir denebilir. Uzaktan eğitim-öğretim yapan/yapacak kurumların, hedef kitlelerinin uzaktan eğitime yönelik tutumlarının incelenmesi hem kurumun uzaktan öğretim vizyonunun belirlenmesi hem de bu konuda yapılacak çalışmalara kaynaklık etmesi açısından büyük önem arz etmektedir. Bu araştırmada, Eskişehir il merkezinde ilk ve orta dereceli devlet okullarında görev yapan öğretmenlerin uzaktan eğitime yönelik tutumlarının, *öğrenim durumları, hizmet süreleri, cinsiyetleri,* eba kullanım süreleri gibi farklı değişkenlere göre incelenmesi amaçlanmıştır. Çalışma grubu, 2018-2019 eğitim-öğretim yılında Odunpazarı ve Tepebaşı merkez ilçelerinden tabakalı örnekleme yöntemiyle seçilmiş 367 öğretmenden oluşmaktadır. Araştırma verilerinin toplanmasında *Kışla (2005) tarafından geliştirilen "Uzaktan Eğitime Yönelik Tutum Ölçeği" kullanılmıştır.* Niceliksel verilerin karşılaştırılmasında, iki alt düzeyi olan değişkenler için t-testi, ikiden fazla alt düzeyi olan değişkenler için tek yönlü Anova kullanılmaktadır. *Çalışmanın sonucunda Eskişehir'deki öğretmenlerin uzaktan eğitime* genel olarak, hizmet yılı az olanların çok olanlara göre, üst öğrenim durumuna sahip olanların alta göre, haftalık Eba kullanım süresi fazla olanların az olanlara göre uzaktan eğitime yönelik daha olumlu tutum geliştirdiği görülmektedir.

Anahtar Kelimeler: *Uzaktan eğitim, tutum, internet destekli eğitim, öğretmenlerin tutumu, Eba kullanımı, uzaktan eğitim teknolojileri.*

GİRİŞ

Günümüzde yaşanan teknolojik gelişmelere paralel olarak sanayi toplumundan bilişim toplumuna doğru bir değişim gözlenmektedir. İçinde bulunduğumuz çağda teknolojinin gelişmesiyle beraber hayat boyu öğrenme de ihtiyaç halini almaktadır. Fidan'a (2016) göre bilgi ve iletişim teknolojilerindeki gelişmeler bilişim çağında yaşamın her alanını etkilemiş, özellikle eğitim alanında köklü değişimler yaşanmasına zemin hazırlamıştır. Bu değişimlerden biri de bilgiye erişimde yer, zaman, yaş gibi engelleri ortadan kaldırarak bireyin yaşam boyu öğrenmesine katkı sağlayan uzaktan eğitim kavramının yaygınlaşmasıdır. Horzum (2003) uzaktan eğitimin; eğitim ihtiyacının artması ve eğitim maliyetlerinin azaltılması gerekliliği ile ortaya çıkıp günümüze kadar gelen bir uygulama olduğunu belirtmektedir.

Uzaktan eğitim öğrenene kendi hızı, ilgileri ve yetenekleri ölçüsünde öğrenme imkânı sunan ve belirli şartlardan dolayı doğrudan okula gelemeyen kişilerin eğitim gereksi-

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nimlerinin karşılanmasında kullanılan bir öğretim biçimidir (Şen, Atasoy ve Aydın, 2010). En genel manada ise öğretici ve öğrenenin farklı yerlerde olduğu, istenilen zamanda öğrenme ve öğretme faaliyetlerinin bilgi ve iletişim teknolojileri aracılığıyla gerçekleştiği bir sistem olarak nitelendirilebilir (Aşkar, 2003; İşman, 2011; Moore ve Kearsley, 2011; USDLA, 2012; Yalın, 2005). Uzaktan eğitim, gerek geleneksel yöntemlerle çözülemeyen eğitim sorunlarının çözüm arayışlarından biri olarak kabul edilmesi, gerekse sağladığı olanak ve esneklikler nedeniyle yaygınlaşmaya devam ederken ortaya çıkacak problemlerin çözümünü de beraberinde getirecek biçimde gelişmektedir (Özden, 2004). Bu bağlamda uzaktan eğitimin gerekliliği ve öneminin üzerinde durulması gereken önemli bir konu olduğu düşünülmektedir. Bunların yanında Ağır, Gür ve Okçu'ya (2008) göre uzaktan eğitimin gelişmesi ve yaygınlaşması için uzaktan eğitim yöntemini kullanan, öğreticilerin ve öğrenen bireylerin bu eğitime karşı tutumlarının belirlenmesi de büyük önem arz etmektedir. Öğretmenlerin gelişen teknolojiye ayak uydurması, teknoloji okuryazarı olması, görev ve rollerindeki değişiklikleri kabullenebilmelerinde, yeni teknolojilere ve uzaktan eğitime karşı nasıl bir tutum sergiledikleri önem kazanmaktadır.

Yukarıda değinilen ifadeler bağlamında; uzaktan eğitimin etkili bir şekilde uygulanabilmesi için öncelikle öğretmenlerin bu teknolojiye karşı tutumunu belirlemek gerektiği düşünülmektedir. Bu çalışma, öğretmenlerin uzaktan eğitimin etkililiği konusundaki düşüncelerini belirlemek, uzaktan eğitime karşı nasıl bir tutum sergilediklerini ölçmek amacıyla yapılmıştır. Milli Eğitim Bakanlığı tarafından son yıllarda ülkemizde uzaktan eğitim uygulamalarına, öğretmenler de dahil edilmiştir. Microsoft Öğretmen Eğitim Akademisi adıyla bir uygulama başlatılmış ve öğretmenlerin eğitimde bilgisayar kullanmalarına destek olacak programı uzaktan eğitim yoluyla vermeyi hedeflemiştir (Okçu, Ağır ve Gür, 2008). Bu çalışmanın temel problemini, Eskişehir il merkezindeki devlet okullarında görev yapmakta olan öğretmenlerin uzaktan eğitime yönelik tutumları farklı değişkenler (cinsiyet, hizmet yılı, öğrenim durumları, eba kullanım süreleri ve okul türleri) açısından nasıl değişmektedir? sorusu oluşturmaktadır.

YÖNTEM

Araştırma nicel araştırma yöntemlerinden kesitsel tarama modelinde yürütülmüştür (Büyüköztürk, Kılıç-Çakmak, Akgün, Karadeniz ve Demirel, 2012)

Çalışma Grubu, Veri Toplama Araçları ve Veri Analizi

Bu araştırmanın evrenini Eskişehir il merkezindeki devlet okullarında 2018-2019 eğitim öğretim yılında görev yapan öğretmenler (N=8195), örneklemini ise Odunpazarı ve Tepebaşı ilçelerinden tabakalı örnekleme yoluyla seçilen ve örneklemin evreni temsil gücü hesaplanarak belirlenen yeterli sayıda öğretmen (n=367) oluşturmaktadır. Cresswell (2008) anket çalışmalarında 360 ve üzeri sayıda bireyden toplanan verinin evreni temsil ettiğini belirtmektedir. Bu çalışmada Kışla (2005) tarafından geliştirilen "Uzaktan Eğitime Yönelik Tutum Ölçeği" kullanılmaktadır. Elde edilen verileri değerlendirilirken tanımlayıcı istatistiksel metotları (Sayı, Yüzde, Ortalama) kullanılmıştır. Niceliksel verilerin karşılaştırılmasında iki grup arasındaki farkı t-testi, ikiden fazla grup durumunda parametrelerin gruplar arası karşılaştırmalarında Tek yönlü (One way) Anova testi kullanılmaktadır. Elde edilen bulgular %95 güven aralığında, %5 anlamlılık düzeyinde değerlendirilmektedir.

BULGULAR

Değişkenler	Gruplar	Frekans	Yüzde
Cinsiyet	Kadın	214	58,3
	Erkek	153	41,7
	Toplam	367	100

Tablo 1. Öğretmenlerin Cinsiyetlerine Göre Dağılım Tablosu

Çalışmaya katılan öğretmenlerin % 58'inin kadın % 42'sinin erkeklerden oluştuğu görülmektedir.

Değişkenler	Gruplar	Frekans	Yüzde
Hizmet Süreleri	0-5 Yıl	44	12,0
	5-10 Yıl	71	19,3
	10-15 Yıl	79	21,5
	15-20 Yıl	76	20,7
	20 ve üzeri	97	26,4
	Toplam	367	100

Tablo 2. Öğretmenlerin Hizmet Sürelerine Göre Dağılım Tablosu

Çalışmaya katılan öğretmenlerin hizmet sürelerine göre en fazla katılım gösteren grubun 20 yıl ve üzeri hizmet yılına sahip öğretmenler olduğu görülmektedir.

Değişkenler	Gruplar	Frekans	Yüzde
Öğrenim Durumları	Ön lisans	1	,3
	Lisans	304	82,8
	Yüksek Lisans	59	16,1
	Doktora	3	,8
	Toplam	367	100

Tablo 3. Öğretmenlerin Öğrenim Durumlarına Göre Dağılım Tablosu

Çalışmaya katılan öğretmenlerin öğrenim durumlarına göre en fazla katılım gösteren grubun lisans mezunu öğretmenlerden oluştuğu görülmektedir.

Değişkenler	Gruplar	Frekans	Yüzde
Okul Türü	İlkokul	86	23,4
	Ortaokul	205	55,9
	Lise	76	20,7
	Toplam	367	100

Tablo 4. Öğretmenlerin Görev Yaptıkları Okul Türüne Göre Dağılım Tablosu

Çalışmaya katılan öğretmenlerin % 56'sının ortaokulda çalışan öğretmenlerden oluştuğu ve en fazla katılımın ortaokullarda görev yapan öğretmenlerden olduğu görülmektedir.

Değişkenler	Gruplar	Frekans	Yüzde
Eba Kullanımı	0-3 saat	234	63,8
	4-6 saat	64	17,7
	7-9 saat	33	9,0
	10-12 saat	22	6,0
	12 ve üzeri	13	3,5
	Toplam	367	100

Tablo 5. Öğretmenlerin Haftalık Eba Kullanım Sürelerine Göre Dağılım Tablosu

Çalışmaya katılan öğretmenlerin % 64'ünün haftalık Eba kullanım sürelerinin 0-3 saatle sınırlı olduğu görülmektedir.

Çalışma Grubunun Uzaktan Eğitim Tutumları, Cinsiyete Göre Değişmekte midir?

Değişkenler	Gruplar	Ort	T	P
M1	Kadın	2,75	,159	,004
	Erkek	2,63		
M21	Kadın	3,59		
	Erkek	3,34	1,463	,000

Tablo 6. Çalışmaya Katılan Öğretmenlerin Cinsiyete Göre t- testi Tablosu

Çalışma grubunun uzaktan eğitime yönelik tutumlarının cinsiyetlerine göre anlamlı bir fark olup olmadığı bağımsız örneklem t- testi aracılığıyla test edilmiştir. Ölçeğin 1. maddesi (t=0,159 ve P=0,004) ve 21. Maddesinde (t=1,463 ve p=0,000) anlamlı bir farklılık görülmüştür. Ölçeğin 21. maddesine göre *uzaktan eğitimde görev alanların bilgi ve beceri açısından yetersiz* olduklarını erkeklerin kadınlardan daha fazla düşündükleri görülmektedir. Ölçeğin 1. maddesine göre ise erkeklerin *uzaktan eğitim almaya* kadınlardan daha istekli oldukları görülmektedir.

Grubun Uzaktan Eğitim Tutumları, Hizmet Yıllarına Göre Farklılaşmakta mıdır?

Değişkenler	Gruplar	Ort	F	P
M2	0-5 yıl	2,11	3,565	,007
	5-10 yıl	2,50		
	10-15 yıl	2,68		
	15-20 yıl	2,80		
	20 ve üzeri	2,88		

Tablo 7. Çalışmaya Katılan Öğretmenlerin Hizmet Sürelerine Göre Anova tablosu

Çalışma grubunun uzaktan eğitime yönelik tutumlarının hizmet yıllarına göre anlamlı bir farklılık gösterip göstermediği Anova testi ile incelenmiştir. Ölçeğin 2. maddesinde (F=3,565 ve P=0.007) anlamlı bir fark bulunmuş ve *Uzaktan eğitimin kişinin öğrenme kapasitesini geliştirmesiyle ilgili* hizmet süresi azaldıkça öğretmenlerin olumlu görüş sahibi oldukları belirlenmiştir.

Grubun Uzaktan Eğitim Tutumları, Öğrenim Durumlarına Göre değişmekte midir?

Değişkenler	*Gruplar*	*Ort*	*F*	*P*
M3	Lisans Yüksek lisans Doktora	2,29 2,81 3,33	5,062	,002

Tablo 8. Çalışmaya Katılan Öğretmenlerin Öğrenim Durumlarına Göre Anova tablosu

Çalışma grubunun uzaktan eğitime yönelik tutumlarının öğrenim durumlarına göre anlamlı bir farklılık gösterip göstermediği Anova testi ile incelenmiş ve ölçeğin 3. maddesinde (F=5,062 ve P=0,002) anlamlı bir farklılık bulunmuştur. Öğretmenlerin öğrenim durumu arttıkça *çoğu dersin uzaktan eğitimle yapılabileceğine* ilişkin olumlu tutum sergiledikleri görülmüştür.

Grubun Uzaktan Eğitim Tutumları, Eba Kullanım Sürelerine Göre Değişmekte midir?

Değişkenler	*Gruplar*	*Ort*	*F*	*P*
M3	0-3 saat 4-6 saat 7-9 saat 10-12 saat 12 üzeri	2,24 2,38 3,00 3,04 3,12	5,075	,001
M9	0-3 saat 4-6 saat 7-9 saat 10-12 saat 12 üzeri	3,06 2,95 2,21 2,18 2,05	4,536	,001

Tablo 9. Çalışmaya Katılan Öğretmenlerin Eba Kullanım Sürelerine Göre Anova tablosu

Çalışma grubunun uzaktan eğitime yönelik tutumlarının haftalık Eba kullanım sürelerine göre anlamlı bir farklılık gösterip göstermediği Anova testi ile incelenmiş ve ölçeğin 3. maddesi (F=5,075 ve P=0,001) ve ölçeğin 9. maddesinde (F=4,536 ve P=0,001) anlamlı bir farklılık bulunmuştur. Buna göre öğretmenlerin haftalık Eba kullanım süreleri arttıkça 3. maddede *çoğu dersin uzaktan eğitimle yapılabileceğine* ilişkin olumlu tutum sergiledikleri ve 9. maddede *uzaktan eğitimin kalitesini arttırdığını* düşündükleri görülmektedir.

Grubun Uzaktan Eğitim Tutumları, Çalıştıkları Kurumlara göre değişmekte midir?

Değişkenler	*Gruplar*	*Ort*	*F*	*P*
M1	İlkokul Ortaokul Lise	2,28 2,75 2,74	4,907	,008
M3	İlkokul Ortaokul Lise	2,02 2,47 2,58	6,582	,002

Tablo 10. Çalışmaya Katılan Öğretmenlerin Çalıştıkları Kurum Türlerine Göre Anova tablosu

Çalışma grubunun uzaktan eğitime yönelik tutumları arasında çalıştıkları kurum türlerine göre anlamlı bir farklılık olup olmadığı Anova testi ile incelenmiş ve ölçeğin 1. maddesi (F=4,907 ve P=0,008) ve ölçeğin 3. maddesinde (F=6,582 ve P=0,002) anlamlı farklılık bulunmuştur. Ölçeğin 1. maddesine göre ilkokulda görev yapan öğretmenlerin *uzaktan eğitim alma* isteklerinin diğerlerine göre fazla olduğu görülmekte, ölçeğin 3. maddesine göre lisede görev yapan öğretmenlerin *çoğu dersin uzaktan eğitimle yapılabileceğine* ilişkin tutumlarının diğerlerine göre olumlu olduğu görülmektedir.

TARTIŞMA VE SONUÇ

Hızla değişen dünyada öğretmenlerin uzaktan eğitimle tanıştırılması ve onu etkin bir şekilde kullanmaları önem taşımaktadır. (Okçu, Ağır ve Gür, 2008). Bu çalışmada Eskişehir ilindeki öğretmenlerin uzak eğitime yönelik tutumlarının farklı değişkenler açısından incelenmesi amaçlanmıştır. Öğretmenlerin ölçekte bulunan; uzaktan eğitim alma, uzaktan eğitimin eğitim kalitesini artırdığı, derslerin uzaktan eğitimle yapılabileceği, uzaktan eğitim veren kurum personellerinin bilgi ve beceri açısından yeterliliği, uzaktan eğitimin kişinin kapasitesini geliştirdiği maddelerinde anlamlı farklılıklara ulaşılmıştır. Bu bağlamda genel olarak, hizmet yılı az olanların çok olanlara göre, üst öğrenim durumuna sahip olanların alta göre, haftalık Eba kullanım süresi fazla olanların az olanlara göre yukarıda verilen ölçek maddelerinde uzaktan eğitime yönelik daha olumlu tutum geliştirdiği görülmektedir. İlkokulda görev yapan öğretmenlerin uzaktan eğitim alma isteklerinin diğer kurumlarda çalışan meslektaşlarına göre daha fazla olduğu saptanmaktadır. Ayrıca çalışma grubundaki kadınlar erkeklere göre uzaktan eğitimde görev alan personelin bilgi beceri açısından daha yeterli olduğunu düşündüğü görülmektedir.

Uzaktan eğitim, yaşam boyu öğrenmeyi destekleyen geleceğin eğitim şeklidir (Ağır, 2007). Bu bağlamda araştırma kapsamında öğretmenlerin uzaktan eğitime yönelik tutumlarının farklı değişkenlere göre incelenmesine odaklanılmıştır. Elde edilen verilere göre öğretmenlerimizin uzaktan eğitim ve uzaktan eğitim teknolojilerine yönelik olumsuz düşüncelerini ortadan kaldırmak, güncel teknolojileri tanımalarını ve kullanmalarını sağlamak için tanıtıcı etkinlikler düzenlenmesi, öğretmenlerin bu teknolojiler hakkında bilgilendirilmesinin sağlanması önerilmektedir. İlaveten bu çalışma sadece öğretmenlerle ilgilidir ve Eskişehir ili devlet okullarında görev yapan öğretmenlerle çalışılmıştır. Benzer çalışmaların daha geniş kitlelere veya farklı gruplara uygulanması önerilmektedir.

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Açık ve Uzaktan Öğrenmenin Nitelikleri

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Özet

Eğitim, "iyi bir yaşam"ı tanımlayan diğer şeylerle birlikte, temel bir insan hakkıdır. Açık ve uzaktan öğrenme, teknolojinin baş döndüren hızda ilerlemesiyle geleneksel eğitimi tahtından indirmeye hazırlanmaktadır. İnsan doğası gereği evrendeki her şeyi bilmeyi arzular ve bunun için çaba gösterir. Bilgiye ulaşmak için tek yol olarak görülen geleneksel eğitimin hüküm sürdüğü okulların, bilgi ve iletişim teknolojilerinin tüm toplumsal hayatı kapsayacak şekilde gelişmesinden sonra etkisini kaybetmeye başladığı söylenebilir. Bunun somut örneği olarak da yüksek öğretim kurumlarındaki boş kontenjanlar ve açık ve uzaktan öğrenme ortamlarına devam eden kişi sayısındaki artış gösterilebilir. Teknolojinin uzakları yakın etmesiyle, açık ve uzaktan öğrenmenin kısıtlılıkları azalmakta ve nitelikleri öne çıkmaktadır Alanyazına dayalı bir derleme çalışması olarak tasarlanan bu çalışmada açık ve uzaktan öğrenmenin nitelikleri, alanyazından yola çıkılarak post modern bir bakış açısıyla tartışılmıştır. ve yeni kavramlara yer verilmeye çalışılmıştır. Sonuç olarak varoluş nedeni insanın doğasında var olan öğrenme isteğiyle, yapısı özgürlüğe dayanan açık ve uzaktan öğrenmenin özünde eşitlik olduğu vurgulanmıştır.

Anahtar Kelimeler: *Açık ve uzaktan öğrenme, nitelik, özgürlük, eşitlik, post modern.*

GİRİŞ

2017 üniversite yerleştirme sonuçları açıklandığında, üniversitelerde 350 bine yakın kontenjanın boş kalması (Ntv, 2017) kafalarda birçok soru işaretini beraberinde getirmiştir. 2016'daki 60 bin boş kontenjandan sonra (Habertürk, 2016) bahsi geçen boş kontenjan sayılarında bu derece yüksek bir artışı belki de çoğu kimse beklemiyordu. Tabii ki bu sonuçlar ayrı bir araştırma konusu olmakla birlikte yükseköğretimde son yıllarda had safhaya ulaşan nicelik artışının aynı oranda niteliğe yansıyıp yansımadığı ciddi biçimde tartışılmaktadır (Bozan, 2015). Yükseköğretim kurumlarının, toplumun kendisine göstermiş olduğu bu sarı karttan sonra kendilerini ciddi biçimde sorgulamasını gerekli kılmaktadır.

Son 10 yıldaki üniversite sayısında yaşanan hızlı artış, yükseköğretimde nicelik mi? yoksa nitelik mi? tartışmasını yeniden alevlendirmiştir. On yıllarca üniversite kapıları önünde bekleyen genç nüfus neden yeterli kontenjan sağlandığında üniversiteye gitmemeyi tercih etmiştir? Bu soruya ekonomik, siyasi, toplumsal cevaplar verilebilir. Yükseköğretimdeki nicelik-nitelik tartışması süredursun bilimsel devrimden günümüze gelinceye kadar teknoloji her yanımızı sarmış, bilginin ve sermayenin serbest dolaşımı insanlık tarihi boyunca öngörülememiş teknolojik gelişmelere yol açmıştır (Harari, 2015). Geli-

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şen teknoloji, insanlığın daha mutlu olmasına çözüm sağlayamasa da insan ırkının temel ihtiyaçlarından olan eğitimin sağlanması ve yaygınlaşması için sınırsız imkanlar ortaya çıkmasına aracılık etmektedir. Bu imkanların belki de en başlıca ve temel olanı açık ve uzaktan öğrenme sistemidir. Açık ve uzaktan öğrenme sistemleri, gelişen teknolojinin desteğini arkasına alarak, her geçen gün kısıtlılıklarını azaltmaktadır (Bates,2016).

YÖNTEM

Bu çalışma alanyazına dayalı bir derleme çalışmasıdır. Alanyazın incelenerek yorumlanmış, konuyla ilgili yeni kavramlar tartışılmaya çalışılmıştır. Derleme çalışmalarında amaç diğer araştırmacıların yaklaşımlarının ve fikirlerinin özetlenmesi ve yeni fikirlerle bir sentez oluşturulmasıdır (Herdman, 2006).

BULGULAR

Teknolojinin uzakları yakın etmesiyle, açık ve uzaktan öğrenmenin kısıtlılıkları azalmakta ve nitelikleri öne çıkmaktadır. Nitelik kelimesinin karşılığı sözlükte "bir şeyin iyi ya da kötü oluşu; bir şeyi o şey yapan varoluş biçimi, bir şeyin nasıl olduğunu belirten özellik, kalite" (Büyük Türkçe Sözlük, 2019) şeklinde yer almaktadır. Buradan yola çıkarak çalışmada açık ve uzaktan öğrenmenin nitelikleri olarak varoluş nedeni, yapısı ve özü tartışılmaktadır.

Varoluş Nedeni

Tüm insanlar doğası gereği bilmeyi istemektedir (Aristotales, 1968). 16. yy'da yaşamış ve bilim uğruna yaptığı bir deney sırasında hastalanarak hayatını kaybetmiş İngiliz filozof Francis Bacon'ın "Bilgi güçtür" sözü de insan doğasının bilmeyi neden arzuladığı hakkında fikir vermektedir. İnsan ırkındaki bu fıtratında var olan güçlü ve kudretli olma arzusu insanın her şeyi duyma, görme, dilediğini gerçekleştirme, kısacası her şeyi bilme tutkusundan kaynaklandığı düşünülebilir.

Bilimsel devrimden bu yana yaklaşık 500 yılda insanoğlu bilimsel araştırmaya kaynak ayırarak muhteşem yeni güçler elde etmiştir. İnsanlar bu sürede daha çok bilgiye hâkim oldukça daha fazla beceriye sahip olacaklarını keşfetmiş (Harari, 2015), devletler ve zenginler bilime daha fazla kaynak ayırarak şu anda yaşadığımız teknolojik mucizeleri mümkün kılmıştır. Bilimsel devrimin geri beslenme döngüsünün üç öğesi bulunmaktadır. Bunlar araştırma, güç ve kaynak olarak belirtilmiştir. Günümüzde bu üçlü bilim, siyaset ve ekonomi arasındaki ilişkiye benzetilebilir. Bilim, gelişme kaydetmek için araştırmadan fazlasına ihtiyaç duymaktadır. Fazlasından kasıt ise siyaset ve ekonominin karşılıklı olarak birbirini desteklemesidir. Siyasi ve ekonomik varlıklar bilim için gerekli olan kaynak yani sermayeyi yaratır. Bunun sonucunda da bilimsel araştırma yeni kaynaklar elde etmek için yeni güçleri yaratır.

Modern İktisadın kurucularından kabul edilen İskoç iktisatçı Adam Smith bilimsel ilerlemenin temelini oluşturan sermaye için şu iddiayı öne sürdü: Bir girişimci ailesini beslemek için gerektiğinden daha fazla kâr ediyorsa, bu fazla miktarı daha fazla çalışanı işe almak için kullanmalıdır. Böylelikle kârdaki artış tüm toplumun refah sahibi olmasına yol açacaktır (Smith, 2009). Böylelikle daha çok bilimsel ilerleme için gerekli kaynak yani para bulunmuş oluyordu. Bu döngüde araştırmayı yapacak bilim insanlarına ihti-

yaç bulunmaktaydı. Bunlardan bir tanesi de Francis Bacon'dı. Bacon, bilim insanlarına iyi maaşlar ödenerek halka açık dersler verilmesini savunuyordu, ona göre buluşların toplum tarafından bilinmesi buluşun kendisi kadar önemliydi (Postman, 2013). Açık ve uzaktan öğrenmenin başlangıcının tarihsel olarak 19. yüzyıla kadar gittiği kabul edilse de Bacon'ın bu görüşünün eğitimde açıklık ilkesinin temellerini oluşturduğu düşünülebilir. Ayrıca konuya bakış açısının ne kadar önemli olduğunu da unutmamak gerekir.

Yapısı

Açık ve uzaktan öğrenme ortamları hedef kitlenin tümünün ihtiyaçlarına uygun bir şekilde yapılandırılması gerekmektedir (Eby, 2013). Bunu sağlamak için açık ve uzaktan öğrenme ortamlarının bazı yapısal özelliklere sahip olması gerektiği düşünülmektedir: Özgürlük, Verimlilik, Esneklik

Bu yapısal özelliklerinde başında özgürlük kavramı gelmektedir. 1960'lı ve 70'li yıllarda uzaktan eğitim, devletin finanse etmesi gereken bir şey olarak görülüyordu. Özgürlükçü düşünce, ulus-devletin sosyal refah sağlayıcı olduğu düşüncesini zayıflatmıştır (Rumble, 2007). Amerika Birleşik Devletleri iki yüzyıl önce kilisenin eğitimde tekel olma durumunu ortadan kaldırmada dünyaya öncülük etmiştir. Bugünlerde ise okul tekelini yıkmanın gerekliliği düşünülmektedir. Okul, eğitim için ayrılan parayı ve insan gücünü kendisi adına sahiplenir ve eğitimciliğe aday diğer kurumları sekteye uğratır (Illich, 2012). Bu da kamu kaynaklarının verimsiz kullanılmasına sebebiyet vermektedir.

Açık ve uzaktan öğrenmenin özgürlükçü yapısından bahsederken Louis Althusser'in "İdeoloji ve Devletin İdeolojik Aygıtları" kitabını hatırlamak gerekebilir. Ona göre devlet, çalışan sınıfı baskı ve kontrol altında tutmak için burjuvazinin kurduğu bir baskı makinesidir ve toplum üzerinde zor kullanma hakkına sahip bir aygıttır. Devletin ideolojik aygıtlarından bir tanesi okuldur (Althusser,1971). Okul sisteminde (özel veya devlete ait olsun) her aktivite planlı ve kontrollüdür. Bireyin ihtiyaçlarına göre seçme hakkı bulunmamaktadır. Eby (2013), geleneksel eğitimin otoritenin karar verdiği doğrular yoluyla bireyi şekillendirme ve köleleştirme süreci olduğunu savunarak geleneksel eğitimin bireyi aynılaştırma yoluna gittiğini belirtmektedir.

Eğitim bir kişiyi iyi bir yurttaş, dini bütün bir insan hatta iyi bir insan yapmak üzere tasarlanmamaktadır. Bu tür hedefler dogmatik, ne olunması gerektiğine dair bir ideal dayatma olarak görülmektedir (Spring, 1975). Bu ideal, kontrolü kolaylaştırıp İtaatkâr bir toplumun meyda gelmesini mümkün kılar. Özgür olma isteği insan doğasının bir parçasıdır. Özgürlük kelimesine bakıldığında güncel Türkçe sözlükte, ortaya çıkan ifade " Her türlü dış etkiden bağımsız olarak insanın kendi iradesine, kendi düşüncesine dayanarak karar vermesi durumu" (TDK, 2017) olsa da asıl özgürlük, özgürce düşünüp bunu ifade edebilmektir. Özgür düşünmek için ise aklın ve ruhun özgürce beslenmesi gerekmektedir. Açık ve uzaktan öğrenme de işte tam bu noktada devreye girer, bireye sağladığı öğrenme özgürlüğü onun özgürce düşünmesini sağlayacak zemini hazırladığı düşünülmektedir.

Modern devlette, yasalar bireyde içselleştirilmiştir, böylece "özgürlük" sadece kişiye inanması öğretilmiş olan yasalara uyma özgürlüğü anlamına gelmektedir. Devlet okullarında yasanın içselleştirilmesi yoluyla itaatsizliğe son vermek on dokuzuncu yüzyıl okul müdürlerinin hayali olarak düşünülmekteydi (Stirner, 1971). Stirner 'özgür insan" ile "eğitilmiş

insan" arasında bir ayrım yapmaktadır. Eğitilmiş insan için bilgi, karakterin biçimlendirilmesinde kullanılmaktadır; özgür insan için bilgi, seçimin kolaylaştırılmasında kullanılmaktadır. Özgür insanlar aralıksız olarak kendilerini özgürleştirmeye devam edecekler; ancak, bunun tersine birisi onları sadece eğitirse, kendilerini her zaman en eğitimli ve en kibar şekilde koşullara uyduracaklar ve kölece sürünen ruhlara dönüşeceklerdir.

Açık ve uzaktan öğrenme ortamları özgürlükçü yapısıyla, her şeyden önce bireye seçim hakkı sunar. İnsanın seçebileceği tek bir okul, tek bir eğitim sistemi varsa burada özgürlükten bahsetmek mümkün gözükmemektedir. Kendini özgür hissetmeyen bireyin başarılı olma ihtimali de azalmaktadır. Tek bir seçeneğin olduğu yerde yapabilecek tek şey vazgeçmektir. Günümüzde karşılaştığımız kişilerin okullarını bırakıp kendi yollarına gitmesi de bunun bir örneğidir. Seçimin olabilmesi için en az iki seçeneğin olması zorunludur. Yaşadığınız yerde iki okul varsa istediğine gidebilirsiniz. Bu açıdan bakıldığında açık ve uzaktan öğrenme ortamlarının sunduğu sınırsız seçenek, öğrenmede sınırsız özgürlüğü de beraberinde getirmektedir (Reigeluth, (1989).

Özü

Açık ve uzaktan öğrenmenin özünde fırsat eşitliği vardır. Dönmez ve diğerlerine göre (2010) bireyler doğarken yasalar önünde eşit olarak doğarlar. Fakat birçok yönden eşitsizlik içinde yaşarlar. Bu eşitsizlikler ailenin sosyo-ekonomik durumu, eğitim düzeyi ve bölgeler arası farklılıklardan kaynaklanabilmektedir. "Fırsat eşitliği" kavramı, "herhangi bir alandaki bir girişime, bir seçmeye vb. katılanlar arasında eşit koşulların ve olanakların bulunması durumu" olarak tanımlanır. Eğitimde fırsat eşitliği ise; İnsan Hakları Evrensel Bildirgesinde "Her bireyin eğitim görme hakkı vardır" olarak belirtilmiştir. Uluslararası Çocuk Hakları Sözleşmesi, Uluslararası Ekonomik, Sosyal ve Kültürel Haklar Sözleşmesi ve Avrupa İnsan Hakları Sözleşmesi de eğitim hakkını güvence altına alır. Eğitim hakkı ve fırsat eşitliğinden bahsedebilmek için toplumun sağlıklı bir yapıda olması gerekmektedir. Sağlıksız bir toplumda fırsat eşitliğinden bahsedilemez. Toplum düzeni hakkında yazılmış en önemli eserlerden «Toplum Sözleşmesi"nde Rousseau (2009) şöyle demiştir: " Her bireyin kişiliğini, zenginliğini savunan ve koruyan ve o düzen sayesinde, her bir kişinin, herkesle bütünleşirken yine de yalnızca kendi kendisine itaat ettiği ve daha önce olduğu kadar özgür kaldığı bir ortaklık biçimi bulmak". İçinde adalet ve fırsat eşitliği bulunmayan bir toplum sözleşmesinin de sağlıklı yürüyeceğini düşünmek zordur. Toplumu oluşturan bireyler ihtiyaç duyduğu eğitime adil ve eşit bir şekilde erişmez ise, o toplumda huzur bulunmaz hale gelebilir. Rawls (2005) şu önemli soruyu sormuştur: "Toplumlar ne tür bir eşitliği ya da neyin eşitliğini hedeflemeliler?" Bireysel hayatlar kısmen de olsa bireysel kararların sonucuysa ve bireysel sorumluluk ahlaki bir önem taşıyorsa toplumsal adalet, temelinde eşitlik gerektirir ki bu da bizi fırsat eşitliği kavramına götürür (Ferreira, Gignoux, 2010).

Fırsat eşitliği sorunu günümüzde de devam etmektedir. Freeman (2004) yaptığı araştırmaya göre Amerika Birleşik Devletlerinde kadın ve erkek arasındaki eğitim fırsatları eşitsizliği oldukça azalmış olsa da devam etmektedir. Ferreira ve Gignoux (2010) hazırladıkları Dünya Bankası Raporunda Türkiye'deki eğitimde fırsat eşitsizliğinin doğasını ve büyüklüğünü araştırmışlardır. Rapora göre coğrafi ve gelir dağılımı ve cinsiyete göre eğitime erişimde fırsat eşitsizlikleri bulunmaktadır. Raporda bahsi geçen bir husus bizim için önemlidir: fırsat eşitsizliğini açıklayan paylardan dörtte üçü ila beşte dördü arası, dayanıklı elektronik mallar, kitap ve diğer kültürel varlıkların mülkiyetinin göstergelerini içeren aile alt yapısı değişkenleridir. Bu değişkenler açık ve uzaktan öğrenme ortamlarına erişim için temel fiziksel altyapıyı oluşturmaktadır.

Fiziksel altyapı açısından önemli bir ilerleme gösterilmiş olsa da Türk eğitim sisteminin finansman kaynakları belli derecede eşitsizlik göstermekte, ve eğitimde fırsat eşitsizliğinin artmasına neden olmaktadır. Eldeki güncel verilere göre, Türkiye eğitime ortalama bir OECD ülkesi ile benzer seviyede (yüzde 5,7 GSYİH) yatırım yapmaktadır, ancak özel katkıların payı ortalamanın çok üstündedir: Türk ailelerinin katkısı ilk ve orta öğrenime yapılan toplam kamu ve özel harcamaların yaklaşık yüzde 36sını oluşturmaktadır. Eğitim alanında yapılan bu harcamanın değişik gelir seviyelerine dağılımı yüksek derecede eşitsizlik göstermektedir (Dünya Bankası, 2011)

Adalet kavramının ilkelerinden fırsat eşitliğinin temelinde, iş birliği sisteminin adalet içindeki rolünü garanti altına alabilmek yatmaktadır (Rawls, 2005). Bu yüzden eğitimde fırsat eşitliğini sağlamak için kurumların iş birliği içinde çalışması elzem görülmektedir. Birçokları uzaktan öğrenmeyi, yüksek öğrenimde değişim ve reformun hızını arttırmak için heyecan verici bir fırsat olarak görmektedir.Sosyal devlet, İster K-12, ister yüksek öğrenim düzeyinde olsun, açık ve uzaktan öğrenme ortamlarına erişim için temel fiziksel altyapıya erişebilmeyi temel hak ve özgürlükler kapsamında ele alarak, tüm vatandaşlarının erişimine açacak imkanları sunmakla yükümlüdür.

TARTIŞMA VE SONUÇ

Açık ve uzaktan öğrenmenin nitelikleri varoluş nedeni, yapısı ve özü ile geleceğin teknolojisini kucaklamaya hazır olduğu düşünülmektedir. Günümüz teknolojisi de akıllıca kullanıldığında ideal öğrenme ortamı rahatlıkla oluşturulabilir. Emil'e göre (2001), teknolojiyi akıllıca kullanmak demek, öğrencileri, öğretim üyelerini açık ve uzaktan öğrenmede kullanılabilecek içeriği düşünerek doğru tercihlerde bulunmak demektir. Teknoloji sadece var olduğu için kullanılması gereken bir şey değildir. Teknoloji öğretim yöntemlerini desteklemeli ve zoru kolay yapabilmelidir. Sanal geziler, simülasyonlar, güvenli laboratuvarlar açık ve uzaktan öğrenme ortamlarını kalitesine katkıda bulunabilmektedir.

Açık ve uzaktan öğrenme süreçlerinin kalitesini belli eden bir diğer gösterge de değişime ayak uydurma hızlarıdır. Süreçler devam ederken, yeni çıkacak bir teknoloji, verimliliği artıracak bir karar hemen devreye alınabilmelidir. Bu tür değişiklere geç tepki vermek sürecin kalite değerini düşürebilir (Keegan, 1998; Keegan, 2000)

Bununla beraber, Açık ve uzaktan öğrenme sektörde payını artırdıkça bu da küresel eğitim pazarındaki piyasa değerini artıracaktır. Piyasadaki pasta arttıkça, gelir ve bununla beraber rekabet de artacaktır. Kapitalist piyasa koşullarında hoşumuza gitsin veya gitmesin gelirlerin artması kaliteyi de olumlu yönde etkileyecektir. Kalite güvencesi eşiğinin geçilmesiyle de açık ve uzaktan öğrenme sistemleri varoluş nedeni, esnek yapısı ve özü ile bugüne ve yarına hükmetmeye hazırdır (Davis, 2010;)

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E-Öğrenmeye Yönelik Tutum Tespiti: Bir Devlet Üniversitesi Konteksti

Aslıhan BAĞCI[1]

Özet

Günümüzde giderek yaygınlaşan e-öğrenme ortamları artık yüksek öğretim kurumlarında da zorunlu hale gelmektedir. Öğrencilerin tutumlarının başarıları üzerinde ciddi bir etkisi olduğu bilinmektedir; fakat ne yazık ki e-öğrenme ile ilgili yapılan tutum çalışmaları genellikle zaten uzaktan eğitime başlamış bireylerle yapılmakta, katılımcıların bu eğitimlerle tanışmadan önceki tutumunun tespit edilmesi göz ardı edilmektedir. Bu çalışmada, devlete ait bir yüksek öğretim kurumunda hazırlık yılında okuyan ve dolayısıyla henüz online derslerle tanışmamış öğrencilerin e-öğrenmeye karşı tutumlarını ortaya çıkarmak amaçlanmıştır. Bu kurumdaki 55 katılımcıdan e-öğrenmeye yönelik tutum ölçeği ile veri toplanmış ve bu veriler nicel betimsel yöntem kullanarak analiz edilmiştir. Araştırma sonuçları göstermiştir ki, katılımcıların çoğu uzaktan eğitim konusunda yeterli bilgilendirmeye sahip olmadığı için olumlu ya da olumsuz bir kanı belirtmemiş, nötr kalmıştır. Bulgular çeşitli tablo ve grafiklerle raporlanmıştır.

Anahtar Sözcükler: *Uzaktan eğitim, E-öğrenme, Tutum, Yükseköğretim*

GİRİŞ

Uzaktan eğitim dalının içerdiği bir kavram olan e-öğrenme, elektronik-öğrenmenin kısaltılmasından gelmektedir. E-öğrenme, bilgi ve iletişim teknolojileri kullanılarak yapılan, zaman ve mekân kısıtının var olmadığı öğrenme ortamları sunabilen bir öğretme ve öğrenme yöntemidir (Welsh, Wanberg, Brown & Simmering, 2003; İşman, Barkan & Demiray, 2003; Khan, 2005; Gülbahar, 2009). Günümüzde, özellikle bilgisayar ve internet teknolojilerinin de gelişmesiyle, e-öğrenmenin kullanımı da oldukça yaygınlaşmıştır ve bu ortamlarda verilen eğitimlerin daha verimli olabilmesi için e-öğrenme ortamlarının öğrenen özelliklerine uygun olarak tasarlanması konusu önem kazanmıştır (Tallent-Runnels, Thomas, Lan, Cooper, Ahern, Shaw, ve Liu, 2006). Daha iyi tasarımlara ulaşabilmek için öğrencilerin, e-öğrenmeye hazır bulunuşlukları, e-öğrenmeye yönelik tutumları, öğrenme türleri veya teknoloji kullanım becerileri gibi birçok faktör araştırma konusu olmuştur.

Öğrencilerin tutumlarının, e-öğrenme sürecinin sonunda belirlenmesindense öncesinde belirlenmesinin, dersin tasarım aşaması açısından daha faydalı olacağı bilinmektedir (Federico, 2000; Dikbaş, 2006; Ho ve Kuo, 2010). Fakat bu tutum tespiti çalışmalarını, e-öğrenme sürecinin öncesinde yürüten çalışma sayısı olukça azdır. Bu araştırmanın sonuçları ışığında, öğrencilerin e-öğrenme ortamında alacakları eğitime olumlu tutum geliştirmelerini sağlayacak uygulamalar planlanabilecek, mevcut öğren-

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me programlarının yeniden düzenlenmesi ile ilgili zaman, emek ve maliyet kayıpları azaltılabilecektir. Bu nedenle mevcut çalışma hem literatüre katkı sağlayacağı hem de bu alanda daha fazla araştırmanın yapılması için yeni araştırmacılara ilham vereceği için önemlidir.

Araştırma Sorunsalı

Türkiye'de birçok yüksek öğretim kurumunda öğrenciler bölümlerine başladıkları zaman, Atatürk İlkeleri ve İnkılap Tarihi, İngilizce ve Türk Dili gibi dersleri uzaktan eğitim teknolojileri aracılığıyla almaktadır. Fakat bu dersleri aldıkları süreçte motivasyon düşüklüğü yaşanabilmekte ve sonuç olarak da derslerden istenen verim elde edilememektedir. Tüm bunların arkasındaki önemli sebeplerden bir tanesi, öğrencilerin e-öğrenmeye ve online derslere karşı olumsuz tutumlarıdır. Tutumun başarıyı etkileyen bir faktör olduğu bilinmektedir (Harrell, 2004; Aydın, 2005; Barkatsas, Kasimatis & Gialamas, 2009; Yücel ve Koç, 2011). Fakat araştırmaların geneline bakıldığında, öğrencilerin e-öğrenme sürecine yönelik tutumlarının tespiti için yapılan çalışmaların çoğunlukla, zaten hali hazırda uzaktan eğitim almaya başlamış öğrenciler üzerinden yapıldığı görülmektedir. Bu durumda mevcut derslerin tasarımı çoktan tamamlanmış olduğundan, tespit edilen tutumlar ışığında bir tasarım yapmak için geç kalınmış olmaktadır. İlk yılında yabancı dillerde hazırlık eğitimi alma şansı elde eden öğrenciler, henüz bu uzaktan eğitimleri almaya başlamamış durumdadırlar ve onların e-öğrenmeye karşı tutumlarının tespit edilmesi, seneye alacakları eğitimlere karşı potansiyel motivasyonlarının artırılabilmesi ve derslerden daha yüksek verim elde etmeleri için faydalı olacağı öngörülmektedir.

Bu doğrultuda, bu çalışmanın sınırlılıkları olarak, devlete ait bir yüksek öğretim kurumunda hazırlık yılında okuyan öğrencilerin e-öğrenmeye karşı tutumları hakkında, anket aracılığıyla veri toplanması ve nicel betimsel yöntem kullanarak açıklanması hedeflenmiştir. Araştırma sorusu şöyledir: "*Henüz hiç uzaktan eğitim almamış üniversite öğrencilerinin e-öğrenmeye karşı tutumu nedir?*" Bu çalışmanın sayıltısı ise, katılımcıların araştırmada kullanılan ankete doğru ve içten yanıt verdiğidir.

İlgili Alanyazın

E-öğrenme, ders içeriğinin İnternet, İntranet, Extranet, uydu yayınları, ses / video kasetleri, etkileşimli TV ve CD-ROM'lar gibi elektronik ortamlar aracılığıyla iletilmesi olarak tanımlanmaktadır (Urdan ve Weggen, 2000). Tutumlar ise, olumlu ya da olumsuz şekillerde hissetmemizi ve ona göre davranmamızı sağlayan, nesnenin, insanların ya da durumun olumlu ya da olumsuz değerlendirmeleridir (Ajzen ve Fishbein, 1980). Tutumların, kullanıcıların teknolojiyi fiili olarak kullanmalarını etkileyen davranışsal niyetlerini etkilediği varsayılmıştır (Rainer ve Miller, 1996).

Tutumları ölçmek, kullanıcı davranışını analiz etmede önemli bir role sahiptir, çünkü tutumlar ve davranışlar arasında güçlü bir bağlantı olduğu bilinmektedir. E-öğrenmeye yönelik kullanıcı tutumları bazında düşünürsek, öğrencilerin olumlu tutumu, yeni bir öğrenme sistemini kabul etmeleri olasılığını gösterdiği söylenebilir (Bertea, 2009).

E-Öğrenme ile ilgili Tutum Çalışmaları

Federico (2000) tarafından yapılan bir araştırmada, 234 üniversite öğrencisinin ağ tabanlı öğrenmeye yönelik tutumlarını incelemek amacıyla bir anket uygulanmış ve sonucunda, özümseyen ve yerleştiren öğrenme stiline sahip öğrencilerin, ayrıştıran ve değiştiren öğrenme stiline sahip öğrencilere göre daha olumlu tutuma sahip olduğu görülmüştür. Dikbaş (2006)'ın öğretmen adaylarının e-öğrenmeye yönelik tutumlarını belirlediği çalışmasında ise, e-öğrenme etkinliğine katılan öğretmen adaylarının demografik özellikleri de incelenmiştir ve çalışma sonucunda öğretmen adaylarının e-öğrenmeye yönelik tutum olumlu olduğu görülmüştür. Richardson (2007), uzaktan eğitim ortamında demografik özellikler, güdüleyiciler ve tutum arasındaki ilişkileri araştırmak için 395 adet hali hazırda uzaktan eğitim ile ders alan katılımcıya ölçekler uygulanmıştır. Sonuç olarak, katılımcıların cinsiyet, yaş ve önceki niteliklerinin motivasyonları ve çalışma yaklaşımları üzerinde etkili olduğu görülmüştür. Ayrıca öğrencilerin motivasyonları, tutumları ve çalışma davranışları arasında ilişki olduğu belirlenmiştir. Buna yakın bir başka araştırmada, 129 adet 3.ve 4.sınıf bilgisayar öğretmenliği öğrencilerinin uzaktan eğitime yönelik tutumlarını, cinsiyet, sınıf düzeyi, uzaktan eğitim alma, bilgisayar kullanma deneyimi, algılanan bilgisayar becerisi ve öğrenme biçemlerini ölçen anketler uygulanmıştır (Ateş ve Altun, 2008). Çalışmanın sonuçlarında, uzaktan eğitime yönelik tutumların cinsiyete, sınıfa ve öğrenme biçemlerine göre anlamlı farklılık göstermediği ama katılımcıların daha önce uzaktan eğitim almış ya da almamış olmalarının, uzaktan eğitime yönelik tutumlarını anlamlı ölçüde etkilediği tespit edilmiştir. Yine öğretmen adaylarının e-öğrenme ile ilgili algılarını belirlemeyi hedefleyen bir çalışmada (Çobanoğlu, Ateş, İliç ve Yılmaz, 2009), 85 katılımcıya anket uygulanmasıyla, katılımcıların e-öğrenme konusunda yeterli bilgiye sahip olmadığı ve e-öğrenme uygulamalarının vadetmediğini düşündükleri ortaya çıkmıştır.

Özgür ve Tosun (2010), Moodle öğrenme yönetim sistemi ile yürütülen online derslerin, öğrencilerin e-öğrenme tutumlarına etkisi araştırmıştır. Bir devlet üniversitesinin eğitim fakültesindeki 200 birinci sınıf öğrencisine uygulanan anket, ders döneminin başında ve sonunda birer kez uygulanmıştır. Ulaşılan sonuçlar, deney ve kontrol gurubunda yer alan katılımcıların e-öğrenmeye yönelik ön-test tutum puanları arasında anlamlı bir fark olmadığını fakat son-test tutum puanları arasında istatistiksel olarak anlamlı bir fark olduğu bulunmuştur. Araştırması için özel olarak bir web-tabanlı senkron öğrenme ortamı geliştiren Yıldız (2011) da öğretmen adaylarının uzaktan eğitime karşı tutumlarının tespiti üzerinde çalışmıştır. Katılımcıların bir devlet üniversitesindeki eğitim fakültesinden 15 öğrencinin oluşturduğu bu araştırmada, öğretmen adaylarının çevrimiçi senkron öğrenme ortamlarında yaşadıkları deneyimlerin, onların uzaktan eğitime karşı ön-test ve son test tutumları arasında istatistiksel olarak olumlu yönde önemli bir fark yarattığını vurgulamıştır. İş ortamlarında e-öğrenme platformlarından faydalanma oranlarını arttıran içsel ve dışsal güdüleyicileri inceleyen Yoo, Han ve Huang (2012), bir yemek firmasında çalışan 261 işçiye Teknoloji Kabul Edilirliği ve Kullanımı Teorisi ölçeği uygulamıştır. Sonuçlar, iş ortamında e-öğrenme kullanma isteğini, içsel güdüleyicilerin dışsal güdüleyicilere kıyasla daha fazla etkilediğini göstermiştir. Son olarak, Tanyıldızı'ın çalışmasında (2016), devlet memuru olan bir grup çalışanlarının e-öğrenmeye yönelik tutumlarını ile demografik özellikleri arasındaki bağ incelenmiştir. Çalışmaya 116 adet memur katılmıştır. Bu personellere de, Haznedar (2012)'ın yüksek lisans tezi kapsamında geliştirilmiş e-öğrenmeye yöne-

lik tutum ölçeği uygulanılmış ve katılımcıların e-öğrenmeye yatkınlıklarına yönelik tutumlarının e-öğrenmeden kaçınmaya yönelik tutumlarından daha yüksek olduğu görülmüştür. Ayrıca, erkek katılımcıların tutum düzeyleri ile kadınlarınki arasında anlamlı bir fark olmadığı da bulunmuştur.

Yöntem

Araştırma Modeli

Bu araştırmanın modeli nicel betimsel desendir. Bu desen, bir konu ya da olaya ilişkin katılımcıların görüşlerinin ya da ilgi, yetenek, tutum vb. özelliklerinin belirlendiği araştırma türüdür. (Tekbıyık, 2014). Bu desenin seçilme sebebi araştırmanın var olan durumu tespit etmeyi amaçlamasıdır.

Evren ve Örneklem

Araştırmanın evreni, Türkiye'de herhangi bir yükseköğretim kurumunda okuyan ve henüz hiç uzaktan eğitim dersi görmemiş öğrencilerdir. Fakat bu evrene tamamen ulaşmak olanaklı olmadığından, sadece bir yüksek öğretim kurumundaki öğrenciler üzerinde çalışılmıştır. Bu örneklemin seçilmesi, elverişlilik (fırsat) örneklemi olması açısından uygun görülmüştür. Bu kurumdaki tüm İngilizce hazırlık yılı okuyan öğrencilere ulaşılmaya çalışılmış fakat gönderilen anketi 150 kişiden sadece 55 kişi cevaplamıştır. Katılımcıların, yaş aralığı 17-22'dir ve hepsi ilk defa bir yüksek öğretim kurumuna kayıt yaptırmıştır.

Veri Toplama Araçları

Bu araştırmanın temel veri toplama aracı ankettir. Kullanılan anket, **üniversite öğrencilerinin e-öğrenmeye yönelik tutumlarını ortaya çıkartmaya yönelik**, Özge Haznedar'ın yüksek lisans tezinde (2012) geliştirdiği 20 maddelik E-öğrenmeye Yönelik Tutum Ölçeğidir. Katılımcıların bu ölçek maddelerini, araştırmacılar tarafından sıklıkla kullanılan, 5'li Likert tipi dereceleme ile cevaplamaları gerekmiştir. Buna göre; dereceleme "Kesinlikle Katılmıyorum" (1) ve "Kesinlikle Katılıyorum" (5) şeklindedir. **Ölçekteki 20 maddenin, 10 tanesi olumlu 10 tanesi ise olumsuz ifadelerden oluşmaktadır. Dolayısıyla,** olumlu maddelerin katsayısı +1 ve olumsuz maddelerin katsayısının -1 olduğu göz önünde bulundurulduğunda, alınabilecek en yüksek skor +40 ve alınabilecek minimum puan -40'dır. **Ölçeğin** geçerlik ve güvenirlik çalışmaları Haznedar'ın tez çalışmaları sırasında tamamlanmıştır (2012) ve işlediği görülmüştür. Uygulanan online anketin maddeleri cevaplandırılmadan önce, katılımcılara çalışma hakkında detaylı bilgi verilip cevapların gizliliğinin güvencesi verilmiş, çalışmaya katılmanın gönüllülük esaslı olduğu açıklanmıştır.

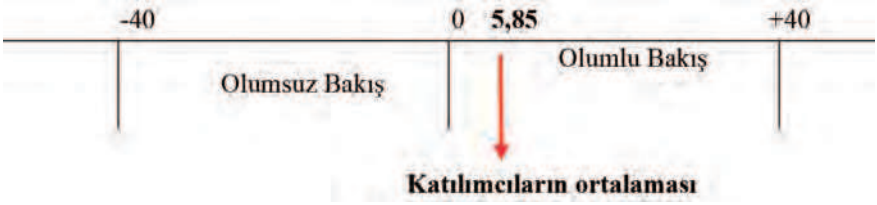
Veri Toplama Süreci ve Analizi

Araştırmanın verileri, 2018-19 akademik yılı bahar dönemi sonunda, bir devlet yükseköğretim kurumundaki İngilizce hazırlık birimi öğrencilerine, online olarak uygulanmıştır. Veriler, Excel'e aktarılarak, hangi katılımcının hangi maddeye kaçar puan verdiği incelenmiş ve olumlu 10 madde ile olumsuz 10 maddeye verilen cevaplar ayrı ayrı gruplandırılmıştır. Olumlu maddelere verilen değerler +1, olumsuz maddelere verilen değerler ise -1 ile çarpılmıştır. Sonrasında, her katılımcı için ortaya çıkan toplam

20 değer toplanmış ve o katılımcının toplam skorunu oluşturmuştur. Bu işlem her katılımcı için uygulandıktan sonra, toplamda 55 adet skor elde edilmiş ve bunların aritmetik ortalaması alınarak çalışmanın ortalama değeri 5,85 olarak bulunmuştur. Bulunan aritmetik ortalamanın 100 üzerinden 57,31'e ve 5 üzerindense 2,86'ya denk geldiği oranlama yapılarak bulunmuştur. Elde edilen sonuçlar çeşitli tablo ve grafiklerle raporlanmıştır.

Bulgular ve Yorumlar

Tüm katılımcıların e-öğrenmeye yönelik tutum ölçeğinden aldıkları skorların ortalamasına bakıldığında, -40 (min.) ve +40(max.) aralığındaki yeri 5,85 olmuştur. Bu durum, online eğitime negatif bir kanı olmadığı, pozitif yönde ufak bir eğilim olduğunun göstergesi olarak yorumlanmıştır. Bu ortalamanın belirtilen skala üzerindeki gösterimi aşağıdaki gibidir:



Şekil 1. **Ortalama değerin Skala üzerinde gösterimi**

Pozitif Skor	Negatif Skor	Nötr Skor
34 adet	20 adet	1 adet
%62	%36	%2

Tablo 1. **Dağılım İstatistikleri**

Tablo 1'e bakıldığında, pozitif skorların çoğunlukta olduğu görülmektedir fakat, negatif skorların rasyonel değerlerinin daha yüksek olması sebebiyle değerleri sıfıra yaklaştırmaktadır ve ortalama alındığı zaman çıkan skor nötre daha yakın bulunmuştur. Ortalama skor olan 5,85'in 100 üzerinden değeri 57,31 iken, 5 üzerinden değeri ise 2,86 bulunmuştur.

Madde madde yüzdeler incelendiğinde, birçok maddede radikalleşme yerine orta seçenek olan 3 tercih edildiği görülmektedir. Bu durum, birçok konuda online eğitime karşı net bir tutum olmadığını, olumlu sonuçlarının olacağını fakat diğer taraftan kafalarda hala soru işaretleri olduğunun göstergesi olmuştur. Bu sonuçlar literatürdeki diğer e-öğrenmeye yönelik tutum tespiti yapan birçok çalışma ile örtüşmektedir (Dikbaş, 2006; Ateş ve Altun 2008; Durmuş ve Kaya, 2011; Haznedar 2012).

Olumsuz maddelere bakıldığında, Uzaktan eğitimde "sosyalleşme", "soru sorabilme", "anlayamadığı yerleri tekrarlatabilme", "öğrenmede eksilme" gibi kaygıların olduğu gözlemlenmiştir. Diğer yandan uzaktan eğitimin "mobilite sağlaması", "istenilen yerde ve zamanda öğrenilebilmesi" gibi olumlu maddeler de birçok katılımcı tarafından desteklenmiştir.

20 maddenin 11'inde "ikisinin arasında" şıkkı en fazla işaretlenmiştir. Bu veri, çalışmadan çıkarılabilecek önemli sonuçlardan birine kaynaklık eder. Yani katılımcıların çoğu uzaktan eğitim konusunda yeterli bilgilendirmeye sahip olmadığı için olumlu ya da olumsuz bir kanı belirtmemiş, nötr kalmıştır (Haznedar, 2012).

SONUÇLAR VE ÖNERİLER

Bu çalışmanın sonuçları incelendiğinde, öğrencilerin muhtemelen uzaktan eğim ve online dersler hakkında tam bir bilgi sahibi olmadıkları için, e-öğrenmeye yönelik tutumlarını sorgulayan maddelere verdikleri cevapların genellikle "3" numaralı seçeneğe daha yakın çıktığı görülmüştür. Dolayısıyla, henüz hiç e-öğrenme deneyimi yaşamamış öğrenci gruplarının tutumlarının bir an evvel tespit edilmesinin ve gerekli bilgilendirmeler yapılarak iyi bir hazırlık sürecinden geçirilmelerinin, tutumlarının olumlu yöne kaymasını sağlayacağı öngörülebilir. Özellikle uzaktan eğitim merkezi olan üniversitelerde bu konuda eğitimler verilip workshoplar düzenlenmesinde fayda olacaktır.

İleride yapılacak olan çalışmalarda, öğrencilerin çalışma şekillerinin, zekâ türlerinin, teknoloji kullanım oranlarının, vb. e-öğrenmeye ilişkin tutumlarını nasıl etkilediği incelenebilir. Buna ek olarak, aynı çalışmanın, çok daha geniş bir örneklemle başka bir yükseköğretim kurumunda tekrar edilmesi yahut ilk-orta öğretim seviyelerine inilerek daha erken bir tutum tespiti yapılmasının alana katkı sağlayacağı iddia edilebilir.

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Anadolu Üniversitesi AÖF Öğrenme Yönetim Sisteminde kullanılan Nitelikli Soruların Envanter Takip Sistemi (ETS) Üzerinden Üretim Süreci

Özlem ÖZÖĞÜT ERORTA[1], Merve ÇELİK KEÇİLİ[2]

Özet

Anadolu Üniversitesi Açıköğretim Sisteminde öğrenme malzemesi olarak kullanılmak üzere öğretim üyeleri ve öğretim elemanları tarafından Nitelikli Sorular oluşturulmaktadır. Bu yöntemle geleneksel soru yazma alışkanlıklarının dışında, ölçme ve değerlendirme kurallarına uyularak hazırlanmış soruların öğrencilerin anlama düzeylerini daha iyi ölçmesi hedeflenmektedir. Bu çalışmada Açıköğretim Fakültesinin kendi bünyesinde oluşturduğu bir yazılım olan Envanter Takip Sistemi (ETS) üzerinden Nitelikli Soruların öğretim üyeleri ve öğretim elemanları tarafından nasıl üretildiğine ilişkin bilgiler verilmiştir.

Anahtar Kelimeler: *Açıköğretim, e-öğrenme, açık ve uzaktan öğrenme, nitelikli sorular, envanter takip sistemi.*

GİRİŞ

Anadolu Üniversitesi Açıköğretim sistemi 1982 yılında kurulmuştur ve kuruluşundan bu yana uzaktan eğitim hizmeti vermektedir. 1982 yılında 29.000 öğrenci ile başlayan sistem, 2019 yılına gelindiğinde 1.250.0000 aktif öğrenciye ulaşmıştır. Açıköğretim sisteminin temel amacı, eğitimde fırsat eşitliği sunarak herhangi bir nedenle örgün yükseköğretim kurumlarından eğitim hizmeti alamayan lise ve dengi okul mezunlarının eğitim ihtiyacını karşılamaktır.

Başlangıçta uzaktan eğitim tekniklerine göre hazırlanmış ders kitapları, televizyon programları ve bazı illerde mesai dışında verilen yüz yüze akademik danışmanlık derslerinden oluşan öğretim malzemeleri, zaman içerisinde bilgi teknolojilerinde yaşanan gelişmelere paralel olarak çeşitlenmiş ve zenginleşmiştir. Bilgisayar donanımlarının ve internet altyapısının gelişmesi, teknolojiye erişimin daha kolay ve daha ucuz olması nedeni ile bilgi teknolojilerine dayalı öğrenme ortamları Açıköğretim sisteminde giderek önem kazanmıştır (Mutlu vd., 2014, p. 2).

1999 yılında ilk kez çevrimiçi Deneme Sınavları uygulaması internetten yayınlanmaya başlamış ve kısa zamanda açık sistem öğrencileri tarafından en çok kullanılan hizmetlerden biri olmuştur. Öğrenciler örgün sınavlara hazırlanırken çok sayıda soru çözmeyi ve soru çözerek bilgi eksiklerini tamamlamayı hedeflemişlerdir. Bu amaçla 1999

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yılından itibaren Deneme Sınavlarına ek olarak internet üzerinden öğrencilerin soru çözebilecekleri Alıştırma Soruları ve Test Soruları gibi farklı hizmetler geliştirilmiştir.

2016 yılına gelindiğinde yeni bir öğrenme yönetim sistemine geçilmiş; öğrenme malzemelerinin biçimlerinde, niteliklerinde, üretiminde ve sunuş şekillerinde değişiklikler olmuştur. Başta Deneme Sınavları olmak üzere öğrencilere online olarak sunulan Alıştırma Soruları ve Çözümlü Sorular, Nitelikli Soru olarak isimlendirilen, öğrenme çıktıları göz önünde bulundurulan ve ölçme değerlendirme tekniklerine uygun olarak hazırlanan sorulardır.

NİTELİKLİ SORULARIN BARINDIRMASI GEREKEN ÖZELLİKLER

Açıköğretim Sistemi bünyesinde eğitim alan öğrencilerin soru ihtiyacını karşılamak amacıyla oluşturulan nitelikli sorular, geleneksel soru yazma teknikleri dışında ölçme ve değerlendirme kriterlerine uygun şekilde üniversitemizin akademik personeli tarafından hazırlanmaktadır. Bu yöntem ile öğrencilerin anlama düzeylerinin daha iyi ölçülmesi hedeflenmektedir. Öğretim elemanları ve öğretim üyeleri tarafından hazırlanan soruların yazım kriterleri ortaktır. Bu kriterler akademik personelin soru hazırlama sürecinde uyması gereken kuralları içeren yönergede belirtilmektedir. Yönergede belirtilen maddeler aşağıdaki gibidir:

1. Sorunun hangi amaçla (öğrenme çıktısı) ilişkili olduğunu belirlemek.
2. Sorunun ölçtüğü bilgi düzeyini belirlemek.
   - Hatırlama
   - Anlama
   - Uygulama
   - Analiz
   - Değerlendirme
3. Sorunun zorluk derecesini belirlemek.
4. Soru kökünün açık, net ve anlaşılır olması.
5. Soru kökünün olumlu ifade ile bitmesi.
6. Doğru cevap, seçilmeyi kolaylaştıran ipucu içermemelidir.
7. Sorunun tek bir doğru cevabı olmalıdır.

NİTELİKLİ SORULARIN HAZIRLANMA SÜRECİ

Anadolu Üniversitesi Açıköğretim Sisteminde kullanılmak üzere ihtiyaç duyulan derslerde öğretim üyeleri ve öğretim elemanları tarafından soruların hazırlanması ve öğrencilere sunulması aşamasında koordinasyonu sağlayan Soru Ekibi, Öğrenme Teknolojileri Araştırma ve Geliştirme (ÖTAG) Birimi bünyesinde faaliyetlerini sürdürmektedir. Eksik soru malzemelerinin belirlenmesinden temin edilmesine ve Açıköğretim sisteminde eğitim gören öğrencilerin kullanımına sunulmasına kadarki süreçte aktif rol oynayan Soru Ekibi; sorusu hazırlanacak malzemelerin belirlenmesi, üretilmesi, kontrolü, öğrencinin kullanımına sunulmasının takibi ve öğrenciden gelen hata bildirimlerinin kontrol edilmesinden sorumlu ekip olarak hizmet vermektedir.

Soru Ekibinin Açıköğretim Sisteminde eğitim gören öğrencilerin soru ihtiyaçlarını karşılamak üzere öğretim elemanları ve öğretim üyelerinden soru teminini Envanter Takip Sistemi (ETS) üzerinden gerçekleştirmektedir. Bu platform; Öğrenme Teknolojileri Araştırma ve Geliştirme (ÖTAG) Birimi bünyesinde üretilen pek çok malzemenin bir arada bulunduğu, farklı alanlardan malzeme ihtiyacı olduğunda temin edilmesi konusunda olanak sağlayan bir sistemdir. Derslerin ilgili ünitelerinde soru ihtiyacı bulunduğu durumlarda, ETS aracılığıyla öğretim elemanlarından ve öğretim üyelerinden rahatlıkla temin edilmektedir. Soruların üretilmesi için gerekli olan materyal kaynağı, ETS üzerinden ilgili dersin sorularını hazırlayacak olan akademik personele ulaştırılır. Üzerine dersin ünitesi üzerine atanan personel, kaynak malzeme aracılığıyla soruları hazırlayarak ETS üzerinden yükler. ETS'nin soru havuzunda biriken Nitelikli Sorular, Alıştırma Soruları ve Deneme Sınavları olarak kullanılmaktadır.

ETS'nin pek çok özelliği, soruların daha nitelikli hale gelmesini sağlamaktadır. Sistem içerisinde toplanan soruların kontrolü oldukça rahat bir şekilde yapılmaktadır. ETS içerisinde "Sorular" sekmesi içerisinde bulunan arama bölümüne anahtar kelimeler yazılarak, soruların görüntülenmesi sağlanmaktadır. Aynı zamanda sistem içerisinde yer alan derslerin ilgili ünitelerinde kaçar sorunun bulunduğu görüntülenmektedir. Mevcut soru sayısına göre, ihtiyaç duyulduğu takdirde akademik personelden soru temini sağlanmaktadır.

ETS soruların biriktiği bir sistem olmasının yanı sıra, soruların niteliğinin artırılması konusunda kullanıcı dostudur. Akademik personel tarafından yazılan ve öğrencilerin karşısına çıkan sorular, gereken durumlarda revize edilebilmektedir. Yazılan soruların malzemenin kaynağına uygun olmadığı durumlarda, ilgili dersin ünitesiyle uyuşmadığı zamanlarda ya da konu bütünlüğünü sağlamadığı takdirde; soruyu hazırlayan personele ETS üzerinden kontrol edilmesi için sorunun gönderimi sağlanmaktadır. Belirli zaman aralığında, yetkili personel gerektiği takdirde soru üzerinde düzenleme yaparak soruyu yine ETS aracılığıyla göndermektedir.

Soru ekibi tarafından belirlenen ve öğretim elemanlarına/üyelerine hazırlamaları için sunulan dersler sorusu az olan, yenilenen ya da ilk kez okutulacak derslerdir. Sistemde eksik olan sorular ekip tarafından tespit edilir ve öğretim elemanlarına/üyelerine soru hazırlamak istedikleri derslerden görev ataması yapılır. Öğretim elemanları/üyelerinin her ünite için yazmaları istenen soru sayısı 10 adettir. Bu işlemlerin tümü bir takvim çerçevesinde gerçekleştirilmektedir. Her ayın 21'i ile 30'u arasında tekrarlanan işlemler aşağıda listelenmiştir:

- **Takvim Oluşturma**
  Her ayın 15 ile 20'si arasında gelecek ay üretilecek malzemelerin ihtiyacının belirlenme tarihleri, talep oluşturma tarihleri, öğretim elemanlarının ünite tercihlerini yapacakları tarihler ve atama tarihleri belirlenerek takvim oluşturulmaktadır.
- **İhtiyaç belirleme**
  ETS üzerinden soru sayısı yeterli miktarda olmayan dersler/üniteler raporlanarak belirlenmektedir.

- **Talep oluşturma**
  Soru sayısı yeterli olmayan üniteler ETS üzerinden belirlendikten sonra hangi tarihte görüntülenip hangi tarihte tamamlanacağının da belirlenerek görevler oluşturulmaktadır.
- **Öğretim elemanları tarafından, talep edilen ünitelerin seçimi**
  Öğretim elemanları, verilen süre içerisinde oluşturulan görevlerden en fazla 40 ünite seçerek taleplerini belirlemektedir.
- **Atama süreci**
  Öğretim elemanlarının talep ettikleri görevler, o ay belirlenen puantaja göre belirlenen süre içerisinde atanmaktadır. Ayrıca soru kontrolleri, öğretim üyelerinin görevlerinin manuel atamaları aynı takvim içerisinde gerçekleştirilmektedir.

ETS üzerinden soru hazırlayacak olan akademik personelin, soru hazırlamaya başlamadan önce kendisine tanımlanan taahhütnameyi kabul etmesi gerekmektedir. Bu taahhütname kapsamında soruların ilk kez hazırlandığı, ilgili ders ile doğrudan ilişkili olduğu, çeldirici ya da yanlış bilgilendirmeye yol açmadığı, bilimsel açıdan tartışmaya gerek olmayacak nitelikte olduğu, soruların ölçme-değerlendirme konusunda uygun olduğu, dini, siyasi ve dil gibi konularda hassasiyet oluşturacak içeriğe sahip olmaması gibi unsurları barındırması gerekmektedir.

Akademik personelden, hazırladığı her sorunun sonunda bulunan değerlendirme maddelerini soruya uygun şekilde doldurması istenmektedir. İlgili sorunun hangi amaçla ilişkili olduğu, hangi bilgi düzeyini ölçmede kullanılacağı, zorluk derecesinin ne olduğu, soru kökünün ne ölçüde açık, net ve anlaşılır olduğu, soru kökünün olumsuz ifade içerip içermediği, doğru cevabın seçilmeyi kolaylaştıran ipucu içerip içermediği ve verilen seçeneklerde yalnızca bir doğru seçeneğin bulunup bulunmadığı konusunda bilgilerin doldurulması gerekmektedir.

Öğretim Elemanlarına Yapılan Nitelikli Soru Atamaları

Üniversite bünyesinde yer alan öğretim elemanlarına her ayın belirli dönemlerinde nitelikli soru ataması gerçekleştirilir. Bu atamalar öğretim elemanlarının talep derslerin ünitelerinden seçilerek yapılmaktadır. Takvimin oluşturulması, ihtiyaç duyulan soruların belirlenmesi ve öğretim elemanlarının seçim yapmaları için talep oluşturulması sürecinden sonra ilgili personel 40 üniteyi geçmeyecek şekilde ders seçimi yapar. Bu seçim dönemi takvime göre genel olarak her ayın 25'i ile 29'u arasında gerçekleştirilmektedir. Öğretim elemanları tarafından seçilen üniteler, o ay için belirlenen takvim ve puantaj doğrultusunda ilgili öğretim elemanına ETS üzerinden atanır. ETS üzerinden atanan nitelikli soruların, hazırlanması istenen ayın 1'i ile 20'si arasında ilgili öğretim elemanları tarafından yazılması beklenir.

Öğretim Üyelerine Yapılan Nitelikli Soru Atamaları

Öğretim üyeleri 2016 yılının Mart ayından itibaren eKampüs Öğrenme Yönetim sisteminde (http://ekampus.anadolu.edu.tr) kullanılmak üzere aofportal.anadolu.edu.tr adresi üzerinden nitelikli soru hazırlamaya başlamıştır. Portal üzerinden yapılan görevlendirmelerde öğretim üyesinin uzmanlık alanı göz önüne alınarak, nitelikli soruya

ihtiyaç duyulan dersler belirlenmekte ve belirlenen dersin birinci ünitesi atanmaktadır. İzleyen aylarda ise ünite sayısı otomatik olarak bir artarak öğretim üyesinin karşısına o ay nitelikli sorusunu hazırlayacağı ünite görüntülenmektedir. Bu işlem kitap üniteleri tamamlanana kadar devam etmekte ve kitap üniteleri tamamlanınca öğretim üyeleri portalda yer alan "Nitelikli Soru Ataması Yapılacak Öğretim Üyeleri Listesi"nde görüntülenmektedir. Bu liste kullanılarak öğretim üyelerine yeni ders kitabı atamaları yapılmaktadır.

Öğretim üyelerinin Nitelikli Soru hazırlama görevlendirmeleri Mayıs 2019 tarihine kadar aofportal.anadolu.edu.tr adresi üzerinden devam etmiştir. Mayıs 2019 tarihinden itibaren ise öğretim üyelerinin hazırladığı Nitelikli Soruların aynı soru havuzu içerisinde toplanabilmesi ve tek adresten yönetilebilmesi amacıyla öğretim elemanlarının kullandığı ets.anadolu.edu.tr adresinde yer alan ETS yazılımına geçilmiştir.

ETS'ye geçilirken öğretim üyelerine bir anket gönderilmiş ve uzmanlık alanlarına göre nitelikli sorularını hazırlayabilecekleri Güz ve Bahar döneminden 10 ders seçmeleri istenmiştir. Anketler toplanarak öğretim üyelerinin seçmiş olduğu derslerden bir tanesi seçilerek liste oluşturulmuştur. Tüm öğretim üyelerine 2019 yılının Haziran ayı atamaları takvim dahilinde Mayıs ayının son haftası manuel olarak gerçekleştirilmiştir. İzleyen aylarda ünite sayısı bir artırılarak ve manuel olarak nitelikli soru atamaları gerçekleştirilmektedir. İlgili dersin ünitelerinin soruları tamamlandıktan sonra, Öğretim üyesinin seçmiş olduğu ve soru hazırlanmasına ihtiyaç duyulan başka bir dersin ataması yapılmaktadır. Öğretim elemanlarından farklı olarak öğretim üyelerine seçim yapmaları için gönderilen dersler her ay değil, uzun bir süreci kapsayacak şekilde sadece bir kez gönderilmiştir. Kısaca aynı süreç farklı bir ders için yeniden işlemektedir.

SONUÇ

Açıköğretim sisteminde eğitim gören öğrenciler için ihtiyaç duyulan soru malzemesi Anadolu Üniversitesinde görev yapan öğretim üyeleri ve öğretim elemanları tarafından karşılanmaktadır. Her ay ihtiyaca göre yapılan Nitelikli Soru hazırlama görev atamalarında öğretim üyeleri ve öğretim elemanlarında atama süreci farklı işlemektedir.

ETS üzerinden hazırlanan sorular doğrudan soru havuzuna düşmekte ve Açıköğretim öğrencisinin kullandığı Öğrenme Yönetim Sisteminde (ekampus.anadolu.edu.tr) hemen görüntülenebilmektedir. Sistemdeki sorular; Deneme Sınavları, Alıştırma Soruları ve Çözümlü Sorular olmak üzere üç farklı malzemeyi beslemektedir.

Eylül 2019 tarihi itibari ile ETS üzerinde 600.000 den fazla nitelikli soru bulunmaktadır. Sistemde yer alan sorular Açıköğretim sistemindeki tüm dersleri kapsadığı gibi Yaşam Boyu Öğrenme hizmetleri çerçevesinde sunulan Anadolu Üniversitesinin eSertifika Programlarında okutulan dersleri de kapsamaktadır. Açıköğretim sistemi ile ilgili detaylı bilgiye https://www.anadolu.edu.tr/en/open-education/openeducationsystem adresinden ulaşılabilir.

Yararlanılan Kaynaklar

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Açık ve Uzaktan Öğrenme Alanında 2014-2019 Yılları Arasında Yayınlanan Nitel Araştırmaların İçerik Analizi

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Özet

Bu araştırmanın amacı, açık ve uzaktan öğrenmeyle ilgili 2014-2019 yılları arasında yapılan nitel araştırmaların trendine bütüncül bakabilmek ve ilgili çalışmaların veri toplama, veri analizi yaklaşımlarını ve araştırma süreçlerini detaylı olarak incelemektir. Açık ve uzaktan öğrenme araştırmalarıyla ilgili hakemli beş dergide yayınlanan toplam 863 makale içerisinden, nitel araştırma yöntemleri kullanılarak yayınlanmış 166 makale içerik analizi yöntemi kullanılarak sistematik bir literatür inceleme süreci ile analiz edilmiştir. İncelenen makaleler, konu, yöntem, katılımcılar, veri toplama araçları ve veri analizi kategorilerine göre kodlanmıştır. Araştırmanın sonuçlarına bakıldığında, genellikle durum çalışması ve türleri ile ilgili araştırma desenleri tercih edilmiş olup, diğer araştırma desenlerine nadiren başvurulduğu görülmüştür. Ek olarak, araştırma konuları kapsamında en çok *etkileşim* ve öğretim süreci temelli konular üzerinde durulmuştur. Veri toplama araçları olarak ise genellikle görüşmelerin yanında kanıt niteliğindeki paylaşımlar, tartışmalar ve notlar gibi destekleyici verilere başvurulmuştur.

Anahtar Kelimeler: *Nitel Araştırmalar, Açık ve Uzaktan Öğrenme, İçerik Analizi.*

GİRİŞ

Nitel araştırmalarda genellikle belli bir durum, olgu, deneyim ve süreçteki anlamlar ve öngörüler incelenir (Straus ve Corbin, 2008). Araştırma probleminin doğası, araştırma sorusu ve aranılan bilimsel bilgi nitel araştırmalar kapsamındaki söylem, fenomonoloji, gömülü teori, aksiyon araştırması, durum çalışması, etnografya ve tarihsel araştırma gibi araştırma desenlerinin (Creswell, 2009) seçimine yön verir (Lune ve Berg, 2016; Korstjens ve Moser, 2017). Bazı araştırmacılar çalışmalarında belirli bir nitel araştırma deseni veya araştırma geleneği yerine, tanımlayıcı ve genel bir araştırma yöntemi (Sandelowski, 2000) ya da verilerden ortaya çıkan tema ve kategorilerin analizini kullanırlar (Polit ve Back, 2008). Bu durum nitel araştırmaların raporlanmasında karmaşalara sebebiyet verebilir. Günümüzde birçok araştırma alanında nitel araştırma yöntemlerinin kullanımı artış göstermiştir (Mohajan, 2018). Bu alanlardan biri de açık ve uzaktan öğrenme alanıdır. Diğer alanlarda olduğu gibi açık ve uzaktan öğrenmede niçin ve nasıl sorularının yanıtlarını anlamak için farklı bir araştırma paradigmasından bakmak gerekmektedir (Hauser, 2013). Nitel yöntemin benimsendiği araştırmalar farklı bağlamlarda öğrenmeye ilişkin zengin açıklamalar sunmaktadır. Açık ve uzak-

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tan öğrenme alanında öğreten ve öğrenen farklı ortamlarda bulunmaktadır. Bu bağlamda öğrenmenin nasıl gerçekleştiğiyle ilgili bilgi edinilebilmesi için öğrenenin bakış açısı önem taşımaktadır (Morgan, 1984). Nitel araştırma, açık ve uzaktan öğrenenlere seslerini duyurma olanağı sağlarken öğreten ve araştırmacılara da bu sesleri kullanarak programları değerlendirme fırsatı tanımaktadır (Hauser, 2013). Açık ve uzaktan öğrenme çalışmalarında kullanılan nitel araştırma yöntemlerinde de benzer metodolojik karmaşıklıklar görülebilir.

Nitel araştırmalarda karşımıza çıkan metodolojik ifadelerde yönteme, veri toplama tekniğine ya da analiz tekniğine yer verildiği görülmektedir. Açık ve uzaktan öğrenme alanındaki çalışmaların uzun bir süre yarı-deneysel çalışmalar tarafından şekillendirildiği, sonralarda öğrenenlere ilişkin derinlemesine bilgi edinme gereksiniminden yola çıkılarak daha az sayıda katılımcıyla söylem analizi ve görüşme tekniklerinin kullanıldığı çalışmalar yapılmaya başlandığı belirtilmektedir (Saba, 2000). Bir başka çalışmada, açık ve uzaktan eğitim araştırmalarında veriye derinlemesine ve daha zengin bakış açısıyla yaklaşabilmek amacıyla nitel yaklaşımların kullanılmaya başlandığı belirtilmektedir (Zawacki-Richter, Bäcker ve Vogt, 2009). Alana ilişkin yöntemsel trendlerin incelendiği bir çalışmada durum çalışmaları; etnografik, temellendirilmiş kuram ve fenomonolojik araştırmaların nitel araştırmalar kapsamında ele alındığı belirtilmektedir (Zawacki-Richter, Bäcker ve Vogt, 2009).

Açık ve uzaktan öğrenme ile ilgili alan yazın incelendiğinde 2014 yılına kadar çeşitli konuların işlendiği ve söz konusu araştırmaların farklı bilimsel araştırmalar (Bozkurt, Kumtepe, Kumtepe, Aydın, Bozkaya ve Aydın, 2015; Somyürek, 2015) kapsamında derlendiği gözlenmiştir. 2014 yılı ve sonrası için de benzer çalışmalar (Bozkurt, Akgün-Özbek ve Zawacki-Richter, 2017; Çakıroğlu, Kokoç, Gökoğlu, Öztürk ve Erdoğdu, 2019; Krull ve Duart, 2017; Zainuddin ve Halili, 2016) olmakla birlikte bu araştırmaların daha çok belli bir konu (MOOC, mobil öğrenme vb.) ya da öğrenme ortamı (ters-yüz edilmiş sınıf) temel alınarak yapıldığı görülmektedir. Bilimsel araştırmaların yürütülmesinde kullanılan araştırma yöntemlerinin önemi göz önüne alındığında sıklıkla hangi araştırma yöntemlerinin kullanıldığı ve bu süreçte hangi veri toplama araçlarının kullanılıp ne tür analiz yöntemlerinin uygulandığını belirlemek sonraki yıllarda yapılacak olan çalışmalara ışık tutabilmektedir. Bu bağlamda 2014 yılı ve sonrasında açık ve uzaktan öğrenme ile ilgili yapılmış çalışmaların araştırma yöntemleri temel alınarak derlendiği bu çalışmada aşağıdaki araştırma sorusuna cevap aranmaktadır;

- 2014-2019 yılları arasında açık ve uzaktan öğrenme ile ilgili yapılmış nitel araştırmaların konu, yöntem, katılımcılar, veri toplama araçları ve veri analizi yöntemine göre dağılımı nasıldır?

YÖNTEM

Araştırmanın verileri sistematik alan yazın taraması yapılarak toplanmıştır. Toplanan verilerin analizi için ise içerik analizi yöntemine başvurulmuştur. Bu yöntem sayesinde toplanan veriler sınıflandırılmış, karşılaştırılmış ve kuramsal sonuçları raporlanmıştır (Cohen, Manion ve Morrison, 2007). 2014 – 2019 yılları arasında yapılan çalışmalar ilgili alandaki önemli 5 dergiden derlenmiştir. Bu dergiler; American Journal of Distance Education, Distance Education, European Journal of Open, Distance and E-Learning, The International Review of Research in Open and Distributed Learning, and Open Learning: The Journal of Open, Distance and e-Learning şeklinde sıralanmaktadır.

Yapılan araştırmaların derlenmesi için göz önünde bulundurulan kriterler; 1-) çalışmaların açık ve uzaktan öğrenme ile ilgili ve 2014 – 2019 yılları arasında yapılmış olması, 2-) çalışmaların nitel araştırma yöntemlerine başvurularak yapılmış olması şeklindedir. Özellikle 2014 yılı ve sonrasındaki çalışmaların derlenmiş olma sebebi ise bu yıldan önce yapılan çalışmaların derlendiği başka araştırmaların bulunmasıdır (Bozkurt, vd., 2015; Somyürek, 2015). Benzer çalışmalar (Bozkurt, Akgün-Özbek ve Zawacki-Richter, 2017; Çakıroğlu, Kokoç, Gökoğlu, Öztürk ve Erdoğdu, 2019; Krull ve Duart, 2017; Zainuddin ve Halili, 2016) 2014 yılı ve sonrasında da yapılmış olsa da özellikle kullanılan araştırma yöntemleri temel alınarak yapılmış bir çalışmanın olmaması bu çalışmanın temel gerekçesidir.

Açık ve uzaktan öğrenme ile ilgili çalışmaların derlenmesi aşamasında ilgili dergilerde ve belirtilen yıllarda yapılan bütün araştırmaların yöntem bölümleri araştırmacılar tarafından incelenmiş ve bu çalışmalar arasından nitel araştırma yöntemine başvurmayan araştırmalar elenmiştir. Söz konusu alan yazın taraması yapıldıktan sonra belirlenen kriterlere göre bir araya getirilen bütün çalışmalar dergi isimlerine ve yayın yıllarına göre sınıflandırılmıştır. Ardından tüm çalışmaların yöntem kısımları NVivo 12 programı yardımıyla analiz edilmiş ve bulguların raporlanabilmesi için ilgili temalar ve kodlar belirlenmiştir. Araştırma bulgularının güvenirliğini artırmak amacıyla araştırmacılar birbirlerinin incelediği çalışmalar arasından rastgele çalışmalar seçmiş ve sonuçlarının tutarlılığını kontrol etmiştir. Ayrıca çalışmaların incelenmesi aşamasında kararsız kalınan çalışmalar araştırmacılar tarafından birlikte incelenmiş ve ilgili analizler gerçekleştirilmiştir.

BULGULAR

Bu bölümde açık ve uzaktan öğrenme alanında yayınlanmış 2014-2019 yılları arasındaki nitel araştırmaların içerik analizi sonucunda ulaşılan bulguları yer almaktadır. Bulgular belirtilen beş derginin 2014-2019 yıllarındaki çalışmaları kapsamında sunulmuştur.

Dergi Adı ve Yıllara Göre Dağılım

Belirlenen dergilerde yıllara göre yayınlanan çalışmalar ve bu çalışma kapsamında incelenen nitel araştırmaların sayıları Tablo 1'de belirtilmiştir.

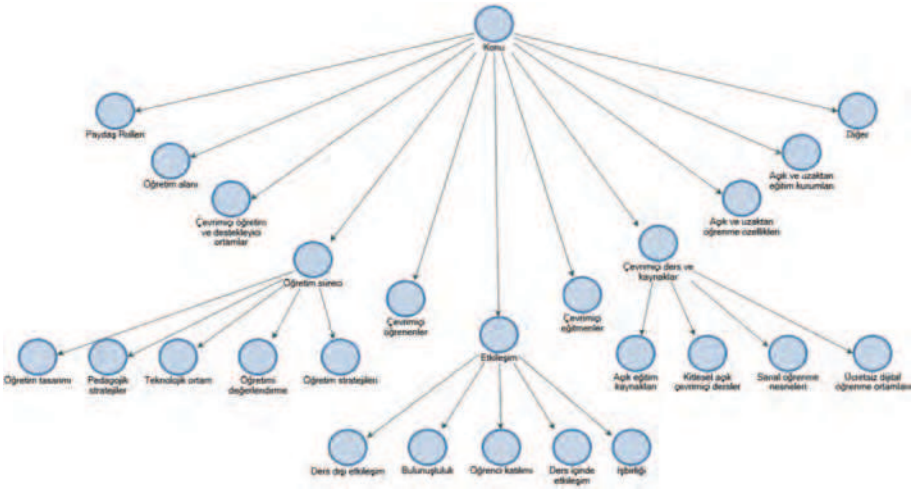
Dergi Adı	Yıllar					
	2014	2015	2016	2017	2018	2019
American Journal of Distance Education (AJDE)	3/22	7/21	4/22	1/17	2/18	5/16
Distance Education (DE)	5/19	7/24	5/20	8/22	3/31	5/20
The European Journal of Open, Distance and E-Learning (EURODL)	5/25	5/16	4/11	3/14	2/6	0
The International Review of Research in Open and Distributed Learning (IRRODL)	17/86	6/76	17/89	15/93	18/74	7/39
The Journal of Open, Distance and E-Learning	2/12	1/11	0/16	3/16	2/15	4/12
Toplam	32/164	26/148	30/158	30/162	27/144	21/87

Tablo 1. İncelenen Makalelerin Dergilere ve Yıllara göre Dağılımı

Tablo 1'e bakıldığında en fazla (n=32) 2014 yılında, en az (n=21) ise 2019 yılında açık ve uzaktan öğrenme alanında nitel çalışmalar yapılmıştır. 2014-2019 yılları arasında söz konusu dergilerde toplam 863 makale yayınlanmış olup, bunların yaklaşık %20'si (n=166) nitel araştırma yöntemleriyle yapılmıştır. 2019 yılı yayın sayıları incelendiğinde makale yayınlar arasında en az (n=12) Journal of Open, Distance and E-Learning, en fazla (n=39) sayıda yayının ise IRRODL dergilerinde yayınlandığı görülmüştür. Dergilerde ilgili yıl kapsamında yayınlanan nitel araştırmaların sayısı aynı paralelliktedir.

Konulara Göre İçerik Analizi

2014-2019 yılları arasında yayınlanan nitel araştırmaların konuları genel olarak açık ve uzaktan öğrenmede etkileşim, öğretim süreci ve çevrimiçi ders ve kaynaklar bazında sınıflanmaktadır. Bunun yanında çevrimiçi öğrenenler, çevrimiçi eğitmenler ve paydaş rolleriyle ilgili çalışmalar da yer almaktadır. İlgili sınıflandırma Şekil 1'de ayrıntılı olarak sunulmuştur.

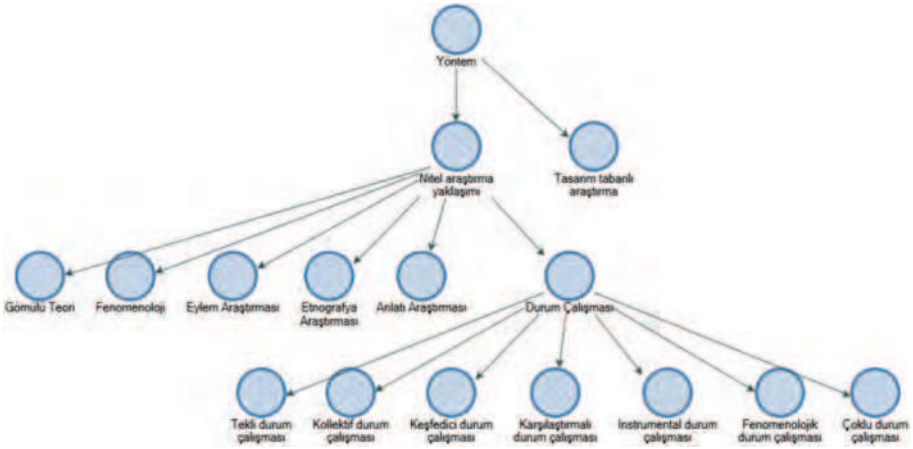


Şekil 1. Nitel araştırmaların konularına göre içerik analizi

Şekil 1 incelendiğinde, açık ve uzaktan öğrenme kapsamında 2014-2019 yılları arasında yayınlanan nitel araştırmalarda, özellikle açıktan ve uzaktan öğretimde öğrenmeyi destekleyen öğrenci katılımı, bulunuşluk, ders içi ve dışı etkileşim, iş birliği gibi konulara odaklanıldığı görülmektedir. Buna ek olarak kitlesel açık çevrimiçi dersler, açık eğitim kaynaklarını kapsayan çevrimiçi ders ve kaynaklar ve açık ve uzaktan öğretim sürecinde öğretim tasarımı, kullanılan pedagojik ve öğretim stratejileri gibi konuların da ele alındığı belirlenmiştir. Çevrimiçi öğrenenler, eğitmenler, paydaş rolleri, açık ve uzaktan eğitim kurumları konularının ise nispeten daha az odaklanılan konular olduğu belirlenmiştir.

Araştırma Desenlerine Göre İçerik Analizi

Açık ve uzaktan öğrenme alanında 2014-2019 yılları arasında yayınlanan nitel araştırmalar kapsamında durum çalışması başta olmak üzere, gömülü teori, anlatı araştırması, fenomenoloji, eylem araştırması ve etnografya araştırma desenlerinin kullanıldığı belirlenmiştir. Şekil 2'de kullanılan araştırma desenleri ayrıntılı olarak sunulmuştur.

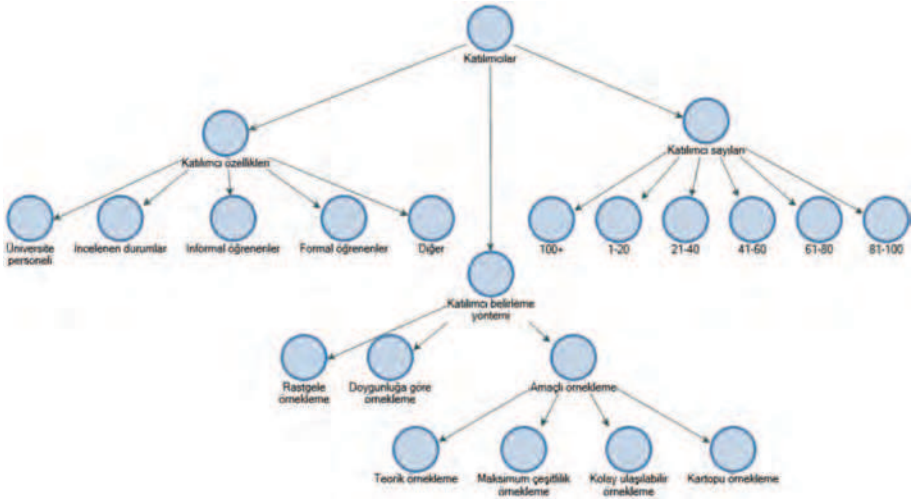


Şekil 2. Nitel araştırma desenlerine göre içerik analizi

Araştırma verilerinin bazılarında kullanılan nitel araştırma desenine ilişkin bir bilgi verilmezken, bazılarında ise genel olarak nitel bir araştırma yürütüldüğü belirtilmiştir. Şekil 2 incelendiğinde durum çalışması deseninin kullanıldığı bazı araştırmaların tekli ve çoklu durum çalışması türleri kapsamında desenlendiği belirtilirken, birçoğunda bu türlere göre desenleme yapılmamıştır. Bunun yanında tasarım tabanlı araştırmalar kapsamında nitel veri toplama ve analiz işlemlerinin gerçekleştirildiği az sayıda araştırmaya da rastlanmıştır.

Araştırma Katılımcılarına Göre İçerik Analizi

Açık ve uzaktan öğrenme alanında 2014-2019 yılları arasında yayınlanan nitel araştırmaların katılımcılarını belirleme yöntemleri, katılımcı özellikleri ve sayıları kapsamında incelenmiş ve Şekil 3'te ilgili sınıflandırma sunulmuştur.

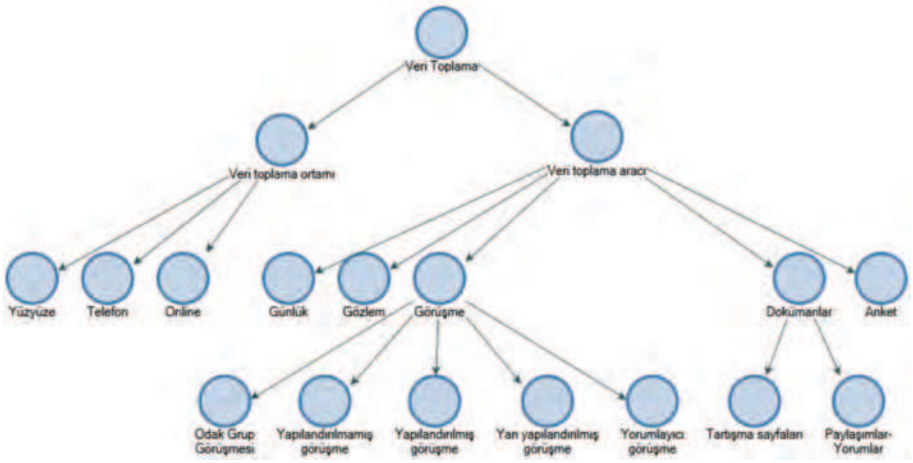


Şekil 3. Nitel araştırmaların katılımcılara göre içerik analizi

Şekil 3 incelendiğinde katılımcıların, açık ve uzaktan öğrenim gören farklı öğretim düzeyindeki formal öğrenim gören öğrenciler, açık ve uzaktan öğretim kurumlarında çalışan öğretmen, eğitmen ve destekleyici personelleri kapsayan üniversite personeli, mezunlar, yetişkinler gibi informal öğrenenlerden oluştuğu belirlenmiştir. Bazı araştırmalarda ise incelenen dokümanlar araştırma katılımcısı olarak belirtilmiştir. İlgili katılımcıların ise genellikle amaçlı örnekleme yoluyla belirlendikleri, rastgele ve doygunluğa göre örnekleme yöntemlerine ise nadiren başvurulduğu belirlenmiştir. Birçok araştırmada ise katılımcıların nasıl belirlendiği hakkında bir bilgi verilmemiştir. 2014-2019 yılları arasında yayınlanan nitel çalışmalardaki katılımcı sayılarının ise 1-100 ve üstü aralığında değiştiği, en fazla ise 1-20 aralığında katılımcı sayısı olan çalışmaların olduğu görülmüştür.

Veri Toplama Araçlarına Göre İçerik Analizi

Açık ve uzaktan öğrenme alanında 2014-2019 yılları arasında yayınlanan nitel araştırmalarda yarı yapılandırılmış görüşmeler, odak grup görüşmeleri ve kanıtların yer aldığı dokümanlar başlıca veri toplama araçları olarak kullanıldığı belirlenmiştir. Bunun yanında, anketler, gözlemler ve en az günlükler yoluyla veri toplandığı görülmüştür. Şekil 4'te veri toplama araçlarına göre gerçekleştirilen içerik analizi sunulmuştur.

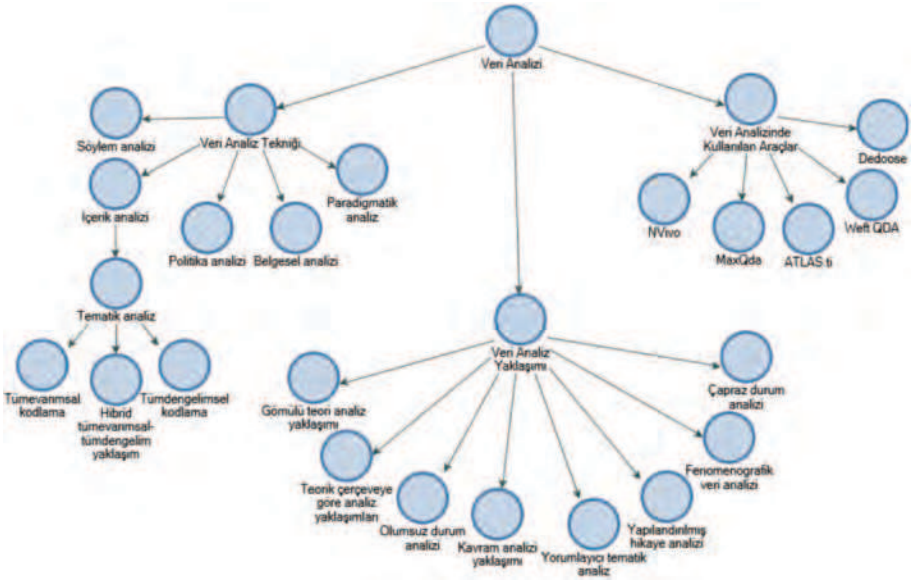


Şekil 4. Nitel araştırmaların veri toplama araçlarına göre içerik analizi

Şekil 4 incelendiğinde, açık ve öğrenme ortamlarında kullanılan iletişim ve etkileşim araçlarıyla elde edilen tartışma sayfaları, paylaşım/yorumlar ve notlar gibi kanıtlarla da verilerin toplandığı belirlenmiştir. Buna ek olarak verilerin yüz yüze, telefon ve en çok ise çevrimiçi yollarla toplandığı belirlenmiştir.

Veri Analizi Yöntemlerine Göre İçerik Analizi

Açık ve uzaktan öğrenme alanında 2014-2019 yılları arasında yayınlanan nitel araştırmalar, kullanılan veri analiz yöntemlerine göre veri analiz teknikleri, veri analiz yaklaşımları ve veri analizinde kullanılan araçlar kapsamında incelenmiştir. Şekil 5'te ilgili inceleme ayrıntılı olarak sunulmuştur.



Şekil 5. Nitel araştırmalarda kullanılan veri analizi yaklaşımları, teknikleri ve veri analizinde kullanılan araçlara göre içerik analizi

Şekil 5 incelendiğinde yayınlanan nitel araştırmaların veri analizinde kullanılan teknikler bakımından en fazla içerik analizinin kullanıldığı, bunun yanında ise söylem analizi tekniğinin de kullanıldığı belirlenmiştir. Bazı araştırmalarda belirtilen veri analiz tekniğinin yanında hangi veri analiz yaklaşımının kullanıldığına da değinilmiştir. Özellikle gömülü teori analiz yaklaşımı kapsamında sürekli karşılaştırma analiz yaklaşımına sıklıkla başvurulduğu belirlenmiştir. Ayrıca çalışmalarda ele alınan konular bazında etkinlik teorisi, sorgulama toplulukları gibi teorik çerçeveler kapsamında da verilerin analiz edildiği görülmüştür. 2014-2019 yılları arasında yayınlanan çalışmaların bazılarında nitel veri analizi için bilgisayar destekli analiz programlarından en fazla NVivo ve MaxQDA paket programlarının kullanıldığı belirlenmiştir.

TARTIŞMA VE SONUÇ

Bu çalışmada, açık ve uzaktan öğrenme alanında 2014-2019 yılları arasında beş hakemli dergide yayınlanan nitel araştırmaların konu, araştırma deseni, katılımcılar, veri toplama aracı ve veri analizi kapsamında içerik analizi gerçekleştirilmiştir. Elde edilen bulgular çerçevesinde açık ve uzaktan öğrenme alanındaki nitel araştırmalarda genel olarak;

- Öğrenmeyi arttırma ve öğrenme sürecini destekleyici konuların incelendiği,
- Durum çalışması ve türlerinin araştırma deseni olarak yoğunlukla kullanıldığı,
- Amaçlı örnekleme yoluna sıklıkla başvurulduğu,
- Yarı yapılandırılmış görüşme formları yanında, uzaktan öğrenmede kullanılan sistemlerin sunduğu tartışma sayfaları, paylaşımlar gibi kanıtların veri toplama aracı olarak kullanıldığı,
- Çeşitli veri analizi yaklaşımlarıyla birlikte içerik analizi tekniklerine sıklıkla başvurulduğu

sonuçlarına ulaşılabilir.

Açık ve uzaktan öğrenme alanındaki incelenen nitel araştırmalarla, öğrenciler, öğretmen veya eğitmenler, yardımcı personeller gibi katılımcılar ve bu öğrenme ortamlarıyla kayıt altına alınan tartışmalar, notlar, yorumlar gibi destekleyici kanıtlarla araştırma ortamının doğası bütüncül bir şekilde ele alınmaktadır. Metodolojik olarak bakıldığında ise incelenen nitel araştırmalarda, açık ve uzaktan öğrenme ortamları dışındaki alanlarda gerçekleştirilen nitel araştırmalarda olduğu gibi başvurulan araştırma deseni ve veri analizi yöntemlerinin karmaşık raporlandığı görülmüştür. Sonuç olarak, gerçekleştirilen araştırmayla açık ve uzaktan öğrenme alanında nitel araştırma yöntemleri ile ele alınan çalışma konularının hangi alanlarda yoğunlaştığı görülmüştür. Ayrıca araştırmalarda nitel araştırma yöntemleriyle yürütülen çalışmaların desen ve veri analiz yaklaşım ve teknikleri konusundaki eğilim ortaya konmuştur. Bu bağlamda gerçekleştirilen çalışma, açık ve uzaktan öğrenme alanında yapılacak olan nitel araştırmalarda, hangi konu alanları, çeşitli veri kaynaklarının hangi veri analiz yaklaşım ve tekniğiyle çözümlenmesi konularında araştırmacılara yol gösterici olacaktır.

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Açık ve Uzaktan Öğrenmede Engelli Öğrencilerin Öğrenimi Erteleme Durumlarının İncelenmesi

Muhammed DEMİR[1], Muhammet Recep OKUR[2]

Özet

Bu araştırmanın amacı açık ve uzaktan öğrenmede engelli öğrencilerin öğrenimlerini erteleme durumlarını incelemektir. Bu amaç doğrultusunda alanyazın taraması yapılmış ayrıca Anadolu Üniversitesi açıköğretim sistemi raporlarından yararlanılmıştır. Araştırmada okuldan ve programdan kaynaklı, öğrencinin kişisel özelliklerinden kaynaklı, sosyal çevreden kaynaklı öğrenimi erteleme durumlarının oluştuğu görülmüştür. Öğrenimi erteleme durumları içerisinde yalnızlık hissi, yüz yüze öğretime geçiş ve iş hayatına atılma gibi nedenler de bulunmaktadır. Açık ve uzaktan öğrenmede engelli öğrencilerin bu sistemi tam anlamamaları bu konudaki bilgi sınırlılıkları, okulu terk etmeleri hususunda çevrelerinden tepki almamaları gibi başlıklar alanyazında yer almaktadır. Engelli bireylerin açık ve uzaktan öğrenme ortamlarında öğrenime ara vermeleri konusunda bilimsel çalışmaların artırılması gerektiği tartışılmıştır. Ayrıca engelli öğrencilere yönelik açık ve uzaktan eğitim ile ilgili oryantasyon eğitimlerinin verilmesinin öğrenime ara vermeyi engelleyeceği vurgulanmıştır.

Anahtar Kelimeler: *Açık ve uzaktan öğrenme, engelli öğrenen, öğrenimi erteleme, bireysel farklılık.*

GİRİŞ

Yüz yüze eğitim imkânlarından yararlanmakta zorluk çeken bireylerin coğrafi konumları ve yaşam standartları nedeniyle eğitim yaşamlarını desteklemek adına uzaktan eğitim önemli bir eğitim ulaştırma yöntemidir (Erickson ve Larwin, 2016).Uzaktan eğitim sistemi özel gereksinimlere sahip bireylerin örgün eğitimde karşılaştıkları sorunlarla baş etmeleri noktasında bu bireylere kolaylık sağlamaktadır. Açıköğretimin özel gereksinimli bireylere sağladığı imkânları dile getirmeden önce örgün eğitim sisteminde bu bireylerin karşılaştıkları sorunları dile getirmek gerekmektedir. Yapılan araştırmalar çerçevesinde avantaj sahibi olmayan bireylerin yükseköğretimde karşılaştıkları sorunların çözümünde uzaktan öğretimin önemli bir fırsat yarattığı söylenebilir (Chambers, Varoglu ve Kasinskaite-Buddeberg, 2016). Bu bireylerin örgün eğitimde karşılaştığı sorunları açık ve uzaktan eğitim sistemlerinin ortadan kaldırabileceği düşünülmektedir. Açık ve uzaktan öğrenme uygulamaların kolay ulaşılabilirliği, bireysel farklılıkları dikkate alması, ekonomik anlamda hitap ettiği kesimin yelpazesinin geniş olması, ulaşılabilirlik açısından avantajlı olması gibi özellikleri nedeniyle bu alanda yoğun araştırmalar yapılmasına neden olmuştur (Forsyth ve Furlong, 2003). Yapılan araştırmalar ilk zamanlarda açık ve uzaktan öğrenme uygulamalarının içerikle ve bu alanların geliştirilmesiyle ilgiliyken zaman geçtikçe bu çalışmalar bireysel farklılıklara

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cevap verecek düzeye gelen çalışmalara dönmüştür (Masalela, 2008). Böylece engelli bireyleri de içine alacak şekilde bireysel anlamda farklılığı olan her bireye yönelik açık ve uzaktan öğrenme uygulamalarıyla ilgili araştırmaların artmasına neden olmuştur (Moore ve Kearsley, 2012).

Bireysel Farklılıklar ve Özel Gereksinimli Bireyler

Açık ve uzaktan öğrenme uygulamalarının bireysel farklılıklara, fırsat eşitliğine uygun özelliklerinin günlük yaşantıya geçirilmesine olanak sağlamasıyla eğitim hayatında yer almada problem yaşayan engelli bireylere birçok konuda kolaylıklar sağladığı ifade edilmektedir (Johnson, 2003; Masalela, 2008). Açık ve uzaktan öğrenme sistemlerinde yükseköğretimdeki engelli bireylerin; ulaşım, kültürel farklılıklar, ekonomik sıkıntılar gibi konularda birçok problemleri için yeniden yapılanma yoluna gidilmesi gerektiği ifade edilmiştir (Chambers ve diğerleri, 2016). Birçok ülke kendi eğitim sistemlerinde bu ihtiyaçları göz önüne alarak engelli bireylerin eğitimlerine yönelik birçok araştırma yapmaya başlamıştır (Masalela, 2008). Bu alanda yapılan araştırmalar neticesinde engelli bireylere yönelik açık ve uzaktan öğrenme uygulamalarının birçok imkân tanıdığını ifade etmektedir (Hashey ve Stahl, 2014; Masalela, 2008; Richardson, 2009; Shank, 2014). Bu imkânlara; aynı anda aynı yerde bulunma zorunluğunu ortadan kaldırması, bireylere destekleyici teknolojik araçlar sunması, kişiler arasındaki farklılıklardan ötürü var olan ayrımcılığı en aza indirgemesi, materyal açısından zengin çeşitliliğe sahip olması gibi imkânlar örnek verilebilmektedir.

Açık ve uzaktan öğrenme uygulamalarının toplumun tüm bireylerine özellikle engelli bireylere sağladığı bu imkânlar, yükseköğretimdeki eğitim kurumlarının tercih etmesine neden olmuştur. Yükseköğretimini tamamlayan engelli bireylerin ailelerine ve devlet desteğine duydukları bağımlılıklarının azaldığı görülmektedir (H. R. Turnbull, Turnbull, Wehmeyer ve Park, 2003). Gelişim açısından normal olan bireylere göre engelli bireyler yükseköğretimi tamamlamaya daha fazla ihtiyaç duymaktadır. Yükseköğretimini tamamlayan engelli bireylerde özgüven, problem çözme becerileri ve insan ilişkileri gelişim göstermektedir (Heward, Alber ve Konrad, 2018).

Öğrenimi Bırakma

Öğrenimi bırakma (Dropout) alanyazında geniş bir biçimde ela alınmış ve farklı tanımlamalar yapılmıştır. Dropout kavramı terketme, bırakma, ara verme, okul terketme, okul bırakma, öğrenime ara verme, öğrenimi bırakma gibi farklı kavramlarla eş kullanılmaktadır. Açıköğretim sisteminde öğrenciler belli bir dönem öğrenimlerine ara verebilir, sonrasında tekrar geri gelerek öğrenimlerine kaldıkları yerden devam edebilirler. Bu nedenle bu çalışmada "dropout" ile ilgili "öğrenimi bırakma" kavramı tercih edilmiştir. Açık ve uzaktan öğrenme sistemi yüz yüze eğitime göre yapı bakımından oldukça farklılıklar taşımaktadır. Fakat yapı bakımından taşımış olduğu farklılıklar açık ve uzaktan öğrenme alanındaki öğrenimlerin terk edilmesine engel olamamaktadır. Farklı bir eğitim kurumuna gitmeden var olunan eğitim ortamından ayrılma olarak tanımlanabilen okul terkinin (McWhirter, McWhirter, McWhirter ve McWhirter, 2001) açık ve uzaktan eğitimde ve yüz yüze eğitimde de küçümsenmeyecek derece olduğu bilinmektedir. Aksine yüz yüze eğitime göre açık ve uzaktan eğitimde ders görenlerin eğitimi bırakma yüzdeleri daha yüksektir (Parker, 1999). Oakley (2017)'in hazırladığı raporda 2016-2017 yılında uzaktan eğitimle verilen kursun ta-

mamlanma oranı %66 iken yüz yüze eğitimle verilen kursun tamamlanma oranının ise %70 olarak belirtilmiştir. Frydenberg (2007) iki yıllık çalışmasında çevrimiçi kurstan ayrılma oranını %21, yüz yüze kurstan ayrılma oranını ise %16 olduğunu belirtmiştir.

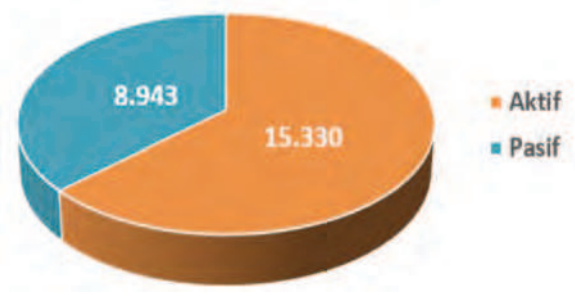
Alanyazın incelendiğinde okuldan ayrılma konusunda ayrılmaya neden olan birden fazla etken belirlenmiştir. Akademik başarının düşük olması, akranlarıyla arasındaki bağlanma sorunu, ekonomik ve sosyal açıdan yetersizlik (Battin-Pearson ve diğerleri, 2000), cinsiyet (Gregg, 2010), okuldan ve programdan kaynaklı, öğrencinin kişisel özelliklerinden kaynaklı, sosyal çevreden kaynaklı (Okur, Bas ve Gunes, 2019) nedenler okuldan ayrılma hususunda sayılabilecek önemli etkenlerdir. Açık ve uzaktan öğrenme sistemleri göz önüne alındığında okulu bırakma nedenleri bu sistemler için önem arz etmektedir. Bu yüzden bu alana çözüm getirilmesi düşünülmektedir. Bu araştırmada da daha önce bu alandaki araştırmalar incelenmiş ve açık ve uzaktan öğrenme sistemlerinde okuyan ancak pasif duruma düşen ve okulu terk eden bireylere yönelik çalışmalar incelenmiştir.

YÖNTEM

Bu araştırmanın amacı açık ve uzaktan öğrenmedeki engelli öğrencilerin öğrenimlerini erteleme durumlarını alanyazın çerçevesinde incelemektir. Bu amaca uygun olarak araştırmada alanyazın tarama modeli benimsenmiştir. Alanyazın tarama çalışmalarında, var olan durum ile ilgili bilginin düzeyinin belirlenerek değerlendirmesi amaçlanır. Ayrıca gelecekte araştırmaların hangi yöne doğru ilerlemesi gerektiği konusunda tartışmalar barındırır (Guzzo, Jackson ve Katzell, 1987). Bu çalışmada; açık ve uzaktan öğrenmenin önemli bir sorunu olan öğrenimi erteleme (dropout) engelli bireyler açısından incelenmiştir. Anadolu Üniversitesi Açıköğretim Sistemindeki engelli öğrencilerin aktif-pasif durumları alanyazın çerçevesinde tartışılmıştır. Bu doğrultuda problem ile ilgili olarak görüş ve öneriler sunulmuştur.

BULGULAR

Bu bölümde Anadolu Üniversitesi Açıköğretim Sistemindeki engel türlerine göre aktif-pasif öğrenci sayıları ve alanyazındaki bulgulara yer verilmiştir. 2018-2019 öğretim yılı güz dönemi itibariyle engel durumu bildiren aktif ve pasif olmak üzere toplam 24.273 öğrenci bulunmaktadır. Kayıt durumuna göre öğrencilerin dağılımı aşağıda Şekil 1'de verilmiştir (Engelli Ögrenci Destek Birimi, 2019, s. 9).



Şekil 1. Aktif-pasif engelli öğrenci sayıları

Engelli öğrenci birimi destek raporu (2019, s. 10)'na göre engel türleri bazında öğrenci sayılarının dağılımı Tablo 1'de verilmiştir.

Engel Türü	Öğrenci Sayısı	Engel Türü	Öğrenci Sayısı
Cp Hastası	12	Onkolojik Hastalıklar	231
Deri	461	Otizm	1
Destekle Yürüyor	8	Özgül/Özel Öğrenme Güçlüğü	2
Endokrin Sistemi	1.026	Sindirim Sistemi	768
Görme Sistemi	3.013	Sinir Sistemi	2.155
Hematopoetik Sistem	602	Solunum Sistemi	572
İç Hastalıkları (Dahiliye)	1.148	Tüm Vücut Fonksiyon Kaybı	5.017
Kadın Hastalıkları ve Doğum	123	Ürogenital Sistem	858
Kardiyovasküler Sistem	1.246	Yanıklar	79
Kas İskelet Sistemi	3.517	Yaygın Gelişimsel Bozukluk	11
Kulak Burun Boğaz Sistemi	2.028	Zihinsel, Ruhsal, Davranış Bozuklukları	1.193
Obezit	202		

Tablo 1. Engel türlerine göre öğrenci dağılımı

Açıköğretim Sisteminde öğrenim gören öğrencilerin büyük çoğunluğunun engel durumlarının geçici bir nitelik taşımaktan ziyade sürekli olduğu görülmektedir. Kayıt durumları bakımından aktif öğrencilerin yaklaşık %85'inin, pasif öğrencilerin ise yaklaşık %95'inin engel durumları süreklilik göstermektedir. Engelli öğrencilerin hangi programlarda öğrenim gördükleri incelendiğinde İşletme, Kamu Yönetimi, Adalet, Sosyal Hizmetler ve İlahiyat Programlarının ön sıralarda yer aldığı görülmektedir.

Engelli bireyler ve normal gelişime sahip bireyleri yükseköğretimden önceki eğitim süresince aile denetimleri altında yaşadıkları ifade edilmektedir. Fakat yükseköğretime başlayan bireylerden sorumluluk sahibi olması ve kendi kendilerine hayatlarını devam ettirebilmeleri beklenmektedir. Normal gelişim gösteren bireyler ve engelli bireyler yükseköğretimi tamamladıklarında toplumda bir yer edinebilmek adına gerekli becerileri edinerek eğitimlerini tamamlamaları gerekmektedir (A. P. Turnbull, Turnbull, Erwin, Soodak ve Shogren, 2014, s. 89). Engelli bireylerin toplumda yer edinip meslek sahibi olabilmeleri için eğitim seviyeleri yükseköğretim seviyesinde olmalıdır. Günümüz iş dünyasında bireyler iş şansını artırabilmek için eğitim seviyesini artırmalıdır. Engelli bireylerde iş sahibi olabilmeleri için eğitim seviyelerini artırmalıdır (Demir ve Eliöz, 2016). Yapılan araştırmalara göre günümüzde iş sahibi olan bireylerin hayatlarını devam ettirebilmek için yedi defa kariyerlerinde değişimlerde bulundukları ifade edilmektedir. Fakat engelli bireylere sağlanan imkânlara ve bireysel farklılıklara göre engelli bireylerin kariyerlerinde de değişimler yaşanmaktadır (Flexer, Baer, Luft ve Simmons, 2012, s. 280). Engelli bireylerin topluma katılabilmeleri, yükseköğretimi tamamlayabilmeleri için önlerindeki engeller ortadan kaldırılmalıdır. Bu engeller ortadan kaldırıldığında engelli bireylerin özgüvenleri artarak iş hayatındaki istihdamları kolaylaşacaktır (Demir ve Eliöz, 2016).

TARTIŞMA VE SONUÇ

Bu araştırmada açık ve uzaktan eğitime kayıt yapan daha sonra bu alanı terk eden engelli bireylerin okulu terk etme nedenleri alanyazından elde edilen bilgiler ele alınarak incelenmiştir. Bu amaca dönük daha önce bu alanda yapılan çalışmalar incelenmiştir. Yapılan inceleme sonucunda öğrencilerin okulu terk etme nedenleri arasında bireysel, ailevi, iş hayatı, açık ve uzaktan eğitim yapısını ve sistemini anlamama, zorlanma, örgün bir kuruma geçiş, yalnızlık hissi, ilgisizlik gibi etkenlerin olduğu saptanmıştır. Yapılan incelemelere göre bu etkenlerden en belirleyici olanları başka bir okula geçme, zorlanma ve sınavlar kısmı olmuştur. Engelli bireylerin sosyo-kültürel ve ekonomik anlamda yoksulluk durumu yaşaması okulu terk etmelerinin en önemli etkenleri arasında yer almaktadır. Farklı bir araştırmada çevrimiçi ders alanların dersi bırakmasının en önemli nedenleri arasında iş hayatına atılmaları ile okulun iş hayatlarına engel olması ve ekonomik nedenlerin yer aldığı görülmektedir (Willging ve Johnson, 2009).

Farklı nedenlerden dolayı öğrenenler öğrenimlerine ara vermektedirler. Açık ve uzaktan eğitim sisteminde öğrenime ara verme üzerinde çalışılması gereken önemli bir sorun olarak durmaktadır. Bu anlamda özellikle engelli ya da dezavantajlı olarak isimlendirilen bireylerin öğrenimlerine ara verme durumları ayrıca inceleme konusudur. Bu bireylerin özel gereksinimleri dikkate alındığında farklı destek sistemleri geliştirilmesi gerekecektir.

İlgili alanyazın ve sayısal verilere dayalı olarak öğrencilerin açık ve uzaktan öğrenme ortamlarında öğrenimlerine ara vermelerini engellemenin ilk ve en önemli koşulu uzaktan eğitim konusunda bilinçlendirme yapılmasıdır. Öğrencilerin açık ve uzaktan öğrenme sistemine ilk kayıt anından başlayarak oryantasyona alınması önerilmektedir. Öğrenme ortamları, ölçme ve değerlendirme, mezuniyet koşulları, öğrencilik hakları, danışmanlık gibi sistemin farklı bileşenleri için bu tür bir oryantasyon öğrenen açısından oldukça yararlı bilgiler sunacaktır.

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Türkiye'de Eğitim Teknolojisi Alanında Yayımlanan Lisansüstü Tezlerin Metin Madenciliği ile İncelenmesi

Güneş AKÇA[1], Ergün AKGÜN[2]

Özet

Büyük verilerin analizi ve yorumlanması, anlamlı bilgi çıkarılması veri madenciliğinin çalışma alanlarındandır. Veri madenciliğinin eğitim amaçlı kullanımı ise eğitsel veri madenciliği olarak adlandırılmıştır. Eğitsel veri madenciliği kullanım alanlarına göre kendi içinde farklı alt başlıklara ayrılmakta olup, bu alt başlıklardan bir tanesi de metin madenciliğidir. Bu çalışmanın amacı Türkiye'de eğitim teknolojisi ve bilgisayar ve öğretim teknolojileri eğitimi (böte) alanlarında yapılmış tez çalışmalarında en çok hangi kavramların çalışıldığı ve yıllara göre nasıl değişkenlik gösterdiğini ortaya çıkarmaktır. Bu amaçla 2004-2018 yılları arasında Türkiye'de eğitim teknolojisi ve bilgisayar ve öğretim teknolojileri eğitimi (BÖTE) alanında yayınlanmış 1534 adet tez, eğitsel veri madenciliği yöntemlerinden metin madenciliği ile analiz edilmiştir. Veri analizi aşamasında metin madenciliği analizinin ön aşamaları gerçekleştirilmiştir. Analiz sonucunda yıllara göre tez sayıları, alanda en çok çalışılan konular ve alandaki yönelimler ortaya çıkarılmıştır. Araştırmada incelenen 15 yıllık periyottaki zaman diliminde çalışılan alanlar ve kavramlar değişkenlik göstermiş, son yıllarda oyun, mobil ve dijital kavramları ön plana çıkmıştır.

Anahtar Kelimeler: *Metin madenciliği, eğitim teknolojisi, bilgisayar öğretim teknolojileri eğitimi*

GİRİŞ

İçinde bulunduğumuz yüzyıla ismini veren "bilgi"ye erişim, bilgiye erişme yollarındaki artışla birlikte kullanıcılar için gün geçtikçe kolaylaşmaktadır. Bilgiye erişme yollarındaki artışa paralel olarak, veri çeşidinde ve veri toplama kaynaklarında da bazı dönüşümler yaşanmaktadır. Bu dönüşümler sonucunda toplanan verinin niceliksel ve niteliksel büyüklüğünde meydana gelen olağanüstü artış, bilim dünyası için yeni bir problem durumu ortaya çıkarmaktadır. Bu problem durumunun temelinde erişilen kitlesel verinin toplanması, tasniflenmesi, temizlenmesi, analiz edilmesi ve bir örüntü elde edilmesi yatmaktadır. Bu problemle başa çıkma yollarında kullanılan yöntemlerin tanımlanması sürecinde veri madenciliği, veri tabanlarından bilgi keşfi, bilgi çıkarma, bilgi keşfi, bilgi toplama, veri arkeolojisi ve veri deseni işleme süreci (Fayyad ve diğ., 1996) gibi terimler kullanılmaktadır.

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En sık kullanımıyla veri madenciliğini; büyük miktardaki verilerden amaca ilişkin değerli verinin keşfedilip tahmin ve çıkarımlar yapılması, ilişki ve kuralların belirlenmesi (Kayrı, 2008) ve bu ilişki ile kurallardan yola çıkarak örüntüler oluşturulması (Han, Kamber ve Pei, 2012) olarak tanımlamak mümkündür. Odağı veri olan bu yöntemin eğitim, pazarlama, mühendislik, finans, beyin ve biliş, ekonomi, işletme gibi birçok alanda (Akgün ve Demir, 2018) kullanımına rastlamak mümkündür.

Veri madenciliğinin eğitsel amaçlarla kullanımı eğitsel veri madenciliği olarak tanımlanabilir. Eğitsel veri madenciliği farklı alanlarla ilişkili bir şekilde çalışan disiplinler arası bir alandır (Şekil 1). İstatistik, eğitim ve bilgisayar ana alanların kesişim kümesini oluşturmasının yanı sıra e-öğrenme, öğrenme analitiği ve veri madenciliği ile de ilişkilidir.

Şekil 1. Eğitsel Veri Madenciliği ile İlişkili Alanlar (Boushbia ve Blamri, 2014).

Eğitsel veri madenciliği; öğrenci başarısının tahmin edilmesinin yanında öğrenciler için öğrenmelerini kolaylaştıracak etkinlikler, eğitimciler için daha nesnel geri bildirim verme, ders içeriğini, öğrenme sürecindeki etkinliğini değerlendirme imkânı sunma, öğrencileri ihtiyaçlarına göre gruplandırıp rehberlik etme, araştırmacılar ve yöneticiler için kurumsal kaynakları ve bunları daha iyi nasıl organize edileceği ile ilgili önlemlere sahip olma imkanları sağlamaktadır (Romero ve Ventura, 2007). Eğitsel veri madenciliği kullanım amaçlarına göre farklı araştırmacılar tarafından farklı kategorilere ayrılmıştır. Hem teknolojinin gelişmesi hem de bu alandaki literatür çalışmalarının daha fazla derinleşmesi, kategorilerin şekil değiştirmesinde etkili olmuştur (Tablo 1.)

Romero ve Ventura (2007)	Baker ve Yacef (2009)

• İstatistik ve Görselleştirme
• Web Madenciliği
  • Kümeleme, Sınıflama, Anamoli Tespiti
  • Birliktelik Kuralı ve Sıralı Örüntü Madenciliği
  • Metin Madenciliği
	• Tahmin
	  • Sınıflama
	  • Regresyon
	  • Yoğunluk Tahmini
	• Kümeleme
	• İlişki Madenciliği
	  • Birliktelik Kuralı
	  • Korelasyon
	  • Ardışık Model
	  • Nedensellik
	• İnsan Karar Alma Süreçleri için Verinin Distilasyonu
	• Modellerle Keşif

Tablo 1. Eğitsel Veri Madenciliği Sınıflandırması

Romero ve Ventura (2007)'nın sınıflandırmasına göre eğitsel veri madenciliği yöntemleri aşağıda kısaca açıklanmıştır.

İstatistik ve Görselleştirme

İstatistik, verilerin toplanması, derlenmesi, analiz edilmesi, yorumlanması ve özetlenmesi olarak açıklanırken (Heathcote ve Dawson, 2005), görselleştirme ise geleneksel veri madenciliği yöntemleri ve veri görselleştirme araçlarıyla insan algısını daha fazla ve daha etkili kullanmasını sağlamak amacıyla kullanılmaktadır (Müller ve Schumann, 2002).

Web Madenciliği

Web madenciliği web verilerinden bilgi elde etmek için kullanılmaktadır. Eğitimde kullanılan web madenciliği kullanım amaçlarına göre üç alt kategoriye ayrılmaktadır; (1) kümeleme, sınıflandırma ve anamoli tespiti, (2) birliktelik kuralı ve sıralı örüntü ve (3) metin madenciliğidir (Romero ve Ventura, 2007).

Kümeleme, Sınıflama ve Anamoli Tespiti: Kümeleme algoritmaları özellikle veri kümesindeki kategorilerin önceden bilinmediği durumlarda faydalı olup verilerde homojen gruplar bulmayı amaçlamaktadır (Baker, 2010). Sınıflandırma, farklı verilerden elde edilen sonuçları kullanarak verilerin değerleri hakkında öngörüde bulunur (Romeo ve Ventura, 2007). Anamoli tespiti ise büyük bir veri setinden öğrenme olaylarını veya etkili uygulamaları keşfetmek için kullanılan bir tekniktir (Romero ve Ventura, 2013).

Birliktelik Kuralı ve Sıralı Örüntü Madenciliği: Sıralı örüntü madenciliği, ardışık düzen veya ardışık olayların oluşumları arasındaki ilişkileri keşfetmek amacıyla kullanılırken (Romero ve Ventura, 2010) birliktelik kuralı belirli bir girdi modeli için değişkenler ve nitelik grupları arasındaki ilişkileri keşfetmek amacıyla kullanılan bir yöntemdir (Aldowah, Al-Samarraie ve Fauzy, 2019).

Metin Madenciliği: Metin madenciliği veya bir diğer adıyla metin analitiğinin amacı, metinden yüksek kaliteli bilgi elde etmektir. Metin madenciliği belge kümeleme, belge sınıflandırma, konu tespiti, metin özetleme, duyarlılık analizi, sosyal ağ analizi, web sayfası sınıflandırması, yazarın tanımlanması, intihal tespiti, kimlik avı, kötü amaçlı yazılım analizi gibi birçok görevi içermektedir (Kumar ve Ravi, 2016). Metin madenciliğinin eğitsel amaçlı kullanımı için tartışma forumlarının, sohbetlerin, web sayfalarının, belgelerin, vb. içeriğin analiz etmek için kullanılmıştır. (Tane, Romero ve Ventura, 2013). Metin madenciliği sınıflandırma, kümeleme, birliktelik kuralı madenciliği, metin özetleme ve konu tespiti / tanımlaması olmak üzere beş kategoriye ayrılmaktadır (Kumar ve Ravi, 2016).

Literatürde tahmin, kümeleme, ilişki madenciliği, metin madenciliği gibi yöntemlerle yapılan eğitsel veri madenciliği çalışmalarının sayısı son yıllarda giderek artmıştır (Baker, Govda ve Corbett, 2011; Hung, 2012; Şengür ve Metin, 2013; Turhan, Kurt, Engin, 2013; Bilen, Hotaman, Aşkın ve Büyüklü, 2014; Ahmed, Rizaner ve Ulusoy, 2016; Laengle, Merigó, Miranda, Słowiński, Bomze, Borgonovo, Dyson, Oliveira ve Teunter; 2017; Merigo, Pedrycz, Weber ve Sotta, 2018).

Alandaki eğilimlerin ortaya çıkarılması ve bu alanda çalışma yapmak isteyen araştırmacılara yol gösterici olması için, tez çalışmaları ve belirli bir derginin ya da dergilerin yayınlarının analiz edilip yönelimlerin çıkarılması önemli rol oynamaktadır (Karadağ, 2009). Bu amaç doğrultusunda literatürde hem eğitim teknolojisi alanında hem de diğer alanlarda yapılan içerik çalışmalarına sıkça rastlanmaktadır (Sert, 2010; Güvelioğlu, 2019; İlhan, 2017; Çiftçi, 2011; Mavi ve Uzunboylu, 2014; Kılıç Çakmak, Çebi, Mihçi, Günbatar ve Akçayır, 2013; Keser ve Özcan, 2011; Shih, Feng, Tsai, 2008; Jaewoo ve Woonsun, 2014; Küçük, Aydemir, Yıldırım, Arpacık, Göktaş, 2013; Kılıç Çakmak, Özüdoğru, Bozkurt, Ülker, Özgül Ünsal, Boz, Bozkurt, Ergül Sönmez, Baştemur Kaya, Karaca, Bahadır ve *Üstün Gül,* 2016). Bu çalışmalar incelendiğinde, yayınların tarama çalışmaları etrafında yoğunlaştığı dikkat çekicidir. Ayrıca bu çalışmalarda, yayınlanma yılı, örneklemi, kullanılan teknolojiler, veri toplama araçları, analiz yöntemleri, yazar sayısı gibi değişkenlerin incelenmiş ve alanın yönelimleri çıkarılmaya çalışılmıştır. Buna karşın metin madenciliği kullanılarak analiz yapılan çalışmalara daha çok yabancı literatürde karşılaşılmış (Laengle ve diğ., 2017; Hung, 2012, Merigo, Pedrycz, Weber ve Sotta, 2018), Türkçe literatürde rastlanmamıştır.

Bu çalışmanın amacı metin madenciliği yöntemi kullanılarak geçmişten günümüze eğitim teknolojileri araştırmalarındaki eğilimleri ortaya çıkarmaktır. Bu amaç doğrultusunda bu araştırmada aşağıdaki sorulara yanıt aranmaktadır.

1. Türkiye'de Eğitim Teknolojisi ve BÖTE alanlarında yapılmış tezlerde en çok hangi konular çalışılmıştır?
2. Türkiye'de Eğitim Teknolojisi ve BÖTE alanlarında yapılmış tezlerde çalışılan konularda yıllar arasında nasıl bir değişiklik meydana gelmiştir?

YÖNTEM

Bu çalışmada nitel araştırma yöntemlerinden içerik analizi yöntemi kullanılmıştır. İçerik analizi metinlerin belirli kurallar çerçevesinde kodlanarak kategorileştirme, sistematik ve nesnel bir tanımlama yaparak çıkarım yapmaya olanak sağlayan bir yöntemdir (Stemler, 2001).

Veri Kaynakları

Bu çalışmada 2004 ve 2018 yılları arasında Ulusal Tez Merkezinde bulunan eğitim teknolojisi ve böte alanlarında yapılmış 1534 adet tez incelenmiştir. Bu tezlerde bulunan İngilizce özetler araştırmanın veri kaynağını oluşturmaktadır.

Veri Analizi

Bu çalışmanın veri analizinde metin madenciliği yöntemi kullanılmıştır. Toplanan ham veriler ön işleme aşamasından geçmiştir. Ön işleme aşamasının alt basamakları veri temizleme, veri dönüştürme, veri birleştirme olarak sıralanmaktadır. Veri temizleme aşamasında; toplanan veriden ilgisiz olanlar tespit edilip ayıklanmaktadır. Veri dönüştürme aşamasında toplanıp ayıklanan veriler standart hale dönüştürülmektedir. Veri birleştirme aşamasında ise; çeşitli veri kaynaklarından toplanan veriler tek bir ortamda birleştirilerek hazır hale getirilmektedir (Romeo ve Ventura, 2007). Metin madenciliği ile yapılan kelime bulutunun internet ortamında bulunan herhangi bir platformda oluşturulan kelime bulutundan farkı verinin ayıklanıp, "ve", "veya" gibi etkisiz kelimelerin bulutta yer almamasıdır.

BULGULAR

Yapılan veri analizinde ham verilerin ön işleme adımlarından veri temizleme sonucu elde edilen temizleme oranları aşağıdaki tabloda gösterilmiştir (Tablo 2).

Yıl	2004	2005	2006	2007	2008	2009	2010
Temizleme Oranı	0.8117	0.7747	0.7584	0.7465	0.7423	0.7503	0.7429

Yıl	2011	2012	2013	2014	2015	2016	2017	2018
Temizleme Oranı	0.7317	0.7289	0.7337	0.7323	0.7233	0.7248	0.7327	0.7331

Tablo 2. Veri Temizleme Oranları

Veri analizi sonucunda yıllara göre tez sayıları ve yıl bazlı kullanılan kelimeler bulgularına ulaşılmıştır. Yıllara göre tez sayıları aşağıdaki tabloda gösterilmiştir (Tablo 3).

Yıl	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Tez Sayısı	23	36	51	60	72	80	120	101	136	125	109	155	136	140	190

Tablo 3. Yıllara Göre Yapılan Tez Çalışmaları

Tez sayıları incelendiğinde en az 2004 yılında ve en fazla 2018 yılında tez çalışması yapıldığı görülmektedir. Alanda yapılan tez çalışmalarının sayıları her yıl artarak devam etmiştir. Yıllara göre tezlerde kullanılan kelimeler metin madenciliği yöntemiyle kelime bulutu ile yıl bazlı aşağıdaki görselde sunulmuştur (Şekil 2).

Şekil 2. 2004-2018 Yılları Arasındaki Tez Özetlerinin Kelime Bulutları

Kelime bulutu incelendiğinde en çok kullanılan 10 kelime; öğrenci, çalışma, grup, araştırma, öğretmen, veri, eğitim, sonuç, seviye kelimeleridir. Teknoloji (technology), araştırma (research), çalışma (study) ve grup (group) kelimelerinin ön planda olmasının nedeni çalışmaların özetlerinde yer alan "Bu çalışma (this study)…", "Bu araştırma (this research)…", "bu grup (this group)…" ile başlayan cümlelerden kaynaklandığı söylenebilir. Bunun yanı sıra veri (datum) ifadesi de veri analizi ya da veri araçlarını açıklamak üzere tezlerin özet bölümlerinde yer aldığı için kelime bulutlarında sıklıkla rastlanmaktadır. Kelimelerin kullanımları yıllara göre değişkenlik göstermektedir. Bazı kelimeler bazı yıllarda ön planda olmasına rağmen bazı yıllarda çok az kullanıldığı görülmektedir. Bunu durum yıllara göre çalışılan tez sayılarından kaynaklandığı söylenebilir (Tablo 3).

Tez çalışmalarının eğitim teknolojisi ve böte alanında yapılan çalışmalar olması itibariyle 2004 yılında hiç kullanılmasa da diğer tüm yıllarda öne çıkan iki kelime teknoloji ve bilgisayar kavramlarıdır. Bunun yanı sıra 2004 yılında *internet, web, yazılım (software)* kavramları da sıkça kullanılmıştır. 2005 yılında ise *teknoloji (technology*), *bilgisayar (computer), internet* ve *uzaktan (distance)* kelimelerine yer verilmiştir. 2006 yılında *teknoloji (technology), bilgisayar (computer), web, yazılım (software);* 2007 yılında *teknoloji (technology), bilgisayar (computer), internet, çevrimiçi (online), web ve dijital (digital)*; 2008 yılında, t*eknoloji (technology), bilgisayar (computer),* ***çevrimiçi*** *(online), web, yazılım (software)*; 2009 yılında *teknoloji (technology), bilgisayar (computer), internet* ve *web*; 2010 yılında *teknoloji (*technology), *bilgisayar (*computer) ve *yazılım (software)*; 2011 yılında *teknoloji (*technology), *bilgisayar (computer*), *internet, web,* ***çevrimiçi*** *(online*); 2012 yılında *teknoloji (*technology), *bilgisayar (*computer), çevrimiçi (online); 2013 yılında *(*technology), *bilgisayar (computer*), *internet* ve *bit (ict)*; 2014 ve 2016 yıllarında *(technology*), *bilgisayar (computer*), *internet* ve *web*; 2015 yılında da 2014 ve 2016 yıllarından farklı olarak *oyun (game)* konusu ilk kez çalışılmıştır. 2017 yılında yalnızca *mobil (mobile)* ve 2018 yılında ise ve *dijital (digital)* kelimeleri ilk kez yer almıştır.

TARTIŞMA VE SONUÇ

Bu çalışmada eğitsel veri madenciliği yöntemlerinden metin madenciliği kullanılarak alanda en fazla çalışılan ve yıllara göre değişkenlik gösteren konular çıkarılmaya çalışılmıştır.

Alanyazın incelendiğinde benzer çalışmalara rastlamak mümkündür. Küçük, vd. (2013) çalışmasında 94 dergide yayımlanan toplam 1151 makale incelemiş, öğrenme ortamları, uzaktan eğitim ve multimedya konularının en çok araştırıldığı sonucunu elde etmişlerdir. Küçük, vd (2013)'ün çalışmasında elde edilen sonuçlar bu çalışmadaki bazı bulgular benzerlik göstermemektedir. Çalışmada elde edilen bulgulara göre uzaktan eğitim kavramlarının kullanımı yalnızca bir yılda kullanılmışken, öğrenme ortamı kavramı neredeyse her yıl kullanıldığı görünmektedir. Sert (2010) yaptığı çalışmasında 1989-2009 yılları arasında yayımlanan Türkiye adresli 173 makale incelemiş ve en çok kullanılan anahtar kelimelerin tutum, karma öğrenme, uzaktan eğitim, bilgi ve iletişim teknolojileri, çoklu ortam, başarı olduğu sonucuna ulaşmıştır. Mavi ve Uzunboylu (2014) çalışmasında 2009-2013 yılları arasında 88 makale incelemiş, öğrenme ortamları ve teknoloji kelimelerinin en çok kullanıldığını ve uzaktan eğitim, çoklu ortam ve öğretmen eğitiminin ise bu kelimeleri takip ettiği sonucunu elde etmişlerdir. Shih, Feng, Tsai (2008) çalışmasında toplam SSCI indeksli toplam 444 makale incelemiş ve en çok öğretim yaklaşımları, öğrenme ortamları ve üst bilişsel kavramlarının en çok çalışıldığını belirtmiştir. Buna karşılık elde edilen bulgulara göre tez çalışmalarında uzaktan eğitim kavramı ile ilgili çok fazla çalışmaya rastlanmamıştır. Tutum kelimesinin 2009 yılına kadar bazı yıllarda kullanıldığını 2009 yılından itibaren kullanım sıklığının çok azaldığı dikkat çekmiştir. Elde edilen bulgulara göre tezlerde ve makalelerde ortam çalışmalarının sıklıkları paralellik göstermektedir. Bilgi ve iletişim teknolojileri (BİT) konusu makalelerde en sık kullanılan kavram olarak bulunmuş

ancak tezlerde 2013 yılı dışında hiç kullanılmamıştır. Öğretim yaklaşımları, karma öğrenme ve multimedya kelimelerinin ise tezlerde hiç kullanılmadığı dikkat çekmiştir. Deneysel ve nicel kelimelerinin kullanım durumlarına bakıldığında ise tezlerde nicel yöntemlerin daha fazla olduğu yorumu yapılabilir. Çakmak vd. (2016), Mavi ve Uzunboylu (2014), Kılıç Çakmak, vd. (2013) yaptığı çalışmalardaki sonuçlar da çalışmanın bu sonucuyla paralellik göstermiştir.

Elde edilen bulgulardan 15 yıllık bir zaman periyodunda teknoloji ve bilgisayar kavramlarının yerini hep koruduğu bunun yanı sıra web ve bilgi ve iletişim teknolojileri kavramlarının popülerliğini kaybettiğini ve son yıllarda oyun, mobil, dijital kavramlarının daha çok çalışıldığı sonucu çıkarılmıştır. Bununla birlikte yapılan çalışmaların araştırma türlerinin hem tezlerde hem de makalelerde benzerlik gösterdiği söylenebilir.

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Öğretim Üyelerinin Öğrenme Yönetim Sistemlerini Kullanma Becerilerinin Geliştirilmesine Yönelik Müdahalelerin Tasarlanması ve Değerlendirilmesi

Meva BAYRAK KARSLİ[1], Sinem KARABEY[2], Selçuk KARAMAN[3]

Özet

Bu çalışmada öğretim üyelerinin Öğretim Yönetim Sistemi (ÖYS) kullanma becerilerinin geliştirilmesine yönelik çeşitli müdahalelerin tasarlanması ve değerlendirilmesi amaçlanmıştır. Bu amaçla çalışmada nitel araştırma yöntemlerinden durum çalışması yöntemi kullanılmıştır. Atatürk Üniversitesi bünyesinde pilot uygulama birimleri olarak seçilen Eğitim Bilimleri Enstitüsü, Eczacılık Fakültesi, İletişim Fakültesi, Mühendislik Fakültesi ve Su Ürünleri Fakültesi'nde görev yapmakta olan öğretim üyeleri oluşturmaktadır. Çalışmada öğretim üyelerinin ÖYS'yi mevcut kullanma durumlarını belirlemek amacıyla ÖYS kullanım verilerinin tutulduğu log dosyaları ve ÖYS kullanımını etkileyebilecek faktörleri belirlemeye yönelik görüşme formu veri toplama aracı olarak kullanılmıştır. Görüşmeler sonucunda elde edilen veriler doğrultusunda öğretim üyelerinin ÖYS kullanımlarını artırmak üzere müdahaleler planlanmış ve uygulanmıştır. Çalışma kapsamında bilgilendirme sunumu, ÖYS kullanım kılavuzu ve ÖYS tanıtım videoları olmak üzere öğretimsel ve motivasyonel olmak üzere 3 farklı müdahale geliştirilmiş ve uygulanmıştır. Müdahaleler sonucunda öğretim üyelerinin ÖYS kullanma oranları birim bazlı değişmek üzere %28'e varan oranda artış göstermiştir. Elde edilen bu sonuçlar öğretim üyelerine uygulanan öğretimsel ve motivasyonel müdahalelerin olumlu yönde etki gösterdiğini ortaya koymuştur. ÖYS kullanım oranlarının daha fazla artırılabilmesi için ise öğretim üyelerinin bireysel özellik ve ihtiyaçlarına dayalı müdahalelerin geliştirilip uygulanmasının etkili olabileceği sonucuna varılmıştır.

Anahtar Kelimeler: *Öğrenme yönetim sistemleri, harmanlanmış öğrenme, öğretimsel müdahaleler, motivasyonel müdahaleler, teknoloji kabulü*

GİRİŞ

Bilişim teknolojilerindeki hızlı gelişmeler, ülkemizde ve dünyada birçok disiplin alanını etkilemektedir. Bu disiplin alanlarından biri olan eğitim alanında bilişim teknolojilerinden yararlanma eğilimi gün geçtikçe artış göstermektedir. Bilişim teknolojilerindeki yaygın kullanımın bir yansıması da web ortamlarının eğitimde kullanımıdır. Web ortamlarının eğitimde kullanımı ile hem yüz yüze öğrenme hem de çevrimiçi (online) öğrenme ortamlarının avantajlı yanlarını birleştirmeyi amaçlayan harmanlanmış (blended) öğrenme ortamları son yıllarda oldukça yaygınlaşmaktadır (Akkoyunlu ve Soylu, 2008; Garnham ve Kaleta, 2002; Horton, 2002; Osguthorpe ve Graham, 2003; Demirer, 2009). Harmanlanmış öğrenme ortamlarında yaygın olarak kullanılan önemli araçlardan biri de Öğretim Yönetim Sistemleri (ÖYS) dir.

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ÖYS platformları, genel özellikleri itibariyle, eğitim içeriğinin çevrimiçi olarak sunulmasını, etkileşimi, işbirliğini, öğrenci katılımı, öğrenci aktivitelerinin sistem üzerinden izlenmesini ve raporlanmasını sağlayan entegre bir araçtır (Allen, 2012; Rouse, 2005). Tüm bu özellikleri sayesinde ÖYS'ler yüz yüze ve çevrimiçi öğrenme ortamlarını birleştirmekte, yönetimi kolaylaşmakta ve yapısı güçlenmektedir (Özdoğru ve Çağıltay, 2007).

Harmanlanmış öğrenme ortamlarında ÖYS kullanımının öğrenciler üzerindeki etkisine odaklanılan çalışmalarda, ÖYS kullanımının öğrencilerin başarı, motivasyon ve derse karşı tutumları üzerinde olumlu yönde etkilerinin olduğu, ÖYS'nin öğrenmelerini teşvik eden, derse karşı sorumluluk duygularını artıran bir eğitim ortamı olarak görüldüğü ifade edilmiştir (Little-Wiles, Hundley, Worley and Bauer, 2012; Dahlstrom, Brooks ve Bischel, 2014; Lang ve Pirani, 2014, Sanders, 2012). Öğretim üyelerinin ÖYS kullanımına ilişkin yapılan çalışmalara genel olarak bakıldığında ise; öğretim üyelerinin ÖYS kullanım durumlarının öğretim üyelerinin kendilerine duydukları güven (Ball & Levy, 2008), uzaktan eğitime karşı tutumları (Leidner & Jarvenpaa, 1995), teknoloji kullanımına yönelik yeterlilikleri (Vankatesh & Davis, 2000) bireysel farklı faktörlerle ilişkili olduğu görülmektedir. Bu bireysel faktörlerin yanı sıra kurumların verdikleri farklı destek türlerinin (Sumner & Hostetler, 1999) de ÖYS kullanımı ile ilgili ilişkili olduğu bilinmektedir. Bir başka açıdan ise teknolojinin kendi sunduğu kolaylık ve fayda (Vankatesh & Davis, 2000) gibi seçenekler de ÖYS kullanımını etkilemektedir. Ancak bu faktörlerin kontrol altına alınması ve öğretim üyelerinin ÖYS kullanım eğilimlerini artıracak müdahalelerin tasarlanması ve geliştirilmesi gerekmektedir. Yalnızca ÖYS kullanımını etkileyen faktörlerin belirlenmesi, bu sistemlerin teknik olanaklarının iyileştirilmesi veya öğrenciler üzerindeki etkisinin incelenmesine yönelik çalışmalar, ÖYS kullanımının yaygınlaştırılması noktasında yeterli olmayacaktır. Bu nedenle ÖYS kullanımını yaygınlaştırmaya yönelik somut adımlar atılan çalışmalara ihtiyaç vardır. Bu kapsamda bu çalışmada Atatürk Üniversitesi Öğrenci Bilgi Sistemi'ne entegre edilmiş ÖYS'nin kullanımının yaygınlaştırılmasına yönelik üniversitede görev yapan öğretim üyeleri ile bir çalışma yürütülmüştür. Çalışmada Atatürk Üniversitesi'nde görev yapmakta olan öğretim üyelerinin ÖYS'yi kullanma becerilerinin geliştirilmesine yönelik çeşitli müdahalelerin tasarlanması ve değerlendirilmesi amaçlanmıştır. Bu amaç kapsamında çalışmada aşağıda yer alan araştırma sorularına cevap aranacaktır:

1. Öğretim üyelerinin müdahaleler öncesi öğrenme yönetim sistemlerini kullanım durumları nasıldır?
2. Öğretim üyelerinin müdahaleler sonrası öğrenme yönetim sistemlerini kullanım durumları nasıldır?
3. Öğretim üyelerinin öğrenme yönetim sistemi kullanımlarını etkileyen bireysel ve çevresel faktörler (bilgi/kaynak/motivasyon) nelerdir?

YÖNTEM

Bu çalışmada nitel araştırma yöntemlerinden durum çalışması yöntemi kullanılmıştır. Durum çalışması, bir durumun bütüncül ve derinlemesine tanımlama ve analiz (Meriam, 1988; Creswell, 2007) süreçlerini içerdiğinde, durum kendi ortamında oluştuğunda, duruma ilişkin etkenler arasındaki sınır net bir şekilde belli olmadığında ve birden fazla veri kaynağı olduğunda kullanılan araştırma yöntemidir (Yin, 2003).

Çalışma Grubu

Araştırmanın çalışma grubunu Atatürk Üniversitesi Eğitim Bilimleri Enstitüsü, Eczacılık Fakültesi, İletişim Fakültesi, Su Ürünleri Fakültesi ve Mühendislik Fakültesi'nde görev yapmakta olan öğretim üyelerinden oluşmaktadır. Araştırma kapsamında yapılan görüşmelerde çalışmanın örneklem grubunu pilot uygulama birimleri olarak seçilen fakülte/enstitülerde görev yapan öğretim üyelerinden maksimum çeşitlilik örnekleme yöntemiyle seçilen 15 öğretim üyesi oluşturmaktadır. Öğretim üyeleri seçilirken ÖYS kullanım verileri dikkate alınarak ÖYS'yi en aktif kullanan, ÖYS'yi pasif kullanan ve ÖYS'yi kullanmayan öğretim üyelerinin seçilmesine özen gösterilmiştir.

Veri Toplama Araçları

Çalışmada veri toplama aracı olarak öğretim üyelerinin ÖYS kullanım verilerinin tutulduğu log dosyaları kullanılmıştır. Ayrıca öğretim üyelerinin öğrenme yönetim sistemi kullanımını etkileyebilecek faktörlere yönelik olarak hazırlanan görüşme formu kullanılmıştır.

Müdahale Tasarımı ve Uygulama Süreci

Çalışma kapsamında öncelikle pilot uygulama birimi seçilen fakülte/enstitülerin yapılacak müdahaleler öncesindeki ÖYS kullanım durumlarını belirlemek için 2017-2018 eğitim öğretim yılı bahar dönemi ÖYS kullanım verileri alınarak analiz edilmiştir. Yapılan analizler sonucunda ÖYS kullanım durumlarına göre seçilen 15 öğretim üyesiyle ÖYS kullanım deneyimlerini incelemeye yönelik görüşmeler yapılmıştır. Görüşme sonucunda elde edilen veriler ve alanyazındaki mevcut bilgiler doğrultusunda öğretim üyelerinin ÖYS kullanımlarını artırmak üzere müdahaleler planlanmış ve 2018-2019 eğitim öğretim yılı bahar döneminde uygulanmıştır.

Çalışma kapsamında bilgilendirme sunumu, ÖYS kullanım kılavuzu ve ÖYS tanıtım videoları olmak üzere öğretimsel ve motivasyonel olmak üzere 3 farklı müdahale geliştirilmiş ve uygulanmıştır. Bilgilendirme sunumu; ÖYS sistem tanıtım ve işleyişi, ÖYS'nin ders tasarımına nasıl dahil edilebileceği ve derslere katkısının neler olabileceği konusunda öğretim üyelerinin bilgilendirilmesi ve motive edilmesi amacıyla hazırlanmıştır. Pilot uygulama birimi olarak seçilen fakülte/enstitüler önceden bilgilendirilerek her biri için ayrı ayrı yaklaşık 90 dakikalık yüzyüze bilgilendirme seminerleri düzenlenmiştir. ÖYS kullanım kılavuzu ise; ÖYS'nin genel kullanımı ve teknik kullanımına yönelik öğretim üyelerinin bilgilendirilmesi amacıyla hazırlanmıştır. Hazırlanan kılavuz ise üniversitede yaygın olarak kullanılan bilgi sistemleri (ÖYS, öğrenci bilgi sistemi gibi) ve resmi yazı ekiyle öğretim üyelerine ulaştırılmıştır. ÖYS tanıtım videoları ise; ÖYS kullanımının derse katkısı ve akademik faydası gibi öğretim üyelerinin çevresel motivasyonlarını etkileyen problemlerin giderilmesi amacı ile hazırlanmıştır. Hazırlanan bu videolar üniversitede yaygın olarak kullanılan bilgi sistemleri (öğrenci bilgi sistemi gibi) ve sosyal medya aracılığıyla öğretim üyelerine ulaştırılmıştır.

Yapılan müdahalelerin ardından dönem sonunda öğretim üyelerinin ÖYS kullanım verileri sistem logları alınarak analiz edilmiştir. Yine müdahale sonrasında öğretim üyelerinin ÖYS kullanımlarını etkileyen faktörleri belirlemek amacıyla ÖYS kullanım durumlarına göre seçilen 15 öğretim üyesiyle görüşmeler yapılmıştır. Görüşme sonucunda elde edilen veriler Gilbert Davranış Mühendisliği Modeli'ne göre analiz edilmiştir.

BULGULAR

Öğretim Üyelerinin Müdahaleler Öncesi ÖYS Kullanım Durumları

Öğretim üyelerinin müdahaleler öncesinde ÖYS kullanımına yönelik mevcut durumlarını belirlemek amacı ile pilot uygulama birimi olarak seçilen fakülte/enstitülere yönelik 2017-2018 bahar yarıyılında Moodle platformunda kaydedilen log verileri kullanılarak betimsel analiz yapılmıştır. Analiz sürecinde ÖYS'de açılan derslerde herhangi bir materyal paylaşımı veya farklı bir aktivite yapılan dersler aktif ders olarak, öğrenme yönetim sisteminde açılan ancak herhangi bir materyal paylaşımında bulunulmayan veya farklı bir aktivite yapılmayan dersler pasif ders olarak adlandırılmıştır. Elde edilen analiz sonuçları Tablo 1.'de sunulmuştur.

Dersler / Fakülte-Enstitü	Eğitim Bil. Enst.		İletişim Fakültesi		Mühendislik Fakültesi		Su Ürünleri Fakültesi		Eczacılık Fakültesi	
	f	%	f	%	f	%	f	%	f	%
ÖYS Aktif Ders	13	10.0	7	1.8	31	2.8	0	0.0	3	2.4
ÖYS Pasif Ders	9	6.9	23	5.8	152	13.9	2	7.4	16	12.6
ÖYS Açılmayan Ders	108	83.1	364	92.4	912	83.3	25	92.6	108	85.0
Toplam Ders Sayısı	130	100.0	394	100.0	1095	100.0	27	100.0	127	100.0

Tablo 1. Öğretim Üyelerinin Müdahale Öncesi Öğrenme Yönetim Sistemi Kullanım Durumları

Tablo 1. incelendiğinde pilot uygulama birimi olarak seçilen fakülte/enstitülerde 2017-2018 bahar yarıyılında ÖYS aktif kullanım oranlarına bakıldığında; Eğitim Bilimleri Enstitüsü'nde açılan derslerin %10'unda, Mühendislik Fakültesi'nde açılan derslerin %2.8'inde, Eczacılık Fakültesi'nde açılan derslerin %2.4'ünde ve İletişim Fakültesi'nde açılan derslerin %1.8 'inde ÖYS'nin aktif olarak kullanıldığı görülmüştür. Su Ürünleri Fakültesi'nde ise ÖYS'nin hiçbir derste aktif olarak kullanılmadığı görülmüştür.

Öğretim Üyelerinin Müdahaleler Sonrası ÖYS Kullanım Durumları

Öğretim üyelerinin ÖYS kullanımına yönelik sebep analizi sonrasında geliştirilen ve uygulanan müdahalelerin etkisini belirlemek amacı ile pilot uygulama birimi olarak seçilen fakülte/enstitülere yönelik 2018-2019 bahar yarıyılında (uygulamanın yapıldığı dönem sonunda) Moodle platformunda kaydedilen log verileri kullanılarak betimsel analiz yapılmıştır. Analiz sürecinde ÖYS'de açılan derslerde herhangi bir materyal paylaşımı veya farklı bir aktivite yapılan dersler aktif ders olarak, öğrenme yönetim sisteminde açılan ancak herhangi bir materyal paylaşımında bulunulmayan veya farklı bir aktivite yapılmayan dersler pasif ders olarak adlandırılmıştır. Elde edilen analiz sonuçları Tablo 2.'te sunulmuştur.

Dersler/ Fakülte-Enstitü	Eğitim Bil. Enst.		İletişim Fakültesi		Mühendislik Fakültesi		Su Ürünleri Fakültesi		Eczacılık Fakültesi	
	f	%	f	%	f	%	f	%	f	%
ÖYS Aktif Ders	53	37.6	15	3.6	220	18.2	7	22.6	8	5.7
ÖYS Pasif Ders	56	39.7	46	11.1	181	15.0	7	22.6	51	36.4
ÖYS Açılmayan Ders	32	22.7	355	85.3	806	66.8	17	54.8	81	57.9
Toplam Ders Sayısı	141	100.0	416	100.0	1207	100.0	31	100.0	140	100.0

Tablo 2. Öğretim Üyelerinin Müdahale Sonrası Öğrenme Yönetim Sistemi Kullanım Durumları

Tablo 2. incelendiğinde pilot uygulama birimi olarak seçilen fakülte/enstitülerde uygulanan müdahaleler sonrasında 2018-2019 bahar yarıyılında ÖYS aktif kullanım oranlarına bakıldığında; Eğitim Bilimleri Enstitüsü'nde açılan derslerin %37.6'sında, Su Ürünleri Fakültesi'nde açılan derslerin %22.6'sında, Mühendislik Fakültesi'nde açılan derslerin %18.2'sinde, Eczacılık Fakültesi'nde açılan derslerin %5.7'sinde ve İletişim Fakültesi'nde açılan derslerin ise %3.6'sında ÖYS'nin aktif olarak kullanıldığı görülmüştür.

Çalışma kapsamında uygulanan müdahaleler sonrasında pilot uygulama birimi olarak seçilen fakülte/enstitülerde müdahale öncesi ve müdahale sonrası ÖYS'de aktif olarak kullanılan derslerin oranları karşılaştırılarak Tablo 3.'te sunulmuştur.

Dersler/ Fakülte-Enstitü	Eğitim Bil. Enst.		İletişim Fakültesi		Mühendislik Fakültesi		Su Ürünleri Fakültesi		Eczacılık Fakültesi	
	f	%	f	%	f	%	f	%	f	%
Müdahale Ön.	13	10.0	7	1.8	31	2.8	0	0.0	3	2.4
Müdahale Son.	53	37.6	15	3.6	220	18.2	7	22.6	8	5.7
Fark	40	27.6	8	1.8	189	15.4	7	22.6	5	3.4

Tablo 3. Müdahale Öncesi ve Müdahale Sonrası Aktif ÖYS Kullanım Oranları Arasındaki Farklılık

Tablo 3. incelendiğinde çalışma kapsamında uygulanan müdahaleler sonrasında pilot uygulama birimi olarak seçilen fakülte/enstitülerde aktif ÖYS kullanım oranlarında artış olduğu görülmektedir. Ancak Eğitim Bilimleri Enstitüsü'nde %27.6 gibi yüksek oranda bir farklılık göze çarparken, İletişim Fakültesi'nde %1.8 gibi oldukça düşük bir artış göze çarpmaktadır.

Öğretim Üyelerinin ÖYS Kullanımlarını Etkileyen Faktörler

Çalışma kapsamında yapılan müdahale sonrasında pilot uygulama birimi olarak seçilen her bir fakülte/enstitüden ÖYS'yi aktif olarak kullanan, pasif olarak kullanan ve kullanmayan öğretim üyeleriyle ÖYS kullanım durumlarını etkileyen faktörlerin belirlenmesine yönelik görüşmeler yapılmıştır. Görüşmeler sonucunda elde edilen veriler "Gilbert Davranış Mühendisliği Modeli" esas alınarak analiz edilmiştir. Yapılan analiz sonuçlarına göre öğretim üyelerinin ÖYS kullanım durumlarını etkileyen başlıca faktörlerin bilgi, kaynak ve motivasyon temelinde bireysel ve çevresel olduğu ortaya çıkmıştır. Elde edilen faktörler bilgi/kaynak/motivasyon başlıkları altında sınıflandırılarak Tablo 4.'te sunulmuştur.

Boyutlar	Bilgi	Kaynak	Motivasyon
Bireysel	Yeterli bilgi sahibi olmama • ÖYS kullanımı • Telif hakları ve intihal	Zaman problemi • Öğrenci sayısının fazlalığı • Ödev/proje/sınav sayısı fazlalığı	Fayda algısı • Derse katkı
Çevresel	Üniversitenin yeterince bilgilendirme yapmaması • Sistem tanıtım-işleyiş • Teknik kullanım • Öğretim planlaması rehberliği • Ders tasarımı rehberliği	ÖYS özellikleri • Kullanışsızlık • Zor olma Elektronik cihaz problemi • Akıllı telefon • Bilgisayar	Fayda algısı • Derse katkı • Akademik fayda • Maddi fayda

Tablo 4. Öğrenme Yönetim Sistemi Kullanımını Etkileyen Bireysel ve Çevresel Faktörler

Tablo 4. incelendiğinde öğretim üyelerinin ÖYS kullanımını etkileyen bilgiye dayalı faktörlerin bireysel ve çevresel olduğu görülmektedir. Öğretim üyelerinin ÖYS kullanımı, telif hakları ve intihal konusunda yeterince bilgi sahibi olmamalarının ÖYS kullanımını etkileyen önemli bir bireysel faktör olduğunu ifade ettikleri görülmüştür. Çevresel bilgilendirme konusunda ise üniversitenin ÖYS tanıtım-işleyiş ve teknik kullanımına yönelik yeterince çevresel bilgilendirmenin yapılmamasının yanı sıra öğretim üyelerine online ders yürütme sürecinde öğretim planlaması ve ders tasarımına ilişkin rehberlik yapılmaması da ÖYS kullanımını etkileyen faktörler arasında dile getirilmiştir.

Yine Tablo 4. incelendiğinde öğretim üyelerinin öğrenme yönetim sistemi kullanımını etkileyen kaynağa dayalı faktörlerin yine bireysel ve çevresel olduğu görülmektedir. Öğretim üyelerinin bireysel kaynak eksikliklerinin yalnızca zaman faktörü üzerinde toplandığı görülmektedir. Sistem kullanımına dayalı aksaklıkların yaşanması durumlarında öğrenci sayısı ve ödev/proje/sınav sayılarının fazlalığı da göz önünde bulundurulduğunda zaman kaybına sebep olabilecek durumların yaşanabileceği dile getirilmiştir. ÖYS'nin özelliklerine dayalı kullanışsızlık ve zor olma, bunun yanı sıra öğrencilerin kullanımı için akıllı telefon ya da bilgisayar gerektirmesi de çevresel kaynak problemleri arasında gösterilmiştir.

Öğretim üyelerinin ÖYS kullanımını etkileyen motivasyona dayalı çevresel faktörler Tablo 4.'te incelendiğinde ise en ön plana çıkan bireysel motivasyon faktörünün fayda algısı olduğu görülmektedir. Öğretim üyelerinin bireysel olarak ÖYS kullanımının derslere katkı sağlama konusundaki inançları, içsel motivasyonlarını büyük ölçüde etkilemektedir. Öğretim üyelerinin ÖYS kullanımı konusundaki dışsal/çevresel motivasyonlarını ise yine ÖYS'nin derslere katkı sağlama noktasındaki bilgilendirmenin yanı sıra ÖYS kullanımının öğretim üyelerine sağlayacağı akademik ve maddi faydaya dayalı olduğu görülmüştür.

TARTIŞMA VE SONUÇ

Bu çalışmanın amacı, öğretim üyelerinin ÖYS'yi kullanma becerilerinin geliştirilmesine yönelik çeşitli müdahalelerin tasarlanması ve değerlendirilmesidir. Bu bölümde çalışma sonucunda elde edilen bulgular araştırma soruları temelinde alanyazın eşliğinde yorumlanarak tartışılmıştır.

Öğretim üyelerinin çalışma kapsamında yapılan müdahaleler öncesinde pilot uygulama birimi olarak seçilen fakülte/enstitülerde ÖYS'nin aktif kullanım durumuna bakıldığında ÖYS kullanım oranının oldukça düşük olduğu söylenebilir. En yüksek kullanım oranının ise %10'luk bir değerle Eğitim Bilimleri Enstitüsü'nde olduğu görülmüştür. Bu durum eğitim bilimleri alanında görev yapan öğretim üyelerinin almış oldukları formasyon eğitimleri gereği eğitim ortamlarının zenginleştirilmesine yönelik bilgi ve birikimleri ile ilişkilendirilebilir. Nitekim, Ball ve Levy (2008) yaptıkları çalışmada öğretim üyelerin özelliklerinin ÖYS kullanımı üzerinde büyük etkisi olabileceğini ifade etmişlerdir. Bu özellikler öğretim üyelerinin çalıştıkları bilim alanları ve bu alanda eğitim verirken duyduğu ihtiyaçlar olabileceği gibi (Sumner & Hostetler, 1999), bilgisayar kullanım becerileri ve tutumları ile de ilişkili olabilir. Nitekim teknoloji entegrasyonuna yönelik yapılan birçok çalışmada da (İnan ve Lowther, 2010; Rogers, 2000; Ertmer, Paul, Molly, Eva ve Denise, 1999) öğretmenlerin ön deneyimi, konuya bakışı, inançları, öğrenci düzeyi gibi faktörlerin teknolojiye entegre olma biçimlerini farklılaştırdığı bilinmektedir. Çalışma kapsamında yer alan diğer fakültelerde ise ÖYS kullanım oranının oldukça düşük olduğu görülmektedir. Su Ürünleri Fakültesi'nde ise ÖYS'nin hiçbir derste aktif olarak kullanılmadığı görülmüştür.

Çalışma kapsamında geliştirilen ve uygulanan müdahaleler sonrasında pilot uygulama birimi olarak seçilen fakülte/enstitülerde ÖYS'nin aktif kullanım durumuna bakıldığında açılan toplam ders sayısının %28'ine varan artışlar elde edildiği görülmüştür. Bu durum öğretim üyelerinin, ÖYS sisteminin varlığından yeterince haberdar olmamaları, ilgili sistemin kullanımı konusunda yeterli bilgiye sahip olmamaları veya ÖYS sisteminin eğitim öğretim sürecine katkısının yeterince bilinmemesi gibi farklı problemlerle ilişkilendirilebilir. Çünkü çalışma kapsamında uygulanan müdahaleler bu problemlere odaklanılarak geliştirilmiş ve uygulanmıştır. Nitekim, Sumner ve Hostetler (1999) yaptıkları çalışmada bilgilendirme, motivasyon ve teknik destek gibi organizasyonel unsurların öğretim üyelerinin teknoloji kabul süreci üzerinde oldukça etkili olduğunu belirtmişlerdir. Benzer şekilde Little-Wiles vd., (2012) tarafından yapılan çalışmada öğretim üyelerinin ÖYS kullanımını etkileyen önemli faktörlerden birinin de sistemi kullanmalarına yardımcı olacak destek hizmetlerine ihtiyaç duydukları belirtilmiştir. Nitekim öğretim üyeleri ile yapılan görüşmelerde, ÖYS kullanımı, telif hakları ve intihal konusunda yeterince bilgi sahibi olmamalarının ÖYS kullanımını etkileyen önemli birer bireysel faktör olduğunu ifade ettikleri görülmüştür. Çevresel bilgilendirme konusunda ise üniversite tarafından ÖYS tanıtım-işleyiş ve teknik kullanımına yönelik yeterince çevresel bilgilendirmenin yapılmamasının yanı sıra öğretim üyelerine online ders yürütme sürecinde öğretim planlaması ve ders tasarımına ilişkin rehberlik yapılmaması da ÖYS kullanımını etkileyen faktörler arasında dile getirilmiştir.

Çalışma kapsamında uygulanan müdahale sonrasında bazı birimlerdeki ÖYS aktif kullanım oranı artışının %3.6'ya kadar da düştüğü görülmektedir. Çalışma kapsamında yer alan tüm birimlere aynı müdahalelerin uygulandığı düşünüldüğünde, birimler arasında oluşan bu farklılığın yine öğretim üyesi özellikleriyle ilişkilendirilmesi mümkündür. Çünkü müdahale öncesi ve müdahale sonrası ÖYS aktif kullanım oranları değerlendirildiğinde, bu değerlerde paralel bir artışın olduğu görülmektedir. Leidner ve Jarvenpaa (1995) de yaptıkları çalışmada ÖYS kullanımını artıran en önemli faktörlerden birisi bireylerin algı ve tutumlarıdır. Benzer şekilde öğretim üyeleriyle yapılan görüşmelerde de ÖYS kullanımını etkileyen motivasyona dayalı faktörlerde ÖYS'ye yönelik fayda algısı ön plana çıkmıştır. Çalışma kapsamında elde edilen bu sonuçlar öğretim üyelerine uygulanan öğretimsel ve motivasyonel müdahalelerin olumlu yönde etki gösterdiğini ortaya koymuştur. ÖYS kullanım oranlarının daha fazla artırılabilmesi için ise öğretim üyelerinin bireysel özellik ve ihtiyaçlarına dayalı müdahalelerin geliştirilip uygulanmasının etkili olabileceği sonucuna varılmıştır.

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Açık ve Uzaktan Öğrenmede Kadın Çalışmaları

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Özet

Ekonomik şartlar, coğrafi konum, evlilik ve çocuk sahibi olma kadınların yakın bir geleceğe kadar eğitimi ikinci plana atmalarına neden olmuştur. Ancak çağdaş ve refah düzeyi yüksek bir toplum seviyesine ulaşabilmek için kadının eğitimi kaçınılmaz derecede önemlidir. Kadının eğitiminin toplumsal açıdan bir diğer önemi ise artık toplumların gelişmişlik düzeyinin kadının eğitim düzeyine göre belirleniyor olmasıdır. Kadının toplumdaki yerinin daha iyi bir konuma gelmesi gelişen teknolojilerin yardımıyla da artık daha mümkün hale gelmektedir. Ayrıca kadınların hayatlarının her döneminde, istedikleri zaman ve istedikleri mekanda özgürce eğitim alabilmelerini sağlamak konusunda açık ve uzaktan öğrenme oldukça geniş bir kapı aralamıştır. Örgün eğitimin yetersiz ya da eksik kaldığı veya ulaşılmadığı durumlarda eğitimde açıklık, teknolojinin desteğiyle kadınlar için daha ulaşılabilir bir öğrenim ortamı sağlamıştır. Açık ve uzaktan öğrenme programlarından mezun olan kadınların işgücünde istihdam edilmesi ekonomik kalkınmada da pozitif etkiler gösterebilir. Açık ve uzaktan öğrenme programlarından mezun olan eğitimli ve bilinçli kadınlar tüm iş sahalarında yer alabilir ve ekonomik bağımsızlıklarını elde edebilirler.

Anahtar Kelimeler: *Açık ve uzaktan öğrenme, kadın çalışmaları, eğitimde açıklık, uzaktan eğitim.*

GİRİŞ

Eğitim, tarih boyunca farklı coğrafi alanlarda yaşayanların kalkınmasında ve ilerlemesinde oldukça önemsenmiştir. (Beycioğlu ve Konan, 2008). Hatta çağdaş toplum seviyesine ulaşmayı hedefleyen tüm toplumlar eğitimi önemli bir güç unsuru olarak kullanmışlardır (Beycioğlu ve Konan, 2008). Günümüzde ise eğitimde fırsat eşitliği sağlayan toplumların gelişmişlik düzeyi toplumda bulunan kadınların eğitim düzeyleri ile ölçülmektedir (Demiray, 2013). Durum böyle olunca kadınların yaşamlarında istedikleri zaman, istedikleri yerde eğitim alabilmeleri ve eğitim ihtiyaçlarını karşılayabilmeleri önemli bir konu haline geldiği ifade edilebilir. Bu durumu olanaklı kılan yaklaşımlardan biri de açık ve uzaktan öğrenmedir. Açık ve uzaktan öğrenmenin kavram olarak 19.yy başlarına dayanmakta olsa da 20.yy sonlarına doğru yaygın olarak kullanılmaya başlanan bir kavram olduğu ifade edilmektedir (Aydın, 2011). Bozkurt (2017), sosyal adalet, fırsat eşitliği gibi kavramlara vurgu yaparak açık ve uzaktan öğrenmeyi sunulan esnek öğrenme fırsatı ile eğitim-öğretim almak isteyen her yaştan, cinsiyet, etnik köken ve coğrafi sınırlılıkları ortadan kaldıran bir sistem olarak tanımlamaktadır. Bu bağlamda esnek öğrenme fırsatı sunan açık ve uzaktan öğrenmenin kadınlara sağladığı avantajlar ve bu konuda gerçekleştirilen çalışmalar önem kazanmaktadır.

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AÇIK VE UZAKTAN ÖĞRENME

Gelişen teknoloji ve bilimsel gelişmelerin eğitim dünyasında birçok alanı etkilediği gibi eğitimde açıklık bağlamında da etkileri bulunduğu söylenebilir. Eğitimde açıklık kavramının temelleri oldukça köklü bir geçmişe sahiptir. Kavram olarak açıklık, toplumların yapısını değiştirmekte ve bilginin ulaşabildiği tüm sınırları genişlettiği belirtilebilir. Günümüzde ise açıklık kavramı mevcut örgün eğitimin ihtiyaçlara yanıt vermemesi (Güleç, Çelik ve Demirhan, 2012) ve yeterli talebi karşılayamaması sonucunda benimsendiği ifade edilmektedir.

Rodriguez (2012), açık ve uzaktan eğitimin gelişimi için dönemlerin birbirinden bağımsız olmadığını hatta bu dönemlerin birbirini kapsayarak ilerlediği ifade etmiştir. Açık ve uzaktan öğrenmenin geçirdiği birçok dönem olduğu belirtilmektedir (Moore ve Kearsley, 2012; İşman, 2011; Bozkurt, 2017). Bu dönem tanımlamaları her ne kadar birbirinden farklı sayıda ve başlıklar altında yer alsa da teknolojinin bu dönemlerde önemli bir belirleyici, değişimin tetikleyicisi olduğu ifade edilebilir. Bu bağlamda teknoloji açık ve uzaktan öğrenmenin geniş kitlelere ulaşmasında önemli bir kavram olarak karşımıza çıkmaktadır.

Bilginin geniş kitlelere ulaşmasında önemli bir araç olan teknolojinin yanı sıra eğitimde açıklık kavramının da etkilerinin bulunduğu belirtilebilir. Eğitimde açıklık kavramının yetersiz örgün eğitimin yanıt veremediği toplumsal ihtiyaçlar için benimsenen bir kavram olarak karşımıza çıkmaktadır (Güleç, Çelik ve Demirhan, 2012). Bunun yanı sıra eğitimde açıklık ile ilgili olarak; toplumlara fikirlerin empoze etme amacıyla kullanıldığı (Koseoglu ve Bozkurt, 2018), aktif vatandaşlık becerilerinin kazandırılması amacıyla kullanıldığı (Hussman ve Rizzo, 2013), herkes için bilgi ve toplumsal ilerleme amacıyla kullanıldığı (Artsın, 2018) yönünde tanımlamalar bulunmaktadır.

Teknoloji ve eğitimde açıklık günümüzün yaşam koşullarında hayatın her alanında kendine yer bulmuş ve bilginin yaygınlaşmasında önemli bir araç olmuştur. İnternet ve çevresinde gelişen sosyal medya web siteleri, arama motorları, bloglar, video paylaşım siteleri teknoloji temeli ile bilgilerin geniş kitlelere ulaşması amacına hizmet eden birer araç görünümüne sahiptir. Açıklık kavramının teknoloji ve özel girişimlerin etkisi ile ortaya çıkan internet ve çevresindeki ürünler, üniversiteler gibi akademik birimlerin katılımı ve yoğunlaşması ile Kitlesel Açık Çevrimiçi Derslerin (KAÇD) ortaya çıkmasını sağlamıştır.

2008 yılında Downes ve Siemens tarafından "Connectivism and Connective Knowledge" isminde çevrimiçi bir ders ile öğrenenlerin kredi tamamlayabilmesi amacıyla oluşturan (Cormier ve Siemens, 2010) bu dersler günümüzde sayıları binlercesini içerisinde barındıran (Shah, 2018) kitlesel derslerin meydana gelmesini sağlamıştır. Büyük bir eğitim pazarı içerisinde her geçen gün eğitimciler ve öğrencilerden daha fazla ilgi görmekte olan KAÇD'ler geleceğin öğrenme ortamları olabileceği gibi kimi düşüncelere göre mevcut eğitim sistemimizin yapısını bozmakta olduğu belirtilmektedir (Kelly, 2014; Yuan ve Powell, 2013). Bu bağlamda da eğitim talebinde bulunan kitleler için sağladığı esneklik ile büyük avantajlara sahip olan KAÇD'ler günümüzde toplumun birçok kesiminden insanı içerisinde barındırmaktadır. Alanyazında gerçekleştirilen çalışmalarda toplumsal farklılıkların KAÇD'lerde bulunan katılımcı profilini etkilediğine dair çalışmalar bulunmaktadır (Jiang, Schenke, Eccles, Xu ve Warschauer, 2016). Jiang, Schenke, Eccles, Xu ve Warschauer (2016) tarafından gerçekleştirilen ça-

lışmada erkeklerin egemen olduğu toplumlarda ve daha az gelişmiş toplumlarda kadınların daha fazla KAÇD katılımcı gösterdiği belirtilmiştir.

Genel olarak açık ve uzaktan öğrenmeni temelleri 1880li yıllarda evde çalışma olarak da anılan mektupla öğretimle başlamıştır. Bu sistem, evden veya işten bağımsız olarak çalışmak isteyen kadınların ve çoğunlukla geleneksel örgün eğitimden çıkarılmış olan kadınlar, işçiler ve çiftçilerden oluşan hedef kitlenin (Bozkurt, 2019) katılımını amaçlamaktaydı. 1883 yılında ise kırsal kesimde yaşayan ya da eğitim olanağı elde edemeyen kadınlar için Anna Eliot Ticknor bir evden çalışma okulu kurmuş ve birçok kadının eğitim görmesini sağlamıştır (Demiray, 2013). Kadınların kısıtlı zaman, kaynak, sosyo ekonomik düzeyleri göz önünde bulundurulduğunda uzaktan eğitimi tercih etmelerinde oldukça etkili olduğu belirtilmektedir (Kwapong, 2007). Bu bağlamda açık ve uzaktan öğrenme alanında gerçekleştirilen kadın çalışmaları oldukça önem kazanmaktadır.

KADIN ÇALIŞMALARI

Alanyazında kadınlar ile ilgili birçok farklı konuda çalışmaların olduğu görülebilmektedir. Kadınlar hakkında iş yaşamından dışlanmaları (Çakır, 2008), aile içi şiddete mağruz kalmaları (Capaldi, Knoble, Shortt ve Kim, 2012; WHO, 2012; Heise, 1998), iyi düzeyde eğitim almalarından (Demiray, 2013) kaynaklı yaşadıkları tecrübeler ile ilgili çalışmaların gerçekleştirildiği görülmektedir. Gerçekleştirilen çalışmalarda kadınların yaşam deneyimlerinin ortaya çıkarılması ve yaşamları sırasında karşılaştıkları zorluklar hakkında olduğu söylenebilir. Bunların yanı sıra eğitim fırsatları ve işgücüne katılımları gibi konularda da alanyazında çalışmaların gerçekleştirildiği konulardandır.

Bazı toplumlarda kadınların iyi düzeylerde eğitim alamamasının problem olarak çalışılan bir konu olduğu karşımıza çıkmaktadır. Bazı toplumlarda da kadınların işgücüne katılımının kalkınmanın önemli bir adımı olarak görüldüğüne dair çalışmalar bulunmaktadır (Ayvaz Kızılgöl, 2012). Kadınların az gelişmiş ya da gelişmekte olan ülkelerde çalışma yaşamına katılmaması ya da daha az oranda katılım gösterdiği görülmektedir. İş gücüne katılım gösterseler bile daha düşük ücretlerle ve daha zor koşullarda çalıştırılmak istendiği belirtilmektedir (Fikret, 2001). Bu durum sonucunda kadınlar iş yaşamında aktif görev almak yerine evlenmeyi ve çocuklarını büyütmeyi tercih ettikleri görülmektedir. Türkiye'de kadınların işgücüne katılım oranlarının son 20 yılda oldukça az olması ve azalmaya devam etmesi (Ayvaz Kızılgöl, 2012) bu durumu destekler niteliktedir.

Öte yandan kadınlar ile ilgili gerçekleştirilen çalışmalarda kadınların aldıkları eğitimlerin iş yaşamına yansımalarının oranlı olmadığı ifade edilmektedir (Ermiş, 2009). Durum böyle olunca işgücüne katılan kadınların evlilik ve çocuk hayallerini ertelemek zorunda olduklarını düşündükleri belirtilmektedir (Gürol, 2007). Bu nedenle kadınların birçoğu iş yaşamını sonlandırmayı tercih ediyorlar. Ancak akademik kariyerine devam eden birçok kadının da oldukça üst mevkilerde yer aldıkları da görülmektedir (Çelitken, 2004).

Kadınların çalışma yaşamına katılmalarının en olumlu yanlarından biri de kendi ekonomik bağımsızlıklarını ellerine almaları olmuştur (Adak, 2007). Türkiye'de 1960 yılında akademisyenlerin %19'unu kadınlar oluştururken, aktif olarak çalışan kadınların

oranı ise %0.59'u geçmemektedir (Öztan ve Doğan, 2015). Yakın zamanda ise akademisyenlerin %41 kadarını kadın akademisyenler oluşturmaktadır (Ergöl, Koç, Eroğlu ve Taşkın, 2012). Hatta kadın akademisyenler ile ilgili bu oran Türkiye İstatistik Kurumu'nun (2018) istatistiklerle kadın raporunda %43,1'dir. Yine aynı raporda Türkiye'de yönetici poziyonundaki kadınların oranının %16,7 olduğu belirtilmektedir. Türkiye İstatistik Kurumu'nun (2019) istatistiklerle kadın raporunda öğretim görevlisi olarak istihdam edilen kadınların oranının %50.20 olduğu belirtilmektedir. Bunların yanı sıra en fazla kadın öğretim üyesi bulunan bölümler biyoloji, kimya, gıda ve çevre mühendisliğidir (Çağlayan, 2015). Kadın akademisyenlerle ilgili yapılan araştırmalar incelendiğinde, bu araştırmaların özellikle STEM ile ilişkilendirildiği görülmektedir (Leslie, Cimpian, Meyer ve Freeland, 2015). Genel olarak günümüzde akademide bulunan bilim insanı olarak görev alan kadınların geçmiş dönemlere göre arttığı söyleyebiliriz.

Kadınların iş yaşamından, aile içi yaşadıkları süreçlere kadar birçok noktada, hayatlarının her döneminde tecrübeye ve bilgiye ihtiyaçları oldukları belirtilebilir. Günümüzde kadınların iş yaşamına katılabilmeleri ve eğitim ihtiyaçlarını karşılayabilmeleri için özellikle az gelişmiş ve gelişmekte olan ülkelerde birçok ulusal ve uluslararası projeler gerçekleştirilmektedir. Bu projeler ile kadınların istihdamı sağlanarak ülke ekonomilerinin canlanması hedeflenmektedir. Her ne kadar tüm kadınların bu projelerden faydalanarak bilgi ve yenilik sağlamaları istense de kadınların bulundukları toplumların yüklediği sorumlulukların da beraberinde devam ediyor olması kadınların bu gibi çalışmalarda yer almalarında sorunlar yaratabilmektedir. Durum böyle olunca kadınların istedikleri zaman istedikleri yerden bilgi edinebileceği, öğrenme süreçlerini gerçekleştirebilecekleri ortamların sağlanması oldukça önemlidir. Bu öğrenme süreci günümüzde açık ve uzaktan öğrenme ve KAÇD'ler ile sağlanabilir.

Günümüzde her ne kadar açık ve uzaktan öğrenme programlarının ve KAÇD'lerin sayısı, içeriklerinin çeşitliliği artıyor olsa da kadın katılımcıların sayısı gerçekleştirilen çalışmalara göre farklılık göstermektedir. Bu durumun sebeplerinden birisi kadınların erkeklere oranla daha fazla sorumluluğa sahip olmalarından kaynaklı olabileceği belirtilmektedir (Demiray, 1995). Hatta kadınların sahip oldukları bu sorumlulukların, onların kendi kendilerine öğrenme becerilerinin erkeklere göre daha fazla olmasında da etkili olabileceği ifade edilebilir. Kadınlar her ne kadar çok fazla sorumluluğa sahip olsalar bile gerçekleştirilen çalışmalarda kadınların açık ve uzaktan öğrenme programlarını daha az tercih ettiklerini fakat erkeklere göre mezun olma durumlarında paralellik olduğu belirtilmektedir (Demiray, 1995).

SONUÇ

Günümüzde açık ve uzaktan eğitimde yapılan çalışmalarda kadın çalışmalarına ve kadına dair bulguların ortaya çıkarılması oldukça önemli hale gelmektedir. Açık ve uzaktan öğrenme alanından, kitlesel olarak sunulan KAÇD'lere kadar gerçekleştirilen çalışmalarda kadınlara dair çalışmalar alanda kadınlar hakkında sunulan bulguların değerlendirilebilmesi açısından değerli olmaktadır. Bu bağlamda açık ve uzaktan öğrenme alanında gerçekleştirilen kadın çalışmalarının sağladığı bulguların değerlendirilmesi alanda gerçekleştirilecek çalışmalar için yol gösterici niteliği taşımaktadır. Kadınlar açık ve uzaktan öğrenme ile hayatlarının her döneminde ihtiyaçları oldukları bilgiyi istedikleri zaman ve istedikleri mekandan öğrenerek bu deneyimden faydalanabilirler. Hatta açık ve uzaktan öğrenme programlarından mezun olan kadınları iş gücü

olarak istihdam edilerek ekonomik kalkınmanın önemli parçaları haline gelebilirler. Bunun da ötesinde günlük yaşamlarında ve sosyal hayatta daha kaliteli ve güvenilir bilgi edinmek için KAÇD'lerden faydalanabilirler. Bu sayede kişisel gelişimlerini sağlayabilirler. Alanyazında kadınlar ile ilgili gerçekleştirilen çalışmaların genel olarak kadınların yaşadıkları zorluklar ile sınırlı olsa da açık ve uzaktan öğrenme araştırmalarında kadınlar ile ilgili çalışmaların gerçekleştirilmesi kadınların yaşadıkları zorluklar için çözüm önerilerinin sunulabilmesi açısından önemli olabilir.

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Uzaktan Öğrenenlerin Hedef Yönelimlerine Göre Bitirme Sürelerinin İncelenmesi

Seher İŞKOL[1], Muhammet Recep OKUR[2]

Özet

Açık ve uzaktan öğrenmede, açıklık ifadesi ile öğrenenlere eğitim malzemelerine erişebilmelerini, çalışma zamanlarına ve çalışma mekânlarına kendilerinin karar verebilmeleri aynı zamanda öğrenme sürelerinin de değiştiği esnek bir yapı sunulabilmektedir. Bu çalışmada da esnek yapının getirdiği özelliklerden biri olan programda kalma süresi, hedef yönelimi üzerinde durulmuştur. Alanyazında hedef yönelimi ile ilgili yapılan çalışmalar ve sonuçlarına değinilmiştir. Yükseköğretim düzeyinde bir programın bitirme süresi yasal zeminde incelenmiştir. Bu çalışmanın, öğrenenlerin hedef yönelimlerinin ve bitirme sürelerinin incelenmesine dönük yapılacak araştırmalara yol göstereceği düşünülmektedir.

Anahtar Kelimeler: *Hedef yönelimi, öğrenim süresi, bitime süresi, açık ve uzaktan öğrenme.*

GİRİŞ

Yirmi birinci yüzyılda bilgi ve iletişim teknolojilerinin ilerlemesiyle birlikte bilgi ve iletişim teknolojileriyle ilişkili olan pek çok alanda ilerlemeler kaydedildiği ve çeşitli değişmeler olduğu söylenebilir. Bu ilerleme ve değişmenin yaşandığı alanlardan biride eğitimdir. Günümüzde birçok kurum ve kuruluş eğitimin alışılagelmiş öğreten merkezli, öğrenen ve öğretenin bir arada bulunduğu yapısından uzaklaşmaya başlamıştır. Bu uzaklaşma uzaktan eğitimin yaygınlaşmasında önemli rol oynayan durumlardan birisidir.

Uzaktan eğitim Moore (1973)'a göre öğretme ve öğrenme işlerinin farklı yerlerde gerçekleştiği, öğreten ve öğrenen arasındaki iletişimin basılı, elektronik ya da mekanik cihazlarla gerçekleştiği bir sistem olarak tanımlamaktadır. Simonson, Smaldino ve Zvacek (2014)'e göre ise uzaktan eğitim, öğrenenlerin birbirlerinden ve öğrenme kaynaklarından zaman ve/veya yer bağlamında uzakta olduğu; öğrenenler, kaynaklar ve öğretim elemanı arasındaki iletişimin bilgi ve iletişim araçları ile sağlandığı bir eğitim biçimidir.

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Uzaktan eğitimin ortaya çıktığı günden günümüze kadar tarihi süreci incelendiğinde birçok isimle anıldığı görülmektedir. Bunlardan bazıları e-öğrenme, uzaktan öğrenme, açık ve uzaktan öğrenmedir. Her bir ismin uzaktan eğitimin farklı bir yapısını ele aldığı söylenebilir. Lane (2009)'e göre açık ve uzaktan öğrenmedeki açıklık, topluma açık olmak ve yükseköğretim sisteminde eğitim almak isteyen bireylerin herhangi bir ön şart olmadan ilgilendikleri alanda eğitim alabilmelerini sağlamak olarak tanımlanabilir. Bunun yanı sıra açıklık bireylerin eğitim malzemelerine erişebilmelerini, çalışma zamanlarına, çalışma mekânlarına kendilerinin karar verebilmeleri ve aynı zamanda öğrenme sürelerinin de değiştiği esnek yapıyı ifade etmektedir. Bu esnek yapı birçok kurumun misyonunda yer almaktadır.

Araştırmanın Amacı

Anadolu Üniversitesi Açıköğretim Fakültesi bünyesinde bulunan birçok programda da bireylere esnek yapı çerçevesinde eğitim sunulmaktadır. Bu esnek yapının getirdiği özellikler programda birçok çeşitliliğin oluşmasına sebep olabilmektedir. Bahsedilen çeşitliliklerden biri Anadolu Üniversitesi Açıköğretim sisteminde yer alan fakültelerde öğrenim gören kişilerin programda kalma süreleridir. Öğrenenlerin bazen programın ön görülen bitirme süresinden daha önce bazen de çok daha sonra programı bitirdikleri görülmektedir. Bu çalışmada bireylerin bitirme sürelerinin ve hedef yönelimlerinin derinlemesine incelenmesine dönük araştırmalara yol göstermesi amaçlanmıştır.

Hedef Yönelimi Kuramı

Hedef (başarı) yönelimi kuramı Dweck ve Leggett (1988) tarafından ortaya atılmış ve insanların bir iş karşısında koydukları hedefler doğrultusunda ne derece motive olduklarını ve nasıl davrandıklarını incelemektedir. Dweck ve Leggett (1988)'e göre hedef yönelimi temelinde birbirine zıt olan iki örtülü zekâ kuramı vardır. Bunlardan ilki artımlı zekâ kuramıdır. Bu kuram zekânın biçimlenebilir ve kontrol edilebilir olduğunu savunmaktadır. İkinci kuram ise sabit zekâ kuramıdır ve zekânın sabit olduğunu, kontrol edilemediğini savunmaktadır. Bu iki zekâ kuramı öğrenme yönelimi ve performans yönelimi olmak üzere iki farklı davranış yönelimi oluşturduğunu belirtir. Öğrenme yönelimi kişinin yetkinliğini artırma yönelimi olarak ifade edilirken, performans yönelimi kişinin yetkinliğini ispatlama yönelimi olarak ifade edilmektedir. Öğrenme yönelimine sahip öğrenenler yaptıkları işte yeterli çabayı göstermeye, konuları iyi anlamaya çalışır ve yeni bilgi beceriler geliştirir. Performans yönelimli öğrenenler ise akran öğrenenlerden daha iyi performans göstermeye çalışır, performansı hakkında olumlu şeyler duymak ister ve zorlu öğrenme konularından kaçınır (Pintrich ve Schunk, 1996).

Jagacinski ve Strickland (2000) göre öğrenme yönelimli kişiler normal performans için gerekli olan bilgiye değil, görevi en iyi nasıl yapacaklarına ilişkin bilgiye odaklanır ve başarının yorumlanmasında sosyal normlar yerine kendi kişisel normlarını tercih ederler. Performans yönelimli kişiler için ise sosyal normlar çok önemlidir. Çünkü bu kişiler kendilerini diğerleriyle karşılaştırmaksızın başarılı olup olmadığına karar veremezler.

Elliot ve Harackiewicz (1996) başarı yöneliminin ikili yapıdan çok öğrenme başarı yönelimi, performans yaklaşma yönelimi ve performans kaçınma yönelimi şeklinde üçlü yapıdan oluşan bir model olduğunu belirtmiştir.

Başarı yönelimiyle ilgili en son model ise, Elliot ve McGregor (2001) tarafından 2X2 başarı yönelimi modeli şeklinde geliştirilmiştir. Performans başarı yöneliminde olduğu gibi öğrenme başarı yönelimi de yaklaşma ve kaçınma olarak ikiye ayrılmıştır.

Kuramla ilgili alan yazın tarandığında birçok farklı çalışma yapıldığı görülmüştür. Uçar (2012) yaptığı çalışmada İngilizce öğretmen adaylarının öğretmenlik özyeterlilik inancı, başarı yönelimleri ve çevrimiçi öğrenme katılma durumları ve bu ortamı kullanma sıklıkları arasındaki ilişkiyi incelemiş ve öğretmen adaylarının birden fazla hedef yönelimine sahip olduğunu, hedef yönelimi ve öğretmen özyeterlilik inancı arasında olumlu bir ilişki olduğunu gözlemlemiştir.

Bununla birlikte Kaya (2016) sınıf öğretmenliği öğrencileri ile yaptığı çalışmada öğrencilerin başarı yönelimi, kendini engelleme davranışları ve demografik özelliklerinin okula yabancılaşmalarını anlamlı bir şekilde yordayıp yordamadığını ortaya çıkartmayı amaçlamıştır. Çalışmanın sonucunda cinsiyete göre başarı yöneliminin öğrenme-yaklaşma ve öğrenme-kaçınma alt boyutlarında anlamlı farklılık bulunurken, bölüm seçme kararına göre başarı yönelimi alt boyutlarında anlamlı farklılık bulunamamıştır.

Özgüngör (2014) ise gerçekleştirdiği çalışmada, üniversite öğrencilerinin benlik saygısı düzeyine göre kimlik statüleri ile başarı yönelimleri arasındaki ilişkiyi incelemiştir. Çalışmanın sonucuna göre öğrenme yönelimini dağınıklık ve ipotekli statülerinin olumsuz yönde, başarı statüsünün ise olumlu yönde, performans kaçınma yönelimini ipotekli statünün olumlu yönde, benlik saygısının olumsuz yönde, performans yaklaşma yönelimini ise ipotekli statünün olumlu yönde yordadığını göstermiştir. Ayrıca analizler, kimlik statüleri ile başarı yönelimleri arasındaki ilişkilerin benlik saygısı düzeyine göre değiştiğini, dağınıklık statüsünün olumsuz etkilerinin benlik saygısı yüksek öğrencilerde daha düşük olduğunu ortaya koymuştur.

Son olarak Gözler, Bozgeyikli, Avcı'nın (2017) çalışmasında sınıf öğretmeni adaylarının başarı yönelimleri ile mesleki kaygı düzeylerinin incelemiş başarı yönelimi ve mesleki kaygı açısından cinsiyet ve sınıf düzeylerine göre bazı boyutlarda anlamlı bir farkın olduğunu ayrıca başarı yöneliminin mesleki kaygının önemli bir yordayıcısı olduğunu göstermiştir.

Alan yazınına bakıldığında hedef yönelimi ile ilgili bağımsız birçok çalışmanın olduğu görülmektedir fakat uzaktan öğrenenlerin bir öğrenme programını bitirme süresi ile ilişkisi olup olmadığı ile ilgili bir araştırma görülmemiştir. Literatürdeki bu boşluk araştırma sorunu olarak belirlenebilir.

Bitirme Süresi

Türkiye'de Yükseköğretim mevzuatına göre öğrencilerin öğrenim gördükleri programların bitirme süreleri 2547 sayılı kanunun 44.Maddesinin c bendi şu şekildedir (Mevzuat Bilgi Sistemi, 1981, ss. 5370–1).

"Öğrenciler, bir yıl süreli yabancı dil hazırlık sınıfı hariç, kayıt olduğu programa ilişkin derslerin verildiği dönemden başlamak üzere, her dönem için kayıt yaptırıp yaptırmadığına bakılmaksızın öğrenim süresi iki yıl olan önlisans programlarını azami dört yıl, öğrenim süresi dört yıl olan lisans programlarını azami yedi yıl, öğrenim süresi beş yıl olan lisans programlarını azami sekiz yıl, öğrenim süresi altı yıl olan lisans programlarını azami dokuz yıl içinde tamamlamak zorundadırlar. Hazırlık eğitim süresi azami iki yıldır."

Önlisans düzeyinde 120 AKTS, lisans düzeyinde 240 AKTS kredi alan öğrenciler mezuniyeti hak ederler. İlgili dönemlerde fazla kredi alarak öğrenciler öğrenimlerinin daha erken sürede bitirebilirler. Buna karşın farklı nedenlerle belirtilen sürede mezun olamayan öğrenciler de bulunabilir.

İlgili yasanın 44.Maddesinin c bendi 3.paragraf son cümlesinde ise "Açık öğretim öğrencileri, öğrencilik haklarından yararlanmak kaydı ile bu sürelerle kısıtlı değildir." ifadesi yer almaktadır. Bu nedenle öğrencilerin kayıtları silinmez.

TARTIŞMA VE SONUÇ

Açık ve uzaktan öğrenme alanında hedef yönelimi bireylerin kendi kendine öğrenme felsefesi bakımından oldukça önemlidir. Açıköğretim sisteminde ilgili yasa gereği öğrencilerin kayıtları silinmemektedir. İlgili dönemde öğretim gideri tutarını ödeyerek kayıt yenileyen öğrenci Aktif Öğrenci, kayıt yenilemeyen ise Pasif Öğrenci olarak isimlendirilmektedir. Hedef yönelimli bireylerin Aktif öğrenci olarak programın yasal sürelerinde mezun olup olmadığı ya da geç mezuniyet gibi konular bu çalışmanın devamındaki temel araştırma noktalarıdır.

Araştırma sonucunda elde edilecek bulgular aracılığı ile bu alanda araştırma yapacak araştırmacılar, Anadolu Üniversitesi Açıköğretim, İktisat ve İşletme Fakültesi eğitimcileri ve yöneticileri bireylerin hedef yönelimleri ile programı bitirme süreleri arasındaki ilişki hakkında bilgi edinilecekleri düşünülmektedir. Alan yazında bulunan boşluk nedeni ile yapılan çalışmanın hem Açık ve Uzaktan Öğrenme alanına katkıda bulunacağı hem de daha sonra yapılacak olan çalışmalara ışık tutacağı düşünülmektedir.

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Ortaöğretim Öğretmenlerinin Eğitim Bilişim Ağı Kullanımları ve Teknolojik Pedagojik Alan Bilgileri İlişkisi: Eskişehir İli Uygulaması

Kamil ÇEKEROL[1], Emin ÖZEN[2]

Özet

Teknolojik Pedagojik Alan Bilgisi (TPAB) öğretmenlerin sınıflarına teknolojiyi entegre edebilmeleri için ihtiyaçları olan bilgi olup,içerik bilgisi, pedagojik bilgi, teknolojik bilgi, pedagojik alan bilgisi, teknolojikalan bilgisi, teknolojik pedagojik bilgi ve teknolojik pedagojik alan bilgisi olarak yedi alt alana sahiptir. Teknoloji kullanım durumları ileteknolojik pedagojik alan bilgilerinin ilişkilendirilmesi teknolojinin eğitimde yaygın kullanımı anlamında öğretmenlerindurumlarını ortaya koyacaktır. Millî Eğitim Bakanlığı (MEB) tarafından teknolojiyi eğitimle bütünleştirmek veeğitimde çağın gereklerine ayak uydurabilmek için öğretmen ve öğrencilerin kullanımına açık olan Eğitim Bilişim Ağı (EBA), öğretmenlerin teknoloji kullanımlarının düzeyini ortaya koyan uzaktan eğitim portalı olarak kabul edilebilir.Bu doğrultuda bu çalışmadaEskişehir ilindeki ortaokul-lise öğretmenlerinin Teknolojik Pedagojik Alan Bilgilerinin (TPAB) alt faktörleri ile belirlenerek, EBA kullanım sıklıklarına ilişkin değişkenlerle ilişkilerinin incelenmesi ve hangi alanlarda eksikliklerin olduğu ortaya konulmaya çalışılmıştır. Araştırmanın sonucunda EBA portalını düzenli kullanan öğretmenlerin kullanmayanlara göre TPAB düzeylerinin daha yüksek olduğu sonucuna varılmıştır.

Anahtar Kelimeler: *Teknolojik pedagojik alan bilgisi, teknoloji bilgisi, pedagoji bilgisi, alan bilgisi, EBA kullanımı.*

GİRİŞ

Eğitim ve öğretimin teknolojik gelişmelerle desteklenmesi, güçlendirilmesi ve eğitimde niteliğin yükseltilmesi bakımından kara tahta, beyaz tahta, projeksiyon cihazı, bilgisayar ve etkileşimli tahta gibi öğretim araçlarının öğrenme ortamlarında etkin ve verimli şekilde kullanılması büyük önem taşımaktadır (Akyüz, Kurnaz, Pektaş ve Memiş, 2014).Tam öğrenmenin gerçekleştirilmesinde etkili teknoloji entegrasyonu için alan, teknoloji ve pedagojinin tek başına yeterli olmayıp, buna ek olarak birbiri ile olan ilişkilerinin de bilinmesi gerekmektedir(Kohler, Misra&Yahya, 2007). Perkmen ve Tezci (2011) gerekli alan bilgisi, teknolojik bilgi ve pedagojik bilginin yeterli olmasının yanında özellikle bu bilgilerin bütünleştirilmesinin önemli olduğunu vurgulamaktadırlar. Bu bağlamda öğretmenlerin teknolojik pedagojik alan bilgilerinin (TPAB) incelenmesinin önemli olduğu düşünülmektedir.

Teknoloji, pedagoji ve alan bilgilerini kapsayan yapıya TPABdenilmektedir. Bu yapı Mishra ve Koehler (2006) tarafından, Shulman'ın Pedagojik Alan Bilgisi

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(PAB) fikrinin öğretim teknolojilerini içerecek şekilde genişletilmesi sonucu ortaya çıkarılmıştır(Canbolat, 2011).Teknolojik Pedagojik Alan Bilgisi (TPAB), teknolojinin öğretimle etkin biçimde bütünleştirilmesi için gerekli olan öğretmen bilgisini daha iyi anlayabilmek için geliştirilmiş bir kavramsal çerçevedir.

Şekil 1'deki alan, pedagoji ve teknoloji bilgilerinin kesişimi olan Teknolojik pedagojik alan bilgisi (TPAB) bir alandaki bilginin uygun teknoloji ile öğretilmesi için gerekli pedagojik strateji, yöntem ve tekniklerin bütünleştirilmesine ilişkin bilgidir (Koehler ve Mishra, 2008, s. 12):

Şekil 1. Teknolojik Pedagojik Alan Bilgisi Çerçevesi

Teknolojik gelişmeler her alanda olduğu gibi eğitim alanında da etkisini güçlü bir şekilde hissettirmektedir. Eğitim alanında teknoloji kullanımı eğitim sürecini daha etkili ve motive edici bir hale dönüştürdüğü için eğitim kurumlarında her geçen gün daha yaygın bir şekilde kullanılır hale gelmiştir (Temizyürek ve Ünlü, 2015). Bu bağlamda, 2011 yılında MEB bünyesinde kurulan EBA (Eğitim Bilişim Ağı) portalı teknolojik gelişmelerin ve yeni eğitim yaklaşımlarının eğitime yansımasını gerçekleştirmek için oluşturulmuştur(Özen,2019).

Yukarıda değinilen ifadeler bağlamında bu çalışmanın amacını; Eskişehir ilindeki Ortaokul-Lise öğretmenlerinin TPAB alt faktörleri ile belirlenerekEBA kullanım sıklıklarına ilişkin değişkenlerle ilişkilerinin incelenmesi ve çalışmanın ışığında öneriler getirmek oluşturmaktadır.

Yöntem

Araştırma nicel araştırma yöntemlerinden kesitsel tarama modelinde yürütülmüştür (Büyüköztürkve diğerleri, 2012). Kesitsel tarama modeli bir durumu, değişkeni, olguyu aydınlatmak için tek bir seferde veri toplayarak durumun fotoğrafını çekmeyi ve bu fotoğrafı inceleyerek durum, değişkenler ve değişkenler arası ilişkileri ortaya çıkarmayı hedeflemektedir(Barış, 2015).

Araştırmanın Tasarımı

Araştırma tasarımı iki ana bölümü kapsamaktadır. İlk bölümde öğretmenlerin TPAB (TPAB) etkileyebileceği kabul edilen cinsiyet, yaş, hizmet süresi, teknolojiye

erişebilirlik, teknoloji konusunda hizmet içi eğitim alma durumu, EBA kullanım sıklığı bilgileri toplanacak; ikinci bölümde Horzum, Akgün ve Öztürk(2014) tarafından geliştirilen TPAB Ölçeği kullanılacaktır. Ölçeğin kullanım izni e-posta aracılığı ile alınmıştır. Yedi alt ölçeğe sahip ölçek 51 maddeden oluşmaktadır.

Çalışma Grubu, Veri Toplama Araçları ve Veri Analizi

Bu araştırmanın evrenini Eskişehir ili devlet okullarında 2018-2019 eğitim öğretim yılında görev yapan ortaöğretim (ortaokul-lise) öğretmenleri, örneklemi isetabakalı örnekleme yoluyla il merkezindeki farklı bölgeler ve ilçelerden seçilen ortaokulveliselerden yeterli sayıda öğretmen(n=264) oluşmaktadır. Tabakalı Örnekleme, anakütleyi oluşturan birimlerin incelenecek özellikleri bakımından farklılık göstermesi durumunda benzer özelliklere sahip birimlerin "tabaka" adı verilen alt gruplarda toplandığı ve örneklemin, her tabakadan ayrı ayrı basit rassal örnekleme yöntemi ile seçilen örneklemlerin birleştirilmesiyle oluşturulduğu bir örnekleme yöntemidir (Kılıç, 2013). Çalışmada kullanılan Horzum, Akgün ve Öztürk'ün (2014) geliştirdikleriTPAB***Ölçeği***nin geçerli ve güvenilir bir ölçek olduğu yaptıkları analizlerle ortaya konmuştur.

Bulgular

Çalışmada elde edilen veriler kapsamında TPAB ölçeğindeki yedi faktör ile öğretmenlerin Eğitim Bilişim Ağını kullanım sıklıkları arasındaki ilişki ortaya konulmaya çalışılmıştır. Çalışmada EBA kullanım sıklığında "düzenli kullanıyorum" diyen 36, "ihtiyaç duyduğumda" diyen 174 ve "hiç kullanmıyorum" diyen 59 (n=269) öğretmen söz konusudur.

Eğitim Bilişim Ağı (EBA) Kullanım Sıklıkları ile Teknolojik Bilgi (TB) İlişkisi

Ölçekte TB, donanım yazılım araçlarını kullanım, teknolojiyi takip etme ve teknoloji konusunda ortaya çıkan sorunları çözmeye ilişkin bilgi düzeyine ilişkin altı maddeden oluşmakta olup, faktörün ortalama puanı ile EBA kullanım sıklığına ilişkin istatistik bulgular elde edilmiştir. Anova sonuçlarına göre gruplar arasında farklılık olduğu (Sig.=.000<.05) görülmüştür. Varyansların homojen dağılmadığı görüldüğünden (Sig.=.006<.05) Games-Howell Post Hoc test yapılmıştır.

Multiple Comparisons						
Dependent Variable: TB_Ortalama Games-Howell					95% Confidence Interval	
(I) Eba Kullanımı	(J) Eba Kullanımı	Mean Difference (I-J)	Std. Error	Sig.	Lower Bound	Upper Bound
Düzenli	İhtiyaç Duyduğumda	.29738*	.09736	.010	.0623	.5325
	Hiç	.86001*	.13458	.000	.5394	1.1806
İhtiyaç Duyduğumda	Düzenli	-.29738*	.09736	.010	-.5325	-.0623
	Hiç	.56263*	.10916	.000	.3018	.8235
Hiç	Düzenli	-.86001*	.13458	.000	-1.1806	-.5394
	İhtiyaç Duyduğumda	-.56263*	.10916	.000	-.8235	-.3018
*. The mean difference is significant at the 0.05 level.						

Tablo 1. Öğretmenlerin EBA Kullanım Sıklıkları ile TB Post Hoc Test Sonuçları

EBA kullanımına ilişkin Post Hoc test sonuçlarında tüm gruplar arasında farklılık olduğu görülmektedir. TB konusunda ortalaması en yüksek düzenli kullanıyorum diyenler (4.1481), en düşük ise hiç kullanmıyorum diyenlerdir (3.2881). Dolayısıyla teknoloji bilgisinde kendisini en yeterli değerlendirenler düzenli kullanıyorum diyen öğretmenlerdir.

Eğitim Bilişim Ağı (EBA) Kullanım Sıklıkları ile PB İlişkisi

Ölçekte Pedagojik Bilgi, sınıf yönetimi, değerlendirme gibi öğrenme ve öğretme süreci ve uygulamasına yönelik öğretmenlerin öz değerlemesini içeren yedi maddeden oluşan bir faktördür.Anova sonuçlarına göre gruplar arasında farklılık olduğu (Sig.=.000<.05) görülmüştür. Varyanslar homojen dağıldığından (Sig.=.073>.05) ve örneklem gruplarındaki dağılım eşit olmadığından Hochberg's GT2 Post Hoc test yapılmıştır.

Multiple Comparisons						
Dependent Variable: Hochberg (I) Eba Kullanımı	PB_Ortalama (J) Eba Kullanımı	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Düzenli	İhtiyaç Duyduğumda	.09045	.08376	.628	-.1108	.2917
	Hiç	.42615*	.09674	.000	.1937	.6586
İhtiyaç Duyduğumda	Düzenli	-.09045	.08376	.628	-.2917	.1108
	Hiç	.33570*	.06891	.000	.1701	.5013
Hiç	Düzenli	-.42615*	.09674	.000	-.6586	-.1937
	İhtiyaç Duyduğumda	-.33570*	.06891	.000	-.5013	-.1701
*. The mean difference is significant at the 0.05 level.						

Tablo 2. Öğretmenlerin EBA Kullanım Sıklıkları ile PB Post Hoc Test Sonuçları

Post Hoc test sonuçlarına göre EBA'yı düzenli kullanıyorum diyenlerle hiç kullanmıyorum diyen öğretmenler arasında farklılık vardır. Hiç kullanmıyorum diyenler ihtiyaç duyduğumda kullanıyorum diyenlerden de farklılaşmaktadır. PB yeterliliği konusunda en yüksek ortalama (4.3095) düzenli kullanıyorum diyenlerdedir.

Eğitim Bilişim Ağı (EBA) Kullanım Sıklıkları ile AB İlişkisi

AB ölçeği, öğretmenlerin öğretilen konu hakkındaki bilgilerini ve alandaki gelişmeleri izlemelerine yönelik öz değerlendirmelerini kapsayan altı maddeden oluşmaktadır. Anova sonuçlarına göre gruplar arasında farklılık olduğu (Sig.=.000<.05) görülmüştür. Varyansların homojen dağılmadığı görüldüğünden (Sig.=.009<.05) Games-Howell Post Hoc test yapılmıştır.

Multiple Comparisons						
Dependent Variable: Games-Howell (I) Eba Kullanımı	AB_Ortalama (J) Eba Kullanımı	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Düzenli	İhtiyaç Duyduğumda	.13094	.09671	.373	-.1034	.3652
	Hiç	.42730*	.12846	.004	.1210	.7336
İhtiyaç Duyduğumda	Düzenli	-.13094	.09671	.373	-.3652	.1034
	Hiç	.29637*	.09744	.009	.0634	.5294
Hiç	Düzenli	-.42730*	.12846	.004	-.7336	-.1210
	İhtiyaç Duyduğumda	-.29637*	.09744	.009	-.5294	-.0634
*. The mean difference is significant at the 0.05 level.						

Tablo 3. Öğretmenlerin EBA Kullanım Sıklıkları ile AB Post Hoc Test Sonuçları

Post Hoc test sonuçlarına göre EBA'yı düzenli kullanıyorum diyenlerle hiç kullanmıyorum diyen öğretmenlerin AB'ye yönelik öz değerlendirmeleri arasında farklılık vardır. Hiç kullanmıyorum diyenler ihtiyaç duyduğumda kullanıyorum diyenlerden de farklılaşmaktadır. AB yeterliliği konusunda en yüksek ortalama (4.4618) yine düzenli kullanıyorum diyenlerdedir.

Eğitim Bilişim Ağı (EBA) Kullanım Sıklıkları ile TAB İlişkisi

TAB ölçeği, ders içeriğinin geliştirilmesi ve sunulmasında teknolojinin kullanımına yönelik öz değerlendirmeleri kapsayan altı maddeden oluşmaktadır. Anova sonuçlarına göre gruplar arasında farklılık olduğu (Sig.=.000<.05) görülmüştür. Varyansların homojen dağıldığından (Sig.=.062<.05) ve örneklem gruplarındaki dağılım eşit olmadığından Hochberg's GT2 Post Hoc test yapılmıştır.

Multiple Comparisons						
Dependent Variable: Hochberg (I) Eba Kullanımı	TAB_Ortalama (J) Eba Kullanımı	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Düzenli	İhtiyaç Duyduğumda	.17558	.09737	.202	-.0583	.4095
	Hiç	.55287*	.11208	.000	.2836	.8221
İhtiyaç Duyduğumda	Düzenli	-.17558	.09737	.202	-.4095	.0583
	Hiç	.37728*	.07920	.000	.1870	.5676
Hiç	Düzenli	-.55287*	.11208	.000	-.8221	-.2836
	İhtiyaç Duyduğumda	-.37728*	.07920	.000	-.5676	-.1870
*. The mean difference is significant at the 0.05 level.						

Tablo 4. Öğretmenlerin EBA Kullanım Sıklıkları ile TAB Post Hoc Test Sonuçları

Post Hoc test sonuçlarına göre EBA'yı düzenli kullanıyorum ve ihtiyaç duyduğumda kullanıyorum diyenlerle hiç kullanmıyorum diyen öğretmenlerin TAB öz değerlendirmeleri arasında farklılık vardır. TAB yeterliliği konusunda en yüksek ortalama (4.2286) düzenli kullanıyorum diyenlerde, en düşük ise hiç kullanmıyorum (3.6757) diyenlerdedir.

Eğitim Bilişim Ağı (EBA) Kullanım Sıklıkları ile PAB İlişkisi

PAB içeriğin öğretilmesi için uygulanan pedagojik bilgiyi ölçmeye yönelik sekiz maddeden oluşmaktadır. Anova sonuçlarına göre gruplar arasında farklılık olduğu (Sig.=.000<.05) görülmüştür. Varyanslar homojen dağıldığından (Sig.=.841<.05) ve örneklem gruplarındaki dağılım eşit olmadığından Hochberg's GT2 Post Hoc test yapılmıştır.

Multiple Comparisons						
Dependent Variable: Hochberg (I) Eba Kullanımı	PAB_Ortalama (J) Eba Kullanımı	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Düzenli	İhtiyaç Duyduğumda	.06866	.10486	.884	-.1833	.3206
	Hiç	.46961*	.12071	.000	.1796	.7596
İhtiyaç Duyduğumda	Düzenli	-.06866	.10486	.884	-.3206	.1833
	Hiç	.40095*	.08530	.000	.1960	.6059
Hiç	Düzenli	-.46961*	.12071	.000	-.7596	-.1796
	İhtiyaç Duyduğumda	-.40095*	.08530	.000	-.6059	-.1960
*. The mean difference is significant at the 0.05 level.						

Tablo 5. Öğretmenlerin EBA Kullanım Sıklıkları ile PABPost Hoc Test Sonuçları

Post Hoc test sonuçlarına göre EBA'yı düzenli kullanıyorum ve ihtiyaç duyduğumda kullanıyorum diyenlerle hiç kullanmıyorum diyen öğretmenlerin PAB öz değerlendirmeleri arasında farklılık vardır. PAB yeterliliği konusunda en yüksek ortalama düzenli kullanıyorum (4.4357) diyenlerdedir.

Eğitim Bilişim Ağı (EBA) Kullanım Sıklıkları ile TPB İlişkisi

TPB kullanılan teknolojik araçlara uygun pedagojik tasarıma yönelik öğretmenlerin yetkinliğini değerlendirmelerini içeren sekiz maddeden oluşmaktadır. Anova sonuçlarına göre gruplar arasında farklılık olduğu (Sig.=.000<.05) görülmüştür. Varyansların homojen dağılmadığı görüldüğünden (Sig.=.004<.05) ve Games-Howell Post Hoc test yapılmıştır.

Multiple Comparisons						
Dependent Variable: Games-Howell (I) Eba Kullanımı	TPB_Ortalama (J) Eba Kullanımı	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Düzenli	İhtiyaç Duyduğumda	.13094	.09671	.373	-.1034	.3652
	Hiç	.42730*	.12846	.004	.1210	.7336
İhtiyaç Duyduğumda	Düzenli	-.13094	.09671	.373	-.3652	.1034
	Hiç	.29637*	.09744	.009	.0634	.5294
Hiç	Düzenli	-.42730*	.12846	.004	-.7336	-.1210
	İhtiyaç Duyduğumda	-.29637*	.09744	.009	-.5294	-.0634
*. The mean difference is significant at the 0.05 level.						

Tablo 6. Öğretmenlerin EBA Kullanım Sıklıkları ile TPB Post Hoc Test Sonuçları

Post Hoc test sonuçlarına göre EBA'yı düzenli kullanıyorum ve ihtiyaç duyduğumda kullanıyorum diyenlerle hiç kullanmıyorum diyen öğretmenlerin TPB öz değerlendirmeleri arasında farklılık vardır. TPB yeterliliği konusunda en yüksek ortalama (4.1893) düzenli kullanıyorum diyenlerdedir.

Eğitim Bilişim Ağı (EBA) Kullanım Sıklıkları ile TPAB İlişkisi

TPAB öğretmenlerin alan bilgilerinin uygun teknoloji ile öğretilmesi için gerekli pedagojik yöntemlerin bütünleştirilmesi bilgisini değerlendiren sekiz maddeden oluşmaktadır. Anova sonuçlarına göre gruplar arasında farklılık olduğu (Sig.=.000<.05) görülmektedir. Varyansların homojen dağılmadığı görüldüğünden (Sig.=.005<.05) ve Games-Howell Post Hoc test yapılmıştır.

Multiple Comparisons						
Dependent Variable: Games-Howell (I) Eba Kullanımı	TPCK_Ortalama (J) Eba Kullanımı	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Düzenli	İhtiyaç Duyduğumda	.04275	.10569	.914	-.2136	.2991
	Hiç	.43450*	.14425	.009	.0906	.7784
İhtiyaç Duyduğumda	Düzenli	-.04275	.10569	.914	-.2991	.2136
	Hiç	.39175*	.11104	.002	.1261	.6574
Hiç	Düzenli	-.43450*	.14425	.009	-.7784	-.0906
	İhtiyaç Duyduğumda	-.39175*	.11104	.002	-.6574	-.1261
*. The mean difference is significant at the 0.05 level.						

Tablo 7. Öğretmenlerin EBA Kullanım Sıklıkları ile TPAB Post Hoc Test Sonuçları

TPAB ile EBA kullanımlarına yönelik Post Hoc test sonuçları, alt ölçeklerdeki bulgulara uygun olarak, EBA'yı düzenli kullanıyorum ve ihtiyaç duyduğumda kullanıyorum diyenlerle hiç kullanmıyorum diyenlerarasında farklılık olduğunu göstermektedir. TPAB yeterliliği konusunda ilgili maddelere ilişkin en yüksek ortalama düzenli kullanıyorum yine (4.2036) diyenlerdedir.

TARTIŞMA VE SONUÇ

Çalışmadan elde edilen bulgular ışığında TPAB tüm alt faktörleri ile birlikte öğretmenlerin EBA kullanım sıklıklarına göre değerlendirildiğinde, eğitim bilişim ağını düzenli kullanan ve ihtiyaç duyduğunda kullanan öğretmenlerin TPAB bilgi düzeylerinin hiç kullanmayan öğretmenlere göre yüksek olduğu, en yüksek bilgi düzeyine sahip olanlarında düzenli kullananlar olduğu sonucuna varılmaktadır.Bu sonuç öğretmenlerin teknoloji kullanım düzeylerinin, teknoloji, pedagoji ve alan bilgileri yüksekliğine bağlı olarak arttığını göstermektedir.

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Özet

Teknolojide kaydedilen ilerlemeler ve internetin yaygınlaşması birçok alanda olduğu gibi eğitimde de radikal değişimlere yol açmaktadır. Bu değişimin en belirgin örneklerinden birisi de isteyen her kurum veya kişinin yüzyüze ortamlarda ulaşabildiği öğrenen kitlesine sunduğu eğitimleri, kitlesel çevrimiçi açık kurslar (Massive Open Online Course, MOOC) olarak sunabilmesidir. Gün geçtikçe bu sistemlere kayıt olan öğrenenlerin sayısında büyük bir artış yaşanmakla birlikte, geleneksel anlayışında dışında bir eğitim-öğretim ortamına geçiş, öğretim tasarımcılarının karşısına yeni nesil öğrenme yönetim problemleri ortaya çıkarmaya başlamıştır. Bu problemlerin başında da, katılımcılar arasında dersten çekilme oranlarındaki artış gelmektedir. Oyunlaştırma'nın dersi bırakma üzerine pozitif etkileri üzerine yapılan çalışmalar (Anderson, Huttenlocher, Kleinberg, & Leskovec, 2014; Borrás-Gené, Martínez-Núñez & Martín-Fernández, 2019; Buchem, Merceron, Kreutel, Haesner, & Steinert, 2015; Cross, Whitelock & Galley, 2014; Cruz-Benito, Borras-Gene, Garcia-Penalvo, Blanco & Theron, 2017; Khalil, Ebner & Admiraal, 2017; Krause, Mogalle, Pohl & Williams, 2015; Vaibhav & Gupta, 2014) incelendiğinde bu problemin çözümü için etkili bir yöntem olduğu söylenebilir. Bu çalışma kapsamında MOOC'larda oyunlaştırma uygulamalarının dersten çekilme oranları üzerindeki etkisini belirlemek üzere gerçekleştirilen deneysel çalışmalar incelenmiştir. Gerçekleştirilen bu incelemeler çerçevesinde MOOC'larda oyunlaştırma için tercih edilebilecek oyun elementleri ve sürecin planlamasına yönelik genel öneriler sunulmuştur.

Anahtar Kelimeler: *Kitlesel çevrimiçi dersler, MOOC, oyunlaştırma*

GİRİŞ

Eğitim toplumların ihtiyaçları doğrultusunda sürekli olarak değişen ve gelişen bir sistemdir. Dolayısıyla yetiştirilmek istenen insan gücü, eğitimin nerede ve nasıl sunulduğunu belirleyen önemli unsurlardan birisidir. Örneğin; bugün özellikle internetin yaygınlaşması ve dünyanın hızla küreselleşmesi ile birlikte beşerî sermayesine yatırım yapmak isteyen kurumlar veya bireyler, üniversitelerin yüzyüze yaptıkları eğitimlere ya da sertifika programlarına çevrimiçi ortamda erişmeyi tercih etme eğilimindedirler (Graham, 2006; Lim & Morris, 2009; Park & Choi, 2009). Bu eğilimin yansımalarından birisinin kitlesel çevrimiçi açık kurslar (Massive Open Online Courses, MOOC) olduğu söylenebilir.

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MOOC herhangi bir ön koşul aranmaksızın dileyen herkesin kayıt olup sunulan öğrenme içeriğini tamamlayarak bir sertifika edindiği ücretsiz web tabanlı bir sistemdir (Graham, 2006; Loeckx, 2016). Bu platformda sunulabilecek içerikler: (1) bireyin kişisel ilgi ve merakı doğrultusunda katıldığı bağımsız dersler, (2) bir üniversitenin bir programı kapsamında sunulan ve öğrencilerin kredi kazanmak için aldığı dersler, (3) tamamı çevrimiçi olan lisans ya da lisansüstü program dersleri ve (4) üniversite ya da eğitimci ile işbirliği yapılarak oluşturulan sertifika programları olabilmektedir (Xiao, Qiu & Cheng, 2019). MOOC'larda içerik temelli bilişsel ve davranışçı yaklaşım (Anderson & Dron, 2011) çerçevesinde ilerlenerek eğitmen liderliğinde (Adams, Yin, Vargas, Madriz & Mullen, 2014) bir öğrenme deneyimi sunulabileceği gibi, öğrencilerin de içeriği oluşturmada etkili ve aktif katılımcısı olduğu (Walls, King, Kelder & Booth, 2015) bağlantıcılık (connectivism) öğrenme teorisi (AIDahdouh, Osório & Caires, 2015) çerçevesinde de bir öğrenme deneyimi sunulabilmektedir.

2012 yılı itibariyle Massachusetts Institute of Technology (MIT) ve Harvard gibi dünyanın önde gelen üniversiteleri bu alana yatırımlara yapmıştır. Bunun yanı sıra Coursera, edX ve Udacity gibi platformlar kullanıma sunulmuştur. Tüm bu yatırımları ve uygulamaları takiben dünyanın dört bir yanından binlerce kişi MOOC'lara kayıt olmuştur. Ancak derslere kayıt olan sayıları ne kadar yüksek ve önemli üniversite ya da alanında önde gelen eğitimcilere ait dersler sunuluyor olsa da, dersi tamamlayıp sertifika alanların sayısı istenen düzeyde değildir (Aparicio, Oliveirab, Bacaob & Painhob, 2019; Jordan, 2014; Loeckx, 2016; Breslow, Pritchard, Deboer, Stump, Ho & Seaton, 2013; Korn & Levitz, 2013; Vaibhav & Gupta, 2014). Bazı dersler için dersi tamamlama oranları neredeyse 10% civarında olduğu görülmektedir. Örneğin; Vaibhav ve Gupta (2014), Loeckx (2016) ve Jordan (2014) çalışmalarında bazı derslerde kayıt olanların yaklaşık olarak onda biri kadarının sertifika alarak dersi tamamladığını belirtmektedir. Benzer şekilde Korn ve Levitz (2013) çalışmalarında 9 Milyon MOOC öğrencisinin yaklaşık %90'ının dersi tamamlamadığı görülmektedir.

Öğrencilerin dersleri tamamlamaması ve dolayısıyla sertifika almamasının nedenlerini şu şekilde sıralamak mümkündür (Greene, Oswald & Pomerantz, 2015; Vaibhav & Gupta, 2016; Xiao ve diğ., 2019; Weinhardt & Sitzman, 2019);

- Derslerin çok uzun ve sıkıcı olması
- Eğitim dili konusunda yetersiz olmaları,
- Ölçme-değerlendirme konusunda soru işaretlerinin bulunması,
- Öğrenenlere sistemli bir şekilde geribildirim verilmiyor olması,
- Öğrenenlerin derse yeterince vakit ayıramaması,
- Öğrenenlerin zaman içerisinde ilgi ve meraklarını kaybetmesi,
- Öğrenen-öğrenen ve öğrenen-eğitimci arasında istenen etkileşimin istenen düzeyde olmaması ve
- Öğrenenlerin yeterli teknolojik altyapıya ve donanıma sahip olmamasıdır.

Öte yandan MOOC'larda dersleri başarıyla tamamlayıp sertifika almaya hak kazanan öğrenci profili incelendiğinde ise bu öğrencilerin yüksek öğrenme motivasyonuna ve öz-düzenleme becerisine sahip olduğu belirlenmiştir (Loeckx, 2016). Öte yandan bir öğrenme ortamının etkililiğinin en önemli ölçütü öğrenme çıktısı (Weinhardt & Sitzman, 2019) olduğundan yeni MOOC tasarımlarında da öğrenenlerin akademik başarılarını artırmak ve kalıcı öğrenmenin gerçekleşmesini sağlamak öncelikli hedef

olmalıdır. Akademik başarının artırılması ve kalıcı öğrenmenin gerçekleşebilmesi ise, öğrencilerin tüm öğrenme görevlerini yerine getirerek süreci tamamlaması ile mümkündür. Dolayısıyla öğrencilerin derse devam etmesinin sağlanması bu görevleri yerine getirmede önemli bir rol oynayacaktır. Bu noktada öğrencilerin içsel motivasyonlarının desteklenmesi derse katılımı ve devamlılığını destekleyecek en önemli unsurdur (Ryan & Deci, 2000). İçsel motivasyonun desteklenebilmesi için bireye özerklik sağlamak, yetkiler sunmak, bir bağlılık kurmasına fırsat tanımak (Ryan & Deci, 2000) ve düzenli geribildirimler vermek en etkili yollardandır (Deci, 1971). Bununla birlikte bireyin gelişimine uygun zorlukta içerik sunarak akışta kalmasını sağlamak hem motivasyonu hem de derse devam durumunu destekleyecek bir diğer stratejidir (Nakaruma & Csikszentmihalyi, 2009). Bu durum göz önünde bulundurulduğunda öğrenenlerin sosyalleştiği, sistemli geribildirimler ile kendi gelişimlerini takip edebildiği ve uygun zorlukta içerikler ile karşılaştığı yeni MOOC tasarımlarına ihtiyaç duyulmaktadır.

Öğrenenlere sosyalleşme, düzenli geribildirimler ile hem kendi gelişimini gözlemlerken hem de gelişimine uygun içeriklerin sunulabilmesi noktasında oyunlaştırma yararlanabilecek bir stratejidir. Oyunlaştırma; oyun olmayan ortam ve içerik tasarımında oyun unsurlarının kullanılmasıdır (Deterding, Dixon, Khaled & Nacke, 2011; Werbach & Hunter, 2012). Var olan örnekler incelendiğinde, oyunlaştırmanın istendik davranış değişikliği gerçekleştirmek ve bireyin motivasyonunu desteklemek amacıyla tercih edildiği belirlenmiştir (Domínguez ve diğ, 2013). Eğitimin temel hedefleri ve oyunlaştırmanın kullanım amaçları arasındaki paralellik göz önüne alındığında, yüz yüze ve çevrimiçi öğrenme ortamı tasarımlarında da oyunlaştırmaya yer verildiği görülmektedir. Bu çalışma kapsamında, MOOC'larda oyunlaştırma sürecine dair deneysel çalışmalar incelenerek süreç planlamasına yönelik genel bir çerçeve sunulması amaçlanmıştır.

YÖNTEM

Bu çalışma kapsamında öğrencilerin kayıtlı oldukları derse devam etmelerini sağlamak üzere MOOC'larda oyunlaştırma için genel bir çerçeve sunulması amaçlanmıştır. Belirtilen bu amaç kapsamında, MOOC'larda oyunlaştırma yönteminin tercih edildiği deneysel çalışmalar incelenmiştir. Gerçekleştirilen çalışma bir duruma karşı kişilerin fikir, algı ya da tutumlarının yanı sıra okuyucuya bir durumu olduğu gibi aktarmayı hedefleyen (Büyüköztürk, Akgün, Karadeniz, Demirel ve Kılıç, 2016) bir tarama çalışmasıdır.

Çalışmanın veri kaynakları 2014-2019 yılları arasında MOOC'larda oyunlaştırma uygulamarının etkililiğini ortaya koymayı amaçlayan deneysel çalışmalar olduğundan öncelikle Science Direct arama motorunda *"oyunlaştırma (gamification)", "Kitlesel çevrimiçi açık ders (massive open online course)"* ve *"uzaktan eğitim (distance education)"* anahtar kelimeleri kullanılmıştır. Toplam 9 makaleye ulaşılmıştır. Bu araştırmaya ek olarak Eric arama motorunda *oyunlaştırma (gamification)", "Kitlesel çevrimiçi açık ders (massive open online course)"* ve *"uzaktan eğitim (distance education)"* anahtar kelimeleri kullanılmıştır. Toplam 9 makaleye ulaşılmıştır. Ancak bu araştırmanın amacı doğrultusunda, deneysel olmayan diğer çalışmalar araştırma örneklemi dışında tutulmuştur. Bu araştırma toplam 11 makale incelenerek tamamlanmıştır. Elde edilen makaleler içerik analizi yöntemi ile incelenmiştir. İçerik analizi; bir metni belirli kurallar çerçevesinde sistematik bir biçimde incelenerek özetlenmesine yönelik bir tekniktir (Büyüköztürk ve diğ., 2016).

BULGULAR

Bu çalışma kapsamında örnekleme dahil edilen 2014-2019 yılları arasında yayınlanan toplam 11 çalışmanın, kullandıkları oyun elementleri ve araştırma sonucunu özetleyen tablo aşağıda sunulmuştur (Tablo 1).

Araştırma	Element	Araştırma Sonucu
Anderson ve diğ. (2014)	Rozet	Derse katılımı artmıştır.
Aparicio ve diğ. (2019)	Engel	Ders memnuniyetini artmış ancak dersten çekilme sayısında anlamlı bir farklılık gözlemlenmemiştir.
Borrás-Gené ve diğ. (2019)	Sosyal Etkileşim Puan Rozet Liderlik Tablosu	Öğrenenler arası etkileşim artmış ve ders memnuniyet durumu olumlu olduğu belirlenmiştir.
Buchem ve diğ. (2015)	Rozet Engel Hikaye	Öğrenenlerin akademik başarısı artmıştır.
Cross ve diğ. (2014)	Rozet	Öğrenenler derse yönelik olumlu görüş bildirmişlerdir.
Cruz-Benito ve diğ. (2017)	Sosyal Etkileşim	Öğrenenler arası etkileşim artmıştır.
Khalil ve diğ. (2017)	İlerleme Çubuğu	Öğrenenlerin dikkat süresi, motivasyonları ve katılımı artmıştır. Ders sonunda sertifika alanlarda artış olduğu belirlenmiştir.
Krause ve diğ. (2015)	Sosyal Etkileşim	Akademik başarı ve öğrenmenin kalıcılık süresi artmıştır.
Olsson ve diğ. (2015)	İlerleme Çubuğu	Öğrenciler olumlu görüş bildirmiştir.
Ortega-Arranz ve diğ. (2019)	Ödül Rozet	Derse katılım, akademik başarı ve dersten çekilme konusunda anlamlı farklılıklar oluşmamıştır.
Vaibhav & Gupta, (2014)	Geribildirim	Öğrencilerin derse olan ilgisi artmıştır. Öğrenciler olumlu yönde görüş bildirmişlerdir.

Tablo 1. Çalışmalarda tercih edilen oyun elementleri ve sonuçları

Tablo 1. incelendiğinde, ödül (Ortega-Arranz ve diğ., 2019), rozet (Anderson ve diğ., 2014; Borrás-Gené ve diğ., 2019; Buchem ve diğ., 2015; Cross ve diğ., 2014; Ortega-Arranz ve diğ., 2019), puan (Borrás-Gené ve diğ., 2019), engel (Aparicio ve diğ., 2019; Buchem ve diğ., 2015), liderlik tablosu (Borrás-Gené ve diğ., 2019), ilerleme çubuğu (Khalil ve diğ., 2017; Olsson ve diğ., 2015), geribildirim (Vaibhav & Gupta, 2014) sosyal etkileşim (Borrás-Gené ve diğ., 2019; Cruz-Benito ve diğ., 2017; Krause ve diğ., 2015) ve hikaye (Buchem ve diğ., 2015) gibi oyun elementleri tek başına

ya da bir arada kullanılarak MOOC tasarımlarına dahil edilmiştir. Elde edilen bu bulgu ışığında MOOC'larda en sık kullanılan oyun elementleri sırasıyla rozet sosyal etkileşim, ilerleme çubuğu, puan ve ödül olarak belirlenmiştir. Bu noktada tercih edilen oyun elementlerinin MOOC'larda düzenli ve etkili geribildirim sunmak ya da öğrenen-öğrenen ve öğrenen-eğitici arasındaki etkileşimi arttırmak üzere tercih edildiği söylenebilir.

Bununla birlikle oyunlaştırmanın etkisi açısından araştırma sonuçları incelendiğinde; genellikle oyunlaştırma ile öğrenenlerin dersi tamamlama oranlarında iyileşme olduğu görülmektedir (Borrás-Gené ve diğ., 2019; Khalil ve diğ., 2017). Bunun yanı sıra, öğrenenlerin akademik başarısı (Buchem ve diğ., 2015; Khalil ve diğ., 2017; Krause ve diğ., 2015), öğrenme motivasyonu (Khalil ve diğ., 2017; Vaibhav & Gupta, 2014), dersten memnuniyet durumu (Aparicio ve diğ., 2019; Borrás-Gené ve diğ., 2019), öğrenenler arasındaki etkileşimi ve öğrenmenin kalıcılığı (Krause ve diğ., 2015) üzerinde de olumlu yönde katkı sağladığı bulunmuştur. Ancak, bu çalışmalardan elde edilen bulguların aksine, oyunlaştırmanın öğrenenlerin akademik başarısı ya da motivasyonları üzerinde anlamlı farklılıklar oluşturmadığı ve yalnızca öğrenme deneyimini zenginleştirerek süreci ilgi çekici hale getirdiği yönünde de bulgular elde eden çalışmalar da (Aparicio ve diğ., 2019; Ortega-Arranz ve diğ., 2019) bulunmaktadır.

TARTIŞMA VE SONUÇ

Çalışma kapsamında incelenen araştırmaların büyük bir çoğunluğunda geribildirim sunmak ya da ölçme-değerlendirme sürecini zenginleştirmek üzere rozet, liderlik tablosu ve ödül gibi oyun elementleri (Anderson ve diğ. 2014; Buchem ve diğ., 2015; Cross ve diğ., 2014; Khalil ve diğ., 2017) sıklıkla tercih edilmiştir. Bunun yanı sıra bazı araştırmacılar ise Kahoot, Sli.do ve Quizlet gibi oyunlaştırılmış ölçme-değerlendirme araçlarından (Borrás-Gené, 2019; Vaibhav, & Gupta, 2014) yararlanarak öğrenenlere geribildirim sunulmuştur. Alan yazını incelendiğinde de bu durumu destekler nitelikte farklı çalışmalar (Glover, 2013; Nicholson, 2012) ile karşılaşılmıştır. Geribildirim; bireyin motivasyonunun destekleme noktasında etkililiği kanıtlanmış önemli bir araç (Ryan & Deci, 2000), oyunlaştırma ise etkili bir yöntem olarak öne çıkmaktadır (Khalil ve diğ., 2017; Vaibhav & Gupta, 2014). Ancak öğrenenlere uzun vadede oyunlaştırma, öğrenme ortamında rekabeti arttırmakta ve öğrenme motivasyonuna zarar verebilmektedir (Yıldırım ve Demir, 2014).

Ayrıca çalışma kapsamında incelenen araştırmalarda, katılımcı-katılımcı ve katılımcı-eğitmen arasındaki etkileşim arttırmak üzere sosyal etkileşim elementini tasarıma dahil edildiği tespit edilmiştir (Cruz-Benito ve diğ., 2017; Krause ve diğ., 2015). Dolayısıyla oyunlaştırma sadece geribildirim sunmayı amaçlayan bir yöntem değildir. Aynı zamanda oyunlaştırmanın tüm katılımcılar arasındaki etkileşimi de destekleyen bir yöntem olduğu söylenebilir. İncelenen araştırma sonuçlarında oyunlaştırmanın, dersten çekilme oranlarının azalması ve öğrenenlerin ders hakkında olumlu görüş bildirmesinde etkili olduğu belirtilmiştir (Anderson ve diğ., 2014; Borrás-Gené ve diğ., 2019; Buchem ve diğ.,

2015; Cross ve diğ., 2014; Cruz-Benito ve diğ., 2017; Khalil ve diğ., 2017; Krause ve diğ., 2014). Bunun yanı sıra araştırmalarda öğrenenlerin akademik başarıları (Buchem ve diğ., 2015; Krause ve diğ., 2014), derse olan ilgileri (Vaibhav & Gupta, 2016), derse olan katılımları (Anderson ve diğ., 2014) ve öğrenmenin kalıcılık süresi (Krause ve diğ., 2014) üzerinde anlamlı farklılıklar elde edilmesinde oyunlaştırmanın etkili olduğu saptanmıştır. İncelenen araştırma sonuçları doğrultusunda oyunlaştırma MOOC'larda verimli bir öğrenme ortamı tasarımı için etkili bir yöntem olarak öne çıktığını söylenebilir. Ancak oyunlaştırmanın öğrenme ortamını zenginleştirip, öğrenme deneyimini ilgi çekici hale getirdiği için etkili sonuçlar alınmış olabileceği de göz önünde bulundurulmalıdır (Aparicio ve diğ., 2019; Ortega-Arranz ve diğ., 2019).

Öte yandan MOOC'larda öğrenenler yalnızca motivasyon ya da etkileşimin eksikliğinden dolayı değil; derslerin uzun ve sıkıcı olması, ölçme-değerlendirme noktasında eksikliklerin bulunması ve eğitim dili konusundaki eksiklikleri nedenler dolayısıyla da dersleri yarıda bırakabilmektedir. Ayrıca MOOC'larda öğrenen kitlesi farklı coğrafyalardan gelen, farklı hazırbulunuşluk seviyesinde ve farklı öğrenme alışkanlıklarına sahip kişilerdir. Bu nedenle MOOC'larda öğrenme kitlesinin geleneksel öğrenme ortamlarına göre daha heterojen yapıda olduğu söylenebilir. Bu duruma bağlı olarak, öğrenenlerin hepsine aynı anda aynı içeriği sunmak, öğrenen için dersin çok zor ya da kolay seviyede olması da (Csikszentmihalyi, 1993) dersten çekilme oranlarını arttırabilir. Bu noktada MOOC'larda var olan durumun iyileştirilmesi ve daha verimli öğrenme ortamı tasarımları için oyunlaştırmanın yanı sıra daha farklı çözümlere de ihtiyaç duyulduğu söylenebilir. Örneğin; öğrenenlerin hazırbulunuşluk düzeyi ve öğrenme hızına bağlı olarak içeriğin kişiselleştirilebilir bir yapı sunmak üzere yapay zekadan yararlanmak farklı bir çözüm yolu olabilir. Dolayısıyla MOOC'larda oyunlaştırmanın yanı sıra farklı teknolojilerden ya da stratejilerden yararlanarak da sorunlara çözüm sunulabilmektedir. Bu nedenle öncelikle var olan problemin net bir biçimde ortaya konulması oldukça önemlidir. Ardından belirlenen problemin çözümü için nasıl bir yol izleneceği belirlenmelidir. Tercih edilen çözüm yolu oyunlaştırma ise; öğrenen grubunun iyi analiz edilerek, öğrenenlerin ilgisini çeken ve merak uyandırıcı bir içerik hazırlanmalıdır. Öğrenenler arasındaki rekabeti arttırmaktan ziyade kendi gelişimlerini takip etmelerine imkân tanınayacak biçimde oyun elementlerine yer verilmelidir. Ayrıca öğrenen-öğrenen ve öğrenen-eğitmen arasındaki etkileşimin kurulması ve öğrenenlerin tüm süreç boyunca aktif katılımını sağlanması da dikkat edilmesi gereken diğer noktalardır.

Son olarak, ücretsiz olarak hem zamandan hem mekândan bağımsız olarak öğrenen ve eğitmeni buluşturmak amacıyla yola çıkan MOOC'lar ilk günden itibaren oldukça büyük bir ilgiyle karşılanmıştır. Ayrıca teknolojide kaydedilen ilerlemeler ve insanlığın değişen ihtiyaçları göz önünde bulundurulduğunda, MOOC'ların zaman içerisinde eğitim endüstrisi için daha önemli bir noktaya geleceği öngörülmektedir. Ancak MOOC'larda verimli bir süreç planlama, ekonomik açıdan devamlılığını sağlama ve etkili bir yönetim ortaya konulabilmesi için geleneksel eğitimden farklı stratejilere ve modellere ihtiyaç duyulmakta olup (Loeckx, 2016), bu alandaki çalışmalar her geçen gün daha da önemli hale gelmektedir.

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Çevrimiçi Öğrenmede Öğretmen Hazırbulunuşluğu Ölçeğinin Türkçe Uyarlaması: Geçerlik ve Güvenirlik Çalışması

Hakan BARAN[1], Emin ÖZEN[2]

Özet

Çevrimiçi öğrenme gelişen genel ağ teknolojileri ile birlikte günümüz eğitim sürecinde giderek önem kazanmaktadır. Bu araştırmanın amacı Hung (2016) tarafından geliştirilen Çevrimiçi Öğrenmede Öğretmen Hazırbulunuşluğu Ölçeğini (Teacher Readiness for Online Learning Measure-[TROLM]) Türkçeye uyarlamak ve geçerlik ve güvenirlik çalışması sonuçlarını ortaya koymaktır. Araştırma 96 öğretmenin katılımı ile gerçekleştirilmiştir. Ölçeğin yapı geçerliği çalışmaları için açımlayıcı faktör analizi ve doğrulayıcı faktör analizi yapılmış, güvenirlik çalışmaları için ise iç tutarlılık katsayısı hesaplanmıştır. Öz-düzenleyici öğrenme, kurumsal destek, iletişim öz-yeterliği, öğrendiğini aktarma öz-yeterliği olmak üzere dört faktörden oluşan 18 maddelik ölçeğe ilişkin modelin doğrulayıcı faktör analizi sonucunda mükemmel uyum gösterdiği sonucuna ulaşılmıştır. Güvenirlik çalışması sonucunda ölçeğin iç tutarlılığının iyi; alt boyutlarının iç tutarlığının ise iyi ve kabul edilebilir düzeyde olduğu görülmüştür. Sonuç olarak, gerçekleştirilen analizler söz konusu ölçeğin Türkçe formunun geçerli ve güvenilir bir ölçme aracı olduğunu göstermiştir. Çevrimiçi Öğrenmede Öğretmen Hazırbulunuşluğu Ölçeğinin birer öğrenen rolüyle öğretmenlerin çevrimiçi öğrenmeye hazırbulunuşluklarını ölçmek ve ilgili faktörler hakkında veri toplanması amacıyla kullanılabileceği düşünülmektedir.

Anahtar Kelimeler: *Öğretmen hazırbulunuşluğu, çevrimiçi öğrenme, ölçek uyarlama, geçerlik, güvenirlik*

GİRİŞ

Çevrimiçi öğrenme gelişen genel ağ teknolojileri ile birlikte günümüz eğitim sürecinde giderek önem kazanmaktadır. Dünya üzerinde 31 Mart 2019 itibarı ile nüfusun % 56,8'i genel ağ kullanıcısı olmakla birlikte 2000-2019 yılları arasındaki kullanıcı büyüme oranı % 1114 olarak tespit edilmiştir (Internet World Stats, 2019). İnternet kullanımının giderek yaygınlaşması bireylere birçok konuda kolaylık sağlamaktadır. Bu alanlardan birini ise eğitim-öğretim faaliyetleri oluşturmaktadır. Bu kapsamda öğretici ile öğrenenin bilgisayar ağı üzerinden iletişim kurarak ya da öğrenenin bireysel olarak yine bilgisayar ağı üzerinden gerçekleştirdiği çevrimiçi öğrenme özel bir önem kazanmaktadır.

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Çevrimiçi öğrenme, genel ağ teknolojisinin kullanımıyla desteklenen, yönetilen senkron ve asenkron öğrenme uygulamaları ile bilgi ve beceri kazanma olarak tanımlanmaktadır (Morrison, 2003). Bir başka tanımda çevrimiçi öğrenme, öğrenme sürecinde öğrenme kaynaklarına erişebilmek, içerik, öğretici ve diğer öğrenenlerle etkileşim kurabilmek ve öğrenme süreci boyunca destek alabilmek için internetin kullanılması olarak ifade edilmiştir (Ally, 2008). Çevrimiçi öğrenme zaman ve mekân bağımsız öğrenme, kolaylık, esneklik, öz-düzenleme becerisi, işbirlikli öğrenme, öğrenme sürecini öğrencinin kendinin planlayabilmesi gibi çeşitli faydalar sağlamaktadır. Çevrimiçi öğrenmenin avantajlarından optimum düzeyde yararlanabilmenin temelindeki olgu ise bilgi ve iletişim teknolojisi araçlarına erişim, e-öğrenme okuryazarlığı gibi koşulların yanı sıra öğrenenlerin çevrimiçi öğrenmeye ne kadar hazır oldukları hususudur. Nitekim Çakır ve Horzum (2015) hazırbulunuşluğun çevrimiçi öğrenme şeklinde yürütülen eğitim süreci için oldukça önemli olduğunu belirtmiştir. Benzer şekilde, çevrimiçi öğrenme hazırbulunuşluğunun bireylerin bu ortamlardaki öğrenmesini etkilediği ve öğrencilerin bu hazırbulunuşluğa sahip olması durumunda çevrimiçi öğrenmenin başarılı bir şekilde yürütülmesinin kolaylaştığı vurgulanmaktadır (Hukle, 2009; Demir-Kaymak ve Horzum, 2013). Bu nedenle çevrimiçi öğrenme hazırbulunuşluğunun eğitim sürecinin başlangıcında incelenmesi etkili bir çevrimiçi öğrenme süreci için önemli olmaktadır (So ve Swatman, 2006).

Diğer yandan, ilkokul ve ortaokul öğretmenlerinin bilgi çağının gerektirdiği mesleki bilgi ve beceri gelişimlerinin desteklenmesi amacıyla yürütülen çevrimiçi eğitim faaliyetlerinin gün geçtikçe yaygınlaştığı görülmektedir. Çok sayıdaki yükseköğretim kurumu hizmet öncesi veya hizmet içi öğretmenlere yönelik çeşitli çevrimiçi kurslar, derece programları ve tamamen çevrimiçi sunulan sertifikalar sunmaktadır. Bu kapsamda öğretmenler için etkili çevrimiçi öğrenmenin nasıl sağlanacağını daha iyi anlamak için bu öğretmenlerin sahip olması gereken çevrimiçi öğrenmeye hazır olma boyutlarının belirlenmesi gerekmektedir. Öğretmenlerin sürekli öğrenmeye devam eden örgütsel desteğine ve uygun tutum geliştirmeye ek olarak, bazı araştırmacılar, fiziksel mesafenin kurs öğretmenini öğrencilerden ayırdığı çevrimiçi öğrenme ortamlarında öğrencilerin kendi kendine yönlendirilmeleri gerektiğini belirtmektedir (Kim, Olfman, Ryan ve Eryılmaz, 2014). Bu nedenle, öğrenen rolüyle öğretmenlerin çevrimiçi öğrenmeye katılmaya hazır olma düzeylerini teşvik eden faktörleri anlamak önemli olmaktadır. Çevrimiçi Öğrenmede Öğretmen Hazırbulunuşluğu Ölçeği (Teacher Readiness for Online Learning Measure - [TROLM]) öğretmenlerin çevrimiçi öğrenmeye hazır olma durumlarını ve temellerini incelemekte ve ardından Çevrimiçi Öğrenme için Öğretmen Hazırbulunuşluğunu yapılandırmakta ve doğrulamaktadır (Hung, 2016).

ÇALIŞMANIN AMACI

Bu çalışmanın amacı, Hung (2016) tarafından geliştirilen orijinali İngilizce olarak hazırlanan Çevrimiçi Öğrenmede Öğretmen Hazırbulunuşluğu Ölçeğinin (ÇÖÖHÖ) Türkiye koşullarında geçerlik ve güvenirlik çalışmasını yapmaktır. Çevrimiçi Öğrenmede Öğretmen Hazırbulunuşluğu Ölçeği (ÇÖÖHÖ) dört alt boyuttan ve toplam 18 maddeden oluşmakta olup birinci boyut Öz-Düzenleyici Öğrenme

(ÖDÖ) boyutu; ikinci boyut Kurumsal Destek (KD) boyutu; üçüncü boyut İletişim Öz-Yeterliği (İÖY) boyutu ve dördüncü boyut Öğrendiğini Aktarma Öz-Yeterliği (ÖAÖY) boyutudur. Ölçek, birinci boyutta dört madde (1-4. maddeler), ikinci boyutta beş madde (5-9. maddeler), üçüncü boyutta dört madde (10-13. maddeler) ve dördüncü boyutta beş madde (14-18. maddeler) içermektedir. Orijinal ölçek 5'li Likert tipinde düzenlenmiştir. Söz konusu alt boyutlara ilişkin detaylı açıklamalar aşağıda sunulmaktadır.

Öz-Düzenleyici Öğrenme (ÖDÖ): Kendini yöneten öğrenicilerin son derece alakalı özelliklerinden bazılarına dikkat etmek önemlidir. Loyens ve ark. (2008), öz-düzenleyici öğrenmeyi öğrencilerin kişisel öğrenme hedeflerini belirleme, kişisel ihtiyaçları anlama, öğrenme için kaynakları belirleme, öğrenme stratejilerini seçme ve uygulama ve kişisel performansı izleme konusunda inisiyatif ve sorumluluk aldıkları bir süreç olarak açıklamaktadır. Bilgi temelli bir toplumda, ÖDÖ yaşam boyu öğrenmeyi izleyenlerin bunu başarıyla gerçekleştirmelerini sağlayan önemli bir süreçtir (Merriam, 2001; Teo, 2010).

Kurumsal Destek (KD): Kurumsal destek, öğretmenlerin çevrimiçi öğrenmeleri için önemli bir boyuttur. Araştırmacılara göre, bu boyut, insanların belirli ortamlardaki davranışlarına yardımcı olan veya engelleyen faktörlere karşılık gelmektedir. Kurumsal eğitim ortamlarını analiz ederken, Joo, Joung ve Sim (2011) üç önemli kurumsal destek türü belirlemektedir: üstlerin desteği, iş arkadaşlarının desteği ve olumlu örgütsel atmosfer.

İletişim Öz-Yeterliği (İÖY): Asenkronize tartışmanın kullanımının fikir ve bilgi alışverişinde olduğu kadar eleştirel yansıtma ve işbirliğinin de geliştirilmesinde önemli olduğu düşünülmektedir (Garrison, Cleveland-Innes ve Fung, 2004; Roper, 2007). Schellens, Van Keer, Valcke ve De Wever (2007), çevrimiçi asenkron tartışmaya katılım düzeyleri ile öğrenme çıktıları arasında pozitif bir ilişki tanımlamıştır. Çevrimiçi eşzamansız tartışma, öğrenmenin kritik bir boyutu olduğundan, kişilerin eşzamanlı tartışma yoluyla iletişim kurma becerisi, yani iletişimin öz yeterliği ile ilgili değerlendirmeler özel bir önem kazanmaktadır.

Öğrendiğini Aktarma Öz-Yeterliği (ÖAÖY): "Öğrenmenin aktarılması", bireylerin bir eğitim programından edindikleri bilgi ve becerileri iş durumuna etkili bir şekilde uygulama dereceleri olarak tanımlanmaktadır (Wexley ve Latham, 1991). Sürekli eğitim kursları alan ilkokul ve ortaokul öğretmenleri için gerçekleşen öğrenmeyle ilgili öğrendiklerini transferleri önemli bir faktördür.

YÖNTEM

Çalışma Grubu

Bu çalışmada Eskişehir Odunpazarı İlçe Milli Eğitim Müdürlüğüne bağlı okullarda görev yapmakta olan 96 öğretmenden veri toplanmıştır. Katılımcıların 58'i (% 60,4) kadın, 38'i (% 39,6) erkek öğretmenden oluşmaktadır.

Orijinal Ölçeğin Türkçeye Çeviri Çalışması

Günümüzde belli bir kültür için hazırlanmış olan bir ölçme aracı farklı kültür ve dillere çevrilerek de kullanılmaktadır. Bir ölçeğin yalnızca başka dile çevrilip kullanılması yerine o ölçekle ilgili temel işlemlerin (geçerlik, güvenirlik) yapılma süreci ölçeğin başka dil ve kültürlere uyarlanması olarak bilinmektedir (Deniz, 2007, s.4).

ÇÖÖHÖ'nün Türkçe uyarlama çalışması için Hung'dan e-posta ile izin alınmıştır. Alınan izin doğrultusunda ölçeğin İngilizce'den Türkçe'ye çeviri çalışması yapılmıştır. Özgün ölçekteki maddeler ile Türkçe'ye çevrilen maddelerin dil denkliğini sağlamak amacıyla her iki dili de iyi derecede bilen ve alana hâkim olan beş öğretim üyesi tarafından özgün ölçekteki maddelerin Türkçe'ye çevirilmesi sağlanmıştır. Beş farklı çeviri iki öğretim üyesi tarafından değerlendirilmiş, 18 madde ile ilgili olarak neredeyse tüm maddelerde çeviriler arasında uygunluk olduğu belirlenmiştir. Önerilen bazı küçük değişiklikler göz önüne alınarak düzenlemelere son hali verilmiştir. Uzman görüşüne dayanarak oluşturulan Türkçe formu, öncekilerden farklı bir öğretim üyesi tarafından tekrar İngilizceye çevrilmiştir. Bu işlemlerden sonra orijinal ölçek maddeleri ile Türkçe ölçek maddeleri arasında dil denkliği sağlanmıştır.

Veri Analizi

Ölçeğin yapı geçerliği ve güvenirlik çalışmalarını yapabilmek amacıyla Türkçe'ye çevrilen ölçek 96 öğretmene uygulandıktan sonra ÇÖÖHÖ'nün yapı geçerliği için açımlayıcı faktör analizi (AFA) ve ölçeğin özgün formunda bulunan faktörlerin doğrulanması amacıyla Doğrulayıcı Faktör Analizi (DFA) uygulanmıştır. Yapı geçerliğinin incelenmesinde kullanılan temel yöntemlerden biri olan DFA'da, değişkenler arasındaki ilişkiye dair daha önce belirlenen bir hipotezin, teorinin ya da modelin sınanması söz konusudur (Tabachnick ve Fidell, 2001). DFA'da, ölçeğin faktöryel yapısının (modelin) geçerliliğini değerlendirmek için çok sayıda uyum indeksi kullanılmaktadır. Bu çalışmada kullanılan uyum indeksleri; İyilik Uyum İndeksi (Goodness of Fit Index, GFI), Karşılaştırmalı Uyum İndeksi (Comparative Fit Index, CFI), ve Yaklaşık Hataların Ortalama Karekökü (Root Mean Square Error of Approximation, RMSEA)'dir (Schermelleh-Engel, Moosbrugger ve Müller, 2003). Faktör yapısı belirlenen alt ölçekler için iç tutarlılık katsayıları ve madde toplam korelasyonları hesaplanmıştır.

BULGULAR

Geçerlik Analizleri

Dört faktör 18 maddeden oluşan ölçeğin Türkçe'ye uyarlama çalışması için dört faktörlü AFA sonucu incelendiğinde kabul edilebilir ve iyi uyum gösterdiği ortaya çıkmıştır. AFA sonucunda ölçeğin faktör madde ilişkisine dair faktör yük değerleri verilmiştir.

Madde	Faktör1(ÖDÖ)	Faktör2(KD)	Faktör3(İÖY)	Faktör4(ÖAÖY)
1	0,66			
2	0,88			
3	0,41		0,36	
4			0,40	
5		0,58		
6		0,71		
7		0,77		
8		0,44		
9	0,43	0,65		
10			0,47	
11			0,85	
12			0,70	
13			0,47	
14				0,49
15				0,88
16				0,73
17				0,62
18				0,36

Tablo 1. Çevrimiçi Öğrenmede Öğretmen Hazırbulunuşluğu Ölçeği Dört Faktörlü AFA Sonuçları

Tablo 1 incelendiğinde orijinal ölçeğin faktör yapısıyla, uyarlanan ölçeğin 4. maddesi haricindeki maddeler aynı şekilde faktörleşmiştir. Orijinal ölçeğin faktör yapısıyla Türkçeye çevrilmiş ölçeğin faktör yapısının uyumlu olduğu görülmektedir. Tabloda 0.30'un altında madde yük değerleri verilmemiştir.

Modelde hiçbir sınırlama ya da bağlantı ekleme yapılmadan modelin uyum istatistikleri ve modifikasyon indeksleri incelenmiştir. 18 madde üzerinden gerçekleştirilen analiz sonucunda RMSEA değeri 0,009 olarak bulunmuştur. Analiz sonunda değerler incelendiğinde RMSEA, CFI, GFI ve AGFI değerleri mükemmel uyum göstermiştir (Tablo 2).

Uyum Ölçütleri	Mükemmel Uyum	Kabul Edilebilir Uyum	Ölçek Modelinde Gözlenen Değer
RMSE	0<RMSEA<0,05	0,05<RMSEA<0,08	0,009
CFI	0,97≤CFI≤1	0,95<CFI<0,97	0,999
GFI	0,95≤GFI≤1	0,90<GFI<0,95	0.961
AGFI	0,90≤AGFI≤1	0,85<AGFI<0,90	0.932

Tablo 2. Çevrimiçi Öğrenmede Öğretmen Hazırbulunuşluğu Ölçeği Doğrulayıcı Faktör Analizi Sonuçları

Kaynak. Schermelleh-Engel, Moosbrugger & Müller, (2003)

DFA sonucunda elde edilen uyum indeksleri mükemmel uyum değerleri verdiğinden Çevrimiçi Öğrenmede Öğretmen Hazırbulunuşluğu Ölçeğinin Türkçe'ye uyarlanmış haliyle orijinal ölçeğin dört faktörlü yapısının doğrulandığı sonucu ortaya çıkmaktadır.

Güvenirlik Analizleri

Ölçeğin güvenirlik çalışması için iç tutarlık katsayısı 0,80 olarak hesaplanmıştır. Faktör puanları bazında ise; öz düzenleyici öğrenme için α=0,68, kurumsal destek için α=0,75, iletişim öz-yeterliği için α=0,65, öğrendiğini aktarma öz yeterliği için α=0,74 olarak bulunmuştur.

Cronbach alfa katsayısının yorumlanması için farklı sınıflamalar literatürde yer almaktadır. Yaygın kabul edilen yaklaşıma ait sınıflama şu şekildedir; α ≥0.9 Mükemmel, 0.7≤α<0.9 İyi, 0.6≤α<0.7 Kabul edilebilir, 0.5≤α<0.6 Zayıf, α<0.5 Kabul edilemez (George ve Mallery, 2003). Buna göre ölçeğin iç tutarlılığının iyi olduğu belirlenmiştir. Kurumsal destek ve öğrendiğini aktarma öz yeterliği alt boyutlarında iç tutarlılık iyi düzeyde, öz düzenleyici öğrenme ve iletişim öz yeterliği alt boyutlarında ise iç tutarlılık kabul edilebilir düzeydedir. Burada madde sayısının nispeten az olmasının iç tutarlılığın düşük çıkabilmesine neden olabileceği düşünülmüştür.

TARTIŞMA VE SONUÇ

Bu çalışma kapsamında öğretmenlerin bir öğrenen rolüyle çevrimiçi öğrenme ortamları için Çevrimiçi Öğrenmede Öğretmen Hazırbulunuşluğu Ölçeğinin Türkçe'ye uyarlanmasına ilişkin geçerlik ve güvenirlik çalışması yürütülmüştür. Yapılan çalışma sonucunda, dört faktör altında yer alan 18 maddenin özgün formdaki faktörlere uygun bir dağılım sergilediği görülmüştür.

Ölçeğin yapı geçerliği ile ilgili bilgi elde etmek için Açımlayıcı Faktör Analizi (AFA) ve Doğrulayıcı Faktör Analizi (DFA) yapılmıştır. Analiz sonuçlarına göre, alanyazında belirlenen sınır değerler göz önüne alındığında modelin mükemmel düzeyde uyum verdiği ve ölçeğin Türkçe versiyonunun faktör yapısının orijinal ölçeğin faktör yapısıyla uyuştuğu görülmektedir. Yapılan güvenirlik çalışmasında ölçeğin iç tutarlılığı

iyi, alt boyutları ise iyi ve kabul edilebilir düzeyde çıkmıştır. Ölçekte yer alan faktörler öz düzenleyici öğrenme, kurumsal destek, iletişim öz-yeterliği, öğrendiğini aktarma öz-yeterliği olarak adlandırılmıştır.

Öğretmenlerin herhangi bir çevrimiçi kursa başlamadan önce kendilerini daha iyi anlamak, çevrimiçi kurs yöneticilerinin ise çevrimiçi bir kurs almak isteyen öğretmenler hakkında bilgi toplamak amacıyla ÇÖÖHÖ'yü kullanabileceği düşünülmektedir. Başka bir deyişle, ölçeğin öğretmenlerin çevrimiçi öğrenmeye öğrenen rolüyle hazırbulunuşluklarını daha iyi anlayabilmek, öğretmenlerin kurumsal desteklerini, öğrenmeyle ilgili tutumlarını ve öğrenmeyle ilgili davranışlarının karmaşık gelen rollerinin netleştirilmesinde önemli bir ölçme aracı rolünde olduğu söylenebilir. Bu bilgiler, birer öğrenen olarak öğretmenlerin, yüksek kaliteli bir çevrimiçi öğrenme sürecine girerken kişisel özelliklerini, yeteneklerini ve kaynaklarını daha iyi anlamalarını sağlayacaktır. Çevrimiçi öğrenme, öğretmenlerin mesleki eğitiminin ayrılmaz bir parçası haline geldiğinden, öğretmenlerin niyetlerini ve algılarını çevrimiçi öğrenme ortamlarıyla ilgili olduğu ölçüde dikkate almak önemlidir.

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Kitlesel Açık Çevrimiçi Derslerin Asya Ülkeleri Bağlamında Değerlendirilmesi: Türkiye, Hindistan ve Japonya Örneği

Murat ARTSIN[1], Enise ÇINAR[2]

Özet

Bu çalışmada, üç farklı ülkede bulunan KAÇD platformlarının kültürel bağlamda genel durumları ile bu platformların eğitim politikaları ve temelinde yatan sebeplerin incelenmesi amaçlanmıştır. Buna yönelik olarak öncelikle yükseköğretimde oldukça fazla eğitim talebine yanıt vermeye çalışan üç ülkenin (Türkiye, Hindistan ve Japonya); ayrı ayrı kültürel bağlamda ve genel olarak KAÇD platformlarının çıkış noktaları, gelişimleri, neden yaygınlaştıkları ve neyi hedefledikleri ifade edilmektedir. İncelenen ülkelerin KAÇD platformları, KAÇD kültürlerinin etkilerine ve ülke eğitim politikalarının niteliğine bağlı olarak bir takım değişiklikler gösterdiği görülmektedir. Bu çalışmada, KAÇD'lerin popüler olmasıyla birlikte; Türkiye, Hindistan ve Japonya'da ortaya çıkan bir takım KAÇD platformlarından bahsedilmektedir. Bu bağlamda, çalışmada KAÇD faaliyetlerinin eğitim politikalarına ve iş dünyasına büyük ölçüde yansımalarının olduğu; eğitim ve iş dünyasındaki rolleri ifade edilmektedir. Eğitim dünyasındaki var olan büyük iş yükü, yeni arayışları beraberinde getirdiği için KAÇD'ler bu yükü hafifletmek amacıyla kullanılabilir. Sonuç olarak Türkiye; Hindistan ve Japonya gibi KAÇD sahibi ülkelere göre eğitim ortamlarındaki faaliyetlerinde daha az KAÇD'lerden faydalanmaktadır.

Anahtar Kelimeler: *KAÇD, kitlesel açık çevrimiçi dersler, Türkiye, Hindistan, Japonya.*

GİRİŞ

Downes ve Siemens tarafından geliştirilen "Connectivism and Connective Knowledge" dersi ilk Kitlesel Açık Çevrimiçi Ders (KAÇD) olarak ortaya çıkmıştır (Cormier ve Siemens, 2010). Bu derse çok sayıda öğrenci katılım sağlamış, ders malzemeleri ile etkileşimde bulunmuştur. Siemens (2013) KAÇD'leri, eğitim sistemi içerisinde gelişen ve üzerinde araştırmalar gerçekleşen çevrimiçi öğrenme bağlamındaki son yenilik olarak ifade etmiştir. İlk oluşturulan KAÇD'in ardından bir çok yüksek öğretim kurumunun girişimi ile farklı KAÇD'lerin ortaya çıktığı, hatta başlı başına KAÇD sağlayıcı platformlar meydana geldiği belirtilebilir. Berkeley, MIT ve Harvard Üniversitelerinin işbirliği sonucunda 1900'den fazla derse ev sahipliği yapan edX KAÇD platformu ve Stanford Üniversitesi akademisyenleri tarafından da 2700'den fazla dersi barındıran Coursera KAÇD platformu kurulmuştur. 2018 yılının sonuna kadar 900 farklı üniversite bünyesinde toplam 11.400 adet KAÇD açıklanmış ve başlatılmıştır. Üstelik söz konusu KAÇD'lerin 2000 kadarının sadece 2018 yılında yeni açılmış olduğu ve bu denli artışın son yıllardaki politika değişikliklerinden kaynaklı olduğu belirtilmektedir (Shah, 2019). Günümüzde KAÇD'lerin %60'ını Amerika Birleşik Devletleri merkezli sağlayıcılar sunmaktadır (Shah, 2016 aktaran Aydın, 2017). Aydın

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(2017), Avrupa merkezli KAÇD sayısının arttığını belirtirken Asya hükümetlerinin de KAÇD girişimlerinde aktif rol oynamaya başladığını belirtmiştir. KAÇD'lerin büyük bir kısmının Amerika Birleşik Devletleri merkezli olması oldukça dikkat çekicidir. Fakat farklı ülkelerin kendi kültürlerinin yansımalarının sonucunda da farklı KAÇD anlayışları ve uygulamaları meydana gelmektedir. Bu bağlamda, bu çalışmada kültürel açıdan Türkiye, Hindistan ve Japonya gibi ülkelerin KAÇD kültürleri, platformları ve kullanıcıları hakkında bilgiler ele alınmış ve tartışılmıştır. KAÇD'lere bakış açılarına değinilerek, ülkelerin KAÇD gelişimi ve KAÇD kullanımlarının altında yatan temel sebepler incelenmiştir.

Türkiye'de KAÇD'ler

Türkiye çok sayıda üniversite ve öğrenciye sahip bir ülke olup, üç farklı devlet üniversitesinde açıköğretim hizmeti sağlanmaktadır. Anadolu Üniversitesi, İstanbul Üniversitesi ve Atatürk Üniversitesi ülkenin açıköğretim hizmeti sunan üniversiteleridir. Açık ve uzaktan eğitim alanında hizmet sunan ve 100.000'in üzerinde öğrenciye sahip olan üniversiteler mega üniversiteler olarak tanımlanmakta (Daniel, 1998) olup, bu bağlamda Türkiye'den Anadolu Üniversitesi bir mega üniversite olarak karşımıza çıkmaktadır.

Türkiye'de KAÇD platformlarının sağlayıcıları kar amacı gütmeyen kuruluşlardır. Anadolu Üniversitesi, Atatürk Üniversitesi, Orta Doğu Teknik Üniversitesi ve Yaşar Üniversitesi KAÇD sağlayıcı kurumlardandır. Atatürk Üniversitesi tarafından hayata geçirilen Atademix platformunda 12 adet ders bulunmaktadır (http://atademix.atauni.edu.tr/ erişim tarihi 29.09.2019). Anadolu Üniversitesi tarafından sunulan AKADEMA platformu, 2019 yılı itibari ile 14 farklı kategoride 80'i aşkın dersi içerisinde barındırmaktadır (http://akadema.anadolu.edu.tr/ erişim tarihi 29.09.2019). Orta Doğu Teknik Üniversitesi tarafından geliştirilen, Avrupa Birliği ve Türkiye Cumhuriyeti tarafından finanse edilen BilgeİŞ platformu, 2019 yılı itibari ile Türkiye'de sunulan en çok ders içeriğine ve en çok kullanıcıya sahip KAÇD platformudur (https://bilgeis.net/ erişim tarihi 29.09.2019). BilgeİŞ platformu, 2017 yılında 100 adet dersin oluşturulmasında öncülük etmiştir. Dahası, söz konusu platform toplamda 2023 adet ders oluşturmayı hedeflemektedir. Bunun yanı sıra, Yaşar Üniversitesi tarafından sunulan çevrimiçi dersler, KAÇD olarak sunulmaya başlanmıştır; Hayat Boyu adıyla hizmet veren bu platformda 20 adet ders sunulmaktadır (http://hayatboyu.yasar.edu.tr/ erişim tarihi 29.09.2019). Öte yandan çok fazla sayıda KAÇD sağlayıcı kurum ve kuruluş olmasına rağmen içerisinde geniş kitleleri barındıran KAÇD'ler için herhangi bir konsorsiyum bulunmamaktadır.

Türkiye'de sunulan KAÇD'ler ve bu alanda izlenen politikalar, henüz başlangıç aşamasında olup zayıf bir nitelik taşımaktadır (Aydın, 2017). Türkiye'de sunulan KAÇD'lerin profilleri incelediğinde; 20-25 yaş aralığında bireylerin en çok katılım sağlayanlar olduğu gözlenmektedir (Artsın, 2018; Erdem-Aydın, 2015). Bunun yanı sıra, cinsiyet bağlamında Türkiye'de sunulan KAÇD'ler de kimi zaman kadınların

sayısı fazla iken (Artsın, 2018) kimi zaman erkek katılımcıların sayısı daha fazla olduğu tespit edilmiştir (Erdem-Aydın, 2015). Yaşanan bu durumun sebebi, çalışmalarda verilerinden yararlanılan KAÇD derslerinin, kadınlar ve erkekler için uyardığı ilgiden de kaynaklı olabileceği belirtilebilir.

Hindistan'da KAÇD'ler

Hindistan yükseköğretim sistemi 70 milyonu aşkın öğrencisiyle dünyadaki en büyük eğitim sistemi olarak belirtilebilir. Hindistan Chakravarty ve Kaur'a (2016) göre, yükseköğretimdeki öğrenci sayısı açısında dünyada ikinci sırada yer alsa da, artan şehirleşme ve gelir seviyeleri yükseköğretime olan talebi arttırdığı için, 2030 yılında Hindistan'ın yükseköğretimdeki en büyük nüfusa sahip olacağı öngörülmektedir (Tuteja, 2014). Öğrenci sayısındaki mevcut durum ve kuvvetle muhtemel olası büyük artışlar, halihazırdaki kolej ve üniversitelerle bu kapasiteye yanıt verebilmek mümkün görülmemekle birlikte, eldeki sınırlı kaynaklarla yenilerinin inşa edilmesinin de olanaksız olduğu belirtilmektedir (Pushpanadham, 2015). Durum böyle olunca bilgi ve iletişim teknolojileri araçlarının, yükseköğretim ders içeriklerinde kullanımını zorunlu hale geldiği belirtilebilir. Tam da bu nedenle Hindistan'ın, söz konusu büyük kitleye eğitim verebilmek için KAÇD'lerden oluşan eğitim platformuna yöneldiği görülmektedir (http://ficci.in/pressrelease-page.asp?nid=1781 erişim tarihi 29.09.2019).

Hindistan'da iletişim ve teknolojideki gelişmelerle beraber, 6-14 yaş arası çocuklara *Ücretsiz ve Zorunlu Eğitim Hakkı Yasası*'nın 2010 yılında yürürlüğe girmesiyle birlikte, çevrimiçi eğitimin öneminin arttığı belirtilmektedir (Chakravarty & Kaur, 2016). 2013 yılında ise, hükümetin e-PG Pathshala eğitim platformunu oluşturmasıyla birlikte Hindistan'da KAÇD'ler ile ilgili çalışmalar başlamış ve kısa sürede hükümetin e-içerik, kütüphane, eğitim ve medya dosyaları gibi birçok çevrimiçi kaynak ve proje desteğiyle KAÇD'lerin eğitimdeki etkisi artmıştır (Chauhan, 2017). Öyle ki; Eylül 2016 verilerine göre, 2012'de hizmete sunulan KAÇD platformu Coursera'da bile 1,5 milyon kayıtlı kullanıcısıyla Hindistan, ikinci sırada yerini almıştır (https://economictimes.indiatimes.com/industry/services/education/india-is-courseras-2nd-biggest-revenue-earner/articleshow/54559438.cms erişim tarihi 28.09.2019).

Çevrimiçi derslerin devreye girmesiyle Hindistan Hükümeti kendi platformlarını geliştirmeye yönelik derslervermeye başlamıştır (Chauhan, 2017). Bu bağlamda, Hindistan'da sunulan birçok farklı KAÇD platformu bulunmaktadır. Bunlar; Swayam, NPTEL, mooKIT, IITBombayX, IIMBx, agMOOCs'dur. Swayam, Hindistan Hükümeti tarafından eğitimdeki üç temel politika çerçevesinde oluşturulmuştur; erişim, eşitlik ve kalite. Swayam'ın amacı dezavantajlı gruplar ve diğer tüm bireyler için mitelikli ve kaliteli öğrenme kaynakları sağlamaktır (https://swayam.gov.in/about erişim tarihi 28.09.2019). İçerisinde 9. sınıftan lisans mezuniyetine kadar birçok etkileşimli ders malzemesi barındıran Swayam platformu, ülkedeki 1000'den fazla öğretmen ve öğretim üyesinin işbirliği ile oluşturulmuştur. Swayam içerisinde çok farklı çeşitte içerikler

bulunmaktadır; video anlatımı, okuma materyalleri, testler, akran değerlendirmeleri ve tartışma forumları. Swayam platformundaki tüm dersler ücretsiz olup, aldıkları eğitimi sertifika ile belgelendirmek isteyen bireylerin ücret ödemesi gerekmektedir. Swayam platformunun kredi transfer gibi bir seçeneğinin bulunması, öğrencilerin ilgisini çekmekte ve dersleri tamamlama noktasında da etkili olmaktadır (Chauhan, 2017).

NPTEL, 2003 yılında çevrimiçi olarak sunulmaya başlamış, bünyesinde birçok farklı destekleyici kurumu içerisinde barındıran bir platform olup; inşaat mühendisliği, bilgisayar mühendisliği, elektrik mühendisliği, haberleşme mühendisliği ve makine mühendisliği alanlarında 235 derse ev sahipliği yapmaktadır. Ardından fizik bilimi ve diğer bilimlerdeki lisans ve yüksek lisans dersleri için oluşturulan video temelli içerikler ile 600'e yakın ders bulunmaktadır (https://nptel.ac.in/about_nptel.html erişim tarihi 28.09.2019). NPTEL Mart 2014 tarihi ile itibariyle, dersleri tamamlayanlar için Hint Teknoloji Enstitüsü sertifikası sunmaya başlamıştır. Bunun yanı sıra, katılımcıların bu sertifikaları almak istemeleri durumunda giriş sınavı için ücret ödemeleri gerekmektedir. Dahası bu sertifikalar, örgün eğitime kredi transfer imkanı sağlamaktadır ve bu durum KAÇD'lerin geleceği ve sürdürülebilir bir iş modeli oluşturması bağlamında önemlidir. Diğer bir KAÇD platformu olan agMOOC tarım alanına ilgi duyan herkesin katılımcısı olabileceği bir platformdur. agMOOC ülkenin önde gelen enstitülerinin öğretim üyeleri tarafından sunulan çevrimiçi derslere ücretsiz katılım fırsatı sunmaktadır (Mishra, 2016). agMOOC platformunun temel amacı ise, bireylerin, kurum ve kuruluşların tarım alanındaki bilgi, becerileri edinmelerini ve bu alanda gelişmelerini sağlamaktır. agMOOC platformundaki derslerin çoğu 6-8 hafta sürmekte ve bunların her biri 10 ile 20 dakikalık kısa video şeklinde verilmektedir. Çevrimiçi dersler sonrasında sertifika almak isteyen bireyler için Teknik Eğitim Geliştirme Merkezi, Kanpur Hint Teknoloji Enstitüsü ve Öğrenme Topluluğu (COL) öncülüğünde sertifika verilmektedir (https://www.agmoocs.in/ erişim tarihi 28.09.2019). agMOOC hakkında farkındalık yaratan iki önemli kaynak bulunmaktadır: ilki bu platform ile ilgili farkındalığı olan arkadaşlar olup diğeri ise tarım eğitimi ve araştırmalarından sorumlu *Hint Tarım Araştırma Kurumudur.* Sonuç olarak, Mishra (2016) tarım toplumları için *Hint Tarım Araştırma Kurumunun* agMOOC'lara temel bilgi kaynağı olduğunu belirtmektedir.

Japonya'da KAÇD'ler

1877 yılında kurulan Tokyo Üniversitesi Japonya'daki ilk ulusal üniversite olarak lisans ve lisansüstü düzeylerde eğitim vermekte ve akademik araştırmalar yapmaktadır. Öğrencilerine mesleki bilgi ve beceriler kazanmaları için fırsatlar sağlayan akademik ortamlar sunmayı hedeflemektedir (https://www.coursera.org/utokyo erişim tarihi 29.09.2019). Bu nedenle, bireylerin mesleki becerilerini geliştirmek ve kariyerlerinde ilerlemelerini sağlamak amacıyla Tokyo Üniversitesi KAÇD'ler (UTokyo) sunan ilk Japon üniversitesi olmuştur. Bu bağlamda, UTokyo, ilk defa Coursera aracılığıyla iki tane kurs içeren KAÇD'ler sunmuştur. Dahası, 2018 yılının Nisan ayından itibaren, 185'ten fazla ülkeden 370.000'in üzerinde katılımcısı olan UTokyo; 7'si Coursera, 7'si edX üzerinden

olmak üzere 17 adet kurs sunmaktadır (https://www.u-tokyo.ac.jp/en/academics/moocs.html erişim tarihi 29.09.2019). Bu bağlamda, Japonya'da KAÇD'ler ile ilgili ilk çalışmaların, 2013 yılında Tokyo Üniversitesi ve beraberinde Kyoto Üniversitesi'nin Coursera ve edX'e katılması ile başladığı belirtilmektedir (Yamada, 2015). Japon Kitlesel Açık Çevrimiçi Ders (J-KAÇD) konsorsiyumu 2013 yılında hayata geçmiştir; iş dünyası ve akademi işbirliğine dayanarak Japon ve Asya değerlerinin genişletilmesi vizyonunu taşımaktadır (https://www.jmooc.jp/en erişim tarihi 29.09.2019). J-KAÇD konsorsiyumu, çok sayıda yükseköğretim kurumunu ve özel sektörden öncü kuruluşu içerisinde barındıran geniş bir yapıya sahiptir. J-KAÇD kendi içerisinde üç farklı kategoriyi barındırmaktadır. Bu kategorileri birbirinden ayıran özellikler, ilgili dersi hazırlayan kurum ve kuruluşlardan kaynaklı farklılıklar oluşmaktadır.

Eylül 2016 yılı itibari ile 143 adet J-KAÇD sertifikalı ders verildiği belirtilmekte olup; J-KAÇD'lere en çok kayıt olan öğrencilerin %51,3 ile lisans düzeyine sahip katılımcılar olduğu ve bunun yanı sıra, her yaş grubundan çeşitli katılımcı gruplarına ev sahipliği yaptığı belirtilmektedir (https://www.jmooc.jp/en/institutions_en/ erişim tarihi 29.09.2019). Yamada (2015) J-KAÇD'lerin Japon toplumu tarafından tanınması ve başarılı olmasının en büyük sebebinin, Japonya'da bulunan ASAHI Shimbun gazetesinin J-KAÇD'e katılmasıyla beraber gerçekleştiğini belirtmiştir. Bu katılımın ardından manşetler ve haberlerde bildirilen duyurular ile J-KAÇD'lerin Japon toplumunda popüler hale geldiği belirtilmektedir. Japonya'da bulunan bazı üniversitelerin, üniversite öncesi eğitimde KAÇD'lerden faydalandıkları belirtilmektedir (Docomo Gacco ve Osaka Sangyo University, 2016 aktaran Shigeta vd., 2017). Dahası, KAÇD'ler ile ilgili olarak üniversitelerin, bu gibi ortamları kitlelerin erişimine açmasının sonucunda hem yüzlerce katılımcıya ev sahipliği yapan büyük sınıfların oluşmasını sağladığı hem de üniversitelerin halkla ilişkileri açısından bir vitrin görevi gördüğü ifade edilmektedir (Shigeta vd., 2017). J-KAÇD konsorsiyum içerisinde bulunan Gacco ve Fisdom gibi KAÇD sağlayıcı platformlar bulunmaktadır.

Gacco, J-KAÇD tarafından sertifikalandırılmış Japonya'nın en büyük KAÇD platformudur. Gacco platformu, çalışan bireyleri sürekli eğitime teşvik etmek amacıyla şirketlerle işbirliği eşliğinde, 2-4 ay süren çoğu ücretsiz çevrimiçi dersler sunmaktadır. KAÇD'ler, önde gelen üniversite profesörleri tarafından verilmektedir. Gacco sistemi, Amerika Birleşik Devletleri'ne ait açık kaynaklı bir KAÇD platformu olan edX'e dayanmaktadır (https://gacco.org/biz/ erişim tarihi 28.09.2019). J-KAÇD konsorsiyumu içerisinde, ulusal eğitim kurumlarının girişiminin yanı sıra özel girişimler ile oluşturulan platformlara da sahiptir. Japonya'da Fisdom isimli KAÇD platformu özel bir firma tarafından oluşturulmuş ve J-KAÇD tarafından sertifikalandırılmış bir KAÇD platformudur. Fisdom üniversite düzeyinde derslerin bulunduğu ve sertifika dahil herhangi bir işlem için ücret talep etmeyen bir KAÇD platformudur. Fisdom içerisinde J-KAÇD platformu tarafından sertifikalandırılmış derslerin yanı sıra sertifikalandırılmamış dersler de bulunmaktadır (https://www.fisdom.org/ erişim tarihi 28.09.2019).

TARTIŞMA VE SONUÇ

Bu çalışmada; Türkiye, Hindistan ve Japonya gibi büyük yükseköğretim talebi ile karşı karşıya kalan ülkelerin, KAÇD'leri kullanım amaçları sunulmuştur. Türkiye'de KAÇD'ler 2013 yılından itibaren varlığını sürdürüyor olsa da henüz Hindistan ve Japonya'daki gibi gelişen bir yapıya sahip değildir. Hindistan'da ve Japonya'da öğrencilerin tamamladıkları dersleri örgün eğitimdeki derslerde kredi olarak kullanabilmeleri için oluşturulan enstitü ve konsorsiyumlar Türkiye'de henüz varlıklarını göstermemektedir. Her ne kadar Türkiye'de KAÇD'ler için bir üst kuruluş bulunmuyor olsa da, Türkiye'de Sakarya Üniversitesi Senatosu tarafından, 2547 Sayılı Yükseköğretim Kanunu'nun 44'üncü maddesinin b fıkrasına (Yükseköğretim Kanunu [YÖK], 1981: madde 44) dayanarak 15 Ağustos 2016 tarihinde Önceden Öğrenmelerin Tanınması (ÖÖT) ile tamamlanan KAÇD'lerin örgün eğitimde kullanılabilmesinin mümkün olduğu belirtilebilir (http://www.sakarya.edu.tr/sites/sakarya.edu.tr/file/Sakarya_Universitesi_Onceki_Ogrenmelerin_Taninmasi_Senato_Esaslari.pdf erişim tarihi 29.09.2019). İlgili kararda, kurum ile akredite olmuş ve tanınan kuruluşlardan alınan belgelerin tanınabilir olduğu hatta öğrencilerin sertifikalandırılmamış, kendi kişisel gayretleri ile edindikleri bilgilerin de tanınabilir olmasının mümkün olduğu belirtilmektedir. Ancak Türkiye'deki KAÇD'lerin kalitelerinin artması ve örgün eğitim kurumları ile doğrudan akredite olabilmeleri için bir üst kuruluşun olmaması KAÇD'lerin Türkiye'de istenilen noktaya gelmesindeki en önemli konulardan biri olduğu belirtilebilir. KAÇD'ler yükseköğretimde öğretim üyelerinin yükünü hafifletmek ve daha fazla kişiye kaliteli eğitim sunmak amacıyla oluşturulurken (Artsın ve Deligöz, 2019), Türkiye gibi yükseköğretimde var olan talebi karşılamakta zorlanan bir ülkede KAÇD konsorsiyumun bulunmaması ve akreditasyon gibi süreçlerin tam olarak var olmaması oldukça düşündürücüdür. Öte yandan sadece tamamlanan KAÇD'lerin kredi olarak tanımlanmasının da ötesinde Türkiye'de sunulan KAÇD'lerde herhangi bir ücretin talep edilmiyor olması oldukça dikkat çekicidir. Hindistan, Japonya ve hatta Coursera ve edX gibi KAÇD sağlayıcılar sertifikasyon giriş sınavı veya sertifikasyon belgesi için ücretli seçenekler sunmaktadır. Bu bağlamda da Türkiye'de sunulan KAÇD'lerin ücretsiz olması derslerin çok daha fazla katılımcıya ulaşabilmesi açısından oldukça önemlidir.

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Açık ve Uzaktan Öğrenmede Öğrenen Merkezli Öğrenme

Gülgün Bulut[1] , Ali Ekrem Özkul[2]

Özet

Öğretim paradigmalarının öğrenen merkezli yaklaşımı benimsediği bu yüzyılda öğretim yöntemleri de öğreneni merkeze alan sistemlere odaklanmaktadır. Çünkü öğrenenlerin yaşı, kültürü, öğrenme stili, ilgi alanı, öğrenme hızı, öğrenme ihtiyacı, … gibi durumları birbirlerinden farklılık göstermektedir. Bu durum öğrenen profilini çeşitlendirmekte ve öğretim sürecinin yeniden yapılandırılması gereğini gündeme getirmektedir. Bu anlamda günümüzde "Öğrenen Merkezli Öğrenme" önemle üzerinde durulan konuların başında gelmektedir. Yüz yüze eğitim sisteminin tüm kademelerinin odak noktası olan bu konu gerek yaşam boyu öğrenmeye verilen önem gerekse uzaktan eğitime yönelik artan talep dolayısıyla açık ve uzaktan öğretim sisteminde de geniş bir uygulama alanı bulabilmesi muhtemeldir. Çünkü uzaktan öğretim süreci doğası gereği teknoloji yoğun bir eğitim sistemi kullanmakta ve teknoloji aracılığıyla öğrenenlere dair büyük verilere ulaşabilmektedir. Elde edilen veriler sayesinde de öğrenenlerin öğrenme stillerine yönelik tespitler yapılıp öğrenenin bireysel özellikleri doğrultusunda yeni araçlar geliştirmek mümkün olmaktadır. Bu sebeple "Öğrenen Merkezli Öğrenme" nin açık ve uzaktan öğretim sisteminde uygulama alanı bulması büyük öneme sahiptir.

Bu çalışmanın amacı "Öğrenen Merkezli Öğrenme Yaklaşımı"nı yükseköğretim kurumları özellikle de açık ve uzaktan öğrenme açısından ele alarak; bireyselleştirilmiş öğrenme, öğrenme analitikleri ve öğrenme ortamları bağlamında öğrenen merkezli öğrenmenin önemi ve uzaktan eğitim sisteminde uygulanabilirliği konusunda farkındalık oluşturmaktır.

Anahtar Kelimeler: *Öğrenen Merkezli Öğrenme, Açık ve Uzaktan Öğrenme, e-Öğrenme*

GİRİŞ

Bilgi toplumu, sanayi toplumundaki toprak ve sermaye yerine, bilginin temel üretim aracı olduğu yeni toplum düzenidir (Wright, 2011). Bilginin temel üretim aracı olmasının getirdiği değişim dönüşümün eğitim sürecine yansıması ise; yeni kuramlar, yeni yapılar ve yeni uygulamalar olarak ortaya çıkmaktadır. Söz konusu yenilikler de eğitim öğretim anlayışında paradigma değişimlerini beraberinde getirmektedir. Eğitim sürecinde benimsenen yaklaşımların değişmeye başlamasının önde gelen sebeplerinden bir diğeri de bilginin hızla ve artarak çoğalmasıdır (Yeşilpınar Uyar ve Doğanay, 2018, s. 186). Bu nedenle eğitim programlarının çağın gereksinimleri doğrultusunda yeniden yapılandırılması gerekmektedir. Bu kapsamdaki en önemli değişim ise öğreneni merkeze alan bir anlayışın benimsenmiş olmasıdır. Öğrenme

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sürecinin odağında geleneksel anlayışın aksine öğretmen merkezli anlayışla öğrencinin davranışını değiştirmek yerine; öğrenci merkezli anlayışla öğrencinin zihinsel becerilerini geliştirmeye ve bilgiyi yapılandırmaya ağırlık verilmektedir (MEB, 2004a:13; Barr & Tagg, 1995). Bunun uzantısı olarak "Öğrenen Merkezli Öğrenme" günümüzde; eğitim-öğretim alanında araştırmacıların ve karar alıcıların önemle üzerinde durduğu konulardan birisi durumuna gelmiştir. Söz konusu yapılandırma aşamalarında ise büyük oranda öğrenenlerin eleştirel ve yaratıcı düşünmelerine olanak sağlayan, bilişsel farkındalıklarını arttıran süreçlerin ön planda olduğu öğrenen merkezli bir öğretim sistemi benimsenmesi gereği gündeme gelmektedir.

Öğrenen Merkezli Öğrenme ülkemizde de gerek Millî Eğitim Bakanlığı'nın EARGED (Eğitimi Araştırma ve Geliştirme Dairesi Başkanlığı) raporlarında gerekse Yüksek Öğretim Kalite Güvencesi Durum Raporu'nda ana tema olarak ele alınmaktadır. Çünkü öğrenen merkezli öğrenme yüksek öğretimde olduğu kadar temel eğitimde; uzaktan eğitimde olduğu kadar yüz yüze eğitimde de önemle üzerinde durulması gereken konuların başında gelmektedir. Özetle öğrenen merkezli öğrenme hem temel eğitim hem de yüksek öğretim kurumlarında öğrenme sürecinin uzaktan veya yüz yüze olması ayırt edilmeksizin bir kültür (Nordal ve Gehrke, 2014) olarak kabul edilmektedir.

Bu çalışmanın amacı "Öğrenen Merkezli Öğrenme Yaklaşımı"nı yükseköğretim kurumları özellikle de açık ve uzaktan öğrenme açısından ele alarak; bireyselleştirilmiş öğrenme, öğrenme analitikleri ve öğrenme ortamları bağlamında öğrenen merkezli öğrenmenin önemi ve uzaktan eğitim sisteminde uygulanabilirliği konusunda farkındalık oluşturmaktır.

Öğrenen Merkezli Öğrenme Yaklaşımı Nedir?

Öğrenen Merkezli Öğrenme, ilk kez 1900'lerde Amerika Birleşik Devletleri'nde, yapılandırmacılık kuramının bir uzantısı olarak tanımlanmıştır (Wright, 2011). Bu tanımlamaya göre, yapılandırmacılık öğrenenlerin gözlemleyerek değil yaparak ve deneyimleyerek (deneyim sırasındaki yönlendirmenin büyük kısmının öğrenenlerde bulunduğu bir öğrenme süreci) daha fazla şey öğrendiklerini ifade etmektedir (Brown, 2008, s. 30).

Öğrenen merkezli öğrenme terimi, bireysel öğrenen ve öğrenen gruplarının farklı öğrenme ihtiyaçlarını, ilgi alanlarını, isteklerini veya kültürel geçmişlerini ele almak için tasarlanmış çok çeşitli eğitim programları, öğrenme deneyimleri, öğretim yaklaşımları ve akademik destek stratejileri anlamına gelmektedir. Bu tanıma göre "Öğrenen Merkezli Öğrenme" oldukça geniş bir yelpazedeki uygulamaları içine alabilmektedir. Bir diğer ifadeyle "Öğrenen Merkezli Öğrenme", öğrenenlerin meşgul oldukları ve okudukları çalışmalara dâhil oldukları her yaşa uygun aktif bir öğrenme şeklidir (Brown, 2008; Estes, 2004, s. 144). Bu öğrenme süreci, öğrenenleri sürecin merkezine yerleştirir . Öğrenen merkezli öğrenmeyi destekleyen süreçler; aktif olarak soru sorma, araştırma yapma, deney yapma, merak etme, problem çözme sorumluluk üstlenme, yaratıcı olma ve anlam çıkarma gibi konularda öğreneni güdülemeyi amaçlamaktadır (Estes, 2004, s. 142) . Öğrenen merkezli öğrenme sürecinde; öğrenme sorumluluğu öğrenendedir (Leow, 2015, s. 275-276), öğrenenler öğretenlerin kullanabileceği stratejileri oluşturmalarına katılmaktadırlar. Bu kapsamda öğrenen merkezli yaklaşımlar; öğrenene odaklanan diğer bir ifadeyle öğrenenin sürece

aktif katılımını sağlayan yöntem, strateji ve teknikler bütünü olarak tanımlanmaktadır (Yeşilpınar Uyar ve Doğanay, 2018).

Öğrenen merkezli öğrenme yaklaşımı, aktif öğrenme ve işbirlikli öğrenmeyi içeren bir stratejidir. Aktif öğrenmede öğrenenler, problem çözer, soruları cevaplar, kendi sorularını formüle eder, öğretme / öğrenme oturumları sırasında tartışır, açıklar veya beyin fırtınası yapar. İşbirlikli öğrenmede öğrenenler, hem karşılıklı bağımlılık hem de bireysel hesap verebilirliği sağlayan koşullar altında problemler ve projeler üzerinde ekipler halinde çalışır (Scheurs ve Dumbraveanu, 2014). Öğrenen merkezli öğrenme; odağı öğretmenden öğrenene çeviren, öğrenenlerin başarıya ulaşmalarını sağlayan olumlu öğrenme ortamlarının oluşturulmasında, gerekli olan faktörleri açıklığa kavuşturan bir temel olarak görülmektedir. (Barr&Tagg, 1995; McCombs, 1997, Akt. Brown, 2003; EARGED, 2007).

Yukarıdaki açıklamalardan da anlaşılacağı üzere öğretim paradigmaları son zamanlarda öğrenen merkezli yaklaşımlara değer verme yolunda değişim dönüşüme uğramıştır. Bu kapsamda öğrenen merkezli bir öğretim sürecinde öğrenenlerin güdülenmesi ve sorumluluk almasını sağlayan bir öğrenme ortamının yapılandırılmasında bu amaca hizmet eden öğretim strateji, yöntem ve tekniklerinin kullanılması gerekmektedir. Çünkü dersler öğrenenlerin ilgi alanlarına, eğitim ihtiyaçlarına, bireysel farklılıklarına ve genel olarak yaşamlarına uygulanabilir olduğu ölçüde öğrenme anlamlıdır (Brown, 2008, s. 31). Bu durum yüz yüze eğitim kurumlarının olduğu kadar uzaktan eğitim kurumlarının da temel problemleri arasında yer almaktadır. Çünkü özellikle 1990'lı yıllardan itibaren bilgi ve iletişim teknolojilerindeki hızlı gelişim açık ve uzaktan öğrenme sistemlerine olan talebi artırmıştır. Artan talebin beraberinde getirdiği öğrenen profilindeki çeşitlilik (yaş, kültür, eğitim durumu, ilgi alanı, öğrenme ihtiyacı, öğrenme stili vb.) ise oldukça geniş bir aralığı kapsamaktadır. Bu sebeple öğretim yönetim sistemlerinin (LMS) bu ihtiyaca cevap verebilecek esneklikte ve öğrenen merkezlilik öğrenme yönetim sürecine dahil edilerek tasarlanması gerekmektedir. Bu kapsamda "Öğrenen Merkezli Öğrenme" ilk olarak yükseköğretim kurumları açısından ele alınarak devamında açık ve uzaktan öğrenme bağlamında detaylandırılacaktır.

Yüksek Öğretim Açısından Öğrenen Merkezli Öğrenme

Öğrenen merkezli öğrenme kaliteli bir eğitim anlayışı kapsamında eğitimin diğer kademelerinde olduğu gibi Yükseköğretim Kurumlarının da gündemini etkilemiştir. Öğreneni merkeze alan öğretim yöntemlerinin gündeme gelmesiyle kalite konusu çok boyutlu bir kavram olarak karşımıza çıkmaktadır. Çünkü öğreneni merkeze almak demek öğrenenin öğrenme stilini, zekâ düzeyini vs. bir dizi öğrenen özelliğini dikkate alarak eğitim-öğretim hizmeti vermek demektir. Bu kapsamda Yükseköğretim Kalite Kurulu tarafından yayınlanan Kalite Dış Değerlendirme Kılavuzu'nda (YÖK, 2017; 2018; 2019) da belirtildiği üzere eğitimde kalite öncelikli olarak üzerinde durulması gereken bir konudur. Söz konusu kılavuzda konumuzun sınırlılıkları kapsamında dikkate değer bir diğer hususta "Öğrenen Merkezli Öğrenme" konusunun ana başlık olarak yer almasıdır.

"Öğrenen Merkezli Öğrenme" sadece ulusal alanda değil uluslararası platformlarda da sıklıkla gündeme gelen konular arasında yer almaktadır. Bu durumun önemli bir örneği; "Avrupa Komisyonu politika raporlarında doğrudan ders vermeye dayalı geleneksel öğretim yaklaşımlarının artık yeterli olmadığını bunun yerine öğrenenin

yansıma ve yorumlama sürecindeki aktif katılımına dayanan daha öğrenen odaklı modellerin sürece dahil edilmesi gereği hem temel eğitim hem de yüksek öğretim politika yapıcıları tarafından önerildiği" (Hoidn, 2017, s. 5-6) rapordur. Bu kapsamda yüksek öğretimde farklı türden öğrenenlere hizmet ediyor olmak ve esnek, yenilikçi öğrenme yaklaşımlarına duyulan ihtiyaç Avrupa yüksek öğretim sisteminin modernizasyonu gündeme getirmektedir. 2012 yılında Bükreş'teki toplantılarında, Bologna Sürecine katılan ülkelerdeki yüksek öğrenimden sorumlu bakanlar, aktif olarak öğrenenleri içeren yenilikçi öğretim yöntemleri ile karakterize edilen yüksek öğretimde öğrenen merkezli öğrenmeyi teşvik etmektedirler (Bükreş Tebliği, 2012, s. 2, akt., Hoidn, 2017). Ulusal ve uluslararası platformlarda öğretim sisteminin önemli unsurları arasında yer alan "Öğrenen Merkezli Öğrenme" öğretim sürecinin en zengin öğrenen çeşitliliğine sahip uzaktan eğitim kurumları açısından değerlendirilmesi gereği dolayısıyla aşağıda bu konu uzaktan eğitim çerçevesinde ele alınmaktadır.

Açık ve Uzaktan Öğrenme Bağlamında Öğrenen Merkezli Öğrenme

Açık ve uzaktan öğrenmenin başlangıcı 19. yy. sonlarına dayanmakta ve özellikle 20. yy.'ın sonlarında yaygın olarak kullanılmaya başlayan disiplinler arası çalışma alanını kapsayan bir kavram özelliği taşımaktadır (Aydın, 2011). Alanyazında "açık ve uzaktan öğrenme" ifadesi (open and distance learning: ODL) sıklıkla tüm uzaktan yapılan eğitim ve öğretim faaliyetlerini (e-öğreme, uzaktan eğitim, online öğrenme vb.) nitelemek amacıyla kullanılmaktadır (Aydın 2011; Moore ve Kearsley, 2005). Son zamanlarda, öğrenmenin sürekli, yaşam boyu süren bir süreç olduğunun kabul görmesi e-öğrenme ile yürütülen eğitim programlarına olan ilgiyi artırmaktadır. Artan ilgi öğrenen çeşitliliğindeki aralığı da genişletmektedir. Dijital çağda artan öğrenen çeşitliliği de eğitim olanaklarının sağlanması konusunda daha esnek ve çok yönlü bir yaklaşımın benimsenmesini gerektirmektedir (Bates, 2015, s. 415-420). Söz konusu çeşitliliğe cevap verebilecek düzeydeki öğretim yöntemi ise gerek ulusal gerek uluslararası platformlarda bir öğrenme kültürü konumunda olan "Öğrenen Merkezli Öğrenme"dir. Bu kapsamda açık ve uzaktan öğrenme dahil öğrenen merkezli öğrenmeye ilişkin literatürün çoğu, öğrenenin ihtiyaçlarına odaklanma eğilimindedir. Leow (2015) kitabında öğrenen merkezli öğrenmeyi bilinçli bir şekilde öğrenmeye yönelik ve deneysel süreçlerle desteklenen açık öğretim yaklaşımını teorik temelli olarak sunmaktadır. Burada en çok üzerinde durulan konu bireylerin küreselleşen dünyada rekabet etmek için ihtiyaç duyacakları yaşam boyu öğrenme becerilerinin "Öğrenen Merkezli Öğrenme" yöntemleri ile nasıl geliştirileceğidir (Doyle, 2008, s. 37-38).

Öğrenen Merkezli Öğrenme her ne kadar yüz yüze eğitim sistemi bağlamında ortaya çıkmış bir yaklaşım olsa da geniş öğrenen profili dolayısıyla açık ve uzaktan öğrenmenin kapsamında öncelikle yer alması gereken bir öğretim yöntemidir. Bu anlamda uzaktan eğitim kurumlarının öğrenen merkezli bir öğrenme sürecini desteklemek ve geliştirmek için "Bireyselleştirilmiş Öğrenme", "Öğrenme Analitikleri" ve "Öğrenme Ortamları" olmak üzere önemle üzerinde durması gereken üç ana konu bulunmaktadır.

Bireyselleştirilmiş Öğrenme

Bireysel farklılık, her bireyin tek olmasını sağlayan fiziksel, bilişsel ve kalıtımsal özellikler sonucu oluşmaktadır (Kosnik vd., 2005; Kuzgun vd., 2004; Chamorro-Premuzic, 2013; Crozier, 2001; Estéves ve Emler, 2009). Bu oluşum bireyin ilgisini, istekler-

ini, gereksinimlerini farklılaştırarak ve çeşitlendirerek yaşantısına yön vermektedir (Ashton, 2013). Bireyin en temel gereksinimlerinden biri olan eğitim ihtiyacı da doğal olarak diğerlerinden farklılık göstermektedir. Bireyler her ne kadar zihinsel gelişim özellikleri bakımından benzer olsalar da öğrenme biçimleri farklılık göstermektedir (Chamorro-Premuzic, 2013; Crozier, 2001). Bu sebeple öğrenme yaşantısı her bir bireyin birbirinden farklı olduğu dikkate alınarak oluşturulmalıdır. Bireylerin çeşitliliği dikkate alınarak yapılandırılmış bir eğitim süreci bireysel ihtiyaçlara cevap verebilecek niteliktedir. Çünkü farklılaştırılmış eğitim öğreneni bireysel farklılıklarıyla beraber her yönüyle merkeze almaktadır. Bireysel farklılıkların dikkate alındığı bir süreçte öğrenenin yaşam koşulları (iş, aile, engel durumu vs.) eğitim kaynaklarına ulaşımını sınırlamamaktadır (Kosnik vd., 2005; Rekkedal, 2004).

Eğitim sisteminin en çeşitli öğrenen profiline sahip açık ve uzaktan öğrenme kurumları açısından ise bireysel farklılıkların gözetilmesi son derece hayati bir öneme sahiptir. Evrendeki en gelişmiş sistemlerden biri olan insanı çözümlemenin oldukça karmaşık ve zor bir iş olması dolayısıyla insanın doğasındaki bu komplike yapı bireysel farklılıkları da beraberinde getirmektedir. Geçmişten günümüze bireysel farklılık kuramlarına bakıldığında da "Her insan benzersizdir." varsayımından yola çıkılarak herkesi benzersiz kılan farklılıklara özellikle odaklanıldığı görülmektedir (Ashton, 2013; Chamorro-Premuzic, 2013). Zeka, yetenek, ilgi, öğrenme biçimi, önbilgi, öğrenmede güdülenme biçimi, içedönük ve dışadönük kişilik yapısı, denetim odağı, epistemolojik inançlar, öz yeterlik inançları ve cinsiyet (Tarhini vd., 2014; Kuzgun vd., 2004) gibi kişiden kişiye değişen ve doğrudan gözlemlenemeyen özellikleri kapsayan bireysel farklılıklar insan öznesini anlamanın derinliğini net bir şekilde ifade etmektedir. Bu sebepledir ki pek çok farklılıkları temelinde barındıran insan öznesini tanımlamanın ve anlamanın yolu bireysel farklılıkları dikkate almaktan ve sürece uygulamaktan geçmektedir. Farklı öğrenenlerin teknoloji ve medya türleri tercihleri de farklı olacaktır.

Uzaktan eğitim için de geniş öğrenen profili dolayısıyla öğrenenlerin yeteneklerinde tipik olarak kayda değer bir aralık olacaktır. Bu durumda da uzaktan eğitim hizmeti veren kurum öğrenenlerin bireysel farklılıklarını dikkate almak durumundadır. Çünkü dijital çağda öğrenenler kişiselleştirilmiş, özelleştirilebilir, kurum genelinde tümleşik, tutarlı ve etkileşimli bilgi alışverişine olanak sağlayan kişisel hizmetler beklemektedirler (Johnstone, 2007 akt.; Moore ve Kearsley, 2011, s. 169). Bu kapsamda Basye (2018) çalışmasında "Differentiated Learning (farklılaştırılmış öğrenme)", "Individualized learning (bireyselleştirilmiş öğrenme)" ve "Personalized learning (kişiselleştirilmiş öğrenme)" yi şu şekilde tanımlamaktadır:

- Bir öğretim süreci, öğrenenin ilgi alanlarına, öğrenim profiline veya hazır olma durumuna dayanarak eğitim içeriği veya belirli bir öğrenme ürünü aracılığıyla öğrenenin benzersiz öğrenme ihtiyaçlarına cevap verebiliyorsa "Differentiated Learning (farklılaştırılmış öğrenme)" işlemektedir.

- Çeşitli öğrenenlerin benzersiz hızına uyacak şekilde kalibre edilmiş öğretim, "Individualized learning (bireyselleştirilmiş öğrenme)" olarak bilinmektedir. Farklılaşma "nasıl" ise, kişiselleştirme "ne zaman" dır.
- "Personalized learning (kişiselleştirilmiş öğrenme)", çeşitli öğrenenlerin tercihlerine ve ilgi alanlarına göre uyarlanmış öğrenmenin yanı sıra, bir öğrenenin benzersiz ihtiyaçlarına göre uyarlanmış bir öğrenimdir.

> Bireyselleştirilmiş öğretimin aksine, kişiselleştirilmiş öğrenme, öğreneni öğrenme etkinliklerinin oluşturulmasına dahil eder ve öğrenenin kişisel ilgi alanlarına ve doğuştan gelen yeteneğine daha fazla güvenir. Kişiselleştirme, öğrenenlerin ihtiyaçlarına ve ilgi alanlarına cevap vermenin yanı sıra, kendi öğrenmelerini yönetmeyi, kontrol etmeyi ve sahiplenmeyi öğretir.

Öğretim stratejileri, öğrenmeyi teşvik etmek veya kendine güveni geliştirmek adına bireysel ihtiyaçlara dayanarak seçilir. Bu sebeple kurumlar ve öğretmenler, öğretim stratejilerini seçerken birçok göstergeyi dikkate almak durumundadırlar (Woolf, 2009, s. 95-98). Öğrenen merkezli öğrenme yöntemi nasıl öğretildiğine bakılmaksızın öğrenenlerin nasıl öğrendiği gerçeğine odaklanmaktadır (Jacobs vd., 2016). Öğrenen merkezli bir sınıfta öğreten ve öğrenenler birlikte çalışan bir ekiptir ve herkes dersten faydalanıp birbirlerini desteklemesini sağlamaktadır (Jones, 2007, s. 25-26). Bir diğer ifadeyle öğrenenler bir grupta öğrenmekte, ancak ilerlemelerini ölçen değerlendirmeler bireysel alınmaktadır.

Öğrenme Analitikleri

Öğrenme Analitikleri öğretmenler, öğrenenler ve diğer paydaşların öğrenme sürecine ilişkin bilgi sağlayabilecekleri yeni bir araştırma alanıdır (Clarke vd., 2013). "Büyük Veri" teknolojilerinin ortaya çıkmasıyla bir uygulama ve araştırma alanı olan Öğrenme Analitikleri; çevrimiçi ortamlardaki dijital parmak izlerini öğrenenleri başarıya ulaştırmak, öğretim tasarımlarına ilham vermek ve öğrenmeyi bireyselleştirmek için kullanarak yükseköğretimde dönüştürücü bir etki yaratmayı vadetmektedir. Bu kapsamda eğitimsel büyük verileri toplama, analiz etme ve raporlama süreci öğrenme analitiği olarak adlandırılmaktadır. Öğrenme Analitiklerinin en yaygın kabul gören tanımı "öğrenmeyi ve öğrenmenin gerçekleştiği ortamı anlamak ve optimize etmek amacıyla, öğrenenler ve öğrenme bağlamlarıyla ilgili verilerin ölçümü, toplanması, analizi ve raporlanması"dır (SoLAR, 2014).

Eğitimde büyük veriyi kullanmak hala yeni bir çaba olsa da, büyük veriden çıkarılan bilginin değeri, kişiselleştirilmiş öğrenen öğrenimini sağlamak ve eğitim politikaları hakkında bilgi vermek adına önemli fırsatlar sunmaktadır (Wang, 2016). Öğrenme analitikleri kurumlara öğrenenlerin materyali ne kadar öğrendiklerini kontrol etmelerini sağlayan bir değerlendirme aktivitesi içermektedir. Örneğin; ödüllü bir öğrenme analitiği sistemi olan Purdue University'nin Signals projesi öğrenen başarısının doğasına yönelik uygulanan bir sistemdir. Sistem, her bir öğrenene sınıftaki durumunu belirten farklı renkli ışık vererek karmaşık bir veri setini analiz eder: "kırmızı", öğrenenin başarısız olma tehlikesiyle karşı karşıya olduğu anlamına gelir, "sarı" dikkatli olduğunu ve "yeşil" başarıyı göstermektedir. Sistemden elde edilen veriler doğrultusunda öğrenenlerle çeşitli kanallardan iletişime geçilmektedir (Kruse ve Pongsajapan, 2012). Bu yöntemle yapılandırılmış bir öğrenen merkezli öğrenme sistemi elde ettiği datalar sayesinde öğrenenlerinin bireysel özelliklerine göre öğretim süreçlerini yapılandırabilecektir.

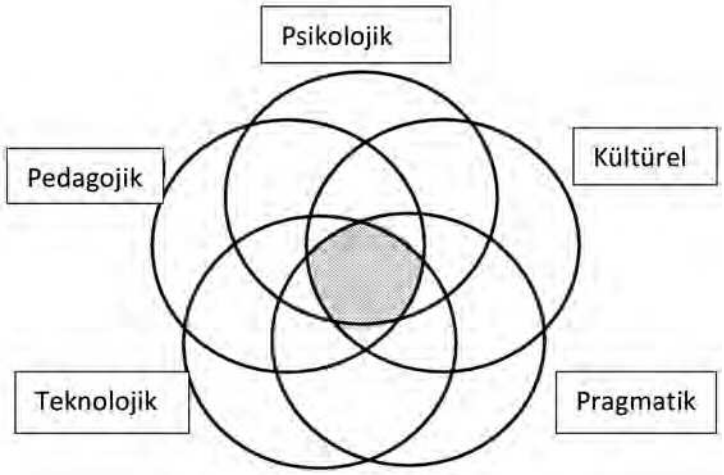
Öğrenme Ortamları

Öğrenme yönetim sistemi (LMS), öğrenenlerin öğrenme sürecini yönetmelerine ve değerlendirmelerine izin veren önemli bir e-öğrenme platformudur. E-öğrenme sisteminin değişen gereksinimlere hızlı uyum sağlaması düzgün işleyen bir öğrenme yönetim sistemi (LMS) ile mümkün olmaktadır. Çünkü bilgi sürekli olarak güncellenebilen bir çevreye yayıldığından yaygın dağınık çalışanlar, her zaman, her yerde ve

her koşulda öğrenmeye erişim talep etmektedir. Bu durum ise öğrenenlerin bireysel farklılıkları da dikkate alınarak çağa ayak uydurabilecek hızda ve esneklikte tasarlanmış bir LMS ile sağlanabilecektir.

Öğretim malzemelerinin ve ortamlarının tasarlanmasında öğrenenleri tanımlamak önemlidir (Woolf, 2009). Çünkü özellikle yaşam boyu öğrenmenin merkezde olduğu günümüzde öğrenen portföyü oldukça geniş bir aralıktadır. Önceki öğrenmeye sahip öğrenenlerin bireysel farklılıkları daha ön plandadır. Teknolojinin öğretime akıllıca uygulanmasının en önemli avantajları öğrenenlerin çeşitli şekillerde öğrenme olanaklarına sahip olması ve bu sayede öğretimin öğrenenlerin bireysel farklılıklarına daha kolay adapte edilebilmesidir. Bu nedenle, öğrenme ortamı seçimindeki ilk adım, öğrenenlerin, benzerliklerini ve farklılıklarını, hangi teknolojilere zaten sahip olduklarını ve dersler için hangi dijital becerilere sahip olduklarını veya eksikliklerinin neler olduğunu bilmektir (Bates, 2015, s. 316). Öğrenen merkezli öğrenme ortamları; içerik düzenleme, analiz etme ve sentezleme sorumluluklarını değiştirerek öğretenden öğrenene doğru öğrenenlerin kendi öğrenmelerinde daha aktif bir rol alma fırsatını sağlamak için tasarlanmıştır (Means, 1994 akt. Brush ve Saye, 2000). Bu ortamlar, öğrenenlerin çok çeşitli kaynakları kullanarak karmaşık sorunları incelemelerini, bu sorunları ele almak için kendi stratejilerini geliştirmelerini ve bu sorunlara çözüm önerilerini işbirliği içinde sunmalarını ve müzakere etmelerini sağlamaktadır (Brush ve Saye, 2000).

Estes (2004) çalışmasında, öğretim programlarının öğrenen merkezli olmasını sağlamak üzere harekete geçilmesi gerektirdiği sonucuna varmıştır. Bu anlamda kurumların ilk olarak harekete geçmesi gereken konu öğrenen merkezli bir öğrenme yönteminin olmazsa olmaz koşullarından biri olan öğrenme ortamlarıdır. Öğrenme ortamları "psikolojik", "pedagojik", "pragmatik", "kültürel" ve "teknolojik" fonksiyonların bir araya gelmesi ile anlamlı bir bütünü temsil etmektedir. Aşağıdaki şekilde de bu durumun kavramsal bir temsili verilmiştir:



Şekil 1. Dengeli, Bütünleşik Teknolojiyle Zenginleştirilmiş Öğrenen Merkezli Bir Öğrenme Ortamının Kavramsal Temsili

Kaynak: Hannafin, M. J., & Land, S. M. (1997). The foundations and assumptions of technology-enhanced student-centered learning environments. Instructional science, 25(3), 167-202.

Şekilde de görüleceği üzere her bir temel fonksiyon karşılıklı bağımlılık göstererek diğerleriyle bir dereceye kadar etkileşime girmektedir (Hannafin ve Land, 2000, s. 178-180; Woolf, 2009, s. 42). Söz konusu fonksiyonlar birbirine ne kadar uyumlu bir şekilde entegre olursa öğrenme ortamının başarı olasılığı da o kadar artmaktadır. Bu durumda önemli olan bir yaklaşımın diğerine üstünlüğü değil, belirli öğrenme hedeflerine ve kültürlerine uygun temellerin, varsayımların ve yöntemlerin tanınmasıdır (Hannafin ve Land, 2000). Brush ve Saye (2000) çalışmaları kapsamında öğrenen yorumlarından elde edilen bulgular; teknoloji ile güçlendirilmiş öğrenen merkezli faaliyetlerin daha derin katılım ve daha iyi bir anlayışa katkıda bulunabileceği yönündedir. Bu tür süreçleri desteklemenin bir aracı olarak teknoloji ile zenginleştirilmiş öğrenen merkezli öğrenme ortamları dikkat çekmektedir (Hannafin ve Land, 1997).

Görüldüğü üzere öğrenen merkezli öğrenmenin açık ve uzaktan öğretim sistemine uyarlanması yaşam boyu öğrenmeye olan talebin karşılanabilmesi adına önemli bir ihtiyaçtır. Söz konusu öğretim yönetim sisteminin hayata geçirilebilmesi, başarısı, gereksinimlerin tespiti, sürecin devamı ve iyileştirilmesi anlamında "Bireyselleştirilmiş Öğrenme", Öğrenme Analitikleri" ve "Öğrenme Ortamları" özellikle üzerinde durulması gereken konular arasında yer almaktadır. Çünkü bir "Öğrenme Ortamı"nın amacına uygun tasarlanabilmesi için öğrenenin çok iyi tanınması gerekmektedir. Bu ise ancak "Bireyselleştirilmiş Öğrenme" ile mümkün olabilmektedir. Sürecin başarısının ölçülmesi işlemi ise "Öğrenme Analitikleri" aracılığıyla elde edilen büyük verinin yorumlanmasıyla gerçekleştirilmektedir.

SONUÇ

"Öğrenen Merkezli Öğretim Yaklaşımı" ihtiyacın belirlenmesinden uygulamaya, değerlendirmeden yeniden düzenlemeye kadar sürekli olarak kendini yenileyen gelişmekte olan bir süreçtir. Ayrıca sadece öğrenen ve öğreten arasında gelişen bir süreç değil tam aksine kurumu, kurumun yöneticilerini ve hatta kurumda çalışan personelleri dahi içine alan bir süreçtir.

"Öğrenen Merkezli Öğrenme" Yüksek Öğretim Kalite kurulundan MEB'e; ABD'den AB Komisyonuna kadar gerek ulusal gerek uluslararası platformlarda ana tema olarak yerini almaktadır. "Öğrenen Merkezli Öğrenme" nin öğretim yöntemindeki önemi dolayısıyla açık ve uzaktan öğrenme sürecinde farkındalığının ortaya konulması birçok açıdan (kurum, öğrenen, öğreten vb.) önemli bir adım niteliğindedir. Çünkü bir problemin farkındalığını arttırmak anlamlı değişim ortaya çıkarma yolunda atılan ilk adımdır. Bu önemli konuya ilişkin farkındalık arttırılarak pratikte öğrenen temelli öğretimin bireyler için açık değeri ortaya konulabilecektir. Bu sebepledir ki, öğrenen merkezli öğrenme; planlama, öğretme ve değerlendirme süreçleri öğrenenlerin ihtiyaçları ve yetenekleri etrafında döndüğü sürece amacına ulaşmış olacaktır.

Sonuç olarak yükseköğretimde geniş bir öğrenen nüfusuna sahip olan açık ve uzaktan öğrenme kurumlarında öğrenen merkezli öğrenmenin sağlanması, daha kapsayıcı bir öğretim sistemi oluşturulmasına yardımcı olacaktır. Öğrenen merkezli öğrenme sayesinde öğrenen motivasyonu ile birlikte öğrenenlerin akademik başarısı ve okul deneyimine yönelik genel öğrenen memnuniyetinin de artması beklenmektedir.

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Geleceğin Eğitimi Hangi Değerler Üzerine İnşa Edilmeli?: Dijital Çağda Yaşam Boyu Öğrenme Pratiklerinin Temellendirilmesi

Fuat GÜLLÜPINAR[1]

Özet

Bu çalışmada, ulusal ve uluslararası literatürde tartışılan geleceğin eğitimi için gerekli değerlerin neler olduğu meselesi analiz edilerek, yerel ve küresel düzeyde eğitimi nasıl örgütlememiz gerektiği üzerine belli çıkarımlar yapan betimsel ve teorik bir çerçeve oluşturmak hedeflenmiştir. Bu amaçla, dijitalleşen çağımızda yaşam boyu öğrenmenin hangi temeller üzerinde yükseleceği meselesi kapsamlı bir şekilde ele alınmaya çalışılmıştır. Eğitim sürecinde internet teknolojileri sayesinde giderek dijitalleşme eğilimi, yaratıcılık, zihinsel esneklik, bireysel özerklik, medya okuryazarlığı, bilgiyi işleme kapasitesi ve hayatın farklı katmanları arasında ilişki kurma becerilerini eğitimin yükselen değerleri olarak dayatmaktadır. Bu çalışmada yaratıcılık, zihinsel esneklik, medya okuryazarlığı, bilgiyi işleme kapasitesi gibi geleceğin eğitimini şekillendirecek değerlerin hangi sosyal, ahlaki ve bilimsel temeller üzerine inşa edilmesi gerektiği meselesi, kamusal iyi ve demokratik vatandaşlık kategorilerine referansla açıklanmaya çalışacaktır.

Anahtar Kelimeler: *dijital toplum, yaşam boyu öğrenme, zihinsel esneklik, kamusal iyi, entegre bilim.*

GİRİŞ: DÖRDÜNCÜ NESİL DEVRİM VE EĞİTİM

Yeni teknolojiler, demografik değişimler ve iklim değişiklikleri; eğitim, ekonomi ve çalışma yaşamı üzerinde dönüştürücü etkilere sahiptir. Teknolojik dönüşümler sayesinde, bilginin hacmi, çoğalma hızı ve çeşitliliği sürekli artıyor. Eğitim ve işlere yönelik beceri setlerinin hızlı değişimi söz konusudur. Ne bildiğinizden ziyade öğrenmeye ne kadar yatkın olduğunuz önem kazanmaya başlamaktadır. Üretimin yapay zekâ ve makineler arası iletişim teknolojileri ile donatılmasını amaçlayan endüstri 4.0 denilen devrimsel süreç, akıllı makineler vasıtasıyla insandan soyutlanmış yeni bir üretim stratejini hedeflemektedir.

Dördüncü endüstriyel devrim, mevcut sanayi altyapısının yapay zekâ ve makineler arası iletişim teknolojileri ile donatılmasını amaçlayan bu devrimsel süreç, akıllı makineler vasıtasıyla emekten yani insandan soyutlanmış, yeni bir üretim stratejini hedeflemektedir. Bu çerçevede Endüstri 4.0'ın temel hedefleri arasında ekonomik büyüme, istihdam ve sosyal istikrar, kalıcı değer üretimi, iş güvenliği, daha fazla verimlilik ve yüksek yaşam standardı ön plana çıkmaktadır (Yazıcı ve Düzkaya, 2016: 66). Dünya Ekonomi Forumu'nun "Yazılım ve Toplumun Geleceği" raporunda da (WEF,

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2017) belirtildiği gibi dünya ve insanların yapabilecekleri her şey, giderek ar- tan bir şekilde yazılımlar tarafından yönlendirilmekte ve etkinleştirilmektedir. Yazılımlarla etkinleştirilmiş, bu değişim temelde iki şey için yetenek sağlamaktadır: (1) Herkese, her şeye, her yerde ve her zaman dijital bağlantı; (2) Günlük yaşamın neredeyse tüm yönleriyle ilişkili tüm verileri analiz etmek ve kullanmak için bir takım mekanizmalar veya araçlar (akt, Fırat ve Fırat'ın 2017: 222).

Endüstri 4.0 teknolojisine uyarlanmış bir geleceğin eğitim anlayışında; dijital teknolojilerin her türlü veriyi kişiselleştireceği, kaynaklara erişimin hem kişiselleşeceği hem de kaynakların ve içeriklerin açık ve zenginleşeceği ve zaman-mekan sınırlaması olmaksızın bağlantılılıktan üst düzeyde yararlanılan bir ortam sağlayacağı söylenebilir.

Endüstri 4.0: Öğrenmenin Kişiselleşmesi ve Bireyselliğin Radikalleşmesi Riski

Dijital teknolojiler sayesinde gelişen bilişim araçları hacimli verileri yüksek hızda işleyen yapay zeka uygulamalarını ve akıllı teknolojileri de geliştirmiştir. İkincisi, internet teknolojisi sayesinde nesneler, fikirler, bilgi ve insanlar güçlü bir şekilde bir çoklu ağlar üzerinden iletişim kurabilmekte ve bu küresel düzeydeki birbirine bağlı ağlar üzerinden birbiriyle bağ kurabilmektedir. Bütün bu gelişmeler yapay zeka teknolojilerinin eğitim dahil her alanda kullanılabilir hale gelmesinin zeminini oluşturmaktadır. Akıllı araçlar, yeni medya ve iletişim teknolojileri ve yapay zeka uygulamaları birbirleriyle bağ kurarak eğitim ve istihdam alanlarında dönüştürücü etkiler yaratmaktadır. Bu ağ ekosistemi öğrenme ve bilgi kavramlarını geri dönülmez bir biçimde öğrenme sürecinin dijitalleşmesi yönünde değiştirecek gibi görünmektedir.

Eğitimin mekânsızlaşması yanında eğitim platformları ve içeriklerine erişim (gün, saat vb. gibi) zamanla da sınırlı ve kısıtlı değil artık günümüzde: Yaşam boyu öğrenme artık zaman ve mekan sınırlaması olmadan daha gerçekçi bir gündem olarak karşımızda durmaktadır. İnsan yaşamının uzaması da yaşam boyu öğrenmenin etkinliğini arttırıyor. Endüstri 4.0 a ilişkin kültür, bireysellik üzerine kuruludur. Geleceğin eğitiminin özellikleri arasında ilk sırada "öğrenmenin kişiselleşmesi" gelmektedir. Öğrenmenin içeriğinin, hızının ve stratejilerinin öğrenciye göre uyarlanabildiği **özelleştirilmiş** sistemler oluşturulabilmektedir. Bu anlamda, endüstri 4.0'ın eğitime uyarlanmış hali dijital teknolojilerden, kişiselleşen verilerden, internetten ve bilgi ağlarından faydalanarak eğitimde gerçek bir dönüşüm potansiyellerini yaratabilmektedir.

Şüphesiz dijital teknolojiler, eğitime geniş katılım için yeni olanaklar getirmektedir. Dijital teknolojiler öğrenme faaliyetlerini mekan ve zaman sınırlamasından kurtararak, esnek ve daha kısa öğrenme yolları sayesinde zaman ve kaynak tasarrufu sağlama imkanı da sağlamaktadır.

Öte yandan, dijital teknolojilerin eğitimde araçsallaştırılması sürecinde, öğrenmenin kalitesi sadece teknolojiye dayalı olarak inşa edilmemelidir. Şu açık ki, dijital teknolojilerin tek başına becerilerin, etkin ve aktif rehberliğin, uzmanlığın ve yol göstericiliğin yerine geçmesi beraberinde sayısız riskleri de getirmektedir. Yaşam boyu öğrenme, sadece dijital araçlarla değil, iyi eğitimli ve iyi ücret alan öğretmenlerin verdiği evrensel kalitede eğitime erişim koşullarında gerçekleştirilmelidir.

İşletme Mantığına Rehin Bırakılan Yaşam Boyu Öğrenme

Refah devletinin eleştirileri üzerinden yürüyen bir mantık silsilesi içerisinde küreselleşme ile birlikte devletin eğitim ve ekonomideki rolünün ve çalışma hayatının dönüştüğüne vurgu yaparak sorumluluğun devletten vatandaşlara kaydırılması gereğine işaret etmiştir. Buna göre, refah devleti uygulamaları sonrasında vatandaşlardan kendi refahlarından sorumlu olmaları beklenmekte ya da bizzat bu şekilde inşa edilmektedir (McCarthy, 2014: 406). Bu bağlamda, bilginin, ekonomik büyüme ve rekabet için var olması gerektiği yönünde bir anlayış gelişirken, bilgi toplumuna ilişkin açıklamalarda bilgi, verimliliği arttıracak bir faktör olarak tanımlanmıştır (Uzunyayla ve Ercan, 2011: 199).

Eğitim epey bir süredir sadece ekonomik yararı üzerinden düşünülen ve istihdamla mutlak olarak ilişkilendirilen bir alan olmaya başlamıştır. Neoliberalizm, bir yönetim, düzenleme ve toplumsal kontrol tekniği olarak eğitim alanında özel bir konuma sahiptir. Bu bağlamda piyasa etiğinin, kamu yararı etiğinin yerini alarak eğitimsel alanın içine işlemesi çok da şaşırtıcı değildir. Alex Molnar'ın (1996) işaret ettiği üzere eğitim, piyasalaşma tarafından ele geçirilmiş, eğitim reformları ticari kalıplarla tartışılmaya başlanmış, "geleceğin tüketicileri," "geleceğin çalışanları," "geleceğin vergi mükellefleri" gibi ifadeler çocuklara ve okul gençliğine atıfla kullanılmaya başlanmıştır (akt, McCarthy, 2014: 407). Günümüzde formel eğitimin yanı sıra yaşam boyu öğrenme ve diğer öğrenme biçimleriyle "dijital okuryazarlık", "girişimcilik", "esneklik", "uyumluluk" gibi özellikler kazandırılmaya çalışılmaktadır (Buyruk, 2018: 619).

Nancy Cantor ve Paul Courant (2003), kamu yararını arttırmaya yönelik kurumlar olarak okul ve üniversitelerin varlık nedenini dönüştüren ve bu bağlamda kültür, ekonomi, siyaset ve ideolojiyi yeni eğitim sisteminin öngördüğü kalıba sokan girişim etiğinin evrenselleşmesi sürecini veya kısaca neoliberalizmin üç özelliğini tanımlarlar. Buna göre; bunlardan ilki üniversiteyi sanallaştırma veya yine üniversiteyi kağıtsız bir dünya ve çevrim-içi bir topluluk olarak yönetme sürecidir. İkincisi, meslekileştirme (vocationalization) ya da eğitimden sağlanabilir geri dönüşler üzerinde ısrarcılıktır. Eğitimin neoliberalleştirilmesi sürecine dair üçüncü özellik ise eğitim kurumlarının tüm bölümlerinin ve birimlerinin finansal kapasitesinin ölçütü olarak aşağıdan bütçelendirmenin ya da vergilendirme pratiğinin esas alınmasıdır (akt, McCarthy, 2014: 407).

Neoliberal eğitim gündeminin bir ayağı olarak piyasalaştırılan yaşam boyu kapsamında ele alınan eğitim etkinlikleri bir taraftan özel sektöre devredilerek ticarileştirilmekte ve içerikleri de mesleki teknik eğitime indirgenmektedir (Bağcı, 2015).1970'li yılların sonundan başlayarak ekonomik yapısal reformların neoliberal uyarlamalarından biri olarak piyasaya sürülen yaşam boyu öğrenme Birleşmiş Milletler, OECD, Avrupa Birliği ve Dünya Bankası'nın istihdam ile ilgili tüm resmi belgelerinde işsizliğe, yoksulluğa, dışlanmaya vb. sorunlara çare olabilecek bir sihirli değnek olarak ortaya atılmıştır. Bu açıdan, yaşam boyu öğrenme ve neoliberal politikalar ile birlikte eğitim ve istihdam alanında aşağıdaki gibi değişikliklerin gerçekleştirilmesine çaba gösterilmiştir:

- Esnek, her daim hazır, yenilenmiş, hızlı uyum sağlayan ve "istihdam edilebilir" özneler: ("Eğit, yeniden eğit! politikalarına uygun olarak);
- Sorumluluğun bireyselleştirilmesi: neyi ne zaman öğreneceğine bireyin karar vermesinin gerekliğine yapılan vurgu;

- Devletin sosyal sorumluluklarının zayıflatılması;
- Yaşam Boyu Öğrenme= Beceri ve Mesleki Gelişim=Sertifikasyon;
- İstihdam ve mesleki beceriye odaklı bir perspektif;
- Pazara endeksli ve beceri odaklı bilgi ve öğrenme faaliyetleri;
- Bilimsel etkinliğin çıkış noktası olan bilgiye yönelik merakın zayıflatılması;
- Şirketleşen Üniversite: Beşeri bilimlere ve insancıl sosyal bilimlere yönelik azalan destek;
- Disiplinler Hiyerarşisi;
- Araştırmanın AR-GE'ye dönüşümü: Ticari İnovasyon;
- 'Girişimci', 'talep merkezli', 'piyasa dostu', ya da 'ticari' sıfatlarıyla pazarlanan özel üniversiteler.

Endüstri 4.0 teknolojisiyle birlikte insansız iş süreçlerinin artacağı ve önemli ölçüde kitlesel bir işsizlik sorununa neden olacağı tahmin edilmektedir ancak yine de Dünya Bankası, Birleşmiş Milletler ve Avrupa Birliği gibi uluslararası kuruluşların yaşam boyu öğrenmenin beceri eğitiminin güçlendirilmesi vurgusu devam etmektedir. Peki, bu kadar kitlesel bir işsizlik dalgası yaşanacaksa, nitelikli işgücünde bu ısrar neden? Buyruk'un (2018: 625) da ifade ettiği üzere, öncelikle nitelikli işgücüne her zaman ihtiyaç duyulacak ve gelişmiş teknoloji ekseninde kimi işler daha fazla önem kazanacaktır. Ancak diğer yandan vasıf gerektiren bu işleri az sayıda kişinin yapabiliyor olması bu işlerin değer kazanmasına ve dolayısıyla işverenler için fazladan maliyete neden olacaktır. Yedek işgücü oluştuğu takdirde beklenen hedefler karşılanamadığında, vasıflı işgücü diğerleriyle kolayca ikame edilebilecektir. Bir diğer neden ise sermayenin küresel düzeyde yayılmasının küresel düzeyde nitelikli bir işgücü arzını gerekli kılmasıdır.

Yaşam Boyu Öğrenme: Demokratik Vatandaşlık İçin Bir Potansiyel

Yaşam boyu öğrenme, potansiyel olarak bizleri okulların pedagojinin ve eğitim politikalarının yarattığı kurumsal, bürokratik ve ideolojik sınırlardan kurtarma ve eğitimin çıkan açık uçlu bir niteliğe evrilebileceği bir felsefi ve pratik arkaplana sahiptir. Yaşam boyu öğrenme bu yönüyle siyasal alanın bürokratik kurumlar aracılığıyla baskın olduğu hiyeraşik bir model olan okullarda ve kurumlarda değil hayatın her alanında olabileceği uçsuz bucaksız özyönetimli bir öğrenme potansiyel sunma kapasitesine sahiptir. Özellikle uzak doğu felsefelerinde vücut bulmuş olan ve uzun bir geçmişe sahip olan bir felsefe olarak yaşam boyu öğrenme felsefesi, öğrenmenin okuldan ibraret olmaması; insanların okul eğitiminden sonra da eğitim fırsatlarına sahip olması; bunların halk eğitimiyle sağlanabilmesi gibi seçenekleri barındırmaktadır. Bu açından, 1990larda yeniden neoliberal bir anlayışla içeriklendirilen yeni formuna kavuşmadan önce, potansiyel olarak yaşam boyu öğrenme; geçmişten beri var olan çalışmak için gereken becerilerin yanı sıra, demokratik topluma katılmak için gereken yeteneklerin geliştirilmesini de içermelidir.

Güçlü bir yasam boyu öğrenme sistemi, hükümetlerin, meslek odalarının ve eğitim sendikalarının sorumluluk almasıyla, finansmanı üstlenmesiyle ve evrensel sosyal koruma politikaları ile birleştiğinde, öğrenenlerin kendi öğrenmelerine aktif bir şekilde katılma sorumluluğu almasını sağlar.

Eğitimi istihdamla birleştiren yaşam boyu öğrenme stratejisi insanları tüm öğrenme ve ilişkili beceri edinimi ile ilgili olarak sorumlulaştıran bir perspektife sahiptir. Ancak, İnsanların çalışma hayatlarını sürdürebilmek için ihtiyaç, duyacakları becerileri

öngörmeleri, bu becerileri nasıl edineceklerini belirlemeleri; risk alabilme koşulları sadece bireyin sorumluluğuna bırakılmamalıdır. Burada tek sorumluluk bireye ait olamaz. Eğitim ve istihdamın sorumluluğunu bireyselleştiren bu eğilime karşı güçlü bir eleştirel tutum geliştirilmelidir. Eğitimden çalışma yaşamına geçişler sırasında insanları destekleyecek kurumlar, politikalar ve stratejilere daha fazla yatırım yapma sorumluluğu bireylerden çok işverenlerde, sivil toplum örgütleri ve hükümetlerde olmalıdır.

Daha aydınlık bir gelecek yaratmak ve ekonomik güvenliği, fırsat eşitliği, sosyal adaleti gerçekleştirmek ve nihayet koşulların eşitliği (cinsiyet eşitliği, hakların genişlemesi, demokratik vatandaşlık vb) açısından toplumlarımızın dokusunu güçlendirmek için endüstri 4.0'ın dönüştürücü değişimlerin sunduğu fırsatları yakalamak gerektiğinin altını çizmek önemli (ILO, 2019) ancak bunu eğitimin demokratik ve eşitlikçi süreçlere doğru bir niteliksel değişimi perspektifini terk etmeden yapmak gerekir. Örneğin, bir yandan endüstri 4.0 koşullarında teknolojik kabiliyetlerin çalışma yaşamının kalitesini yükseltmesini sağlarken, diğer yandan sosyal adalet için seçenekleri artırmak, toplumsal cinsiyet farkını kapatmak, küresel eşitsizliğin yarattığı hasarları düzeltmek için de yaşam boyu öğrenme fırsatlarını ve politikalarını demokratik vatandaşlık ideallerini güçlü bir şekilde uygulamaya koymak önemlidir.

Bu kapsamda, eğitimin sosyal ve ahlaki sorumluluk, kamusal olana katılım ve eleştirel diyaloğa açıklık siyaseti ilkelerine referansla öğretilmesinin önemini vurgulanmalıdır. Yaşam boyu öğrenmenin içeriklerinin bilgi, bilim ve bireysel yaratıcılığı; sosyal adalet, eşitlik ve kamusal iyi değerleriyle entegre edecek şekilde desenlemesi oldukça önemlidir. Yaşam boyu öğrenme kapsamında, bireylerin sosyal ekonomik çevresel ve ahlaki konularda sorumluluk, eylem ve etki kapasitelerinin geliştirilmesi için bilimselliği ve yaratıcılığı, "kamusal iyi" çerçevesinden yeniden formüle etmeyi güçlü bir şekilde vurgulamak gerekiyor. Bu tür bir arayış, demokratik vatandaşlığı geleceğin eğitimi için bir başlangıç noktası olarak alacak bir girişimdir. Dahası, geleceğin eğitiminin inşa etmesi gereken söz konusu demokratik vatandaşlık, tüm insanlığın ortak kimliğinin bilgisine ve bilincine sahip olan, insanlığın ortak kaderi olan küresel ve ekolojik gelişmeleri gündemine alan, etkileyen ve değiştiren demokratik bir dünya vatandaşlığıdır.

Endüstri 4.0 teknolojisinin öğrenme teknolojilerini tümüyle bireyselleştirme eğilimlerine karşı, geleceğin eğitim politikalarının en önemli hedefi "kamusal iyiye" katkı sağlayacak düzeyde kamusal yaşama katılımın ve onu zenginleştirmenin yeni ve özgün biçimlerini inşa edecek, keşfedecek ve genişletecek demokratik vatandaşların yetişmesine aracılık etmek olmalıdır. Türkiye'de ve dünyada yaşam boyu eğitim ve öğrenme politikaları, çocukları/gençleri aktif vatandaşlar ve kendine güveni olan bireyler olarak konuşma ve eylemi somut olguların eleştirel analizi üzerinden yapabilen ve kamusal hayata etki etmeyi isteyen, etki edebilme kapasitesi olan ve donanımlı; kamusal hayata ve hizmetlere katılımı güçlendiren ve genişleten; bu katılımın küresel, yeni ve özgün biçimlerini keşfetmeye hevesli özerk bireyler olarak yetiştirmeyi gündemine acilen almalıdır. Bu, toplumsal ve doğaya ilişkin sorunların çözümlerine yönelik olarak eleştirel diyaloğa açık ve demokratik mekanizmalara aktif katılımı özendiren bir bilgi ve beceriler demetinin inşasıyla mümkün olabilecek farklı bir bilimsellik çağrısıdır. Bu, yaşam boyu öğrenme modeline biçilen "eğitimli işgücü" yetiştirme perspektifinden tümüyle farklı, demokratik bir vatandaşlık çağrısıdır.

Bunun yanında, küresel gelişmelerin insanlığın ortak kaderi olduğu bilgisinden hareketle, ekosisteme karşı sorumluluk ve haklar fikri öğretimin önemli konularından biri olmalıdır. Geleceğin eğitiminde küresel gelişmeleri ve insanlık durumlarını hesaba katan bilgi ve bilim pratiği, doğa bilimleri, beşeri bilimler, edebiyat, felsefe olarak ayrıştırılmış uzmanlık alanlarının aralarındaki birliği ve koparılmaz bağı yeniden tesis etmek üzere düzenlenmelidir (Morin, 2013).

Bu bağlamda değerleri, becerileri ve anlamayı, "kamusal iyiye" katkıda bulunacak şekilde vatandaşlık, sivil toplum ve kamusallık çerçevesinde geliştiren bir anlayış, geleceğin eğitimini temellendirmelidir. Yaşam boyu öğrenmeyle inşa edilmek istenen bilgi, bilim, yaratıcılık eylemleri; toplumsal koşullar içindeki iyilik, eşitlik, sosyal adaletin tüm dünya vatandaşları ve ekosistem için tesisini sağlamak için güçlü bir şekilde mücadele etmekten bağımsız ele alınamaz.

Son olarak, toplumsal ilişkilerin giderek dijitalleştiği bir ortamda geleceğin eğitimi artık daha entegre bir hale gelen yerel ve küresel sosyal ilişkilerimizin ayrılmaz parçası olarak müzakere, çatışma çözümleri, tolerans, karşılıklı anlama, çoklu bakış açısı, farklılıklarla ve belirsizliklerle karşılaşmaya açık zihinsel esneklik becerilerini kazandırmalıdır. Endüstri 4.0 koşullarında, gerçek ve verimli bir ilişkinin somutlaştığı bir eğitim deneyiminin sosyolojik ilkelerini belirlemek geleceğin yaşam boyu eğitiminin önündeki en temel sorumluluklardan birisidir.

SONUÇ

Bu açıdan bakıldığında, eğitimde ve akademide entelektüel bağımsızlığı ve düşünceyi dışarıda bırakan aşırı Taylorizm'e ve araçsallığa "hayır" denilmesi gerekiyor. Yapılması gereken; teknolojinin daha değerli amaçlar için eğitimde eleştirel erişim ve iletişimin yaygınlaşması, sağlamak üzere mücadele etmek olmalıdır (McCarthy, 2014: 425).

Sonuç olarak, yaşam boyu eğitimin sadece beceri eğitimine ve ekonomik çıktılara odaklanan bakış açısı, öğrenmenin kendi içindeki değerini ve entelektüel üretimin özerkliğini ve kamu yararına eleştirel perspektifinin üzerini örten ve önemsizleştiren bir etki yaratmaktadır. Bilimin ilerlemesi sadece ticari bir çıktıya indirgenen öğrenme ve araştırma pratiklerine dayalı olarak gelişemez. Eleştirel, özerk ve kamu yararını ön plana koyan bir araştırma ve öğrenme faaliyeti entelektüel olarak üretici ve yaratıcı bir pratiğe dönüşebilir.

Etkin bir yaşam boyu öğrenme ekosistemi kurulması, ancak eğitimi istihdamla eşitlemeyen bir anlayış içinde hükümetler ve eğitim aktörleri ile eğitim kurumlarının aktif katılımını ve desteğini gerektiren ortak bir sorumluluktur.

Yaşam boyu öğrenme herkes için bir hak olduğu için, devletlerin yaşam boyu öğrenmeyi sadece beceri geliştirme politikalarına indirgemeden yaşam boyu öğrenme içeriklerinin yaygın eğitim sistemleri gibi kurumlar üzerinden genişletmesi ve yeniden yapılandırması gerekmektedir.

Yaşam boyu öğrenme politikalarını inşa ederken, beceri eğitiminin yanı sıra bireyin sanatsal, düşünsel, kültürel ve felsefi becerilerini geliştirmeye odaklanan bir çerçevede ele alınması, yaşam boyu öğrenmeyi içine hapsedildiği ekonomi ve istihdam kısırdöngüsünden kurtaracaktır.

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Türkiye'deki Açıköğretim ve Uzaktan Eğitim Programlarının Bir Analizi: 2015 - 2018 Karşılaştırılması

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Özet

Eğitimde fırsat eşitliğini sağlamak ve bireysel farklılıkları gözeterek öğrenme imkânı sunması açısından önemli olan uzaktan eğitim, günümüzde önemli bir yere sahiptir. Bu imkân yükseköğretimde üniversitelerin uzaktan eğitim merkezleri ve açıköğretim fakülteleri tarafından sağlanmaktadır. Yükseköğretim kurumlarında bulunan uzaktan eğitim programları hakkında yapılan çalışmalar uzaktan eğitim alanındaki değişimler ve talepler doğrultusunda güncelliğini yitirmektedir. Koçdar tarafından 2015 yılında yapılan analiz çalışmasının devamı niteliğinde olan bu çalışmada; 2018 yılında güncel durumu ortaya koymak ve uzaktan eğitim programlarını da inceleyerek, uzaktan eğitimin geleceği ile ilgili öngörülebilir durumlar hakkında fikir vermeyi amaçlamayan bir durum değerlendirmesi yapılmıştır. Bu çalışma kapsamında veriler; alanyazın taraması, 2015 ve 2018 yıllarında ÖSYM tarafından yayınlanan tercih kılavuzlarında yer alan bilgiler, Yükseköğretim kurumu internet sitesinde bulunan istatistikler, üniversitelerin internet siteleri, üniversitelerin uzaktan eğitim veren birimleri ile e-posta yoluyla yapılan yazışmalar ve telefon görüşmeleri neticesinde elde edilen verilerden doküman analizi yapılarak toplanmıştır. 2018 yılı itibarıyla uzaktan eğitim merkezlerinde yüksek lisans, ön lisans ve lisans tamamlama programları olarak 231 aktif program bulunmaktadır. 2015 ile 2018 yıllarında uzaktan eğitim programlarının eğitim düzeyine göre dağılımları karşılaştırıldığında; yüksek lisans ve ön lisans programlarının sayısında ciddi bir düşüş olduğu buna karşılık lisans tamamlama düzeyindeki programların sayısında kısmi bir artış görülmüştür. Bu çalışma uygulamacılara ve araştırmacılara; uzaktan eğitim merkezleri ve açıköğretim fakültelerinin mevcut programlarındaki değişimleri ortaya koyarak geleceğe yönelik planlamaların yapılmasında yol göstermeyi hedeflenmektedir.

Anahtar Kelimeler: *uzaktan eğitim, program dağılımları, açıköğretim, ortak dersler, açık ve uzaktan öğrenme*

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GİRİŞ

Araştırma Konusu ve Problemi

Türkiye'de ilk ve orta öğretimde eğitim ihtiyacını karşılayabilecek kadar kurum bulunmakta ve eğitim ihtiyacı karşılanabilmekteyken, genç nüfus artışı ve eğitime bakış açısındaki değişimlerin de(yaşam boyu öğrenme, mesleki ve kişisel gelişim talebi vb.) etkisiyle yükseköğretimde ortaya çıkan eğitim ihtiyacı örgün eğitime ek olarak açık ve uzaktan eğitim kurumları ile karşılanmaktadır (Bilgiç, Doğan ve Seferoğlu, 2011). Yükseköğretimdeki açık ve uzaktan eğitim kurumları üniversitelerin açıköğretim fakülteleri ve uzaktan eğitim merkezlerinden oluşmaktadır. Yükseköğretim kurumlarındaki açık ve uzaktan eğitim kapsamında yer alan programlar lisans tamamlama (Ön lisans diploması olup bunu lisans derecesine yükseltme), mesleki gelişim (Lisans mezunu olup mesleki bilgisini arttırma ve teknoloji ile gelişen yeniliklere ayak uydurma), iş başı eğitim ve örgün eğitime alternatif programlar(Ön lisans, lisans, tezsiz yüksek lisans) olarak karşımıza çıkmaktadır (Gürüz,2001). Uzaktan eğitim merkezleri ve açık öğretim fakülteleri genel olarak ortak bir amaca hizmet etmelerine rağmen eğitim verme şekilleri ve bünyelerinde barındırdıkları programlar bakımından küçük farklılıklar göstermektedirler. Eğitim verme şekilleri bakımından, uzaktan eğitim merkezlerinde canlı dersler (online-senkron) eğitimin temelini oluştururken, açık öğretim fakülteleri içerik paylaşımını temel almakta, barındırdıkları programlar açısından bakıldığında ise uzaktan eğitim merkezleri lisans tamamlama ve tezsiz yüksek lisans, açık öğretim fakültelerinde önlisans ve lisans programları çoğunluk göstermektedir.

Balaban(2012) yaptığı çalışmasında güncel verilere ulaşamamasının uzaktan eğitimle ilgili planlama yapılmasını ve alanın geleceğine yönelik çalışmalar yapılmasını zorlaştırdığını ifade etmiştir. Türkiye'deki yükseköğretim kurumlarının kaç tanesinde hangi düzeyde ve hangi alanlarda uzaktan eğitim programı sunulduğuna dair inceleme çalışması en son 2015 yılında Koçdar tarafından yapılmıştır. Sürekli gelişen ve değişen uzaktan eğitim alanındaki bu program bilgilerinin en son 2015 yılında değerlendirildiği düşünülürse bilgilerin güncellenmesi gerektiği açıkça görülmektedir.

Bilgiç vd. (2011) son yıllarda bilim ve teknolojide yaşanan gelişmelerin, var olan ve sürekli artarak değişen bilginin güncel kalması gerekliliğini ortaya çıkardığını ifade etmektedirler. Her geçen gün bireylerin ilgi alanlarında ve ihtiyaçlarında değişmeler olurken kurumlarında kendilerini bu değişimlere ne kadar hazırladıkları ve bu değişimler karşısında ne gibi güncellemeler yaptıklarını görmek ve önerilerde bulunmak adına yapılan bu çalışma Koçdar tarafından 2015 yılında yapılan "Türkiye'deki açık ve uzaktan öğrenme programlarının bir analizi: eğilimler ve öneriler." çalışmasının devamı niteliğinde olup güncel bilgiler ışığında bir durum değerlendirmesi yaparak uzaktan eğitimin geleceği ile ilgili öngörülebilir durumlar hakkında fikir vermeyi amaçlamaktadır.

Bu amaçla aşağıdaki sorulara cevap aranacaktır;

1. 2015 yılı ile 2018 yılı arasında Türkiye'de uzaktan eğitim verilen eğitim düzeyleri (ön lisans, lisans, lisans tamamlama, tezsiz yüksek lisans) ve eğitim programları nasıl değişim göstermektedir?
2. 2015 yılı ile 2018 yılı arasında Türkiye'de uzaktan eğitim verilen alanlarda (sosyal, sağlık, eğitim, mühendislik, fen) nasıl değişim gözlenmektedir?

3. Türkiye'deki açık öğretim fakültelerinde eğitim programları düzeylerine ve alanlarına göre nasıl dağılım göstermektedir?
4. Türkiye'de kaç yükseköğretim kurumu ortak zorunlu dersleri uzaktan eğitimle vermekte ve verilen dersler nasıl dağılım göstermektedir?

Araştırmanın Amacı

Sürekli gelişen ve değişen gelişen teknoloji, eğitim tercihleri, eğitim ve eğitim kurumu ihtiyaçlarının karşılanmasında önemli bir yere sahip olan uzaktan eğitim kapsamında yürütülen programların güncel durumlarının incelenmesi, değerlendirilmesi ve güncellenmesi gereklilik olarak görülmektedir. Bu bilgilerinin en son 2015 yılında değerlendirildiği düşünülürse bilgilerin güncellenmesi gerektiği açıkça görülmektedir. Bu çalışma; 2015 yılında Koçdar tarafından yapılan Türkiye'deki yükseköğretim kurumlarının kaç tanesinde hangi düzeyde ve hangi alanlarda açık ve uzaktan öğrenme programı sunulduğuna dair incelemenin güncellenmesini ve geleceğe yönelik öneriler sunulması amaçlamaktadır.

Araştırmanın Önemi

Günümüz şartları ve öğrenci eğilimlerine yönelik olarak açık ve uzaktan eğitim veren kurumların kendilerini ve eğitim verilen programlarını güncellemesi gerekmektedir. Açık ve uzaktan eğitim veren kurumların, geleceği ile ilgili iyileştirme, geliştirme ve öğrenci eğilimlerine yönelik programların açılması konusunda çalışmalar yapması zorunluluğunu ortaya çıkarmaktadır. Yapılacak olan bu çalışmaları hızlandırmak ve sağlıklı bir şekilde ilerlemelerini sağlamak, öğrenci eğilimlerini ortaya koymak, güncel durumu değerlendirmek, 2015 yılından bu yana olan değişiklikleri ortaya koymak ve programların planlanması konusunda fikir verecektir

Yöntem

Bu çalışma doküman analizi yöntemi ile yapılmış, çalışma kapsamında veriler; alanyazın taraması, Yükseköğretim kurumu internet sitesinde bulunan istatistikler, üniversitelerin internet siteleri, üniversitelerin uzaktan eğitim veren birimleri ile e-posta yoluyla yapılan yazışmalar ve telefon görüşmeleri, ÖSYM'nin 2015 ve 2018 yıllarında yayınladığı üniversite tercih kılavuzları aracılığıyla toplanmıştır.

Yükseköğretim kurumundan Türkiye'deki üniversitelerde uzaktan eğitim ile verilen aktif programların listesi talep edilmiştir. Buna ek olarak Yükseköğretim Bilgi Yönetim Sisteminde paylaşılmış olan istatistik bilgilerine dayanarak 2018 yılı itibarıyla aktif olan üniversite sayısına ve isimlerine ulaşılmış daha sonra bu üniversitelerden açık ve uzaktan öğrenme hizmeti sunan birime sahip olanların listesine ulaşılmıştır. Birimlerin internet siteleri taranmış ve iletişim bilgisine ulaşılan üniversitelerden e-posta yoluyla internet sitelerindeki bilgilerin güncelliği teyit edilmeye çalışılmıştır. E-posta yoluyla ulaşılamayan kurumlarla telefonla irtibata geçip bilgilerin güncelliği teyit edilmiş ya da telefonla güncel bilgiler elde edilmiştir. Açık öğretim fakültelerinde bulunan programlar hakkında Koçdar'ın çalışmasında bilgiler bulunmadığı için ÖSYM 2015 tercih kılavuzuna ulaşılmış ve program bilgileri bu kılavuzdan alınmıştır. Programlar ad, düzey ve eğitim alanlarına göre sınıflandırılmıştır. Sınıflandırma işleminin eğitim alanlarına göre nasıl yapıldığı hakkında Koçdar ile iletişime geçilmiş ve örgün eğitim-

de hangi fakülte bünyesinde bu eğitimin verildiği göz önüne alınarak sınıflandırma yapıldığı öğrenilmiştir. Eğitim alanlarına göre sınıflandırma aynı şekilde yapılmıştır.

Sınırlılıklar

Çalışma 2018 yılı itibariyle; yükseköğretim kurumu internet sayfasından elde edilen istatistik verileri, üniversitelerin internet sitelerinin taranması, üniversitelerin kurum çalışanları ile yapılan görüşmeler ve yükseköğretim kurumu ile yapılan yazışmalar sonucunda ulaşılabilen 77 üniversiteden elde edilen bilgilerle sınırlıdır. Yükseköğretim kurumu istatistik verilerinde belirtilen 110 üniversiteden 33 tanesi bu üniversitelerden bilgi alınamadığı için çalışmaya dâhil edilmemiştir.

Geçerlilik ve Güvenilirlik

Türkiye'deki üniversitelerin kaç tanesinde uzaktan eğitim merkezi olduğu ve bu uzaktan eğitim merkezlerinde hangi eğitim programlarının olduğuna dair bilgi edinmek için yükseköğretim kurumu ile yazışma yapılmış ancak bilgi alınamamıştır. Yükseköğretim kurumunun paylaştığı istatistikler incelenmiş ancak programlar hakkında bilgi bulunamamıştır. Bunun üzerine istatistiksel bilgilerden uzaktan eğitim merkezi bulunan üniversitelerin isimlerine ulaşılmıştır. Bu üniversiteler ve bölümler ÖSYM tarafından yayınlanan tercih kılavuzları aracılığıyla teyit edilmiş ve bu üniversitelerin uzaktan eğitim merkezlerinin resmi internet sitelerine ulaşılmaya çalışılmış ancak bir kısmının internet sitesinin bulunmadığı büyük çoğunluğunun da internet sitesindeki bilgilerin güncel olmadığı gözlenmiştir. Güncel ve doğru bilgilere ulaşabilmek için çevrimiçi bilgi toplama formu hazırlanıp çalışma hakkında bilgi verilen bir metin oluşturularak kurum listesinden ilk 20 kurumun resmi adreslerine e-posta gönderildi. Ancak bir haftalık bir süre içinde herhangi bir dönüş alınmadı. Bunun üzerine tüm kurumlara telefon ile ulaşılmaya çalışıldı. Ulaşılan kurumlar ile daha önceden hazırlanmış olan görüşme formu doldurulduu. E-posta metninde bulunan çevrimiçi formdan dolayı dönüş yapılmamış olabileceği düşünülerek bu form çıkarıldı ve e-posta metni istenen bilgileri içeren sorularla tekrar oluşturularak telefon ile ulaşılamayan kurumlara e-posta gönderildi. Bunun üzerine birkaç kurumdan e-posta ile bilgi alındı. Bilgi alınamayan kurumlardan telefon ile tekrar bilgi alınmaya çalışıldı. Sonuç olarak 77 kurumdan bilgi alındı. Yükseköğretim kurumu verilerine göre uzaktan eğitim merkezi ve açık öğretim fakültesi bulunan 110 kurumdan; internet sitesi bulunmayan, bilgilerinin güncelliği teyit edilemeyen, e-posta ve telefon ile bilgi alınamayan 33 kurum çalışma kapsamından çıkarıldı.

Alınan bilgilerin toplanması, sınıflandırılması ve düzenlenmesinde güvenirlik için bir güvenirlik bileşeni olarak kabul edilen eşdeğerlilik analizlerinden gözlemciler arası tutarlılık yöntemi kullanılmıştır (Çakmur,2012). Bilgilerin toplanması ve programların sınıflandırılmasında güvenirliği sağlamak için iki gözlemci ayrı ayrı formlar kullanarak birbirinden bağımsız şekilde bilgilerin toplanması ve bilgilerin sınıflandırılmasını yaptıktan sonra oluşturulan formlar karşılaştırılmıştır ve farklılık gözlenen bilgiler tekrar gözden geçirilmiştir. Programların alanlarında göre sınıflandırılması aşamasında gözlemcilerde farklılık yaşandığı ve ortak nokta bulunamadığı için Koçdar ile iletişime geçilmiş ve sınıflandırmanın nasıl yapıldığı hakkında bilgi alınmıştır. Sonuç olarak programların örgün eğitim olarak hangi fakültede bulundukları göz önüne alınarak sınıflandırma işlemi yapılmıştır...

Bulgular

Türkiye'deki Uzaktan Eğitim Merkezlerindeki Programların Dağılımı

Yükseköğretim kurumunun paylaştığı istatistik verilerine göre Türkiye'de 2018 yılı 110 üniversite açık öğretim ve uzaktan eğitim faaliyetleri yürütmektedir. Bu üniversitelerden 107 tanesi sadece uzaktan eğitim merkezine sahip, iken 2 tanesi açık öğretim fakültesine sahip 1 tanesi de hem açık öğretim fakültesi hem de uzaktan eğitim merkezine sahiptir.

Türkiye'deki uzaktan eğitim merkezlerinde ön lisans, lisans tamamlama, tezsiz yüksek lisans ve ortak derslerin eğitimi verilmektedir. Uzaktan eğitim merkezlerinde eğitim düzeylerine göre genel dağılım Tablo 1'de gösterilmiştir.

Sıra	Üniversite Adı (77)	Ön Lisans (19)	Lisans Tamamlama (15)	Lisans (0)	Tezsiz Yl. (36)	Ortak Dersler (68)
1	Acıbadem Mehmet Ali Aydınlar Üniversitesi					x
2	Adıyaman Üniversitesi					x
3	Ağrı İbrahim Çeçen Üniversitesi					x
4	Akdeniz Üniversitesi	x			x	
5	Aksaray Üniversitesi	x			x	x
6	Amasya Üniversitesi	x	x		x	x
7	Ankara Üniversitesi	x	x		x	x
8	Artvin Çoruh Üniversitesi					x
9	Atatürk Üniversitesi		x		x	x
10	Aydın Adnan Menderes Üniversitesi					x
11	Balıkesir Üniversitesi					x
12	Bandırma On Yedi Eylül Üniversitesi					x
13	Bartın Üniversitesi				x	x
14	Başkent Üniversitesi				x	x
15	Bayburt Üniversitesi		x			x
16	Beykoz Üniversitesi	x				
17	Bilecik Şeyh Edebali Üniversitesi					x
18	Bingöl Üniversitesi					x
19	Bitlis Eren Üniversitesi	x				x
20	Bolu Abant İzzet Baysal Üniversitesi		x			x
21	Bursa Uludağ Üniversitesi				x	x
22	Çanakkale On Sekiz Mart Üniversitesi				x	x
23	Dicle Üniversitesi		x			
24	Düzce Üniversitesi					x
25	Ege Üniversitesi		x		x	x

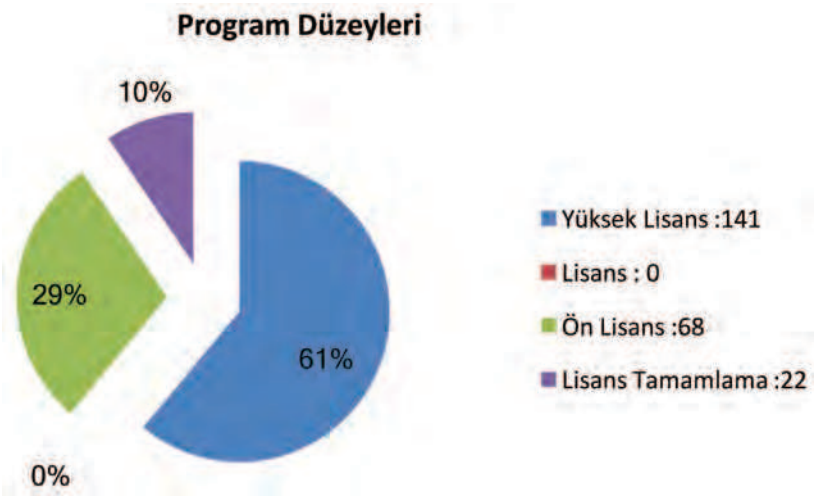
26	Erciyes Üniversitesi					x
27	Erzincan Binali Yıldırım Üniversitesi	x				x
28	Fatih Sultan Mehmet Vakıf Üniversitesi					x
29	Fırat Üniversitesi		x		x	x
30	Gazi Üniversitesi				x	
31	Giresun Üniversitesi					x
32	Hacettepe Üniversitesi				x	x
33	Harran Üniversitesi					x
35	Iğdır Üniversitesi					x
36	İnönü Üniversitesi					x
37	İstanbul Arel Üniversitesi				x	x
38	İstanbul Aydın Üniversitesi	x			x	
39	İstanbul Bilgi Üniversitesi				x	
40	İstanbul Kültür Üniversitesi				x	x
41	İstanbul Medipol Üniversitesi		x		x	x
42	İstanbul Okan Üniversitesi					x
43	İstanbul Ticaret Üniversitesi				x	
44	İstanbul Yeni Yüzyıl Üniversitesi				x	x
45	İzmir Kâtip Çelebi Üniversitesi					x
46	Kahramanmaraş Sütçü İmam Üniversitesi	x			x	
47	Karabük Üniversitesi	x			x	x
48	Karadeniz Teknik Üniversitesi				x	x
49	Kastamonu Üniversitesi				x	x
50	Kırıkkale Üniversitesi	x	x			x
51	Kırklareli Üniversitesi				x	x
52	Kocaeli Üniversitesi	x	x			x
53	Kto Karatay Üniversitesi					x
54	Kütahya Dumlupınar Üniversitesi					x
55	Maltepe Üniversitesi				x	x
56	Manisa Celâl Bayar Üniversitesi		x			x
57	Mardin Artuklu Üniversitesi	x				x
58	Marmara Üniversitesi	x			x	x
59	Mersin Üniversitesi	x			x	
60	Muğla Sıtkı Koçman Üniversitesi	x			x	x
61	Nevşehir Hacı Bektaş Veli Üniversitesi	x				x
62	Nişantaşı Üniversitesi					x
63	On Dokuz Mayıs Üniversitesi	x	x		x	x
64	Ordu Üniversitesi					x

65	Sağlık Bilimleri Üniversitesi					x
66	Sakarya Üniversitesi	x			x	x
67	Selçuk Üniversitesi				x	x
68	Sinop Üniversitesi					x
69	Sivas Cumhuriyet Üniversitesi		x			x
70	Tekirdağ Namık Kemal Üniversitesi					x
71	Trakya Üniversitesi				x	x
72	Üsküdar Üniversitesi					x
73	Van Yüzüncü Yıl Üniversitesi				x	x
74	Yalova Üniversitesi					x
75	Yaşar Üniversitesi				x	x
76	Yıldız Teknik Üniversitesi					x
77	Zonguldak Bülent Ecevit Üniversitesi		x		x	x

Tablo 1. Eğitim Düzeyine Göre Türkiye'de Uzaktan Eğitim Sunan Üniversiteler

Tablo 1. incelendiğinde 36 üniversitede tezsiz yüksek lisans, 19 üniversitede ön lisans, 15 lisans tamamlama ve 68 üniversitede ortak ders faaliyetlerini uzaktan eğitimle yürüttüğü görülmektedir. 29 uzaktan eğitim merkezinde sadece ortak derslerin uzaktan eğitimle verildiği, 3 üniversitenin ise ön lisans, lisans tamamlama, tezsiz yüksek lisans ve ortak ders uygulamalarının tamamını yürüttüğü görülmektedir.

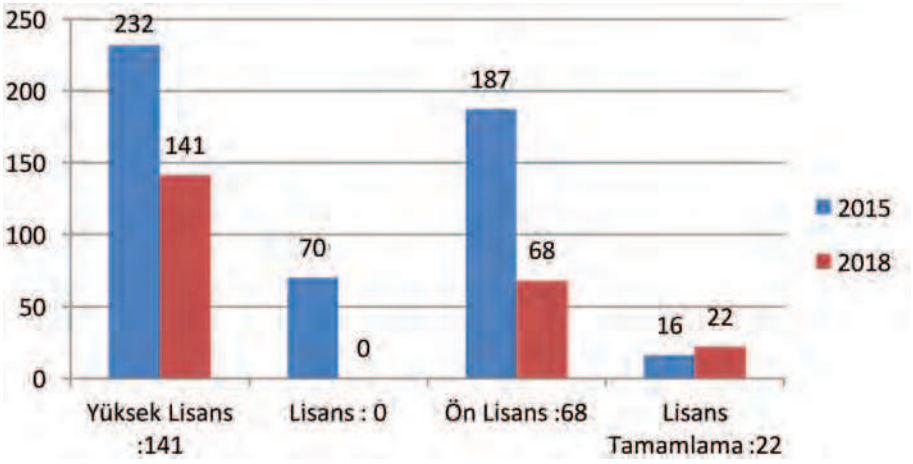
2018 yılı itibarıyla uzaktan eğitim merkezlerinin tüm eğitim düzeylerinde toplam 231 aktif program bulunmaktadır. Bu programların %10'u lisans tamamlama, %29'u ön lisans ve %61'i tezsiz yüksek lisans programlarından oluşmaktadır.



Şekil 1. Uzaktan eğitim programlarının eğitim düzeyine göre dağılımıı

Program dağılımlarının 2015 yılı ile 2018 yılı arasındaki karşılaştırması Şekil 2. de gösterilmiştir. 2016 yılında YÖK tarafından yapılan bir değişiklik ile uzaktan eğitim

lisans programları kaldırıldığından 2018 yılında aktif olup öğrenci alan herhangi bir uzaktan eğitim lisans programı bulunmamaktadır.



Şekil 2. 2015 ile 2018 yıllarında uzaktan eğitim programlarının eğitim düzeyine göre dağılımı

Önlisans

Uzaktan eğitim merkezlerinde bulunan ön lisans programlarının dağılımı, her programın kaç uzaktan eğitim merkezinde bulunduğu ve 2015 yılı ile 2018 yılı arasında nasıl değişim gösterdiği Tablo 2'de gösterilmiştir.

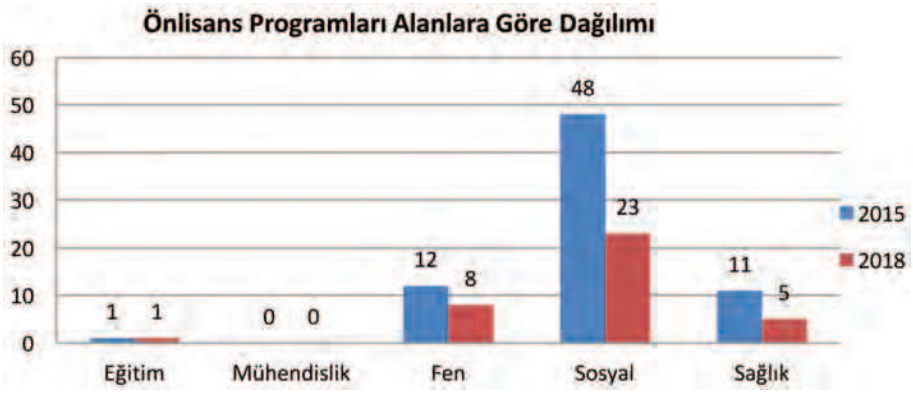
		2015	2018			2015
Sıra	**Ön Lisans Program Adı**	**Sayı**	**Sayı**	**Sıra**	**Ön Lisans Program Adı**	**Sayı**
1	Acil Durum ve Afet Yönetimi	1		45	Kimya Ve Kimyasal İşletme	
2	Adalet	4	1	46	Kontrol Ve Otomasyon	2
3	Aşçılık	1		47	Kozmetik Teknolojisi	1
4	Bankacılık		1	48	Kültürel Miras ve Turizm	2
5	Bankacılık ve Sigortacılık	3	1	49	Laborant ve Veteriner Sağlık	1
6	Bilgi Yönetimi	4	1	50	Lojistik	2
7	Bilgisayar Programcılığı	28	10	51	Marka İletişimi	1
8	Bilgisayar Teknolojisi	1		52	Medya Ve İletişim	3
9	Büro Yönetimi		1	53	Mekatronik	2
10	Büro Yönetimi ve Sekreterlik	1		54	Menkul Kıy. ve Sermaye Piyasası	1
11	Büro Yönetimi ve Yönetici Asistanlığı	3		55	Moda Tasarımı	2
12	Coğrafi Bilgi Sistemleri	2		56	Muhasebe Ve Vergi Uygulamaları	9
13	Çağrı Hizmetleri		4	57	Mülkiyeti Koruma Ve Güvenlik	
14	Çağrı Hizmetleri İşletmeciliği	1		58	Optisyenlik	1

15	Çağrı Merkezi Hizmetleri	2		59	Ormancılık	
16	Çocuk Gelişimi	10	5	60	Ormancılık ve Orman Ürünleri	1
17	Dış Ticaret	4	2	61	Özel Güvenlik ve Koruma	1
18	Eczane Hizmetleri	3		62	Pazarlama	1
19	Eczane Tek.		1	63	Pazarlama Ve Reklamcılık	
20	Elektrik Programı	1	2	64	Perakende Sat. ve Mağaza Yön.	3
21	Elektrik Ener. Üre., İlet. ve Dağıtımı	1		65	Posta Hizmetleri	
22	Elektronik	1		66	Radyo ve Televizyon Programcılığı	2
23	Elektronik Haberleşme Teknolojisi	3		67	Raylı Sistemler	1
24	Elektronik Haberleşme Programı		1	68	Saç ve Güzellik Hizmeti	1
25	Elektronik Teknolojisi	3	1	69	Sağlık Kurumları İşletmeciliği	4
26	Elektronik Ve Otomasyon		1	70	Sosyal Hizmetler	2
27	Emlak ve Emlak Yönetimi	2		71	Spor Yönetimi	1
28	Ev İdaresi	1		72	Tarım	1
29	Fotoğrafçılık ve Kameramanlık	1		73	Tıbbi Dokümantasyon	1
30	Gıda Kalite Kontrolü ve Analizi	1		74	Tıbbı Dok. Ve Sekreterlik	4
31	Grafik Tasarımı	1		75	Tıbbı Hizmetler	
32	Halkla İlişkiler	1		76	Tıbbi Laboratuvar Teknikleri	1
33	Halkla İlişkiler ve Tanıtım	2		77	Tıbbi Tanıtım ve Pazarlama	2
34	Harita ve Kadastro	1		78	Tıbbi ve Aromatik Bitkiler	1
35	Havacılıkta Yer Hizmetleri Yönetimi	1		79	Toptan Ve Perakende Satış	
36	Hukuk Büro Yönetimi ve Sekreterliği	1	1	80	Turist Rehberliği	1
37	İlahiyat	1		81	Turizm ve Otel İşletmeciliği	5
38	İnsan Kaynakları Yönetimi	2		82	Turizm ve Seyahat Hizmetleri	1
39	İnternet Ve Ağ Teknolojileri	2	3	83	Uygulamalı İngilizce ve Çevirmenlik	2
40	İş Sağlığı ve güvenliği	11	5	84	Yaşlı Bakımı	2
41	İşçi sağlığı ve güvenliği	1	1	85	Yerel Yönetimler	2
42	İşletme		1	86	Yönetim Ve Organizasyon	1
43	İşletme Yönetimi	12	1		**Toplam**	187
44	Kimya Teknolojisi	1			İncelenen Kurumu Sayısı	68

Tablo 2. Türkiye'de Uzaktan Eğitim ile Verilen Ön Lisans Programları ve 2015 ile 2018 Yıllarında Sayıları

Tablo 2 incelendiğinde 2015 yılında uzaktan eğitim merkezlerinde 187 ön lisans programı bulunmaktayken 2018 yılında bu sayı %64 azalarak 67'ye düşmüştür. Tablo 2 program çeşitliliği açısından incelendiğinde 2018 yılında 72 farklı türde ön lisans programı bulunmaktayken 48 tanesi tüm uzaktan eğitim merkezlerinde kapatılmış bu sayı 2018 yılında 38'e düşmüştür.

Ön lisans programlarının alanlara göre dağılımı ve 2015 ile 2018 yılları arasında ki değişimi Şekil 3'de gösterilmiştir.



Şekil 3. 2015 İle 2018 Yıllarında Ön Lisans Programlarının Alanlara Göre Dağılımı

Yüksek Lisans

Türkiye'de 2018 yılı itibariyle 141 tane uzaktan eğitim tezsiz yüksek lisans programı bulunmaktadır. Diğer tüm üniversitelerde tezsiz yüksek lisans programları uzaktan eğitim merkezleri tarafından yürütülmekte iken Anadolu üniversitesinde bu programların yürütülmesi açık öğretim fakültesi tarafından yapılmaktadır. Tezsiz yüksek lisans programlarının dağılımı, her programın kaç uzaktan eğitim merkezinde bulunduğu ve 2015 yılı ile 2018 yılı arasında nasıl değişim gösterdiği Tablo 3'de gösterilmiştir.

		2015	2018			2015	2018
Sıra	**YL Program Adı**	**Sayı**	**Sayı**	**Sıra**	**YL Program Adı**	**Sayı**	**Sayı**
1	Adli Bilişim	1		79	Kalite Yönetimi	3	2
2	Arkeoloji	1		80	Kamu Yönetimi	5	5
3	Atatürk İlkeleri ve İnkılap Tarihi	1		81	Karakter ve Değer Eğitimi (Uzaktan Öğretim)		1
4	Avrupa Birliği Hukuku	1		82	Kariyer Psikolojik Danışmanlığı	1	1
5	Bankacılık	1		83	Kent Yönetimi ve Coğrafi Bilgi Sistemi	1	
6	Bankacılık Ve Finans	3	3	84	Kentleşmede Risk Yönetimi Programı (Uzaktan Öğretim)		1

7	Bilgisayar Bilimleri	1		85	Kimya	1	1
8	Bilgisayar Eğitimi	1		86	Konaklama İşletmeciliği	1	1
9	Bilgisayar Mühendisliği	2	1	87	Kurumsal İletişim	1	1
10	Bilgisayar Müh. (İngilizce)	1		88	Kültürel Miras Alanlarının Yönetimi Tezli	1	
11	Bilgisayar Ve Öğretim Teknolojileri	3	1	89	Lojistik Ve Tedarik		1
12	Bilişim	1	1	90	Lojistik Ve Tedarik Zinciri Yönetimi	1	1
13	Bilişim Sistemleri	2	1	91	Lojistik Yönetimi	2	2
14	Biyoetik (İngilizce)	1		92	Mahalli İdareler ve Şehircilik	1	1
15	Biyoloji	1	1	93	Maliye	3	1
16	Bütünleşik Pazarlama İletişimi	1		94	Maliye (Vergi Hu kuku)	1	1
17	Cerrahi Hastalıkları Hemşireliği	2		95	Malzeme Bilimi ve Mühendisliği	1	
18	Çağdaş Gazetecilik ve Yeni Yaklaşım	1		96	Matematik	3	2
19	Çağdaş Türk Lehçeleri ve Ed.	1		97	Muhasebe	1	
20	Çalışma Ekonomisi ve Endüstri İlişkileri	1		98	Muhasebe Ve Denetim	2	3
21	Çalışma Ekonomisi Ve İnsan İlişkileri		1	99	Muhasebe Ve Finansman	1	1
22	Çevre Mühendisliği	1		100	Mühendislik ve Teknoloji Yönetimi	1	
23	Çevre Yönetimi Uzaktan Öğretim Tezsiz yüksek lisans Programı		1	101	Mühendislik Yönetimi	3	2
24	Çocuk Sağlığı ve Hastalıkları Hemşireliği	1		102	Müze Yönetimi	1	
25	Deniz Turizmi	1		103	Orman Endüstrisi Mühendisliği	1	1
26	Dış Ticaret Ve Kambiyo		1	104	Orman Mühendisliği	1	1
27	e-İşletme	5		105	Ortadoğu Çalışmaları	1	1
28	e-İşletme (İngilizce)	1		106	Öğretim Teknolojileri		1
29	e-Küresel Siyaset ve Uluslararası İlişkiler (Türkçe-)	1		107	Ölçme ve Veri Analitiği		1
30	e-Mühendislik Yönetimi	1		108	Önleyici Rehberlik	1	1
31	Eğitim Programları ve Öğretim	4	2	109	Pazarlama	3	2

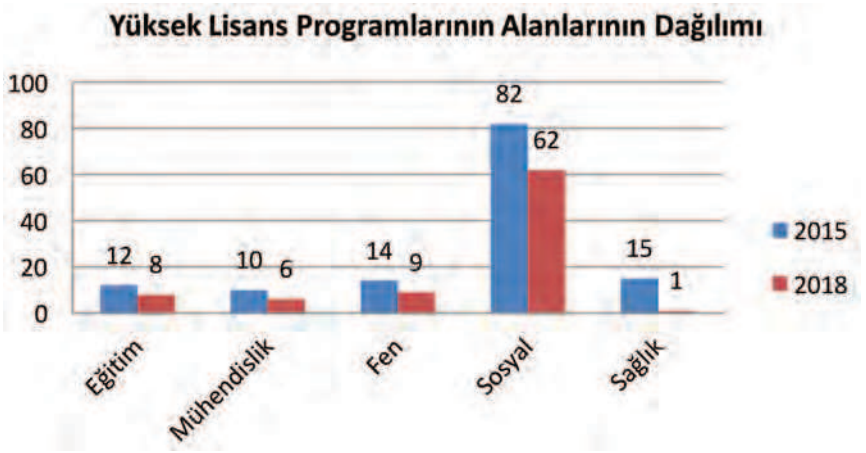
32	Eğitim Teknolojileri	1	2	110	Pazarlama Yönetimi		1
33	Eğitim Yönetimi		3	111	Psikiyatri Hemşireliği	1	33
34	Eğitim Yönetimi Teftişi Planlaması Ve Ekonomisi	7	2	112	Reklamcılık ve Halkla İlişkiler	1	
35	Eğitimde Ölçme Ve Değerlendirme		1	113	Sağlık Bilişimi	1	
36	Eğitim Yönetimi ve Denetimi	2	1	114	Sağlık Ekonomisi Ve Farmoekonomi	1	1
37	Ekonomi ve Finans		1	115	Sağlık Hizmetlerinde İletişim	1	
38	Elektrik-Elektronik Müh.	1		116	Sağlık Kurumları Yöneticiliği	1	
39	Elektronik-Bilgisayar Eğitimi	1		117	Sağlık Kurumları Yönetimi ( )	3	1
40	Enformatik	1	1	118	Sağlık Kuruluşları Yöneticiliği	5	3
41	Evde Bakım Hemşireliği	1		119	Sağlık Kurumları İşletmeciliği	3	1
42	Fen Bilgisi Eğitimi	2		120	Sağlık Yönetimi	3	4
43	Finans Ekonomisi ve Yönetimi	1	1	121	Sanat Tarihi ( )	1	
44	Finans	1		122	Sermaye Piyasaları	1	1
45	Finans ve İktisat	1	1	123	Sınıf Eğitimi		1
46	Finansal Ekonometri	1		124	Sınıf Öğretmenliği	4	1
47	Finansal Raporlama		1	125	Sivil Hava İşletmeciliği	1	
48	Fizik	1		126	Siyaset Bilimi	1	
49	Gayrimenkul Değ. ve Finansman	1		127	Siyaset Bilimi ve Kamu Yönetimi	1	
50	Gazetecilik	1	1	128	Sigortacılık Ve Risk Yönetimi		1
51	Gelişimsel Yetersizlikleri Olan Çocukların Öğret.	1		129	Siyaset Ve Kamu Yönetimi		1
52	Girişimcilik	1	2	130	Sosyal Hizmet	1	1
53	Görsel İletişim Tasarımı Uzaktan Öğretim YL		1	131	Sosyoloji	1	
54	Güvenlik Adli Bilimler	1	1	132	Tarım Ekonomisi	1	1
55	Halk Sağlığı Hemşireliği	2		133	Tarih	2	
56	Hemşirelik Esasları	1		134	Taşınmaz Değerleme Ve Geliştirme	1	1
57	Hukuk	1		135	Teknoloji ve İnovasyon		1
58	İktisat	4	2	136	Toplumsal Yapı ve Sosyal Değişim Analizleri	1	1

59	İlaç Kimyası	1		137	Turizm İşletmeciliği	1	2
60	İletişim Bilimleri	1		138	Turizm Otelciliği	1	
61	İlköğretim Din Kültürü ve Ahlak Bil. Eğitimi	1		139	Türk Dili ve Edebiyatı	1	1
62	İngilizce İşletme Yönetimi	1		140	Türkçe Eğitimi	1	
63	İnsan İlişkileri	1	1	141	Türkiye Cumhuriyeti Tarihi	1	1
64	İnsan Kaynakları ve Örgütsel Değişim	1		142	Uluslararası İliş. ve Avrupa Birliği	1	1
65	İnsan Kaynakları Yön. ve Kariyer Danış.	1		143	Uluslararası İlişkiler	1	1
66	İnsan Kaynakları Yönetimi	1		144	Uluslararası Ticaret (Türkçe)	1	
67	İnsan Kaynakları Yönetimi Ve Kariyer		4	145	Uluslararası Ticaret (İngilizce)	1	
68	İnternet ve Bilişim Teknolojileri Yönetimi	1		146	Uzaktan Algılama Ve Coğrafi Bilgi Sistemleri	1	2
69	İstatistik	1		147	Uzaktan Öğretim	1	1
70	İstatistiksel Bilgi Sistemleri	1		148	Üstün Zekâlıların Eğitimi	1	
71	İş Güvenliği	1		149	Yabancı Dil Olarak Türkçe Öğretimi	1	
72	İş Sağlığı Ve Güvenliği	5	5	150	Yenilenebilir Enerji uygulamaları		1
73	İşletme	29	19	151	Yerel Yönetimler	2	1
74	İşletme ve Teknoloji Yönetimi	1		152	Yöneticiler İçin İşletme	2	1
75	İşletme Yöneticiliği	1		153	Yönetim Bilişim Sistemleri	5	2
76	İşletme Yönetimi	5	2	154	Yönetim Organizasyon	2	2
77	İşletme Ve Lojistik		1	155	Yönetim Ve Siyaset		1
78	Kadın Araştırmaları	1	1		Toplam	232	141
					İncelenen Kurumu Sayısı	**68**	**77**

Tablo 3. Türkiye'de Uzaktan Eğitim İle Verilen Tezsiz Yüksek Lisans Programları Ve 2015 İle 2018 Yıllarında Sayıları

Tablo 3 incelendiğinde 2015 yılında uzaktan eğitim merkezlerinde ve açık öğretim fakültelerinde 232 tezsiz yüksek lisans programı bulunmaktayken 2018 yılında bu sayı %39 oranında azalarak 141'ye düşmüştür. Tablo 3 program çeşitliliği açısından incelendiğinde 2018 yılında 133 farklı türde tezsiz yüksek lisans programı bulunmaktayken 69 tanesi tüm uzaktan eğitim merkezlerinde kapatılmış bu sayı 2018 yılında 86'ya düşmüştür.

Tezsiz yüksek lisans programlarının alanlara göre dağılımı ve 2015 ile 2018 yılları arasında ki değişimi şekil 4'de gösterilmiştir.



Şekil 4. 2015 İle 2018 Yıllarında Tezsiz Yüksek Lisans Programlarının Alanlara Göre Dağılımının

Lisans tamamlama programları hem uzaktan eğitim merkezleri hem de açık öğretim fakültelerinde bulunmaktadır. Uzaktan eğitim merkezlerinde bulunan lisans tamamlama programlarının dağılımı, her programın kaç uzaktan eğitim merkezinde bulunduğu ve 2015 yılı ile 2018 yılı arasında nasıl değişim gösterdiği Tablo 4'de gösterilmiştir.

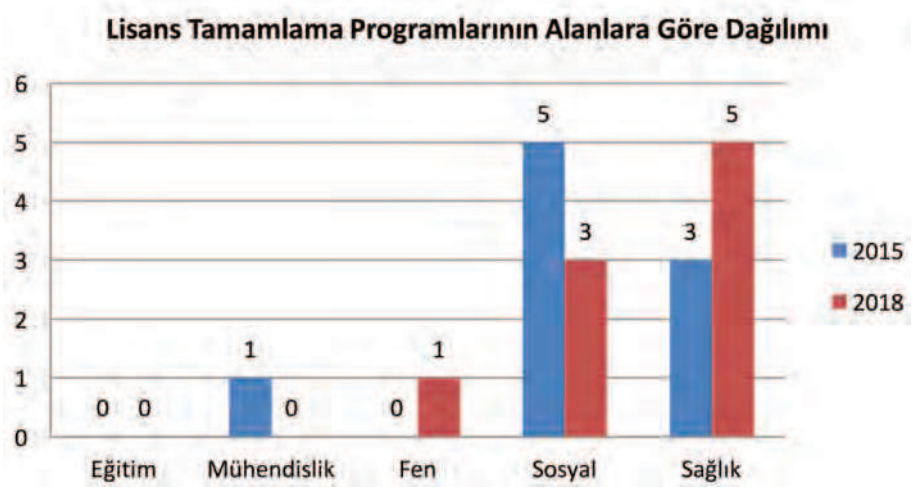
Sıra	Lisans Tamamlama Program Adı	2015	2018
1	Ebelik	1	3
2	Endüstri Mühendisliği	1	
3	Fizyoterapi ve Rehabilitasyon		1
4	Halkla İlişkiler ve Tanıtım	1	
5	Hemşirelik	1	5
6	İlahiyat	8	8
7	İşletme	1	1
8	Kamu Yönetimi		1
9	Konaklama İşletmeciliği	1	
10	Perfüzyon		1
11	Sağlık	1	
12	Sağlık Yönetimi		1
13	Uluslararası Ticaret	1	
14	Zoolitam		1
	Toplam	16	22

Tablo 4. Türkiye'de Uzaktan Eğitim İle Verilen Lisans Tamamlama Programları Ve 2015 İle 2018 Yıllarında Sayıları

Tablo 4 incelendiğinde 2015 yılında uzaktan eğitim merkezlerinde 16 lisans tamamlama programı bulunmaktayken 2018 yılında bu sayı %37 oranında artarak 22'ye yük-

selmiştir. Tablo 4 program çeşitliliği açısından incelendiğinde 2015 yılında 9 farklı türde lisans tamamlama programı bulunmaktayken 2018 yılında da bu sayı farklı türlerdeki 5 programın kapanıp 5 programın açılması ile aynı kalmıştır.

Lisans tamamlama programlarının alanlara göre dağılımı ve 2015 ile 2018 yılları arasında ki değişimi şekil 5'de gösterilmiştir.



Şekil 5. 2015 ile 2018 yıllarında lisans tamamlama programlarının alanlara göre dağılımının

Türkiye'deki Açık Öğretim Fakültelerinde Programların Dağılımı

Türkiye'deki açık öğretim fakültelerinde ön lisans, lisans, lisans tamamlama ve tezsiz yüksek lisans düzeylerinde programlar mevcuttur. 2018 yılında açık öğretim fakültelerindeki programların eğitim düzeylerine göre genel dağılımları Tablo 5'de gösterilmiştir.

Sıra	Üniversite Adı	Ön Lisans	Lisans Tamamlama	Lisans	Tezsiz YL
1	Atatürk Üniversitesi	x	x	x	
2	Anadolu Üniversitesi	x	x	x	x
3	İstanbul Üniversitesi	x	x	x	

Tablo 5. Eğitim Düzeyine Göre Türkiye'de Açık Öğretim Fakülteleri

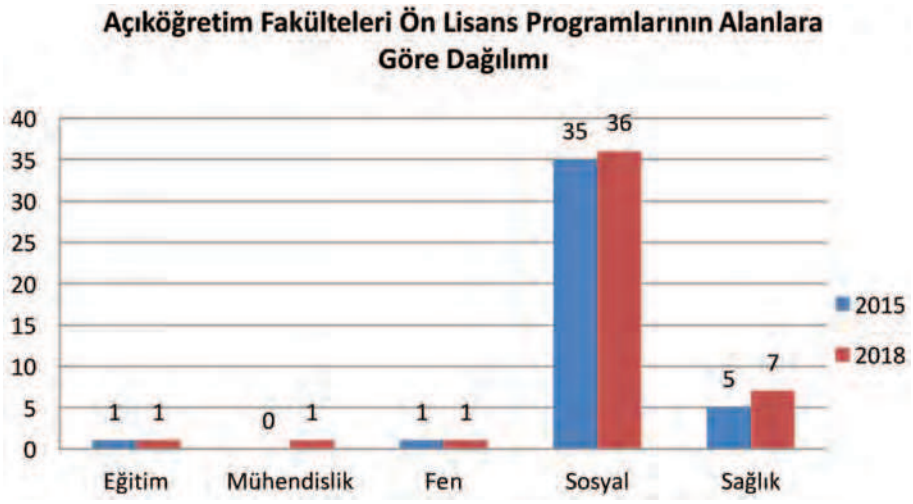
Açık öğretim fakültelerindeki ön lisans programlarının sayısı 2015 yılında 66 iken 2018 yılında bu sayı 82'ye çıkmıştır. Açık öğretim fakültelerindeki ön lisans programlarının dağılımı, her programın kaç açık öğretim fakültesinde bulunduğu ve 2015 yılı ile 2018 yılı arasında nasıl değişim gösterdiği Tablo 6'de gösterilmiştir.

Sıra	Ön Lisans Prog. Adı	2015	2018	Sıra	Ön Lisans Prog. Adı	2015	2018
1	Acil Durum ve Afet Yönetimi	2	3	**25**	Kültürel Miras ve Turizm	2	2
2	Adalet	2	3	**26**	Laborant ve Vet Sağlık	1	2
3	Aşçılık	1	1	**27**	Lojistik	2	2
4	Bankacılık ve Sigortacılık	2	3	**28**	Marka İletişimi	1	1
5	Bilgi Yönetimi	1	1	**29**	Medya ve İletişim	2	2
6	Bilgisayar Programcılığı		1	**30**	Menkul Kıymetler ve Sermaye Piyasası	1	1
7	Büro Yön. ve Yönetici Ast.	2	2	**31**	Muhasebe ve Vergi Uygulamaları	1	1
8	Coğrafi Bilgi Sistemleri	1	2	**32**	Özel Güvenlik ve Koruma	2	2
9	Çağrı Merkezi Hizmetleri	2	2	**33**	Perakende Satış ve Mağaza Yönetimi	1	2
10	Çocuk Gelişimi	3	3	**34**	Radyo ve TV Programcılığı	1	2
11	Dış Ticaret	2	2	**35**	Reklamcılık	1	1
12	Elektrik Enerjisi Üretim, İletim ve Dağıtımı	1	1	**36**	Sağlık Kurumları İşletmeciliği	3	3
13	Emlak ve Emlak Yönetimi	2	2	**37**	Sivil Hava Ulaştırma İşletmeciliği	1	2
14	Engelli Bakımı ve Rehabilitasyon		1	**38**	Sosyal Hizmetler	3	3
15	Ev İdaresi	1	1	**39**	Spor Yönetimi	1	1
16	Fotoğrafçılık ve Kameramanlık	1	2	**40**	Tarım	1	1
17	Halkla İlişkiler ve Tanıtım	2	2	**41**	Tıbbi Dokümantasyon ve Sekreterlik	3	3
18	Havacılıkta Yer Hizmetleri Yönetimi	1		**42**	Turizm ve Otel İşletmeciliği	2	2
19	Hukuk büro yönetimi ve sekreterliği	1	1	**43**	Turizm ve Seyahat Hizmetleri	1	2
20	İlahiyat (Arapça)		1	**44**	Yaşlı Bakımı	1	2
21	İlahiyat	2	2	**45**	Yeni Medya ve Gazetecilik		1
22	İnsan Kaynakları Yönetimi	1	1	**46**	Yerel Yönetimler	1	2
23	İş Sağlığı ve Güvenliği	2	2	**47**	Web Tasarımı ve Kodlama		1
24	İşletme Yönetimi	2	2		**Toplam**	66	82

Tablo 6. Türkiye'de Açık Öğretim Fakültelerinde Ön Lisans Programları Ve 2015 İle 2018 Yıllarında Sayıları

Tablo 6. incelendiğinde 2015 yılında açık öğretim fakültelerinde 66 ön lisans programı bulunmaktayken 2018 yılında bu sayı %24 oranında artarak 82'ye yükselmiştir. Tablo 5 program çeşitliliği açısından incelendiğinde 2015 yılında 42 farklı türde ön lisans programı bulunmaktayken 1 program türü kapatılmış ve 5 yeni program açılarak bu sayı 2018 yılında 46'ya yükselmiştir.

Açık öğretim fakültelerindeki ön lisans programlarının alanlarına göre dağılımı da şekil 6'da gösterilmiştir.



Şekil 6. 2015 İle 2018 Yıllarında Ön Lisans Programlarının Alanlara Göre Dağılımının

Açık öğretim fakültelerindeki lisans programları da ön lisans programları gibi artış göstermiş ve 2015 yılında 28 olan program sayısı 2018 yılında 43'e yükselmiştir. Açık öğretim fakültelerindeki lisans programlarının dağılımı, her programın kaç açık öğretim fakültesinde bulunduğu ve 2015 yılı ile 2018 yılı arasında nasıl değişim gösterdiği Tablo 7'de gösterilmiştir.

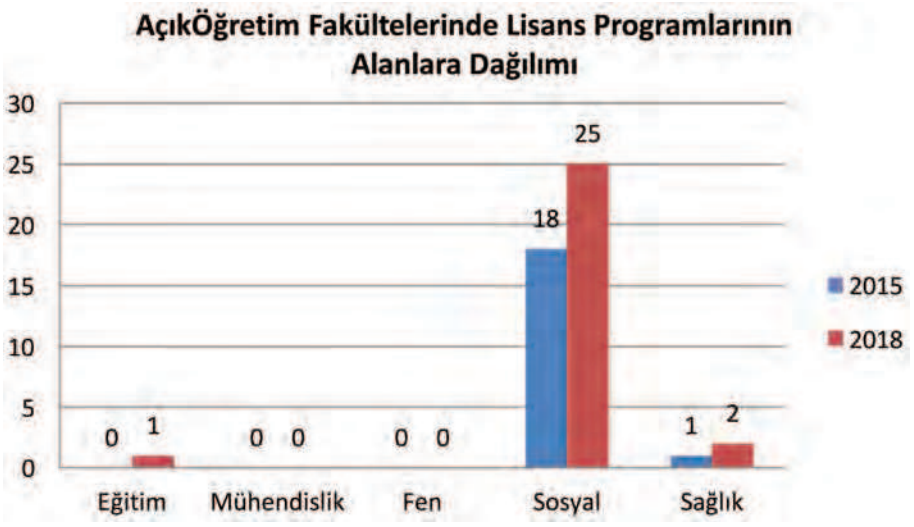
Sıra	Lisans Program Adı	2015	2018	Sıra	Lisans Program Adı	2015	2018
1	Çalışma ekonomisi ve endüstri ilişkileri	1	2	**16**	Kamu Yönetimi	2	3
2	Çocuk gelişimi		1	**17**	Konaklama İşletmeciliği	1	1
3	Coğrafya	1	1	**18**	Maliye	1	2
4	Ekonometri		1	**19**	Radyo televizyon ve sinema		1
5	Felsefe	2	2	**20**	Reklamcılık		1
6	Gazetecilik		1	**21**	Sağlık Yönetimi	1	2
7	Halkla İlişkiler ve Reklamcılık	1	1	**22**	Sosyal Hizmet	2	2
8	Halkla ilişkiler ve tanıtım	1	2	**23**	Sosyoloji	3	3
9	Havacılık İşletmeciliği	1		**24**	Tarih	2	2
10	Havacılık Yönetimi		1	**25**	Türk Dili ve Edebiyatı	1	1
11	İktisat	2	2	**26**	Uluslararası İlişkiler	1	1

12	İnsan kaynakları yönetimi		1	**27**	Uluslararası İlişkiler (İngilizce)		1
13	İş sağlığı ve güvenliği		1	**28**	Uluslararası Ticaret ve Lojistik Yönetim	1	2
14	İşletme	3	3	**29**	Yönetim Bilişim Sistemleri	1	1
15	İşletme (İngilizce)		1		**Toplam**	28	43

Tablo 7. Türkiye'de Açık Öğretim Fakültelerinde Lisans Programları Ve 2015 İle 2018 Yıllarında Sayıları

Tablo 7 incelendiğinde 2015 yılında açık öğretim fakültelerinde lisans programı bulunmaktayken 2018 yılında bu sayı %54 oranında artarak 43'e yükselmiştir. Tablo 6 program çeşitliliği açısından incelendiğinde 2015 yılında 19 farklı türde lisans programı bulunmaktayken 1 program türü kapatılmış ve 10 yeni program açılarak bu sayı 2018 yılında 28'e yükselmiştir.

Açık öğretim fakültelerindeki lisans programlarının alanlarına göre dağılımları şekil 7'de gösterilmiştir.



Şekil 7. 2015 İle 2018 Yıllarında Lisans Programlarının Alanlara Göre Dağılımının

Lisans tamamlama programları ve kontenjanları yükseköğretim kurumu tarafından belirlenmektedir. Programların yürütülmesi de işbirliği yapılan yükseköğretim kurumları tarafından yapılmaktadır. 2015 yılında bu işbirlikleri çerçevesinde açık öğretim fakültelerinde yalnızca ilahiyat programı bulunmaktayken 2018 yılında bu programların sayısı artmıştır. Bu programların dağılımı Tablo 8'de gösterilmiştir.

Sayı	Lisans Tamamlama Program Adı	2018
1	Acil yardım ve afet yönetimi	2
2	Endüstri mühendisliği	1
3	Halkla ilişkiler	1
4	Hemşirelik	1
5	İlahiyat	1
6	İş Sağlığı ve Güvenliği	1
7	Sağlık yönetimi	2
8	Sosyal hizmet	2
	Toplam	**11**

Tablo 8. Türkiye'de Açık Öğretim Fakültelerinde Lisans Tamamlama Programları ve 2015 İle 2018 Yıllarında Sayıları

Açık öğretim fakültelerindeki lisans tamamlama programlarının 4'ü sağlık, 3'ü sosyal ve 1'i de mühendislik alanındadır. 2015 yılında açık öğretim fakültelerindeki lisans tamamlama programları ile ilgili bilgiye ulaşılamamıştır.

Yükseköğretim kurumlarında ortak zorunlu derslerin uzaktan eğitimle yürütülmesi

Yükseköğretim kurulunun 1991 yılında aldığı bir karar ile bu tarihten itibaren Atatürk İlkeleri ve İnkılâp Tarihi, Türk Dili, Yabancı Dil ve Temel Bilgi Teknolojileri dersleri tüm yükseköğretim programlarında ortak zorunlu dersler olarak belirlenmiştir(Yükseköğretim Kurumlarında Uzaktan Öğretime İlişkin Usul Ve Esaslar, 2014). 2014 yılında değiştirilen usul ve esaslar ile bu derslerin uzaktan eğitim ile verilebilmesinin önü açılmış ve 2018 yılı itibariyle 67 yükseköğretim kurum tarafından bu dersler uzaktan eğitim ile verilmektedir. Ortak dersleri uzaktan eğitim ile veren üniversiteler ve ortak zorunlu derslerin hangilerini uzaktan eğitim ile verdikleri tablo 9'de gösterilmiştir.

Sıra	Üniversite Adı	A.İ.İ.T.(68)	Yabancı Dil(50)	Türk Dili(67)	Bilgisayar(14)	Diğer(11)
1	Acıbadem Mehmet Ali Aydınlar Üniversitesi	x	x	x		x
2	Adnan Menderes Üniversitesi	x	x	x		
3	Adıyaman Üniversitesi	x		x	x	
4	Ağrı İbrahim Çeçen Üniversitesi	x	x	x		
5	Aksaray Üniversitesi	x	x	x		
6	Amasya Üniversitesi	x	x	x		
7	Anadolu Üniversitesi	x	x	x		x

8	Ankara Üniversitesi	x		x		
9	Artvin Çoruh Üniversitesi	x		x		
10	Atatürk Üniversitesi	x	x	x		x
11	Aydın Adnan Menderes Üniversitesi	x	x	x		
12	Balıkesir Üniversitesi	x	x	x		
13	Bandırma On Yedi Eylül Üniversitesi	x	x	x		
14	Bartın Üniversitesi	x	x	x		
15	Başkent Üniversitesi				x	
16	Bayburt Üniversitesi	x	x	x		
17	Bilecik Şeyh Edebali Üniversitesi	x	x	x	x	
18	Bingöl Üniversitesi	x	x	x		
19	Bitlis Eren Üniversitesi	x		x		
20	Bolu Abant İzzet Baysal Üniversitesi	x	x	x		
21	Bursa Uludağ Üniversitesi	x		x		
22	Çanakkale On Sekiz Mart Üniversitesi	x	x	x	x	
23	Düzce Üniversitesi	x		x	x	
24	Ege Üniversitesi		x			
25	Erciyes Üniversitesi	x	x	x		
26	Erzincan Binali Yıldırım Üniversitesi	x	x	x		

27	Fatih Sultan Mehmet Vakıf Üniversitesi	x	x	x		
28	Fırat Üniversitesi	x	x	x		
29	Giresun Üniversitesi	x	x	x		
30	Hacettepe Üniversitesi	x		x		
31	Harran Üniversitesi	x	x	x		
32	Hitit Üniversitesi	x		x		x
33	Iğdır Üniversitesi	x	x	x		
34	İnönü Üniversitesi	x	x	x		
35	İstanbul Arel Üniversitesi	x	x	x	x	
36	İstanbul Kültür Üniversitesi	x		x	x	
37	İstanbul Medipol Üniversitesi	x	x	x		
38	İstanbul Okan Üniversitesi	x				
39	İstanbul Yeni Yüzyıl Üniversitesi	x		x		
40	İzmir Katip Çelebi Üniversitesi	x		x		
41	Kahraman Maraş Sütçü İmam Üniversitesi					x
42	Karabük Üniversitesi	x	x	x		
43	Karadeniz Teknik Üniversitesi	x	x	x		
44	Kastamonu Üniversitesi	x	x	x		
45	Kırıkkale Üniversitesi	x		x	x	
46	Kırklareli Üniversitesi	x		x	x	
47	Kocaeli Üniversitesi	x	x	x	x	

48	Kto Karatay Üniversitesi	x		x		x
49	Kütahya Dumlupınar Üniversitesi	x	x	x		x
50	Maltepe Üniversitesi	x		x		
51	Manisa Celâl Bayar Üniversitesi	x	x	x		
52	Mardin Artuklu Üniversitesi	x	x	x		
53	Marmara Üniversitesi	x	x	x		
54	Muğla Sıtkı Koçman Üniversitesi	x	x	x		
55	Nevşehir Hacı Bektaş Veli Üniversitesi	x	x	x	x	
56	Nişantaşı Üniversitesi	x		x		
57	On Dokuz Mayıs Üniversitesi	x	x	x		x
58	Ordu Üniversitesi	x	x	x		
59	Sağlık Bilimleri Üniversitesi	x	x	x		
60	Sakarya Üniversitesi	x	x	x	x	x
61	Selçuk Üniversitesi	x	x	x		
62	Sinop Üniversitesi	x		x		
63	Sivas Cumhuriyet Üniversitesi	x	x	x	x	
64	Tekirdağ Namık Kemal Üniversitesi	x	x	x		
65	Trakya Üniversitesi*	x	x	x		x
66	Üsküdar Üniversitesi	x	x	x		
67	Van Yüzüncü Yıl Üniversitesi	x	x	x		

68	Yalova Üniversitesi	x	x	x	x	
69	Yaşar Üniversitesi	x		x		x
70	Yıldız Teknik Üniversitesi	x	x	x		
71	Zonguldak Bülent Ecevit Üniversitesi	x	x	x		

Tablo 9. Türkiye'de ortak zorunlu dersleri uzaktan eğitimle veren üniversiteler ve derslerin dağılımı

Tablo 9 incelendiğinde ortak zorunlu derslerden Atatürk ilkeleri ve inkılap tarihi dersi 68 üniversitede, Türk Dil dersi 67 Üniversitede ve Yabancı Dil dersi 50 üniversitede uzaktan eğitim ile verilmektedir. Bunlara ek olarak Temel Bilgi Teknolojileri, iş sağlığı ve güvenliği, Hukukun Temel Kavramları, Girişimcilik ve İletişim Teknikleri dersleri de bazı üniversitelerde uzaktan eğitim ile verilmektedir. Bu derslerden temel bilgi teknolojileri dersi 14 üniversitede uzaktan verilmekte ve ortak derslerden sonra en çok üniversitede uzaktan eğitimle verilen derstir.

SONUÇLAR, TARTIŞMA VE ÖNERİLER

Bu çalışma Koçdar tarafından 2015 yılında yapılan "Türkiye'deki açık ve uzaktan öğrenme programlarının bir analizi: eğilimler ve öneriler." çalışmasının devamı niteliğinde olup; bu çalışmada güncel bilgiler ışığında bir durum değerlendirmesi yaparak uzaktan eğitimin geleceği ile ilgili öngörülebilir durumlar araştırılmıştır.

Yükseköğretim Bilgi Yönetim Sisteminde paylaşılan istatistik verilerine göre Türkiye'de 2018 yılında bulunan 209 üniversiteden 108 üniversite açık öğretim ve uzaktan eğitim faaliyetleri yürütmektedir. Türkiye'deki uzaktan eğitim merkezlerinde ön lisans, lisans tamamlama, tezsiz yüksek lisans ve ortak derslerin eğitimi verilmektedir. 2018 yılı itibarıyla uzaktan eğitim merkezlerinin tüm eğitim düzeylerinde toplam 231 aktif program bulunmaktadır. Bu programların çoğu tezsiz yüksek lisans (%61) düzeyinde olmuştur. Bu sıralamayı ön lisans (%29) ve lisans tamamlama (%10) programları takip etmiştir. Uzaktan Eğitim merkezlerinin Lisans düzeyinde bir etkinliği olmadığı görülmüştür. Bunun nedeni, 2016 yılında YÖK tarafından yapılan bir değişiklik ile uzaktan eğitim lisans programları kaldırıldığından 2018 yılında aktif olup öğrenci alan herhangi bir uzaktan eğitim lisans programı bulunmamasıdır. 2015 ile 2018 yıllarında uzaktan eğitim programlarının eğitim düzeyine göre dağılımları karşılaştırıldığında; tezsiz yüksek lisans ve ön lisans programlarının sayısında ciddi bir düşüş olduğu buna karşılık lisans tamamlama düzeyindeki programların sayısında kısmi bir artış görülmüştür. Uzaktan Eğitim Merkezleri, teknoloji ile eğitimi bir araya getirmektedir. Program sayılarındaki azalma Uzaktan Eğitim Merkezlerinin konumunun önemini

olumsuz etkileyebileceği için bu azalmanın neden kaynaklandığının araştırılması ve probleme çözüm önerilerinin getirilmesi gerekmektedir. Lisans düzeyinde uzaktan eğitim merkezlerinin yeniden faaliyete geçmesi için gerekli adımların atılması Uzaktan Eğitim merkezlerinin varlığını güçlendirecektir.

Türkiye'deki uzaktan eğitim programları alan bazlı incelendiğinde, programların sosyal bilimler alanında yoğunlaştığı görülmüştür. Bu sıralamayı sırasıyla sağlık bilimleri, fen bilimleri ve eğitim bilimleri takip etmiştir. 2015 ve 2018 yılları arasındaki değişim incelendiğinde alan bazlı olarak da bir düşüşün olduğu ortaya çıkmıştır. Uzaktan eğitim programlarının daha çok teorik alanlara yöneldiği ve uygulama alanındaki program sayısının az olduğu görülmüştür. Mevcut teknolojiler uygun bir öğretim tasarımı ile birleştirildiğinde uzaktan eğitim uygulamaya yönelik alanlara da uygun olacağı düşünülmektedir. Bu nedenle sadece teorik alanlarda değil uygulama alanlarında da uzaktan eğitim çalışmaları artırılması önerilebilir.

Türkiye'deki açık öğretim fakültelerinin faaliyet alanı incelendiğinde uzaktan eğitimden farklı olarak lisans düzeyinde de programların olduğu görülmektedir. Uzaktan eğitim programlarına benzer olarak, açık öğretim fakültelerinin de sosyal bilimler alanında faaliyet gösterdiği görülmüştür. Fen ve mühendislik alanlarında da açık öğretim fakültesi bünyesinde lisans programlarının açılması konusunda çalışmalar yapılabilir.

Yükseköğretim kurulunun 1991 yılında aldığı bir karar ile bu tarihten itibaren Atatürk İlkeleri ve İnkılâp Tarihi, Türk Dili, Yabancı Dil ve Temel Bilgi Teknolojileri dersleri tüm yükseköğretim programlarında ortak zorunlu dersler olarak belirlenmiştir (Yükseköğretim Kanunu,1981). 2014 yılında değiştirilen usul ve esaslar ile bu derslerin uzaktan eğitim ile verilebilmesinin önü açılmış ve 2018 yılı itibariyle 67 yükseköğretim kurum tarafından bu derslerin uzaktan eğitim ile verildiği tespit edilmiştir (Yükseköğretim Kurumlarında Uzaktan Öğretime İlişkin Usul Ve Esaslar, 2014). Öğretim elemanı ve yer sıkıntısı yaşanan kalabalık dersler için benzer modeller geliştirilerek bu tarz derslerin de uzaktan eğitimle verilmesi bir çözüm olarak düşünülebilir.

Tablo 2 incelendiğinde 2015 yılında uzaktan eğitim merkezlerinde 187 ön lisans programı bulunmaktayken 2018 yılında bu sayı %64 azalarak 67'ye düşmüştür. Tablo 2 program çeşitliliği açısından incelendiğinde 2018 yılında 72 farklı türde ön lisans programı bulunmaktayken 48 tanesi tüm uzaktan eğitim merkezlerinde kapatılmış bu sayı 2018 yılında 38'e düşmüştür.

Çalışma sürecinde elde edilen verilerin merkezi bir sistemle yayınlaması uygulayıcı ve araştırmacıların gelecekteki çalışmalarına önemli katkıları olacağını düşünülmektedir.

Bu çalışmada elde edilen verilerin değerlendirilmesi sonucunda uygulayıcılara şu önerilerde bulunulabilir:

Lisans düzeyinde Uzaktan Eğitim merkezlerinin yeniden faaliyete geçmesi için gerekli adımların atılması Uzaktan Eğitim merkezlerinin varlığını güçlendirecektir.

Uygulama alanlarında da açık öğretim ve uzaktan eğitim çalışmaları arttırılabilir.

Öğrenci program eğilimleri doğrultusunda sertifika programları artırılabilir.

Bu çalışmada elde edilen verilerin değerlendirilmesi sonucunda araştırmacılara şu önerilerde bulunulabilir:

Program sayılarındaki azalma Uzaktan Eğitim Merkezlerinin konumunun önemini olumsuz etkileyebileceği için bu azalmanın neden kaynaklandığının araştırılması ve probleme çözüm önerilerinin getirilmesi gerekmektedir.

Öğrenci sayılarının program bazında dağılımları incelenip öğrencilerin program tercihlerinin araştırılabilir ve tercih edilmeyen bölümler revize edilebilir.

Ülkemizde uzaktan eğitimde yaşanan problemlere benzer durumlar dünyadaki diğer örneklerinde yaşanmış mıdır? Yaşanmışsa geliştirilen çözümler ülkemize de uyarlanabilir.

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Sami ACAR[1], Nimet Özgül ÜNSAL KÖSE[2]

Özet

Teknolojinin gelişimi, bilgisayarların hayatımıza girmesi ve internetin günlük yaşamımızda her an yer alması sonucunda eğitim ve eğitim ortamlarında büyük değişiklikler meydan gelmiştir. Kişisel bilgisayarların yaygınlaşması ile bilgiyi ekranlarda görmek ne kadar ilginçti. Günümüzde ise sıradanlaşan bu durum yerini mobil teknolojilerle bilgiye hareket halinde ulaşmamızı sağlayacak kadar değişmiştir. Bilginin edinimindeki bu değişimle birlikte öğrenme-öğretme eylemi de geleneksel eğitim yapısının dışına çıkmıştır. Dolayısıyla, farklı öğrenme platformlarının ortaya çıkmıştır. Yüz yüze eğitimin yerini uzaktan eğitime bırakmaya başladığı son zamanlarda dünya çapında en ilgi çeken eğitim platformu ise Kitlesel Açık Çevirimiçi Ders Platformları (KAÇD)'dır. Bu yeni platform kendi özelliklerine uygun öğretim yaklaşımının ortaya çıkmasına sebep olmuştur. Çalışmada, KAÇD'lar kapsamında ortaya konulan yaklaşımlar, derslerin tasarımı ve bu kapsamda araştırılması gereken yeni konular alan yazın taraması ile sunularak öneriler verilmiştir.

Anahtar Kelimeler: *Kitlesel Açık Çevirimiçi Ders Platformları, öğretim yaklaşımı, ders tasarımı.*

KAÇD'LARDA ÖĞRENME YAKLAŞIMLARI

Yaklaşımlar diğer alanlarda olduğu gibi eğitim alanında da daha iyi anlama ve açıklamanın doğru ve derinlemesine öğrenme ve öğretme sağlanabilmesi için sistematik bir yapı sunarlar (Sackney & Mergel, 2007). KAÇD'larla birlikte temel iki çeşit ders türü ortaya çıkmıştır. Birincisi c- Kitlesel Açık Çevrimiçi Derslerdir (cMOOCs), ikincisi ise x-Kitlesel Açık Çevrimiçi Derslerdir (xMOOCs). c-MOOCs ders türü bağlantılı yaklaşımını, xMOOCs ders türü ise Davranışçılık ve Bilişsel ve Yapılandırmacı yaklaşımların üzerine yapılandırılmıştır.

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GELENEKSEL YAKLAŞIMLAR (X-KİTLESEL AÇIK ÇEVRİMİÇİ DERSLER)

xMOOCs uygulamaları davranışçılık, bilişselcilik ve sosyal yapılandırmacılık yaklaşımlarını temel almaktadır. Tecrübeler, proje tabanlı ve görev tabanlı öğrenme uygulamaları yer almaktadır. Genel yaklaşımlar kapsamında, belirli bir konuda hazırlanan ders içerisinde önceden belirlenen hedefleri kazanmaları amaçlanmaktadır (Yousef, Chatti, Schroeder, Wosnitza, & Jakobs, 2014). Dersin yapılandırılmıştır. xMOOCs ders türünde genel yaklaşımlar en çok tercih edilen yapılardır. Eğitimcilerin daha aktif rol alarak ders içeriklerini kendileri sunarlar. Bu içerikler; yazılı dokümanlar, sunular ve videolardır. Etkileşim ise; eğitmen-katılımcı, katılımcı-katılımcı, katılımcı-içerik arasında gerçekleşmektedir. Bu iletişim platform aracılığıyla sağlanır. Katılımcıdan sunulan hedeflerin kazanılması beklenir. Değerlendirme ise quiz, akran değrlendirme ve e-tesler ile yapılır (Hollands & Tirthali, 2014).

BAĞLANTICILIK (CONNECTİVİSM) YAKLAŞIMI (C-KİTLESEL AÇIK ÇEVRİMİÇİ DERSLERİN)

Bağlantıcılık yaklaşımını 2008 yılında KAÇD fikrini ortaya çıkaran Siemens ve Downes adlı kişilerdir. Bu yaklaşıma göre; bilgi ağlar üzerinde dağıtık bir şekilde yer almaktadır. Öğrenme, ağları oluşturabilmek ve ağlar arasında gezinebilme yetisiyle bağlantılıdır (Downes, 2012). Bağlantılık yaklaşımına göre; bir araya getirmek (okumak, izlemek veya dinlemek istenilen içeriğin kaynağına ulaşmak ve derlemek), ilişkilendirmek (ulaşılan içerikle eski bilinenlerle ilişkilendirmek), oluşturmak (anlamlandırma ve yansıtma sürecinin devamında yaratma kısmı ile Web araçlarıyla kişiye ait ürün oluşturmak), paylaşmak (oluşturulan ürünlerin ağ üzerinden diğer kişiler ile paylaşılmasıdır) etkinlikleri ile öğrenme arttırılmaktadır (Kop, 2011). Öğrenme ve bilgi çeşitliliği, insan dışı gerçekleşmesi, öğrenmenin devamlılığını için bağların devamı, kavramlar arasındaki bağları görülmesi, güncel bilgi ve öğrenilecek bilgiye karar verilmesi bağlantıcılığın temel ilkelerindendir (Siemens, 2004).

Nitekim KAÇD'lar tam olarak yapılandırılmamış bir derste rehber konumunda bir eğitmenle aktif rol alan katılımcıyla bilginin keşfedilerek yeni bir ürün oluşturulduğu platformlardır. Haftalık verilen görevler için destekleyici materyaller verilerek eğitim gerçekleştirilmektedir. Bu görevler yerine getirilirken iletişim ve işbirliği; tartışma forumları, e-postalar, bloglar ve sosyal medya ile gerçekleştirilmektedir. Değerlendirme ise akran değerlendirmesi ve özdeğerlendirme etkinlikleri ile yapılmaktadır (Yousef et al., 2014).

Aşağıda Tablo 3'te ise yaklaşımların özellikleri bir arada verilerek bir karşılaştırma ve genel tablonun görülmesi amaçlanmıştır.

	Davranışçı Yaklaşım	Bilişselci Yaklaşım	Yapılandırmacı Yaklaşım	Bağlantıcı Yaklaşım
Öğrenme	Kara kutu yaklaşımı, temel odak noktası gözlenebilen davranış değişikliğidir	Yapılandırılmış, işlemsel	Sosyal, anlam öğrenenler tarafından bireyselleştirilmiştir	Ağ içerisinde dağıtık, sosyal, teknoloji ile zenginleştirilmiş, örüntülerin farkına varma ve yorumlama
Öğrenmeyi etkileyen faktörler	Ödül,ceza,uyaran	Önceki deneyimler ve var olan şema	Bağlantıya geçme, katılım, sosyal ve kültürel yapı	Ağların çeşitliliği, bağların gücü, olayların bağlamı
Belleğin rolü	Bellek ödül ve cezanın daha çok etkili olduğu tekrarlanan deneyimlerin fiziksel bir uzantısıdır	Kodlama, depolama,geri çağırma	Önceki bilgi ile güncel bağlamı ilişkilendirme	Uyarlanabilir örüntüler, mevcut durumun temsil edilmesi, ağlarda var olma
Aktarım	Etki, tepki	Bilginin tekrarı	Sosyalleşme	Düğümlere bağlanmak ve ağı genişletmek
Öğrenmeyi en iyi açıklayan ifadeler	Görev-tabanlı öğrenme	Gerekçelendirme, açık-net amaçlar, problem çözme	Sosyal, belirsiz (iyi tanımlanmamış)	Karmaşık öğrenme, hızlı değişen öz, çabuk değişen bilgi kaynakları

Tablo 3 Yaklaşımların Karşılaştırılması (Siemens, 2009)

Tablo 3'de de görüldüğü üzere yaklaşımların belli özelliklere göre nitelikleri ifade edilmektedir. Geleneksel yaklaşım içerisinde davranışçı, bilişsel ve yapılandırmacı yaklaşımlar yer almaktadır. Bağlantıcılık yaklaşımı ağlar üzerinde öğrenmenin nasıl gerçekleştiğini açıklamaktadır. Verilecek eğitimin yapısına göre eğitmen burada yer alan özelliklerden yararlanabilmektedir

Kitlesel Açık Çevrimiçi Derslerin Tasarımında Önemli Noktalar

KAÇD'lar öğretim sistemlerinden farklıdır. Ders tasarımında öncelikli olarak yaşanan değişim belirlenerek devamında planlamanın yapılması gerekmektedir. Bu gerekçeler ışığında planlamadan önce KAÇD'ların yapısının nasıl olduğunun ve bu ortamlarda öğrenmenin ve iletişimin nasıl gerçekleştiğinin bilinmesi gerekmektedir. Öncelikli olarak KAÇD, çevrimiçi eğitim evriminde bir aşamadır ve içerik ağlara dağıtılmış durumdadır. Dağıtık şekildeki içerik düzenli bir şekilde katılımcıya sunulmadığı için katılımcının bu içeriğe ulaşması gerekmektedir. Dolayısıyla katılımcının rolü de geleneksel yapıdan farklılaşarak değişmiştir. İçeriğe kendi ulaşan katılımcın etkin katılımı sağlar. Dağıtık bilgiye ulaşmaya çalışan katılımcılar bağımsız oldukları için göz önünde bulunmamaktadırlar. KAÇD'larda katılımcıların ihtiyaçları doğrultusunda kendi hedefleri vardır. Programın çıktılarını, katılımcıların meydana getirdikleri ve

diğer katılımcılarla paylaştıkları ürünler oluşturmaktadır. Bu sayede katılımcılar diğer katılımcılarla ve ortaya çıkan diğer materyallerle etkileşim içine girerler. Ortaya çıkan ürünler sürecin sonunda meydan gelmektedir. Her bir katılımcının ürettiği ürün ile bilgi çoğalarak katılımcılara göre şekil değiştirebilir (Masters, 2011). Bu bilgiler doğrultusunda KAÇD'ların tasarımında dikkat edilmesi gereken noktalar ise;

Uzmanlığınız doğrultusunda gereksinim olan bir konu seçerek hedef kitle belirlenir. Eğitimler çevirimiçi uygulanır. Değişik ülkelerden farklı alanlardan kişiler ile irtibata geçilir. Katılımcılara içerik oluşturabilecekleri ortamlar geliştirilmesi için açık kaynaklar, çoklu ortam araçları, videolar, metinler ve benzetimler kullanılır.Forumlar, e-postalar, bloglar, sosyal medya gibi etkileşim ortamlarını belirlenir.Derslerin senkron olarak yapılması gerekir ve de asenkron olarak da izlenmesi sağlanmalıdır. Program tasarlayıcısı farklı ortamlarda varlığını göstermelidir. Katılımcılar desteklendirilerek içerik yaratmaları sağlanır. Verilen dersler duyurular yapılarak yaygınlaştırılır. Katılımcı dönütleriyle düzeltmeler yapılır. Derste on beş ve üzerinde katılımcı olması yapılması gerekenlerin gerçekleştirildiğinin bir göstergesidir (Siemens, 2012).

KAÇD'larda internet tabanlı platformlar ile sunulmaktadır. Bu platform ve araçlar; Öğrenme Yönetim Sistemleri, Sosyal Ağlar ve Çevirimiçi Gruplar, Mikro Günlük Sayfaları, Yer İşareti Araçları, Wiki'ler, Sanal Eşzamanlı Sınıflar, Çoklu ortam Sunum Araçları, Web Günlükleri (Bloglar, Forumlar, Bulut Bilişim Araçları, RSS Araçlarıdır.

Kitlesel Açık Çevrimiçi Ders Platformlarında Ölçme ve Değerlendirme

KAÇD^lare internet temelli olarak sınavlar yapılmaktadır. Bu sınavlar aşağıdaki gibi sınıflandırılmaktadır (Pundak, Sabag, Trotskovsky, & E-learning, 2014).

- Kapalı uçlu sorularla otomatik sınavlar: Çoktan seçmeli sınavlar, doğru/yanlış uygulamaları, boşluk doldurma ve matematiksel ifadeler vardır. Anında dönüt verilmektedir
- Artırılmış gerçeklik uygulamalı sınavlar: uzmanların katılımcıların ödevlerine vermiş oldukları geri bildirimlerin analizine dayanmaktadır. Bu programlar değerlendirme kriterlerini ve geri bildirimleri öğrenerek buna göre katılımcı cevaplarını değerlendirmeye çalışır (Hatiba, 2014). Fakat programların değerlendirmede iç mantık hataları nedeniyle geçerlik ve güvenirlikleri sorgulanmaktadır (Perrin, 2013).
- Akran değerlendirmesi: Açık uçlu sorular sorularak cevaplarının diğer katılımcılar olan akranları tarafından değerlendirilir. Akranlara eğitmen tarafından hazırlanmış bir rubrik verilerek eğitmen süreci yönetir (Meier, O'Toole Jr, & J, 2013). Katılımcı sürece aktif katılım sağlar. Bu durumun meydana getirdiği olumsuzluklar ise; değerlendirmelerin geçerlik ve güvenirlik durumları, yaratıcılık üzerine etkisi, katılımcı geri bildiriminin uzmana göre kalitesi, katılımcılar üzerinde mental baskı ve sorumluluk, kendini yetersiz hissetme ve görevden kaçmadır (Pundak et al., 2014). Couseria platformunda verilen sosyolojiye giriş dersinin final sınavında akran değerlendirmesi yapılarak (Lewin, 2012) ve beş farklı grup değerlendirmesinin puanları ile öğretilen materyaller arasında yüksek bir korelâsyon elde edilmiştir. Sluijsmans et al (2004)'e göre aynı dersi alan kişilerin akran değerlendirmesi yapan grupla yapmayan gruplar arasında başarı puanları arasında herhangi bir fark olmadığı görülmüştür (Sluijsmans et al, 2004). Blox-

ham ve West (2004)'in araştırmasında ise buna benzer bir sonuç elde ederken (Bloxham & West, 2004) birçok araştırmada ise akran değerlendirme şeklinin geleneksel değerlendirme şekillerine göre çok fazla avantaja sahip olduğu ifade edilmiştir (Topping, 1998) (Strijbos, Narciss, & Dünnebier, 2010).

KAÇD'larda ölçme ve değerlendirmeye yaklaşım bazında bakacak olursak, c-KAÇD'lar öğrenme odaklıdır ve öğrenenler kendi kendilerini veya akranlarının değerlendirmesi yapabilmektedirler. x-KAÇD'larda ise çoktan seçmeli test ve otomatik olarak değerlendirme ve akran değerlendirmesi şeklinde olabilmektedir. İçeriğin belirli oranda izlenmesi değerlendirme için ön koşul olabilmektedir. Çoktan seçmeli soruların olduğu testler otomatik olarak değerlendirilmekte, öğrenenler birden fazla bu değerlendirmelere katılabilmekte, ancak her tekrar sonrası ilgili testin başarı notunda eksiltmeye gidilmektedir. x-KAÇD platformlarında çoğunlukla ders içeriğinin takibi, çoktan seçmeli testler ve akran değerlendirmesinin farklı oranlarda genel değerlendirme notuna katkısı hesaplanarak farklı stratejilerle ölçme ve değerlendirme işlerinin etkililiğini artırmaya çalışmaktadır. Geçme notunu elde eden katılımcılar katılım belgesi almaya hak kazanmaktadırlar (Bozkurt, 2015).

Tamamlama olarak ifade edilen değerlendirmede katılımcılar kurs içeriğinde yer alan konu anlatımları, ödevler, tartışma formları, kısa sınavlar, videolar gibi etkinlikleri yerine getirmeleri olarak da ifade edilmektedir (Kizilcec, Piech, & Schneider, 2013). Değerlendirme başarılı ya da başarılı olmayanlar olarak iki kategoriye ayrılmaktadır. Başarılı olan katılımcılara A, B veya C dereceleri verilmektedir. Başarı ile tamamlamayanlara D veya F derecesi verilmektedir (Morris, Finnegan, & Wu, 2005). KAÇD'lar tamamlayan kişi sayısı oldukça düşük seviyede olduğu görülmektedir (Ergüney, 2015). Bu durumu sayısal olarak ifade edecek olursak %5'in biraz üzerinde diyebiliriz (Demirci, 2014). KAÇD platformları daha fazla kişinin katılımının sağlanması için katılım belgeleri vermenin yanı sıra dersi kredi yerine sayarak motivasyon sağlamaya çalışmaktadırlar. Teşvik edilme, materyal içeriğini anlama ve yardım alma kursu tamamlamalarına %90 etki etmektedir (Hew & Cheung, 2014).

SONUÇ VE ÖNERİLER

Buraya kadar KAÇD'larda benimsenen var olan ve yeni ortaya çıkan yaklaşımlardan, ders tasarımında dikkat edilecek hususlardan, ölçme değerlendirme yöntemlerinden bahsedilmiştir. KAÇD ile ilgili literatürde gelecekte okulların kapatılarak, okul ve üniversitelerin yerini alabileceği (Ferenstein, 2013) ve KAÇD'lara olan ilginin azalacağı yönünde birbirine ters ifadeler mevcuttur (Krause, 2013).

KAÇD'lar uzaktan eğitim alanı için yeni ve önemli bir platformdur. Avrupa Komisyonu verileri KAÇD'a olan ilginin dünya bazında artmakta olduğu yönündedir (OpenEducation, 2014). Bu gibi platformların yer aldığı uzaktan eğitim sistemlerinde gerek altyapı gerekse tasarım yönünden eksikliklerin giderilerek katılımcıların ihtiyaçları doğrultusunda kalıcı öğrenmenin sağlanacağı ortamlar haline getirilmelidir. Alan yazını incelediğimizde KAÇD'ların eğitim üzerine etkilerine ilişkin çok kısıtlı sayıda ve tasarım kaliteleriyle ilgili az sayıda sistematik analiz çalışması yer aldığı görülmektedir (Liyanagunawardena, Adams, & Williams, 2013). KAÇD'larda öğretimsel tasarımdan ziyade yüksek kalitede içerik sunmaya daha fazla önem verilmesinin bu platform için eğitim-öğretim faaliyetlerinde zayıflık olarak görülebileceği yönünde görüşler vardır (Daniel, 2012; Haggard, 2013).

Bir diğer hususta KAÇD'ların geçerli ve güvenilir ölçme ve değerlendirme yapısının bulunmayışı tartışılan bir başka konudur (Haggard, 2013). Açık uçlu sorulara verilen yanıtların değerlendirilmesinde gözlenen sorunlar ölçme değerlendirme konusuna dikkati çekmektedir.

2015 yılında Margaryan ve arkadaşları KAÇD'ların öğretimsel tasarım kalitelerini ortaya koymak için geliştirdikleri ölçek geliştirme çalışmasında KAÇD'ların öğretim tasarım ilkeleri bazında oldukça yetersiz oldukları ve bu noktada yapılan tasarım geliştirme çalışmalarının düşük düzeyde olduğu görülmektedir (Margaryan, Bianco, & Littlejohn, 2015). BÖTE alanı uzmanları olarak bu eksikliği giderecek tasarımlar yapılmalıdır. Bu eksikliklerin yanında örgütlenme yapısı ve ders materyallerinin sunumu bakımından üst düzeyde oldukları da görülmüştür.

Fakat pedagojik özelliklerinin de geliştirilmesi gerekmektedir (Agarwal, 2013). Kısa video anlatımları ile aktif öğrenmenin gerçekleşmesi, bireyin kendi hızında öğrenebilmesini, anında geri bildirimin sağlanmasını, benzetimler ve çevrimiçi laboratuvar eğitim deneyimlerinin tasarlanmış olmasını ve birebir öğrenmenin gerçekleşmesini sağlayarak bahsi geçen pedagojik özellikler geliştirilmesi önerilmektedir. Ders alan kişiler ile pedagojik ve androgojik çalışmalar için yeterli miktarda veriler elde edilerek kişilerin öğrenme stilleri belirlenerek daha iyi ders içeriklerinin hazırlanmasına katkıda bulunulmaktadır. KAÇD'lar ile ilgili 2008 yılından itibaren çalışmalar yapılmaya başlanmıştır. Bu anlamda alanda boşluklar bulunmaktadır. Bu boşlukların doldurulması için sosyal medya ortamının eğitim ve öğretimdeki rolü, pedagojik olarak bu derslerin etkililiği ve eğitim amaçlarına uygunluğu, öğrenenlerin motivasyonu ve derse katılımı, insan bilgisayar etkileşimi konularının çalışması gerektiği önerilmektedir (Hollands & Tirthali, 2014).

Bu durumun yanı sıra gelişmekte olan ülkelerdeki internet erişim oranın düşük olması da alanındaki faklı uzmanlık alanlarına hitap destek hizmetleri kapsamına girmektedir (Agarwal, 2013). Özellikle becerilerin geliştirmesine, bilginin yapılandırılmasına, derin öğrenmeye ve öğrenen desteğine daha fazla dikkat edilmesi gerekmektedir. Yapılan araştırmaların ise salt bilginin aktarımından ziyade beceri geliştirmeye yönelik öğretim tasarımlarına odaklanması gerekmektedir. Ivy League gibi büyük üniversitelerde KAÇD eğitimleri bilgisayar bilimcileri tarafından verilmektedir (Bates, 2014). Öğrenme süreçlerinin nasıl daha etkili hale getirilebileceği konusu BÖTE alanı uzmanlığına girmektedir. Bilgisayar bilimcileri ancak teknik konuda destek sağlayabilir.

<table>
<tr><td>Planlama</td><td colspan="4">- Konu ve katılımcılar
- Öğretim yapacak kimseler
- İçeriği belirlemek
- Etkileşim alanlarını belirlemek
- Etkileşimi belirlemek (eşzamanlı/eşzamansız)
- Kendi bulunurluğunuzu planlamak
- Öğrenen etkinlikleri
- Duyurmak ve yaygınlaştırmak
- Tekrarlamak ve geliştirmek
- Akreditasyon veya sertifikasyon</td></tr>
<tr><td>Türleri</td><td>c-Kitlesel Açık Çevrimiçi Dersler (bilginin üretimi ve arttırılması)</td><td colspan="2">x-Kitlesel Açık Çevrimiçi Dersler (bilginin tekrarı ve sunumu)</td><td>Melez Kitlesel Açık Çevrimiçi Dersler

(c ve x-Kitlesel Açık Çevrimiçi Derslerin karışımı)</td></tr>
<tr><td>Araçlar</td><td colspan="2">- Çevrimiçi gruplar
- Micro günlük sayfaları
- Yer işareti araçları
- İçeriği değiştirilebilen web araçları
- Bulut bilişim araçları
- RSS araçları
- Sanal eşzamanlı sınıflar</td><td colspan="2">- Sosyal ağlar
- Çoklu ortam sunum araçları
- Web günlükleri (Bloglar)
- Forumlar
- Farklı hizmetleri tek yerde toplayan Web sayfaları/ platformlar</td></tr>
<tr><td>Ölçme ve Değerlendirme</td><td colspan="4">- Katılımın değerlendirilmesi
- Çoktan seçmeli soruların otomatik değerlendirilmesi
- Akran değerlendirmesi</td></tr>
<tr><td rowspan="4">Destek Hizmetleri</td><td>Öncesinde</td><td colspan="3">Programın amacı, ön koşul yeterlilikler, katılımcıların beklentileri</td></tr>
<tr><td rowspan="2">Sırasında</td><td>Başlangıç aşaması</td><td colspan="2">Oryantasyon</td></tr>
<tr><td>Başlangıç sonrası</td><td colspan="2">E-danışmanlık, program sağlayıcılara erişim, dış kaynaklara erişim.</td></tr>
<tr><td>Sonrasında</td><td colspan="3">Kaynaklara erişim, akreditasyon ve sertifikasyon</td></tr>
</table>

Tablo 4 **Kitlesek Açık Çevirimiçi Ders Tasarım Adımları (Bozkurt, 2015)**

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Açık ve Uzaktan Öğrenmede Beşinci Nesil: Yapay Zeka

Lütfiye GÖÇMEZ[1], Muhammet Recep OKUR[2]

Özet

Yapay zeka teknolojilerinin günümüzde geldiği noktaya bakarak ve gelecekte yapabileceklerini de tahayyül edersek Edward Fredkin'in de vurguladığı gibi insanoğlunun tarihinde önemli bir dönüm noktası olduğu açıkça görünebilir. İnsanlık tarihini değiştirecek kadar önemli bir fenomenin açık ve uzaktan öğrenmede paradigma değişimine yol açması da muhtemel görünmektedir. Diğer bir ifadeyle, açık ve uzaktan öğrenme yapay zeka teknolojilerinin kullanılmasıyla birlikte yeni nesil bir öğrenmeye adım atmıştır. Bu çalışmada, alanyazın taraması yapılarak yapay zeka kavramı hakkında genel bir çerçeve çizilmiş, sonrasında yapay zeka teknolojilerinin açık ve uzaktan öğrenmedeki uygulama alanlarına örnekler verilerek, potansiyeli tartışılmıştır.

Anahtar Kelimeler: *Yapay zeka, açık ve uzaktan öğrenme, yükseköğretim*

GİRİŞ

Bugün yapay zeka teknolojileri araştırma laboratuvarlarının duvarlarını yıkarak bilim kurgu ürünü olmaktan çıkıp artık günlük yaşamımızın bir parçası olmaya başlamıştır. Dijital bankacılık, çeviri, yapay asistanlar, akıllı ev gereçleri, akıllı araçlar, insansız hava araçları vb. birçok yapay zeka teknolojisi artık günlük problemlerimizin kurtarıcısı konumundadır. Dolayısıyla günlük problemlerimize çözüm ortağı olacak kadar yaygınlaşan yapay zeka teknolojilerinin eğitimde de bir paradigma değişimine yol açması kaçınılmazdır. Nitekim, şimdiye kadar bilgi ve iletişim teknolojilerini öğrenme sürecine katarak açık, esnek ve çağdaş bir öğrenme ortamı sunmada öncü olmuş olan uzaktan eğitim kurumlarının da bu paradigma değişimine uyum sağlayarak yapay zeka teknolojilerini öğrenme sürecine dahil etmeleri elzem görülmektedir.

Yıllar boyu açık ve uzaktan öğrenme kurumları eğitim ve öğrenim fırsatlarına erişimi kolaylaştıracak olan yeni teknolojilerin öğrenme ortamlarında kullanımında öncüleri olmuşlardır. Tüm bu süreçte açık ve uzaktan öğrenme uygulamaları dört nesil boyunca farklı aşamalardan geçmiştir. Uzaktan öğrenmenin dört nesli ise şu şekildedir: ilki baskı teknolojisine dayalı *Yazışma Modelidir,* ikinci nesil baskı, ses ve video teknolojilerine dayalı *Multi-medya Modelidir;* üçüncüsü eşzamanlı öğrenmeye olanak sağlayan telekomünikasyon teknolojilerinin kullanıldığı *Tele-öğrenme Modelidir;* dördüncü nesil ise internet üzerinden çevrimiçi ders sunumunu temel alan *Esnek Öğrenme Modelidir.* Çoğu üniversite dördüncü nesil uzaktan eğitim girişimlerine henüz başlamışken, beşinci nesil uzaktan eğitim teknolojileri hızla ortaya çıkmaktadır. Bu yeni nesil uzaktan eğitim ise yapay zeka teknolojileriyle desteklenmiş *Akıllı Esnek Öğrenme Modelidir* (Taylor, 2001). Diğer bir ifadeyle, açık ve uzaktan öğrenme yapay zeka teknolojilerinin

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neden olduğu paradigma değişimini deneyimlemeye çoktan başlayarak, yeni bir uzaktan eğitim nesline giriş yapmıştır. Bu yeni nesil ise öğrenme ve öğretme sürecinin akıllı sistemlerce desteklendiği, beşinci nesil uzaktan eğitimdir.

Yöntem

Bu çalışmanın amacı alanyazında açık ve uzaktan öğrenme ve yapay zekayla ilgili bilimsel belgelerin incelenerek, yapay zeka hakkında genel bir kavram çerçevesi sunmak ve sonrasında yapay zeka teknolojilerinden açık ve uzaktan öğrenme kurumlarında ne şekilde faydalanılabileceğini tartışmaktır. Bu amaca uygun olarak araştırmada alanyazın tarama modeli benimsenmiştir. Alanyazın tarama çalışmalarında, var olan durum ile ilgili bilginin düzeyinin belirlenerek değerlendirmesi amaçlanır.

Yapay Zeka

MIT Bilgisayar Bilimleri laboratuvar yöneticilerinden Edward Fredkin BBC ile söyleşisinde "Tarihte üç büyük olay vardır: Bunlardan ilki, evrenin oluşumudur. İkincisi, yaşamın başlangıcıdır. Bu ikincisi ile aynı derecede önemli olan üçüncüsü ise, yapay zekanın ortaya çıkışıdır" diyerek insanoğlunun muhtemel geleceğini yapay zekanın inşa edeceğini vurgulamıştır. Yapay zeka teknolojilerinin günümüzde geldiği noktaya bakarak ve gelecekte yapabileceklerini de tahayyül edersek Edward Fredkin'in de vurguladığı gibi insanoğlunun tarihinde önemli bir dönüm noktası olduğu açıkça görünebilir. Peki nedir bu 'yapay zeka'? 20. yüzyılın ortalarında doğan ve geleceği şekillendireceği düşünülen ve de çağımızın en güncel bilim dallarından biri olan 'yapay zeka' ilk kez 1956 yılında John McCarthy tarafından Darthmouth Kolejinde düzenlenen bir konferansta dile getirilmiştir (Kayabaş, 2010). Yapay zeka kavramı farklı bakış açılarına sahip bilim insanları ve araştırmacılar tarafından farklı tanımlanmıştır. Genesereth ve Nilsson (1987) gibi araştırmacılar yapay zeka kavramını, doğadaki varlıkların akıllı davranışlarını yapay olarak üretmeyi hedefleyen bir çalışma olarak tanımlarken, Haugeland (1985) gibi araştırmacılar daha iddialı bir tanımlamayla yapay zekanın tam anlamıyla insan gibi düşünen bilgisayarlar ve makineler yaratma çabası olduğunu ifade etmiştir. Nabiyev (2005) ise yapay zekayı bir bilgisayarın yorumlama, öğrenme, problem çözme, anlama gibi insana ait karmaşık zihinsel süreçleri gerçekleştirebilme becerisi olarak tanımlamıştır. Özetle yapay zekadan kastedilen; "insan zekasının, sinir sistemi, gen yapısı gibi fizyolojik ve nörolojik yapısının ve doğal olayların modellenerek makinelere – bilgisayar ve yazılımlara – aktarılmasıdır " (Atalay ve Çelik, 2017).

ZAYIF YAPAY ZEKA (YZ) VE GÜÇLÜ YAPAY ZEKA (YZ)

Tanımlamalardan da görüleceği gibi yapay zeka kavramıyla ilgili farklı görüşler mevcuttur. Yapay zeka üzerine çalışan uzmanların araştırmaları incelediğinde ise Güçlü Yapay Zeka (YZ) ve Zayıf Yapay Zeka (YZ) olmak üzere iki farklı eğilimin varlığı göze çarpmaktadır.

Güçlü YZ görüşüne sahip uzmanlar makinelerin ve bilgisayarların yeterli işlem gücü ve zeka ile programlanması halinde insan gibi şuurlu olabileceklerini ileri sürerler. Güçlü YZ savunucularının başında Searle gelir. Searle'ye (1990) göre bilgisayarların da biyokimyevi bir donanıma sahip olması halinde ancak yapay zekanın insan zekasına yaklaşması mümkündür. Diğer bir ifadeyle, hiç çiçek koklamamış ve görmemiş olan bir yapay zekanın çiçeğin ne olduğunu tam anlamıyla kavraması mümkün değildir.

Güçlü YZ'nın tersine daha basit bir bakış açısı sunan zayıf YZ uzmanları bilgisayarların her ne kadar insan zekasını ve davranışlarını taklit ederek günümüzde karmaşık problemlere çözüm üretmede başarılı olsalar da asla insan yeterliliklerine ulaşamayacaklarını savunurlar. Zayıf YZ savunucuları bilgisayarların insanlardan kalıtsal olarak farklı oldukları ve onların doğuştan sahip olduğu duygu, sezgi, içgüdü ve sevgi gibi yeterliliklerden mahrum olduğunu dolayısıyla insan ile kıyaslanamayacağı görüşündedirler (Pirim, 2006; Kayabaş, 2010). Tüm bu uzman görüşlerinin yanı sıra mevcut yapay zeka teknolojilerine baktığımızda ise yapay zekanın henüz insan zekasına tam olarak yaklaşamadığını ama onu taklit ederek günlük birçok probleme – çeviri, asistanlık, analiz vb. – çözüm üretmede oldukça başarılı olduğunu söyleyebiliriz.

Yapay Zeka Teknikleri

Günlük hayatın farklı alanlarında ürünler vermesinin yanında, tahmin, sınıflandırma, kümeleme gibi amaçlar için de kullanılan yapay zeka teknolojileri, başta uzman sistemler olmak üzere, genetik algoritmalar, bulanık mantık, yapay sinir ağları, makine öğrenmesi gibi tekniklerin genel adıdır (Atalay ve Çelik, 2017). Kısaca bu yapay zeka teknolojilerinden bahsedecek olursak;

Uzman Sistemler: Uzman sistemler yapay zekadan farklı olarak çözümü bir uzmanın bilgi ve yeteneğini gerektiren problemleri uzman gibi çözebilen sistemlerdir. Problemi çözerken uzman sistemler, uzman kişilerin problem çözerken kullandığı bilgi ve mantıksal çıkarım mekanizmalarını taklit ederler. Örneğin bakteriyolojik ve menenjit hastalıklarının teşhisi için 1970'de Stanford Üniversitesi tarafından geliştirilen MYCIN il uzman sistemlerden olarak kabul edilmektedir (Pirim, 2006; Atalay ve Çelik, 2017).

Genetik Algoritmalar: Genetik algoritmadan bahsetmeden önce algoritmanın kısa bir tarifini verelim: bir problemi çözmek için tekrar edilen tarifler kümesine diğer bir deyişle prosedüre algoritma denir. Genetik algoritma ise en basit anlatımıyla, evrim teorisinin dayandığı doğal seçilim prensibi ile en iyi gene sahip bireylerin hayatta kalması ilkesini taklit ederek en iyi çözümün pek çok çözüm seçeneği içinden arama yapılarak belirlenmesi sürecidir (Pirim, 2006; Atalay ve Çelik, 2017).

Bulanık Mantık: Klasik mantıkta her şey ya doğrudur ya yanlıştır, ya karadır ya aktır ve iki değerle (0-1) ifade edilir. Hâlbuki çok değerli mantıkta doğruluk derecelendirilebilir. Fakat bu iki ya da daha fazla değer arasında kalan durum açıklığa kavuşturul-

malıdır. 1965 yılında Prof. Dr. Lotfi Asker Zadeh 'Fuzzy Sets' adlı yazısında bu duruma dikkat çekerek *bulanıklık (fuzziness)* kavramıyla yeni bir yönelim başlatmıştır. Bulanık mantık yaklaşımının yapay zeka tekniği olarak kullanılmasının gayesi ise insan gibi düşünebilen, karar verebilen ve seçim yapabilen sistemler geliştirebilmektir (Atalay ve Çelik, 2017).

Yapay Sinir Ağları: Yapay Sinir Ağları, insan beynindeki sinir hücrelerinden esinlenerek geliştirilen yapay sinir hücrelerinin değişik bağlantı geometrileri ile birbirlerine bağlanarak oluşan karmaşık sistemler olarak tanımlanmaktadır. Yapay sinir ağları, verilen girdilere karsı çıktılar üreten bir kara kutu gibi bilgi işler (Kohonen, 1988) Bu bilgiyi işleme süreci tıpkı insan beyninin bilgiyi işleme sürecine benzer.

Makine Öğrenmesi: Makine öğrenmesi, bir problemi o probleme ait veriye göre modelleyen bilgisayar algoritmalarının genel adıdır. Diğer bir ifadeyle, makine öğrenmesi insanlardaki geri beslemeli öğrenmenin yapısının bilgisayara tanışmış halidir. Makine öğrenmesi; Doğal Dil İşleme, Konuşma ve El Yazısı Tanıma, Nesne Tanıma, Bilgisayar Oyunları, Robot Hareketleri, Arama Motorları ve Tıbbi Teşhis gibi birçok alanda kullanılır (Uzun, 2007; Atalay ve Çelik, 2017).

Açık ve Uzaktan Öğrenme ve Yapay Zeka

Santos ve arkadaşlarının (2007) belirttiği gibi eğitimde kullanılan yapay zeka, bilgisayar zekası, bilgisayar destekli öğrenme ve diğer tüm bilgi ve iletişim teknolojileri (ICTs) eğitimde büyük bir paradigma değişimine yol açarak genellikten daha öğrenen merkezli, özele doğru bir eğitim anlayışını benimsenmesine olanak sağlamıştır. Açık ve uzaktan öğrenme ise geçmişte de olduğu gibi bilgi ve iletişim teknolojilerini öğrenme sürecinde etkili bir şekilde kullanarak eğitimdeki bu paradigma değişimini yakından takip etmektedir.

Bu bölümde, henüz emekleme aşamasında olmasına rağmen müthiş bir potansiyele sahip olan yapay zeka uygulamalarının açık ve uzaktan öğrenmede hangi problemlerin çözümünde kullanılabileceği uzaktan eğitimin farklı boyutları açısından incelenmiştir. Bunlar, eğitsel, yönetsel ve ölçme- değerlendirme boyutudur.

Eğitsel Boyut: Çok büyük sayılarda öğrenene hizmet vermekte olan uzaktan eğitim kurumlarının en önemli problemlerinden biri, her bir öğrenene birebir, kişiselleştirilmiş, uyarlanabilir, etkileşimli bir öğrenme deneyimi sunacak kadar çok sayıda çalışana ve olanaklara sahip olamaması ve bunun kuşkusuz maliyetli olmasıdır. İşte bu aşamada yapay zeka teknolojileri açık ve uzaktan öğrenme kurumlarının imdadına yetişerek öğrenenlere daha kişiselleştirilmiş, uyarlanabilir, etkileşimli bir öğrenme ortamı sunarak onlara daha 'insan gibi/ insanımsı' bir şekilde destek olabilecektir. Diğer bir deyişle öğrenenlerin açık ve uzaktan öğrenmeye dair beklentilerini *"tam zamanında, tam kararında, tam bana göre öğrenme deneyimi"* (just in time, just enough, just for me) ilkesine göre karşılayabilecektir. Yapay zekanın her bir öğrenenin kişisel farklılığına ve ihtiyacına göre bir öğrenme ortamı sunabilmesinde kilit rol şüphesiz büyük veri analizinde oldukça hızlı, güvenilir olması ve analiz sonuçlarını depolayabilir olmasıdır. Bu sayede yapay zeka teknolojileri öğrenenlerin öğrenme analitiklerini ve onların kişisel özelliklerini analiz ederek (Atalay ve Çelik, 2017), uzman sistemler sayesinde öğreneni en uygun bölüme yönlendirebilmekte (Fadzil ve Munira, 2008), öğrenenin

kişisel ve eğitsel ihtiyaçlarına uygun müfredatı, öğrenme hızını tasarlayabilmekte (Brusilovsky,1999) ve akıllı öğretim sistemleri sayesinde öğrenene en uygun ve hızlı geribildirimi verebilmektedir (Karsenti, 2019). Bunların yanı sıra, yapay zeka ile desteklenmiş sohbet ajanları, insansı robotlar, uzman sistemler ve akıllı öğretim sistemleri sayesinde, yapay zeka öğrenenlere gerekli geribildirim sağlama, sınavları notlandırma, ödevlerdeki intihali tespit etme, etkili ve çekici materyaller geliştirme gibi birçok görevi üstlenerek öğreticinin iş yükünü hafifletebilmektedir.

Yönetsel Boyut: Yapay zeka teknolojileri açık ve uzaktan öğrenme kurumlarında yönetsel kararlar almak üzere de kullanılabilmektedir. Uygun ders programlarını planlanması ve takibi, yönetsel kararların verilmesi, öğrenen devamsızlık takibi, öğrenen ve öğretici performans değerlendirmeleri, öğrenen verilerin analizi ve depolanması, raporlama vb. gibi vakit alan birçok işi akıllı bilgisayar programları hızlı ve güvenilir bir şekilde yapabilmektedir (Köse, 2015; Karsenti, 2019; Fadzil ve Munira, 2008). Bunlara ek olarak yukarıda da altını çizdiğimiz gibi öğrenene daha uyarlanabilir ve kişiselleştirilmiş bir öğrenme imkânı sağlayan yapay zeka teknolojileri dolaylı olarak açık ve uzaktan öğretim kurumlarının mustarip olduğu en önemli problemlerden biri olan uzaktan öğrenenlerin kayıt silme ve derse devam etmeme oranını da en aza çekebilmektedir. Örneğin Georgia Eyalet Üniversitesi'nin de kullandığı AdmitHub ® yapay zeka destekli telefon uygulaması öğrenenlere herhangi bir üniversiteye kayıt yapmaya karar verme aşamalarında sorulara cevap vererek yardımcı olmakta, sonrasında ise öğrenenlere kayıt yaptırmayı seçtikleri üniversitenin işleyişi, sistemi hakkında bilgi vermektedir (Klutka ve diğerleri, 2018).

Ölçme –Değerlendirme Boyutu: Açık ve uzaktan öğrenme kurumlarında öğreticilerin belki de en çok vakit harcadıkları öğretme faaliyeti ölçme ve değerlendirmedir. Ödevlerin değerlendirilmesi, geri bildirim verilmesi sınavların hazırlanması ve notlandırılması öğreticiler için büyük iş yükü teşkil etmektedir. Yapay zeka sayesinde geliştirilebilecek akıllı değerlendirme sistemleri tüm bu işleri öğreticilerin yerine daha hızlı, nesnel ve güvenilir şekilde yapabilmektedir (Köse, 2015; Karsenti, 2019; Fadzil ve Munira, 2008). Örneğin, yazma becerisi dersi ürünleri (paragraf, kompozisyon) ve açık uçlu soruların değerlendirilmesi uzaktan öğretim kurumlarında çok fazla iş yükü gerektiren ve güvenilir şekilde değerlendirmesi zor ölçme türleridir. Michigan Üniversitesi geliştirdikleri M-Write® adlı yapay zeka destekli bir değerlendirme aracını başlangıç seviyesinde paragraf ve kompozisyonların değerlendirilmesi ve geribildirim verilmesi için kullanmaktadır. Yine benzer şekilde Gradescope® adlı program ise açık uçlu sorulara verilen benzer cevapları gruplayarak öğreticinin çok sayıdaki benzer bir cevapları tek bir cevapmış değerlendirmesine ve geribildirim vermesine olanak sağlayarak zaman tasarrufu sağlamaktadır (Klutka ve diğerleri, 2018).

Özetle yapay zeka teknolojileri açık ve uzaktan öğrenme sürecinde yönetim, değerlendirme, materyal geliştirme, sunum ve öğretim aşamalarının hemen hemen tamamında kullanmak mümkündür. Akıllı sohbet ajanları (chatbots), Akıllı Öğretim Sistemleri (Intelligent Tutoring Systems), akıllı uzman sistemler açık ve uzaktan öğrenme sürecinin birçok aşamasında rahatlıkla kullanabilecek teknolojilerdir.

SONUÇ VE TARTIŞMA

İnsanoğlu tarihinde önemli bir yere sahip olacağı öngörülen yapay zeka, günlük hayatımızın bir çok alanını kuşattığı gibi yükseköğretim de paradigma değişimini başlatmıştır. Yapay zekayı açık ve uzaktan öğretim kurumlarının hemen hemen tüm aşamalarında kullanmak mümkündür. Bu aşamalar; (a) öğrenen kaydı ve kazanımı, (b) öğrenme ve öğretme süreci, (c) proaktif öğrenen hizmetleri (danışma, destek hizmetleri, program rehberliği vb.), (c) kurumsal verimliliktir (Klutka ve diğerleri, 2018). Ayrıca yapay zeka sistemleri sayesinde açık ve uzaktan öğrenme ortamları daha uyarlanabilir, kişiselleştirebilir, etkileşimli ve etkili olacak gibi görünmektedir. Son olarak yapay zeka uygulamaların açık ve uzaktan öğrenme sürecinde nasıl faydalanılabileceğini kısaca listelersek:

- Kişiselleştirilmiş ve uyarlanabilir bir öğrenme- öğretme ortamı sağlama,
- Daha hızlı, güvenilir ölçme ve değerlendirme olanağı sağlama,
- Öğrenen kaydı ve kazanımı aşamasında öğrenene 7/24 hizmet verme,
- Program rehberliği, danışma vb. konularda öğrenene 7/24 destek hizmeti verme,
- Büyük veri analizi sayesinde yönetimsel kararlara yardımcı olma,
- Çekici ve etkili öğrenme ortamı sunma, öğrenenin derse ilgisinin sürekli takibi ve erken uyarı sistemi sayesinde kayıt silme ve devamsızlık oranını düşürme,
- Öğrenene hızlı ve kişiselleştirilmiş geri bildirim verme,
- Sanal gerçeklik, artırılmış gerçeklik ve/ ve ya oyunlaştırma elementlerini öğrenme-öğretme sürecine dahil ederek sürükleyici öğrenme (immersive learning) ortamları yaratma ve
- Tüm bunları yaparken zaman, işgücü ve para maliyetini düşürme gibi olanakları mevcuttur (Karsenti, 2019; Köse, 2015; Klutka ve diğerleri, 2018; Atalay ve Çelik, 2017).

Özetle, yapay zeka uygulamaları mevcut ve muhtemel potansiyeli sayesinde açık ve uzaktan öğrenmeyi yeni nesil bir öğrenmeye hazırlayacaktır. Bu yeni nesil öğrenmeye (Akıllı Uyarlanabilir Öğrenme) geçiş sürecinde olası sorunlarla karşılaşmak da mümkündür. Örneğin, kurumsal alt yapının yeniden oluşturulması, akıllı sistemler hakkında hizmet içi eğitim ihtiyacı, akıllı sistemlerin alış maliyetinin hala yüksek oluşu, ülkemizde hala büyük bir dijital uçurumun varlığı, bazı öğrenen ve öğreticilerin akıllı teknoloji kullanımına olumsuz yaklaşımları, öğreticilerin akıllı sistemlerin yerlerini alacağı korkusu gibi sorunlar yapay zeka teknolojilerinin açık ve uzaktan öğrenme kurumlarında uygulanmasını geciktirilebilir. Oysa yukarıda da bahsettiğimiz gibi, yapay zekanın açık ve uzaktan öğrenmeye katacağı tüm bu imkanlar göz önünde bulundurulursa bu sorunların çok da önemli olmadığı fark edilebilir. Nitekim, açık ve uzaktan öğrenmede bir paradigma değişimi başladığı aşinadır ve bu değişime ayak uydurmak ise kaçınılmaz görünmektedir.

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Envanter Takip Sistemi (ETS) Üzerinden Hazırlanan Nitelikli Soruların Anadolu Üniversitesi AÖF Öğrenme Yönetim Sisteminde eÖğrenme Malzemesi Olarak Kullanımı

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Özet

Anadolu Üniversitesi Açıköğretim sisteminde internete dayalı öğrenme hizmetlerine 1999 yılında deneme sınavları ile başlanmış ve her geçen yıl eÖğrenme hizmetleri artırılmıştır. 1999 yılından 2019 yılına kadar geçen 20 yılda deneme sınavları, alıştırma soruları, test soruları, çözümlü sorular, çıkmış sınav soruları gibi soru çözümüne dayalı uygulamalar öğrencilerin en fazla talep ettiği ve kullandığı uygulamalar olmuştur. 2018 yılında Anadolu Üniversitesinin kendi bünyesinde hazırlanan Envanter Takip Sistemi (ETS) yazılımına geçilmesi ve bu yazılımla entegre çalışan Öğrenme Yönetim Sisteminin oluşturulması ile sistemde yer alan nitelikli sorular Deneme Sınavları, Alıştırma Soruları ve Çözümlü Sorular uygulamaları olarak öğrencinin hizmetine sunulmaktadır. Bu çalışmada Anadolu Üniversitesinde görevli akademik kadro tarafından hazırlanan nitelikli soruların, Öğrenme Yönetim Sisteminde eÖğrenme malzemesi olarak nasıl kullanıldığına ilişkin bilgiler verilmiştir.

Anahtar Kelimeler: *Açıköğretim, eÖğrenme, deneme sınavı, alıştırmalar.*

GİRİŞ

Anadolu Üniversitesi Açıköğretim Sistemi, 1982 yılında kuruluşundan bugüne kadar sunduğu kitlesel eğitim ve teknolojinin eğitime entegrasyonu konusunda önemli uygulamalara ev sahipliği yapmıştır. Başlangıçta uzaktan eğitim yöntemiyle hazırlanmış ders kitapları, TRT'de yayınlanan televizyon programları ve mesai saati dışında verilen yüzyüze akademik danışmanlık derslerinden oluşan öğrenme malzemeleri, 1989 yılında kurulan Bilgisayar Destekli Eğitim Biriminin faaliyetleriyle bilgisayar ortamına taşınmış 1999 yılından itibaren de internet üzerinden eğitim uygulamaları ve hizmetlerine geçilmiştir (Özkul vd., 2014).

Açıköğretim sisteminde internete dayalı öğrenme malzemesi sunumu deneme sınavları ile 1999-2000 öğretim yılında başlamıştır. Öğrencilerin örgün sınavlar öncesi, sınava hazır olma durumlarını gerçeğe yakın olarak belirleyebilmelerine olanak tanıyan deneme sınavları, internet ortamında en fazla yararlanılan eöğrenme hizmeti

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olmuştur. 2002-2003 öğretim yılında internete dayalı alıştırma yazılımları uygulaması hayata geçirilmiştir. Alıştırma yazılımları, öğrencilerin ders kitabı ve televizyon programlarından elde ettikleri bilgileri çok sayıda etkileşimli örnek ve çözümlü problemle pekiştirmeyi amaçlamaktaydı (Mutlu vd., 2004). Açıköğretim e-Öğrenme hizmetleri, Açıköğretim öğrencilerinin evinde, işyerinde ya da bir internet kafede derslerine ait bütün öğretim materyallerine erişme olanağı vermiş ve böylece öğrenme süreçlerinde zamanlarını daha etkin kullanmalarını sağlamıştır (Mutlu vd, 2014, p.25).

2016 yılından itibaren Öğrenme Yönetim Sisteminde (ekampus.anadolu.edu.tr) kullanılmak amacı ile Anadolu Üniversitesinde görevli akademik personel aofportal.anadolu.edu.tr adresi üzerinden nitelikli soru hazırlamaya başlamış ve 2018 yılında Envanter Takip Sistemi (ETS) yazılımına geçilmesi ile birlikte tüm sorular aynı havuzda toplanmıştır. ETS'de yer alan nitelikli sorular, ders kitaplarında yapılan değişikliklerin yansıtılması, öğrenci dönütleri ile soruların kontrol edilerek düzeltilmesi ve her ay düzenli eklenen yeni sorular nedeni ile güncel ve dinamik bir yapıya sahiptir. Şimdiye kadar farklı arayüzler ve farklı uygulamalar ile Açıköğretim sistemindeki öğrencilere sunulan eöğrenme hizmetlerinden olan deneme sınavları ve alıştırma soruları her zaman öğrenciden kabul görmüş uygulamalar olmuştur.

Deneme Sınavları

Deneme sınavları uygulaması 1999-2000 öğretim yılında Açıköğretim sistemine kayıtlı öğrencilerin kullanımına açıldıktan bir yıl sonra 60.000'den fazla öğrenci sisteme kayıt yaptırmış ve bir milyondan fazla deneme sınavı gerçekleştirilmiştir. Öğrencilerin internete erişim oranlarının belirlenmesinde ve daha sonra gerçekleştirilecek internete dayalı pek çok hizmetin planlanmasında deneme sınavları uygulaması hem milat hem de yol gösterici olmuştur (Mutlu vd., 2014).

Deneme sınavları uygulaması ilk yayınlandığı tarihten bugüne kadar soru havuzundan rassal olarak bir araya getirilmiş soruları içeren sınavlardan oluşmuştur. Öğrenci yeni bir sınav oluşturduğunda aynı sorularla karşılaşma ihtimali düşüktür. Uygulamanın ilk sunulduğu tarihten 2016 yılına kadar öğrenci deneme sınavını tamamladığında sorulan soru sayısı, doğru yanıt sayısı, yanlış yanıt sayısı, yanıtsız soru sayısı bilgileri ile hangi ünitelerden başarılı, hangi ünitelerden başarısız olduğuna dair bir rapor ekranı ile karşılaşmaktaydı. Uygulamaya gelen en fazla öğrenci eleştirisi hangi sorulara doğru yanıt verdikleri ve yanıt anahtarı bilgisinin raporda görüntülenmemesi olmuştur.

2015-2016 Bahar döneminden itibaren ekampus.anadolu.edu.tr adresinden yayınlanan Öğrenme Yönetim Sistemine geçilmiş ve deneme sınavları uygulamasına cevap anahtarı eklenmiştir. 2018-2019 öğretim yılında açılan yaz okulunda Anadolu Üniversitesinin kendi bünyesinde hazırladığı yeni öğrenme yönetim sistemi aynı adresten yayınlanmaya başlamıştır. Yeni öğrenme yönetim sisteminde deneme sınavlarına yanıt anahtarının yanı sıra sorunun çözümü de eklenmiştir.

Açıköğretim sistemine kayıt yaptırmış olan öğrenciler, Anadolu Üniversitesi Ders Çalışma Platformu olan eKampüs Sistemine (**http://ekampus.anadolu.edu.tr**) girerek, kayıtlı oldukları derslerin Deneme Sınavlarına erişebilmektedir. Ders seçimi yapıldığında **Sınav** adı altında **Ara Sınav Deneme Sınavı (Çevrimiçi)** ve **Dönem Sonu Deneme Sınavı (Çevrimiçi)** olarak iki farklı deneme sınavı listelenmekte ve dersin sınav türü seçilerek sınav ortamı görüntülenebilmektedir.

Ara Sınav Deneme Sınavı ile Dönem Sonu Deneme sınavı arasındaki fark, sorumluluk ünitelerindeki değişiklik ve ünite ağırlıklarıdır. Ara Sınav Deneme Sınavlarında sorumluluk ünitelerinden eşit miktarda soru rassal olarak soru havuzundan alınarak görüntülenmektedir. Dönem Sonu Deneme Sınavlarında ise sorular, rassal olarak soru havuzundan alınırken, ara sınav sorumluluk ünitelerinin %30'unu, ara sınavdan sonra okutulan ünitelerin %70'ni kapsayacak şekilde oluşturulmaktadır.

Deneme sınavları uygulaması örgün sınavlarda olduğu gibi soru metni ile çoktan seçmeli beş seçeneğin olduğu 20 sorudan oluşmaktadır ve her soru tam ekran olarak görüntülenmektedir. Uygulamanın üst kısmında bulunan soru numaralarına tıklayarak sorudan soruya geçiş yapılabileceği gibi **Sonraki** ve **Önceki** düğmeleri kullanılarak ardışık sorular görüntülenebilmektedir. Soru yanıtlandıktan sonra bir sonraki soruya geçmek için soru numaraları ya da Sonraki düğmesi kullanılır. Sorunun doğru seçeneği ve cevabın açıklaması görüntülenmek istendiğinde **Çözüm** düğmesine basılır.

Öğrenci her sorunun çözümünü bu yöntemle görebileceği gibi **Çözümlü PDF** düğmesine tıklayarak yapmakta olduğu sınavı çözümleri ile birlikte PDF dosyası biçiminde bilgisayarına indirebilir. **PDF Çıktı Al** seçeneği kullanılarak indirilen PDF dosyasında ise sınav test sorusu biçiminde dizilmiş ve yanıt anahtarı aşağıda olacak şekilde görüntülenmektedir.

Deneme sınavını çevrimiçi uygulayan öğrenci **Sınavı Bitir** düğmesine tıkladığında sınavı bitirmek istediğinden emin olup olmadığını sorgulayan bir pencere açılır. **Evet** düğmesine tıklandığında ekranda **Sınav Sonucu** penceresi görüntülenir ve sınav durumu bilgisinin yer aldığı; puanı, doğru, yanlış ve boş bıraktığı soruların sayısı ile bu sınavı ne kadar sürede tamamladığı bilgileri listelenir. Öğrenciler **Sınavı Bitir** düğmesine basarak sınavı sonlandırdıklarında yanlış yanıt verdikleri soru numaraları kırmızı, doğru yanıt verdikleri soru numaraları yeşil ile gösterilir. Sınav tamamlandığında sınavın doğru yanıtları ve soruların çözümleri ekranda otomatik olarak görüntülenir. Öğrenciler sorular arasında dolaşarak sınavı oluşturan tüm soruların çözümlerini görebilecekleri gibi hatalı olduğunu düşündükleri sorularla ilgili de geri bildirimde bulunabilmektedir. Öğrenciler deneme sınavını tekrarlamak isterse aynı ekranda bulunan **Yeni Sınav** düğmesi ile bir sonraki deneme sınavını başlatabilmekte ve deneme sınavlarını istediği sayıda yapabilmektedir.

2019-2020 Güz Döneminde 642 ders 126.587 sınav uygulaması yapılmıştır.

Alıştırma Soruları

Envanter Takip Sistemi üzerinde Öğretim Üyelerinden ve Öğretim Elemanlarından talep edilen nitelikli sorular deneme sınavlarında olduğu gibi alıştırma soruları uygulamasında da kullanılmaktadır. Alıştırma soruları uygulaması, öğrencilerin soru çözme becerilerini geliştirme ve bu soruları çözerken hem kendi durumunu değerlendirme hem de öğrendiklerini pekiştirme amacı ile hazırlanmıştır.

Sınav benzeri soruların olduğu Alıştırma Soruları uygulaması öğrencilerin ünite bazlı kendisini denemesine olanak sağlamaktadır. AÖF Öğrenme Yönetim Sistemine giriş yapan öğrenci çalışmak istediği dersi seçerek soru çözmek istediği üniteden istediği sayıda Alıştırma yapabilmektedir. Alıştırma soruları uygulaması ünite bazlı olduğu

için tüm sorular aynı üniteden ve soru havuzundan rassal olarak seçilerek görüntülenmektedir. Alıştırma soruları, soru metni ve çoktan seçmeli beş seçeneğin olduğu 10 sorudan oluşmaktadır ve her yeni alıştırma oluşturulduğunda öğrencinin aynı sorularla karşılaşma ihtimali oldukça düşüktür.

Açıköğretim sistemine kayıt yaptırmış olan öğrenciler, Anadolu Üniversitesi Ders Çalışma Platformu olan eKampüs Sistemine (**http://ekampus.anadolu.edu.tr**) girerek, kayıtlı oldukları derslerin Alıştırmalarına erişebilmektedir. Ders seçimi yapıldıktan sonra dersin ana sayfasında eöğrenme malzemeleri arasında yer alan Alıştırmalar seçeneğine tıklandığında dersin tüm ünitelerinin alıştırmalar bağlantıları **Alıştırmalar-Ünite No** biçiminde listelenir. Listeden ünite seçimi yapılarak ilgili ünitenin Alıştırma Sorularının yer aldığı uygulama ekranına geçilmektedir.

Alıştırma Soruları uygulaması soru metni ile çoktan seçmeli beş seçeneğin olduğu 10 sorudan oluşmaktadır ve her soru tam ekran olarak görüntülenmektedir. Uygulamanın üst kısmında bulunan soru numaralarına tıklanarak sorudan soruya geçiş yapılabileceği gibi **Sonraki** ve **Önceki** düğmeleri kullanılarak ardışık sorular görüntülenebilmektedir. Soru yanıtlandıktan sonra bir sonraki soruya geçmek için soru numaraları ya da **Sonraki** düğmesi kullanılır. Sorunun doğru seçeneği ve cevabın açıklaması görüntülenmek istendiğinde **Çözüm** düğmesi kullanılır. Öğrenci her sorunun çözümünü bu yöntemle görebileceği gibi **Çözümlü PDF** düğmesine tıklayarak yapmakta olduğu alıştırma sorularını çözümleri ile birlikte PDF dosyası biçiminde bilgisayarına indirebilir. **PDF Çıktı Al** seçeneği kullanılarak indirilen PDF dosyasında ise alıştırma soruları test sorusu biçiminde dizilmiş ve yanıt anahtarı soruların sonunda olacak şekilde görüntülenmektedir.

Alıştırma Sorularını çevrimiçi uygulayan öğrenci **Sınavı Bitir** düğmesine tıkladığında sınavı bitirmek istediğinden emin olup olmadığını sorgulayan bir pencere ile karşılaşır. **Evet** düğmesine tıkladığında ekranda **Sınav Sonucu** penceresi görüntülenir ve sınav durumu bilgisinin yer aldığı puanı, doğru, yanlış ve boş bıraktığı soruların sayısı ile bu sınavı ne kadar sürede tamamladığı bilgileri listelenir. Öğrenciler **Sınavı Bitir** düğmesine basarak sınavı sonlandırdıklarında yanlış yanıt verdikleri soru numaraları kırmızı, doğru yanıt verdikleri soru numaraları yeşil ile gösterilir. Tamamladıkları alıştırma sorularının doğru yanıtları ve soruların çözümleri ekranda otomatik olarak görüntülenir. Öğrenciler sorular arasında dolaşarak alıştırmaları oluşturan tüm soruların çözümlerini görebileceği gibi hatalı olduğunu düşündükleri sorularla ilgili de geri bildirimde bulunabilmektedir. Öğrenciler yeni bir alıştırma yapmak istediklerinde aynı ekranda bulunan **Yeni Sınav** düğmesine tıklayarak farklı sorulardan oluşan yeni bir alıştırma başlatabilmekte ve istediği sayıda alıştırma yapabilmektedir.

Bahar ve güz dönemi olarak kayıtlı olan öğrencilerin aldığı derslere göre aktif dersler ve pasif dersler için sistemde sürekli bir soru sirkülasyonu yapılmaktadır. 2019-2020 öğretim yılı güz döneminde okutulacak aktif dersler için alıştırma soruları uygulamasında kullanılmak üzere soru havuzunda 483 ders, 3910 üniteye ait 316962 adet soru bulunmaktadır (02.09.2019 tarihli veri). Bu havuzdaki soru sayıları dinamik olup her ay soru havuzuna yeni sorular eklenmektedir. Böylece öğrenciler sisteme her girişlerinde farklı sorular ile karşılaşma imkanına sahip olmaktadır.

2019-2020 Güz Döneminde 693 ders 699.474 Alıştırma Soruları uygulaması yapılmıştır.

Çözümlü Sorular

Envanter Takip Sistemi üzerinden hazırlanan nitelikli soruların her biri sorunun çözümünü de barındırmaktadır. Hazırlanan nitelikli sorular deneme sınavları ve alıştırma soruları uygulamalarında kullanılmaktadır. Her iki uygulamada da sorular rassal olarak bir araya getirilmekte ve soruların kullanım biçimlerinde öğrenciye farklı alternatifler sunulmaktadır. Öğrenciler deneme sınavları ya da alıştırma soruları uygulamalarında soruların çözümlerine çevrimiçi erişebildikleri gibi PDF dosyası biçiminde bilgisayarlarına indirerek çevrimdışı da erişebilmektedir. Özellikle internet kotası yetersiz olduğu ya da internet erişiminde problem yaşadığı için uygulamaları çevrimdışı kullanmak isteyen öğrenciler iki uygulamada da yer alan **Çözümlü PDF** düğmesini kullanarak soru metni, sorunun seçenekleri, doğru yanıt ve çözüm sıralaması ile dizgisi yapılmış biçimde PDF dosyasını indirebilmektedir.

SONUÇ

Açıköğretim sisteminde kayıtlı öğrenciler kendilerine sunulan eğitim malzemelerinden farklı biçimlerde yararlanmaktadır. Farklı çalışma alışkanlıklarına sahip öğrencilerin ihtiyaçlarını karşılamak amacıyla eKampüs sisteminde farklı öğrenme içerikleri sunulmaktadır. Deneme Sınavları ve Alıştırma Soruları uygulamaları öğrencilerin soru çözme ve bu soruları çözerken hem kendi durumunu değerlendirme hem de öğrendiklerini pekiştirme amacı ile hazırlanan destek malzemelerdir.

Nitelikli soru havuzundan beslenen çevrimiçi uygulamalar olan Deneme Sınavları ve Alıştırma Soruları, Açıköğretim sisteminde okutulan tüm aktif dersleri kapsamaktadır ve öğrenciler tarafından yoğun olarak kullanılmaktadır. Öğrencilerin İnternet erişimleri ve internet kotaları göz önüne alınarak her iki uygulama da çevrimiçi ve çevrimdışı çalışmaya uygun olarak tasarlanmıştır. Deneme Sınavları ve Alıştırma Soruları uygulamaları temelde iki uygulama olarak görünse de çevrimdışı çalışıldığında her iki uygulama da metin tabanlı Test Soruları ve Çözümlü Sorular biçimine dönüşebilmektedir.

Mobil uygulama ile Deneme Sınavları ve Alıştırma Soruları uygulamalarına erişim sağlanabilmektedir.

Deneme Sınavları ve Alıştırma Soruları uygulamaları, Anadolu Üniversitesi Sertifika Programlarında da uygulanabilmektedir.

Yeni Öğrenme Yönetim sistemi ile dizgi sürecinin ortadan kalkması ETS üzerinde yer alan sorularda yapılan değişikliklerin anında sisteme yansımasını sağlamaktadır. Sisteme eklenen ya da çıkarılan sorular eşzamanlı olarak öğrencinin karşısına çıkmakta, bu sorular kullanılarak oluşturulan uygulamalar sistemin esnekliğini ve kalitesini artırmaktadır.

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İlköğretim Düzeyi Uyarlanabilir Öğrenme Platformunun Tasarlanması ve Geliştirilmesi: Alphabet

Özlem ÇAKIR[1], Ayşe Gül AKMEŞE[2]

Özet

Farklı özelliklere sahip bireyleri öğrenme yöntemleri de farklıdır. Günümüz eğitim sisteminde öğrencilerin kişisel özellikleri, ön bilgisi, amaçları ve tercihleri dikkate alınmadan eğitimlerin verilmesi bireyler açısından verimliliği düşürmektedir. Bu nedenle verilen eğitimin verimliliğin artması için kişisel özelliklerin dikkate alındığı kişiselleştirilmiş eğitimin bu süreçte daha etkili bir şekilde kullanılması gerekmektedir. Bilgi ve iletişim teknolojilerinin gelişmesi ile öğrenenin hedefleri, ilgileri ve tercihlerinin bir modelini oluşturup, öğrenme ortamını öğrenene göre yapılandıran ve kişiselleştiren çevrimiçi sistemler/ortamlar ortaya çıkmıştır. Önceleri birebir (bir öğretmen- bir öğrenci) eğitim ile mümkün olabilen kişiselleştirilmiş öğretim, günümüzde teknoloji aracılığıyla kitlesel olarak verilebilir hale gelmiştir. Ortaya çıkan uyarlanabilir ortamlar hızla yaygınlaşmaya devam etmektedir.

Bu çalışmanın amacı eğitim alanına yönelik ilköğretim düzeyinde uyarlanabilir bir öğrenme platformunun tasarlanması ve geliştirilmesidir. Web tabanlı olarak geliştirilen Alphabet platformu, dinamik bir yapıya sahip olup içerisinde barındırdığı sınama soruları ile öğrencilere alıştırma yaptırmayı, öğrencilerin bilgi seviyeleri doğrultusunda öğrencilerin alması gereken düzeyde konuya yönlendirmeyi, aynı zamanda konuya özgü alınan kişisel bilgiler aracılığıyla da kişiselleştirilmiş öğretime olanak tanıyan bir sistemdir. Öğrenciler platforma üye olduktan sonra platform içerisinde tanımlanan derslere ait konulardan ihtiyacına göre eğitim alabilmektedir. Platformun tasarımında yer alan uyarlama algoritması sayesinde konuya ait ön test soruları sonrasında bilgi düzeyi kestirimi yapmakta ve bu kestirim doğrultusunda kolay, orta ve zor olarak üç farklı konu anlatım sayfası sunarak her öğrenciye özel akış oluşturmaktadır. Konu anlatımı sonrasında ön test soruları son test olarak ikinci kez uygulanmaktadır. Uygulanan son test sonrasında öğrencilerin bilgi seviyeleri tekrar ölçülmektedir. Bu sayede, Alphabet sistemi sadece sınama yaparak öğrencilerin bilgi seviyelerini belirlemeyi değil, öğrencilerin bilgi seviyelerini ilerletmesi veya pekiştirmesini sağlayarak, çalışması gereken öğrenme nesnelerini aynı platform içerisinde eş zamanlı olarak sunarak bütünleşik bir öğrenme platformu sağlamaktadır.

Anahtar Kelimeler: *Kişiselleştirme, Kişiselleştirilmiş Öğretim, Uyarlanabilir Öğrenme Sistemleri, Öğrenme Yönetim Sistemleri, Eğitim Platformu*

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GİRİŞ

Öğrenmenin doğasını anlamaya yönelik araştırmalar teknolojinin hızlı gelişmesiyle birlikte daha kaotik bir yapıya dönüşmüştür. Yapılmış çalışmalar öğrenme ve öğretme süreçleriyle ilgili önemli noktalara ışık tutsa da, teknolojinin zengin bilgi durumları içeren ve giderek artan karmaşıklıktaki dünyası, insan etkileşimlerini de farklılaştırmaktadır. Bu açıdan bakıldığında öğrenmeye ve öğretme süreçleriyle ilgili kuram ve yöntemlerin teknolojiye de dayandırılarak geliştirilmesi önemlidir (Murray ve Pérez, 2015). Teknolojinin eğitimde kullanılması ile öğrenme ortamlarında çeşitlilik artmış; var olan öğrenme ortamları ise bireylerin ilgilerine ve öğrenme hızına göre uyarlanmaya başlanmıştır (Doğan, 2017).

Reigeluth'a (1996) göre eğitim sisteminde farklı öğrenme hızlarına sahip öğrenciler bulunmaktadır. Bu öğrencilerin farklılıkları göz önünde bulundurulmadan; tüm öğrencilerin aynı hızda ilerlediği varsayılarak eğitim verilmektedir. Bu bağlamda, öğretmenler konuyu tüm sınıfa aynı anda öğretemez. Bu sorunun çözümü için eğitimde öğrencilerin başarı düzeyleri ve ilgi alanları da göz önünde bulundurulmalıdır. Bütün öğrencilerin sadece bir öğretim yöntemi ile eşit düzeyde öğrenme gerçekleştiremeyeceği ve bu sebeple öğretimin uyarlanıp birden fazla şekilde öğrencilere sunulması fikri uyarlanabilir öğretim fikrinin varsayımıdır (Jonassen ve Grabowski, 2011).

Uyarlanabilir öğrenme, öğrenme yöntemlerinin öğrenenin öğrenme biçimine uyarlanması düşüncesinden ortaya çıkmıştır (Jones ve Jo, 2004, 468). Uyarlanabilir öğrenme, öğrenme sürecinin, öğrenenin bireysel ihtiyaç, özellik ve öğrenme davranışları doğrultusunda farklılaştığı ve esnek hale geldiği uygulamaları ifade etmektedir. Uyarlanabilir öğrenme sistemleri, öğrenenin hedefleri, ilgileri ve tercihlerinin bir modelini oluşturarak, öğrenme ortamını yapılandıran ve her bir öğrenen için öğretimi kişiselleştiren, gelişmiş hiperortam sistemleridir (Brusilovsky, 1998). Stoyanov ve Kirschner (2004) uyarlanabilir çevrimiçi öğrenme sistemini, öğrenenlerin kişisel gereksinimlerinin ve tercihlerinin ortaya çıktığı zamanı ve çıkması durumunu karşılamak amacıyla, çevredeki katılımcılar arasındaki etkileşime, pedagojik modellere ve e-öğrenme içeriğine uyum sağlayan ve bunları kişileştiren etkileşimli bir sistem olarak tanımlamışlardır. Diğer bir deyişle, uyarlanabilir öğrenme sistemleri içeriğin öğrenci ihtiyaçlarına göre dinamik olarak uyarlanmasını sağlar.

Uyarlanabilir öğrenme sistemlerinin oluşturulmasında iki temel aşama vardır (Somyürek, 2008): öğrenci modelinin oluşturulması ve uyarlamaların gerçekleştirilmesi. Öğrencinin modelinin oluşturulması aşamasında öğrenci özellikleri temel alınarak kullanıcı modeli oluşturulur. İkinci aşamada ise kullanıcı modelinden toplanan veriler ile uyarlamalar gerçekleştirilir. Bu uyarlamalar, içeriği uyarlama ve gezinmeyi uyarlama olmak üzere iki şekilde yapılabilir. İçeriği uyarlama, öğrenci hedefleri ve diğer özellikleri doğrultusunda ortam içeriğinin öğrenciye uygun bir şekilde sunulmasıdır (Brusilovsky ve Pesin 1994, De Bra, 1998). Gezinmeyi uyarlama ise öğrencinin öğrenme materyalinde izleyeceği en uygun yolu bulması için destek sağlanmasıdır. Örneğin, adımlar arası geçişi kolaylaştırmak için bağlantıların öğrenciye uygun verilebilir.

Uyarlanabilir öğrenme sistemlerinin geliştirilmesinde araştırmacılar tarafından birçok model tasarlanmış ve önerilmiştir. Bu modellerden başlıcaları (De Koch, 2001);

- *The Dexter Hypertext Reference Model*: Bu model sistemi üç katmana ayırır: Çalışma zamanı katmanı, kayıt katmanı ve dahili-bileşen katmanı. Bu modelin temel amacı kayıt katmanında bulunan ağdaki düğüm (veri taşıyıcıları) ve bağlantıları açıklamaktır. Düğümlerdeki içerik ve yapı Dahili-bileşen katmanında tutulur. Çalışma zamanı katmanı ise, düğüm ve bağlantılarının sunumuna ve uygulamanın dinamiklerine ve kullanıcı etkileşimi dair bilgileri içerir.
- *Adaptive Hypermedia Application Model (AHA)*: Dexter modeli ile aynı katmanlara sahiptir. Eğitim alanında kullanılan bir modeldir. Kayıt katmanı, bilgi alanı modeli, kullanıcı modeli ve öğretme modelinden oluşmaktadır. Bilgi alanı modeli, alanındaki uzman kişilerin görüşlerini sunarken; kullanıcı modeli ise sistemin kullanıcı hakkında tuttuğu kayıtları oluşturur. Öğretme modeli de uyarlama mekanizması için gereken pedagojik kuralları tutar.
- *Amsterdam Hypermedia Model (AHM)*: Dexter modeline zaman, ileri seviye sunum ve bağlantı içerikleri kavramları eklenerek geliştirilmiş bir modeldir.

Bu modellerden bu araştırmada geliştirilecek platform için AHA modeli seçilmiştir. Bu modelin seçilme sebepleri; kullanıcı etkileşimlerinin detaylı olarak tutulması ve kayıt katmanının (veri tabanı) bir eğitim platformuna daha uygun olmasıdır.

Çevrimiçi öğrenme ortamları bireysel farklılıkları dikkate almaksızın bütün kullanıcılara aynı içeriği ve bağlantıları sunmaktadır (Brusilovsky, 2001). Oysa bireylerin fiziksel ve zihinsel özellikleri farklı olduğu gibi öğrenme tercihleri de farklıdır. Çevrimiçi öğrenme ortamlarında öğrenme tercihlerinin dikkate alındığı çalışmalarda öğrencilerin performansının arttığı ve motivasyonlarının arttığı gözlemlenmiştir (Kaplan, Fenwick ve Chen, 1998; Specht ve Kobsa, (1999; Brusilovsky, Sosnovsky ve Yudelson, 2009).

Bu araştırma, yukarıda bahsedilen öğrencilerin farklılıkları ve ilkokul düzeyindeki öğrencilerin dersleri gündelik hayatta kullanamadıkları için performanslarının düşmesi göz önüne alınarak uyarlanabilir öğretim sisteminin geliştirmesi amacıyla planlanmıştır. Geliştirilen Alphabet platformunun uyarlanabilir bir sistem olması özelliğiyle öğrencilerin ön bilgi seviyelerini belirleyerek, bu doğrultuda öğrencilerin ihtiyaçlarına göre gerekli olan konuları, testleri ve materyalleri sunarak, öğrencilerin ne gereğinden fazla ne de gereğinden az bilgi almasının önüne geçmeyi amaçlamaktadır. Aynı zamanda platform kullanıcıların kendilerine göre kişiselleştirilmiş seçenekler içermesiyle kullanıcıların motive bir şekilde eğitim sürecini tamamlamalarını hedeflenmektedir.

YÖNTEM

Alphabet platformu için ilk aşama olarak ihtiyaç analizi yapılmıştır. İhtiyaç analizinde okul düzeyi ve geliştirilecek olan platformun kapsamı belirlenmiştir. Belirlenen okul düzeyine uygun platform tasarımı ve mimarisi oluşturulmuştur. Mimari kısmında platformun yazarlık aracı seçilmiştir. Platform tasarım aşaması bittiğinde geliştirilmeye başlanmıştır. Platform üzerinde gerçekleştirilmiş olan tüm testler için kara kutu test tekniği kullanılmıştır. Bu test tekniği ile platformun gereksinimlere uygunluğu ve işlevselliği kontrol edilmiştir. Platform geliştirildikten web tabanlı olarak yayına alınmıştır. Alanında uzman öğretmenler, konu içerikleri ve materyaller hazırlayıp platformda gerekli tanımlamaları yapmışlardır.

ALPHABET PLATFORMUNUN İŞLEYİŞİ

Bu bölümde geliştirilen platformun mimarisi ve teknik özelliklerinden bahsedilmiştir.

Platformun Mimarisi

Platform, AHA (Adaptive Hypermedia Application Model) uyarlama modeline göre tasarlanmıştır. Platformda veri tabanı bloğu olarak isimlendirilen kısım bütün bilgileri ve modelleri kapsamaktadır. Platformda kullanılan tüm öğrenme nesneleri (sorular, cevaplar, ders anlatımı vb.) bilgi alanı modeli içerisinde yer almaktadır. Tasarımcının başta belirlediği kullanıcı adı ve şifre bilgileri statik, kullanıcının platform içerisinde verdiği cevaplar ise dinamik olarak depolanmakta ve güncellenmektedir. Kullanıcıya ait bu statik ve dinamik bilgiler kullanıcı modeli içerisinde yer almaktadır. Uyarlama bloğunda ise veri tabanından alınan veriler ile öğrencilere kişiselleştirilmiş bir öğretim verilmektedir. Kullanıcı ise platformu kullanırken arayüzde sorulan test sorularını cevaplamakta ve karşılaştığı sunumlar içerisinde ileri ve geri olarak hareket edebilmektedir.

Bilgi Alanı Modeli Tasarımı

Kullanıcılar web ortamında Alphabet platformuna bağlandıklarında öncelikle kullanıcı giriş ekranı ile karşılaşmaktadırlar (Şekil 1). Öğrenciler, öğretmenler ve yetkili kişi giriş ekranından kullanıcıya özel kullanıcı adı ve şifre ile giriş yapabilmektedir. Öğrenciler kayıt ol ekranından sisteme kayıt olabilmektedir. Öğretmenlerin platforma kayıt olması ise yetkili kişi tarafından platform içerisinden gerçekleşmektedir.

Şekil 1. Öğrenci Kayıt Ekranı

Öğrenciler istedikleri ders ve ders konusunda eğitim alabilmektedir. İlk olarak konu ile ilgili öğrencinin bilgi düzeyini ölçmek için ön test uygulanır. Bilgi düzeyine göre zorluk derecesi önceden belirlenmiş konu anlatımı gelir. Konu anlatımından sonra öğrencinin başarısını ölçmek için son test uygulanır. Alphabet içerisinde öğrenci sırasıyla kullanıcı giriş ekranı (Şekil 2), ders ve konu seçim ekranı (Şekil 4), soru ekranı (Şekil 3), konu anlatımı ekranı ve sonuç ekranı ile karşılaşılmaktadır.

Şekil 2. Öğrenci Anasayfa Ekranı

Şekil 3. Öğrenci Soru Ekranı

Şekil 4. Öğrenci Ders Seçim Ekranı

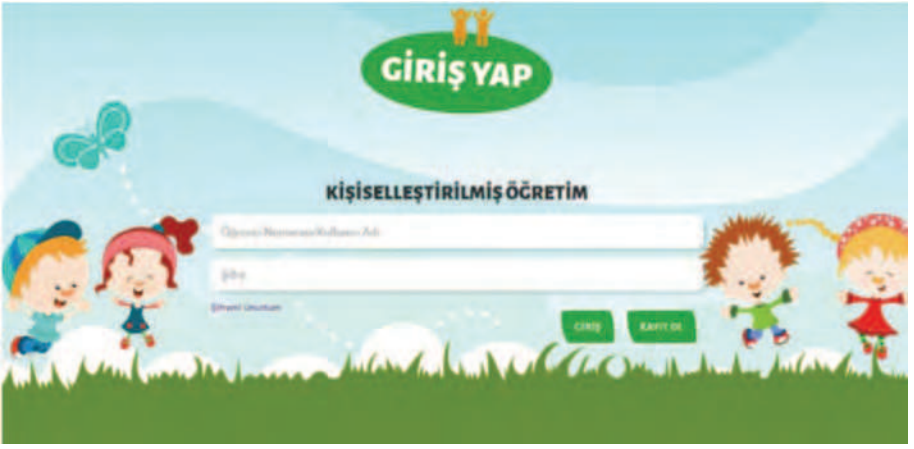
Sisteme giriş yapan öğretmenler ise çevrimiçi olarak konu, konuya göre kişiselleştirme soruları, konu testleri ve zorluk derecesine göre kolay, orta ve zor konu anlatımları ekleyebilir (Şekil 5). Eklenen derslerin düzenleme ve silme işlemlerini de gerçekleştirebilir.

Şekil 5. Öğretmen Anasayfa Ekranı

Yetkililer, platformdaki bütün işlemleri yapabilmektedir. Kullanıcıların eklenmesi, düzenlenmesi ve silinmesi işlemleri yetkiliye aittir. Ders ekleme, öğretmene ders atama, dersi düzenleme ve silme işlemleri de yetkili tarafından gerçekleştirilebilmektedir.

Kullanıcı Modeli Tasarımı

Alphabet formunda kullanıcı modeli, kullanıcıların verilerinin depolandığı kısımdır. Kullanıcı modeli kullanıcının sabit olan verilerini statik, sistem etkileşimi sürecinde değişen bilgilerini dinamik olarak tutmaktadır. Alphabet platformunda platform yöneticisi tarafından her bir kullanıcıya özel tanımlanan kullanıcı adı, şifre, öğretmen veya öğrenci olmak üzere hangi gruba dahil olduğu gibi kullanıcı bilgileri statik veriler olarak depolanmaktadır. Ayrıca öğrenciler platformdan kendi belirledikleri kullanıcı adı ve şifre ile kayıt olabilmektedir. Kullanıcılar Alphabet platformuna eriştiklerinde ilk karşılaştıkları ekran, kullanıcı adı ve şifre ile giriş yaptıkları kullanıcı giriş ekranıdır.



Şekil 6. Kullanıcı Giriş Ekranı

Kullanıcılar, statik verilerle giriş yaptıkları platformda test sorularını çözmektedirler. Bu sorulara verilen cevaplar doğru ve yanlış sayısı olarak kullanıcı modelinde depolanmaktadır. Her bir test sorusu sonucunda kullanıcının doğru, yanlış ve boş sayısı, çözdüğü soru sayısı, puanı dinamik olarak hesaplanmaktadır. Sistem yöneticisi veya

bu izne sahip öğretmen, sistem geliştirmede kullanılan PHP arayüzünde dinamik olarak bu değişkenleri izleyebilmektedir. Alphabet platformu, kullanıcının etkileşim süreci sonrası öğrenme algoritmasına göre herhangi bir konuda öğrenme sürecini bitirdiğinde kullanıcıya bir sonuç sayfası sunmaktadır.

Şekil 7. Konu Öğrenme Sonuç Ekranı

Uyarlama Modeli Tasarımı

Alphabet platformunun kişiye özel öğrenme süreci oluşturmasını sağlayan uyarlama algoritması uyarlama modelinde bulunur ve çalıştırılır. Platformun öğretim metodu, öğrenciye öncelikle test soruları yönelterek belirlenen kazanıma yönelik bilgi seviyesini kestirmektir. Daha sonra bilgi seviyelerine göre öğrenciye ders anlatımı yapılarak kazanımın öğretilmesini amaçlanmaktadır. Konu anlatımları test puanına göre kolay, orta ve zor olmak üzere 3 anlatımdan oluşmaktadır. Öğrencilerin ön test puanlarına göre gelen konu anlatım düzeylerinin derecelendirmesi aşağıdaki gibi yapılmaktadır:

- Kolay Düzeyde Konu Anlatımı → 0-50 puan,
- Orta Düzeyde Konu Anlatımı → 50-79 puan,
- Zor Düzeyde Konu Anlatımı → 79-100 puan.

Konu anlatımlarından sonra ön testte verilen sorular öğrencilerin karşısına tekrar çıkmaktadır. Testler bitince öğrenciler, öntest ve son test sonuçlarına ulaşmaktadır. Öğrencilerin konu öğrenmelerinin başında doldurduğu kişisel bilgiler konu anlatımları ve son test sürecine dahil edilir. Bu sayede Alphabet farklı bilgi düzeylerine sahip kullanıcılar için kişiselleştirilmiş uyarlanabilir öğrenme ortamları hazırlamış olmaktadır. Örnek olarak bölümlerde bulunan test sorularından farklı puanlar elde eden hayali üç 48 kullanıcıya Alphabet tarafından oluşturulan öğrenme ortamları incelenirse aşağıdaki gibi olacaktır:

Kullanıcı 1: Ön Test → Kolay Düzeyde Konu Anlatımı → Son Test→ Öğrenme süreci bitirilir.

Kullanıcı 2: Ön Test → Orta Düzeyde Konu Anlatımı → Son Test→Öğrenme süreci bitirilir.

Kullanıcı 3: Ön Test → Zor Düzeyde Konu Anlatımı → Son Test→Öğrenme süreci bitirilir.

Platformun Mimarisi

Alphabet platformu güncel programlar kullanılarak yalın ve modern bir tasarım anlayışı ile tasarlanmıştır. Platform, PHP, HTML5, JQUERY, CSS gibi programlama dilleri ile programlanmıştır. Geliştirme ortamı olarak PhpStorm kullanılmıştır. Ayrıca MySQL kullanılarak, phpMyAdmin arayüzü ile veritabanı yapılandırılması yapılmıştır. Platform Apache ve MySQL servislerini yerel sunucuda Xampp Server kullanılarak çalıştırmaktadır. Domain ve hosting satın alınarak, platform online yayına alınmıştır.

SONUÇ VE ÖNERİLER

Bu bölümde araştırma ile ulaşılan sonuçlar özetlenerek tartışılmış, hem genel uygulamaya hem de ileride yapılabilecek çalışmalara yönelik önerilere yer verilmiştir.

Sonuç

Sonuç olarak geliştirilen Alphabet platformu kullanıcıların her an her yerden ve tüm cihazlardan erişerek çalışabileceği bir ortam sunmaktadır. Aynı zamanda öğrencilerin eğitiminde bilişsel olarak aşırı yüklenmesini engelleyerek yalnızca ihtiyacı olan bilgileri almasını sağlamakta, bilgi seviyesinden daha düşük seviyedeki öğrenme nesneleri ile karşılaşarak zamanının boşa geçmesine izin vermemektedir. Bu sayede öğrenciler aşırı bilgi denizinin içerisinde kaybolmadan platformun uyarlanabilir algoritmasının yönlendirmesiyle sistem içerisinde ilerleyişini sürdürebilmektedir.

Öneriler

Yapılan çalışmanın sonuçlarına göre ileride yapılacak çalışmalara öneri olarak aşağıdaki maddeler sunulabilir:

- Yapılan çalışmada her öğretmen kendi alanı için sisteme kendi dersini tanımlayıp ders materyallerini yerleştirerek uyarlanabilir halde ders işleyebilir.

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Fatih Projesi Kapsamında Düzenlenen Uzaktan Hizmetiçi Eğitimlere Yönelik Öğretmen Görüşlerinin İncelenmesi

Yusuf YILDIRIM[1]

Özet

Bu araştırma, Fatih Projesi kapsamında düzenlenen uzaktan hizmetiçi eğitimlere yönelik öğretmen görüşlerini, uzaktan hizmetiçi eğitimlerin öğretmenlerin mesleki gelişimlerine katkısı hakkındaki görüşlerini, öğretmenlerin uzaktan hizmet içi eğitimlerde karşılaşılan sorunlarını, karşılaşılan sorunlara yönelik çözüm önerilerini ve uzaktan hizmetiçi eğitimlerden beklentilerini belirlemeyi amaçlamaktadır. Bu araştırmada, karma yöntem kullanılmıştır. Araştırmada önce nicel araştırma modellerinden betimsel tarama yöntemi kullanılmıştır. Araştırmada kullanılan MEBBİS (Millî Eğitim Bakanlığı Bilişim Sistemleri) kayıtları 2015–2019 yıllarını kapsamaktadır. MEBBİS kayıtlarının analizinde doküman analizi yapılmıştır. Daha sonra araştırmaya katılan öğretmenlerin araştırma kapsamındaki görüşlerini belirlemek amacıyla nitel araştırma modellerinden durum çalışması yöntemi kullanılmıştır. Nitel veri toplama aracı olarak açık uçlu anket formu kullanılmıştır. Nitel verilerin çözümlenmesinde betimsel analiz kullanılmıştır. Araştırmanın katılımcılarını 2016–2019 Öğretim yılında Fatih Projesi kapsamında uzaktan hizmetiçi hizmet içi eğitim etkinliklerine katılmış 162 kadın ve 334 erkek toplam 496 öğretmen oluşturmuştur. Araştırma sonucunda, 2015-2019 yılları arasında Fatih projesi kapsamında düzenlenen uzaktan hizmetiçi eğitim kurs etkinliklerinin ve kursiyer sayıları, uzaktan hizmet içi eğitim etkinliklerinin öğretmenlerin mesleki becerilerinin gelişmesindeki katkıları, uzaktan hizmet içi eğitimlerde karşılaşılan sorunlar ve karşılaşılan sorunlara yönelik çözüm önerileri paylaşılmıştır.

Anahtar Kelimeler: *Uzaktan hizmetiçi eğitim, uzaktan hizmetiçi eğitimlerin değerlendirilmesi, sürekli mesleki gelişim*

GİRİŞ

Çağdaş eğitim sistemlerinde öğretmenlerden; teknolojiyi aktif kullanabilen, sınıfın ve okulun tüm imkânlarını kullanarak aktif öğrenme ortamına dönüştürebilen, sürekli öğrenmeyi benimseyen bir profesyonel olmaları beklenmektedir (Kıranlı ve Yıldırım, 2014; Yıldırım, 2014). 2023 eğitim vizyonu kapsamında da öğretmenlerden teknopedagojik yeterliklerini geliştirerek teknolojiyi öğrencinin öğrenme becerilerini kazandırmada araç olarak kullanabilmelerini sağlamak amacı ile öğrencilerini kendi öğrenme deneyimlerini kazanmaları için yönlendirmeleri beklenmektedir. Bu bağlamda öğretmenlerin devamlı kendilerini yenilemeleri ve profesyonel bir öğretmen kimliği kazanmaları hizmet içi eğitim süreçleri ile sağlanabilir.

Öğretmenlere yönelik hizmet içi eğitim; eğitimde amaçlanan niteliklerin öğrencilere kazandırılması için gerekli bilgi, beceri, tutum ve alışkanlıklar ile bilimsel ve sos-

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yo-ekonomik gerçekler ışığında eksikliği kanıtlanan mesleki bilgi, beceri, tutum ve alışkanlıkların öğretmenlere kazandırılmasını hedefleyen süreçlerin bütünü olarak tanımlanabilir (Budak, 1998). Hizmet içi eğitimde temel amaç; öğretmen ve yöneticileri değişen ve gelişen eğitim anlayışı konusunda bilgilendirmek ve bu süreçte onlara, etkili ve verimli olabilmeleri için gerekli bilgi, beceri ve davranışlar kazandırmaktır (Aytaç, 2000).

Hizmet içi eğitim faaliyetlerinin öğretmenler açısından yararları;

- Öğretmenlerin teknoloji kullanım yeterliklerini geliştirme (Kıranlı ve Yıldırım, 2014),
- öğretmenlerin teknopedagojik yeterliklerini geliştirme (Kıranlı ve Yıldırım, 2014),
- öğretmenlerin bilimsel, eğitsel ve bireysel yeterliliğini artırarak profesyonel gelişimini teşvik etme (Uçar ve İpek, 2006),
- öğretmenin gizli kalmış yeteneğinin ortaya çıkmasına yardımcı olma (Şen, 2003),
- öğretmeni hizmete yatkın kılma (Şen, 2003),
- öğretmenleri mesleki doyuma yöneltme (Uçar ve İpek, 2006),
- öğretmenlerin performansını geliştirme (Uçar ve İpek, 2006),
- öğretimin genel ve özel hedeflerini geliştirme (Uçar ve İpek, 2006),
- öğretmeni üst kademe sorumluluk mevkilerine hazırlama (Şen, 2003),
- kullanılan öğretim kaynaklarını iyileştirme (Uçar ve İpek, 2006),
- öğretmen ile yönetici arasında anlaşma olanağını geliştirme (Şen, 2003) şeklinde özetlenebilir.

2015 yılından itibaren Fatih projesi kapsamında yüzyüze yapılan eğitim programlarının uzaktan eğitim programları oluşturulmuş ve içerik oluşturma çalışmalarına başlanmıştır. Uzaktan eğitim içeriklerine (SCORM) ait senaryo çalışmaları YEĞİTEK (Yenilik ve Eğitim Teknolojileri Genel Müdürlüğü) eğitim birimi tarafından yürütülmüştür. Uzaktan eğitim içeriklerinin bir kısmı birimi tarafından üretilmiş bir kısmı ise hibe ve hizmet alımı yöntemi ile temin edilmiştir. Uzaktan eğitimler proje kapsamında sağlanan uzaktan eğitim sistemi üzerinden farklı zamanlı (asenkron) olarak yürütülmektedir. Sisteme lms.eba.gov.tr adresi üzerinden giriş yapılmaktadır.

2019 yılı Nisan ayı itibariyle uzaktan eğitimler EBA üzerinden Mesleki Gelişim platformu üzerinden açılmaktadır. 2015-2019 yılları arasında YEĞİTEK Genel Müdürlüğü tarafından aşağıda isimleri yer alan uzaktan hizmetiçi eğitimler yapılmıştır.

- Fatih Projesi Eğitmen Eğitimi Güncelleme Semineri
- Fatih Projesi Etkileşimli Sınıf Yönetimi Kursu
- FATİH Projesi - BTnin ve İnternetin Bilinçli ve Güvenli Kullanımı Kursu
- FATİH Projesi EBA V Sınıf Kursu
- Dinamik Matematik Yazılımı (Geogebra) Kursu
- Ağ Altyapısı Semineri

Alan yazında hizmet içi eğitim ile ilgili çalışmaların, hizmet içi eğitimin gerekliliği, önemi, sorunları, etkililiği, değerlendirilmesi ve hizmet içi eğitim ihtiyacı üzerine yoğunlaştığı görülmektedir. Bu çalışmada, öğretmenlerin Fatih projesi kapsamında düzenlenen uzaktan hizmet içi eğitimlere yönelik görüşlerini ve bu eğitimlerin öğretmenlerin mesleki gelişimlerine katlılarını inceleyerek alan yazına katkı sağlanacağı

düşünülmektedir. Bu nedenle araştırmanın amacı, Fatih Projesi kapsamında düzenlenen uzaktan hizmetiçi eğitimlere yönelik öğretmen görüşlerini, uzaktan hizmetiçi eğitimlerin öğretmenlerin mesleki gelişimlerine katkısı hakkındaki görüşlerini, öğretmenlerin uzaktan hizmet içi eğitimlerde karşılaşılan sorunlarını, karşılaşılan sorunlara yönelik çözüm önerilerini ve uzaktan hizmetiçi eğitimlerden beklentilerini belirlemektir.

YÖNTEM

Bu araştırmada, karma yöntem kullanılmıştır. Araştırmada önce nicel araştırma modellerinden betimsel tarama yöntemi kullanılmıştır. Araştırmada kullanılan MEBBİS (Millî Eğitim Bakanlığı Bilişim Sistemleri) kayıtlarının analizinde doküman analizi yapılmıştır. Daha sonra araştırmaya gönüllü katılan öğretmenlerin araştırma kapsamındaki görüşlerini belirlemek amacıyla nitel araştırma modellerinden durum çalışması yöntemi kullanılmıştır. Nitel veri toplama aracı olarak açık uçlu anket formu kullanılmıştır. Nitel verilerin çözümlenmesinde betimsel analiz kullanılmıştır.

Çalışmanın Katılımcıları

Araştırma verilerini 2015-2019 yılları arasında MEBBİS ortamından çekilen kayıtlar ve öğretmenlere dağıtılan anket formlarından elde edilen bulgular oluşturmaktadır.

Araştırmacı tarafından hazırlanan açık uçlu anket formu, elektronik ortama aktarılmış ve elektronik ankete erişim bağlantısı dijital iletişim kanallarından (sosyal medya, e-posta…) 2016–2019 Öğretim yılında Fatih Projesi kapsamında uzaktan hizmetiçi hizmet içi eğitim etkinliklerine katılmış öğretmenlere iletilmiştir. Araştırmanın katılımcılarını, açık uçlu anket formlarına yanıt veren 162 kadın ve 334 erkek toplam 496 öğretmen oluşturmuştur.

Veri Toplama Aracı

Araştırma amacına uygun olarak alan yazın taraması ve alan uzmanlarının katkıları sonucu 3 adet sorudan oluşan bir açık uçlu anket formu hazırlanmıştır. Açık uçlu anket formunda öğretmenlere sorulan sorular, "Uzaktan hizmet içi eğitim etkinliklerinin öğretmenlerin mesleki becerilerinin gelişmesindeki katkıları", "öğretmenlerin uzaktan hizmet içi eğitimler etkinliklerinde karşılaştıkları sorunlar" ve "öğretmenlerin uzaktan hizmet içi eğitimler etkinliklerinde karşılaştıkları sorunlara yönelik çözüm önerileri" içermiştir. Tema ve alt temalar tablo şeklinde verildikten sonra cümle alıntılarıyla da desteklenmiştir. Bulgular bölümünde öğretmenler Ö1---Ö496 şeklinde şifrelenmiştir.

Verilerin Analizi

Araştırmada MEBBİS ortamından çekilen kayıtlar doküman analizi yöntemiyle, açık uçlu anket formundan elde edilen veriler betimsel analiz tekniği ile analiz edilmiştir.

Geçerlik ve Güvenirlik

Araştırmanın iç geçerliğini sağlamak için alan yazın taraması yapılmış, betimsel analiz için veri toplama aracı olarak hazırlanmıştır. Verilerin analizi yapılırken uzmanların görüşleri alınmıştır. Bununla birlikte verilerin sayısallaştırılması ile çalışmada yanlı-

lık azaltılmaya çalışılmıştır. Verilerin toplanması için kullanılan veri toplama aracı ile toplanan verilerin betimsel analiz yöntemiyle incelenmesi sonucu elde edilen bulgu ve sonuçlarda kişisel hiçbir yorumda bulunulmamıştır.

Betimsel analiz sonrası verilerin sayısallaştırılması birkaç temel amaç için gerekli görülmektedir. Yıldırım ve Şimşek (2006) bu amaçları, güvenirliği arttırmak, yanlılığı azaltmak, tema veya kategoriler arasında karşılaştırma yapmak, tekrar yapılacak bir çalışmada kullanılmasını sağlamak olarak belirtmektedirler. Verilerin sayısallaştırılma amaçları doğrultusunda bu çalışmada sadece frekans hesaplaması kullanılmıştır.

BULGULAR

MEBBİS Raporları Bulguları

2015-2019 yılları arasında Fatih projesi kapsamında düzenlenen uzaktan hizmetiçi eğitim kurs etkinliklerinin ve kursiyer sayıları tablo 1'de görülmektedir.

Yıl	Eğitim Faaliyetinin Türü	Planda Yer Alan Faaliyet Sayısı	Gerçekleşen Faaliyet Sayısı	Planlanan Kursiyer Sayısı	Faaliyete Katılan Kursiyer Sayısı
2015	Uzaktan Eğitim	5	5	4850	14244
2016	Uzaktan Eğitim	44	44	350000	275506
2017	Uzaktan Eğitim	44	44	255000	65459
2018	Uzaktan Eğitim	41	36	56000	91341
2019	Uzaktan Eğitim	24	11	10500	6806
	TOPLAM	158	140	676350	453356

Tablo 1. Toplam Uzaktan Hizmetiçi Kurs ve Kursiyer Sayıları (2016-2019 Yılları)

Tablo 1 incelendiğinde, 2015-2019 yılları arasında 140 uzaktan hizmetiçi eğitim faaliyeti gerçekleştirilmiş, gerçekleştirilen uzaktan hizmetiçi eğitim faaliyetlerine toplam 453356 öğretmen katılmıştır. Uzaktan hizmetiçi kurs etkinliklerinin en fazla 2016 yılında 44 uzaktan hizmetiçi eğitim faaliyetine 275506 öğretmenin katılımıyla gerçekleştirildiği görülmektedir. Uzaktan hizmetiçi kurs etkinliklerinin 2019 yılında önceki 3 yıla oranla yarı yarıya faaliyet ve katılan kursiyer sayılarında azalma olduğu saptanmıştır.

Uzaktan Hizmet İçi Eğitim Etkinliklerinin Öğretmenlerin Mesleki Becerilerinin Gelişmesindeki Katkıları

Alt Tema	f
A. Beceri kazanımı	
A.1. Teknoloji kullanımı	254
A.2. Teknopedagojik yeterlikler	184
A.3. Branş alanına ilişkin beceriler	117
B. Yenilik	
B.1. Uyum	180
B.2. Güncel bilgi edinimi	158
C. Sürekli mesleki gelişim	290

Tablo 2. Uzaktan Hizmet içi Eğitim Etkinliklerinin Mesleki Becerilerin Gelişmesindeki Katkıları

Araştırmaya katılan öğretmenlerin uzaktan hizmet içi eğitim etkinliklerinin katkılarına yönelik görüşleri incelendiğinde, hizmet içi eğitim etkinliklerinin katkıları, beceri kazanımı, yenilik ve sürekli mesleki gelişim olarak gruplandığı görülmüştür.

Beceri kazanımı alt temasına ilişkin görüşler; teknoloji kullanımı, teknopedagojik yeterlikler ve branş alanına ilişkin beceriler olarak üç grupta toplanmıştır.

Uzaktan hizmetiçi eğitimler sayesinde içerik yönetim sistemleri ile tanıştım. EBA platformu da bir nevi içerik yönetim sistemi haline geldi. EBA platformunu bu sayede nasıl etkili kullanabileceğimi anladım. Eğitim süreçlerinde teknoloji kullanımımız daha da arttı, teknoloji kullanımı konusunda daha da bilinçlendik. (Ö131).

İçerik yönetim sistemleri aslında öğretmenlerin teknolojiyi nasıl öğrenme süreçlerini etkin şekilde yönetmemizi sağlıyor. Teknoloji bu anlamda bizlere zaman kazandırmakta ve öğrenme süreçlerini 40 dakikalık ders süresinin ötesine taşımamıza imkan vermekte. EBA'nın yeni versiyonu ile EBA bir içerik yönetim sistemi ve sosyal ağ olma yoluna girdi. Bu da biz öğretmenlerin başka platformlara yönelmememizi sağladı. Ücretsiz ve tamamen güvenilir platform. Aldığım kurslar sayesinde teknolojiyi öğrencilerimin öğrenme süreçlerinde aktif ve etkili kullanmalarını sağlayabileceğim konusunda nasıl rehber olabileceğim konusunda fikir edinmemi sağladı. Hizmetiçi eğitimler sayesinde artık teknolojiyi öğretme becerilerim ile harmanlayarak öğrencilerim için avantaj haline getirebildim (Ö219).

Öğretim yılı içerisinde, bakanlığımızın bizlerden istediği branşımızla ilgili güncel gelişmeleri daha net görme şansım oldu, dersin öğrenme süreçlerinde kullanılacak yeni yöntem ve yaklaşımlar hakkında oldukça yararlandım (Ö61).

Yenilik alt temasına ilişkin olarak uyum ve güncel bilgi edinimi şeklinde görüşler gruplandırılmıştır.

Tableti nasıl kullanacağımı bilmiyordum. EBA V sınıf uygulamasını ise hiç anlamlandıramamıştım. Almış olduğum uzaktan eğitim tablet kullanımı konusunda uyumumu sağladı (Ö5).

Bilişim teknolojileri öğretmeyim. Bizim dersin içeriği ve içeriğe bağlı olarak öğretme şeklimiz de sürekli değişiyor. Ben hizmetiçi eğitimleri değişimlere uyum ve güncel bilgilere erişimin en kolay sağlandığı bir yöntem olarak görüyorum (Ö107).

Sürekli mesleki gelişim alt teması ile ilgili görüşler şöyledir;

Mezun olduğum bilgiler geçerliğini kaybetti. Değişen sadece öğreteceğim bilgiler değil, öğretme – öğrenme süreçleri de ciddi anlamda değişti. Artık öğrenme merkezli yaklaşımları baz almak durumundayız. Bu nedenle kendimi sürekli geliştirmem ve mesleki anlamda bilgilerimi sürekli yenilemem gerektiğine inanıyorum. Uzaktan hizmetiçi eğitimlerin de bu anlamda kendimi mesleki olark sürekli gelişimime katkı sağladığı kanısındayım (Ö19).

20123 eğitim vizyonunu okudum. Hiçbirimiz artık diplomamıza güvenemeyiz. Eğitim sistemi de sürekli değişiyor. Kulağımızı kapatıp görmezden gelemeyeceğimiz noktada hizmetiçi eğitimler önemli. Sürekli değişen sistem ve yaklaşımlara karşı kendimizi mesleki anlamda da sürekli geliştirmemiz gerekir. Hizmet içi eğitimler de bunun için önemlidir. (Ö122)

Alt Tema	f
A. Kurs planlamasından kaynaklı sorunlar	
A.1. İnternet erişim problemleri	65
A.2. Kurs faaliyet zamanı planlaması	48
A.3. Sürekli olmaması	41
A.4. Ders yönetimi	15
A.5. Güncel olmaması	3
B. Kursiyerden kaynaklı sorunlar	
B.1. Zamanı kullanamama	48
B.2. Kursiyer isteksizliği	21
B.3. Dikkat dağınıklığı	14
C. Sorun yok	68

Tablo 3. Uzaktan Hizmet İçi Eğitim Etkinliklerinde Karşılaşılan Sorunlar

Araştırmaya katılan öğretmenlerin uzaktan hizmet içi eğitim etkinliklerinde karşılaştıkları sorunlara yönelik görüşleri incelendiğinde, hizmet içi eğitim etkinliklerinde karşılaşılan sorunların, kurs planlamasından kaynaklı sorunlar, kursiyerden kaynaklı sorunlar olduğu görülmüştür.

Kurs planlaması alt temasına ilişkin beş farklı boyutta görüş belirtilmiştir. Bunlar; internet erişim problemleri, kurs faaliyet zamanı planlaması, kursların sürekli olmaması, ders yönetim sorunları ve güncel olmaması şeklindedir. Bunlara ilişkin görüşler şöyledir:

Ne zaman interneti açsam donma sorunları yaşıyorum. Bu benim internet erişimimden kaynaklı bir sorun mu ya da benim gibi binlerce öğretmen aynı anda bağlandığında e-okul gibi alt yapı sorunlarından mı kaynaklanıyor bilmiyorum. İnternet çoğu zaman çekmiyor. Burada zaten telefon da çekmiyor. Bu sorunlar da benim için olumsuz etkiliyor (Ö92).

Kurslar neden tatil dönemlerinde düzenlenmiyor? Bizlerin de aileleri var. Okuldan sonra interneti açıp da kursa katılmak inanın içimden gelmiyor. Zaten yorgun oluyorum. Akıllı tahtalar gözlerimi alıyor. Evde bir de ekran gözlerim iyice bozuldu. Uzaktan eğitimler de çok zaman alıyor inanın aileme vakit kalmıyor. Bu eğitimleri yarı yıl ya da yaz tatilinde rahat rahat alamıyoruz (Ö142).

Aldığım eğitimler süreklilik ve devamlılık gösteremiyor maalesef. Aşama aşama benim demek istediğim. Level level, oyunlarda olduğu gibi. Bir seviyeyi aldıktan sonra ileri düzeyi açılmıyor ya da biz o eğitimi alamadan eleniyoruz bir şekilde. Kurs bittikten sonra bu kurs konusu ile ilgili başka bir eğitimle devam etmemiz gerekir bana göre. Bu nedenle kursun düzeyinde kalıyoruz, hizmetiçi eğitimlerin bu konuda sürekliliği olmuyor. Yapılıp bitiyor (Ö6).

Uzaktan aldığım kurs süresince yönetim sorunları yaşadım. Sistemin beni zorladığını hissettim. Bildiğim konular da bile beni o içeriği sonuna kadar dinlememi zorunlu kıldı. Bir esneklik tanımadı. İlla ki içeriğin sonlanmasını beklememi ve etkileşime geçmemi istedi. Sistemi yönetmem ve kendi öğrenmemi kendim yönetmem konusunda bana dayatma yaptı. Bu da benim için büyük sorun oldu (Ö. 313).

Ben eğitimlerin sürekli güncellenmesini ve özellikle de içeriklerin sürekli yenilenmesini istiyorum. Eğitimler bir kere yapılıyor sonra onu uzun süre kullanmak istiyorlar. Belki bir eğitimden sonra içerik yeniden güncellenebilir. Değişimler sürekli olmalı (Ö.13).

Kursiyerden kaynaklı sorunlar alt temasına ilişkin iki çeşit görüş belirtilmiştir. Zamanı kullanamama, kursiyer isteksizliği ve dikkat dağınıklığı.

Uzaktan hizmetiçi eğitimler için bizlere iki hafta gibi süre tanınıyor. Bu nedenle yarın girerim, sonra girerim gibi bahanelerden dolayı bir de o günkü yorgunluğumun getirdiği isteksizlikle öteliyorum. Son üç gün kala girerim dediğim kusun içeriğinin yoğun olduğunu anladığım da sabaha kadar ekran başında olduğumu hatırlıyorum. Geniş zamanlar da anlaya anlaya gitmek varken, kurs bitsin diye hızlı hızlı bitirdim. Sonun da sınavı da geçemedim tabi ki (Ö162)

Okul sonrası evde televizyon ve sosyal medya varken biliyorum mesleğim için gerekli ama ne zaman bilgisayarı açsam içimden kursa katılmak gelmiyor. Yüz yüze eğitimlerde kurs bir şekilde gidiyor ama uzaktan eğitimlerde sosyal iletişim olmayınca isteksiz kalıyorum (Ö122).

Ben alışmamışım ekran başında saatlerce kalmayı. Kitap okumayı, kursu veren hoca ile göz teması kurmayı, soru sormayı birebir. Ekran başında dikkatim dağılıveriyor. Bir önceki ekranda ne anlatıldı unutuyorum (Ö324).

Öğretmenlerin Uzaktan Hizmet İçi Eğitimler Etkinliklerinde Karşılaştıkları Sorunlara Yönelik Çözüm Önerileri

Alt Tema	f
A. Kurs planlaması	
A.1. Alan bazında eğitimler yapılsın	305
A.2. Kurs içeriği güncelleştirilsin	229
A.3. Kurs faaliyet zamanı iyi planlansın	45
A.4. Yeni bir değerlendirme şekli uygulansın	25
B. Kursun Uygulanması	
B.1. Uygulamaya yönelik etkinliklerin düzenlenmesi	270
B.2. Rehberlik hizmeti verilmeli	109
C. Kursiyer	
C.1. Kursiyerlerin teşvik edilmesi	203

Tablo 4. Hizmet içi Eğitimler Etkinliklerinde Karşılaştığınız Sorunlara Yönelik Çözüm Önerileri

Araştırmaya katılan öğretmen ve okul yöneticilerinin hizmet içi eğitim etkinliklerinde karşılaştıkları sorunlara yönelik çözüm önerileri incelendiğinde, çözüm önerilerinin kurs planlamasına, kursun uygulanmasına ve kursiyere yönelik olduğu görülmüştür.

Kurs planlaması alt teması ile ilgili dört farklı grupta görüş yer almaktadır. Bunlar; alan bazlı eğitimler yapılsın, kurs içerikleri güncelleştirilsin, kurs faaliyet zamanı iyi planlansın, yeni bir değerlendirme şekli uygulansın şeklindedir. İlgili görüşler şöyledir;

> *Kurs içeriğinin zümrelere göre özelleştirilmesi gerektiğine inanıyorum. Bir matematik öğretmeni ile bir sosyal bilimler öğretmeninin alacağı kursun içeriği, kursta sunulan örnekler ve uygulama şekli farklı olacaktır. Yüzyüze eğitimler de bile bu farkı korumak zor iken her zümreye aynı içerik öğretmenin aldığı eğitimi dersine entegre etmesini güncelleştirir bence. Bu nedenle her ders için ayrı alan bazlı uzaktan eğitimler düzenlenmeli (Ö. 39).*

> *Ben eğitimlerin sürekli güncellenmesini ve özellikle de içeriklerin sürekli yenilenmesini istiyorum. Eğitimler bir kere yapılıyor sonra onu uzun süre kullanmak istiyorlar. Belki bir eğitimden sonra içerik yeniden güncellenebilir. Değişimler sürekli olmalı (Ö.13).*

> *Uzaktan hizmet içi etkinliklerin zamanlaması, genellikle iş yoğunluğu dönemlerine denk geliyor. Etkinliklerin tatil dönemlerine alınması gerekir (Ö. 61).*

> *Kurs sonu ve öncesi sınavların yerine, proje hazırlama, derste uygulayabilme, süreç değerlendirme şeklinde değerlendirmeler yapılabilir (Ö. 98.)*

Kurs uygulanması alt teması ile ilgili iki farklı grupta görüş yer almaktadır. Bunlar; uygulamaya yönelik etkinliklerin düzenlenmesi ve rehberlik hizmeti verilmeli şeklindedir. İlgili görüşler şöyledir;

> *Uzaktan hizmet içi eğitimlerde de CİSCO, Google ve Microsoft'un düzenlediği uzaktan eğitimlerde olduğu gibi teorik bilgi yanında bilginin pratiğe dökebilecek ya da pilot uygulamalar yapmamızı sağlayabilecek imkanlar ya da uygulamalar geliştirilmesinin daha anlamlı ve kalıcı olacağına inanıyorum (Ö.251).*

> *Uzaktan eğitim hizmetlerinden biri rehberlik hizmetidir. İkinci üniversite eğitimimi uzaktan olarak aldım. O eğitim süresince bana rehberlik hizmeti de sağlanmıştı. Uzaktan hizmetiçi eğitimlerde de senkron ya da asenkron rehberlik hizmeti alabileceğim hizmetler getirilebilir (Ö.44).*

Kursiyer alt teması ile ilgili görüşler şöyledir;

> *Uzaktan hizmet içi eğitim kurslarına katılan öğretmenlere performans puanı gibi teşvikler verilsin ki öğretmenlerin hizmet içi kurslara karşı teşvik edilmesi sağlansın (Ö205).*

TARTIŞMA VE SONUÇ

MEBBİS kayıtlarına göre, 2015-2019 yılları arasında 140 uzaktan hizmetiçi eğitim faaliyeti gerçekleştirilmiş, gerçekleştirilen uzaktan hizmetiçi eğitim faaliyetlerine toplam 453356 öğretmen katılmıştır. Uzaktan hizmetiçi kurs etkinliklerinin en fazla 2016 yılında 44 uzaktan hizmetiçi eğitim faaliyetine 275506 öğretmenin katılımıyla gerçekleştirildiği görülmektedir. Uzaktan hizmetiçi kurs etkinliklerinin 2019 yılında önceki 3 yıla oranla yarı yarıya faaliyet ve katılan kursiyer sayılarında azalma olduğu saptanmıştır. Alan yazından yapılan araştırmalar sonucunda bu bulguya benzer bir bulguya rastlanmadığı için bu bulgu öncü bulgu özelliği taşımaktadır.

Araştırmaya katılan öğretmenlerin uzaktan hizmet içi eğitim etkinliklerinin katkılarına yönelik görüşleri incelendiğinde, hizmet içi eğitim etkinliklerinin katkıları, beceri kazanımı, yenilik ve sürekli mesleki gelişim olarak gruplandığı görülmüştür. Bu araştırma sonucuna benzer sonuçlar Kıranlı ve Yıldırım (2014) tarafından yapılan araştırma sonucu ile benzerlik göstermektedir. Kıranlı ve Yıldırım (2014), uzaktan hizmet içi eğitim etkinliklerinin katkılarının beceri kazanımı, yenilik ve yaşam boyu öğrenme olduğu bulgusunu paylaşmışlardır.

Araştırmaya katılan öğretmenlerin uzaktan hizmet içi eğitim etkinliklerinde karşılaştıkları sorunlara yönelik görüşleri incelendiğinde, hizmet içi eğitim etkinliklerinde karşılaşılan sorunların kurs planlamasından kaynaklı sorunlar ve kursiyerden kaynaklı sorunlar olduğu görülmüştür. Bu araştırma sonucuna benzer sonuçlar Kıranlı ve Yıldırım (2014) tarafından yapılan araştırma sonucu ile benzerlik göstermektedir. Kıranlı ve Yıldırım (2014), öğretmenlerin hizmet içi eğitim etkinliklerinde karşılaştıkları sorunların öğretim görevlisi, kurs planlaması, kursiyer, katılım şekli, kursun uygulanması, ulaşım konaklama kaynaklı olduğu bulgusunu paylaşmışlardır.

Araştırmaya katılan öğretmen ve yöneticilerin hizmet içi eğitim etkinlikleri kapsamında karşılaştıkları sorunlar kapsamında, kurs planlaması boyutunda elde edilen sonuçlar Uçar ve İpek (2006) tarafından yapılan araştırma sonuçları ile benzerlik göstermektedir. Uçar ve İpek (2006) hizmet içi eğitim programlarında sağlıklı ve düzenli bir hizmet içi eğitim programının planlanmadığı görüşlerine sahip oldukları belirlenmiştir.

Araştırmaya katılan öğretmenlerin hizmet içi eğitim etkinliklerinde karşılaştıkları sorunlar kapsamında, kursiyer isteksizliği, zamanı kullanamama elde edilen sonuçlar Uçar (2005), Güneş (2006) ve Çatmalı (2006) tarafından yapılan araştırma sonucu ile benzerlik göstermektedir. Uçar (2005), yönetici ve öğretmenlerin hizmet içi eğitim uygulamalarının uygun zaman ve ortamlarda yapılmadığı; ihtiyaç ve beklentilerini karşılamada yetersiz olduğu, katılımcıların, faaliyet esnasında öğrendiklerini uygulayamadıkları sonucuna ulaşmıştır. Güneş (2006)'in araştırma sonucunda; hizmet içine katılmak istemeyen öğretmenlerin en çok kişisel sebeplerden dolayı istemedikleri, eğitim yılı içerisinde çalışma saatlerinden sonra yapıldığı için yorucu olduklarını düşünmeleri sonucuna ulaşılmıştır. Çatmalı (2006)'nın araştırma sonucunda; kursiyer öğretmenlerin, kurs içeriği hakkında ön bilgileri olmadığı ve bu konuda daha önceden görüşlerinin alınmadığı, kursiyerlerin, kurs süresinin yeterli fakat veriliş zamanı olarak yanlış olduğu anlaşılmıştır.

Araştırmaya katılan öğretmenlerin hizmet içi eğitim etkinliklerinde karşılaştıkları sorunlar kapsamında, kursiyer isteksizliği boyutunda elde edilen sonuçlar Baştürk (2012) tarafından yapılan araştırma sonucu ile benzerlik göstermektedir. Baştürk (2012)'ün araştırma sonucunda; alan öğretmenlerinin ilgisini çeken hizmet içi kurslarının daha az düzenlendiği; bu nedenle de öğretmenlerin kurslara karşı isteksiz oldukları sonucuna ulaşılmıştır.

Araştırmaya katılan öğretmen ve okul yöneticilerinin hizmet içi eğitim etkinliklerinde karşılaştıkları sorunlara yönelik çözüm önerileri bu araştırmada incelendiğinde, çözüm önerilerinin kurs planlamasına, kursun uygulanmasına ve kursiyere yönelik olduğu görülmüştür.

Araştırmaya katılan öğretmenlerin hizmet içi eğitim etkinliklerinde karşılaştıkları sorunlara yönelik geliştirdikleri çözüm önerileri kapsamında, kursun planlamasına ve kursun uygulamasına yönelik iyileştirmeler, kursiyerlere yönelik teşvikler boyutlarında elde edilen sonuçlar Kıranlı ve Yıldırım (2014), Cin (2008) ve Ulus (2009) tarafından yapılan araştırma sonucu ile benzerlik göstermektedir.

Öğretmenler FATİH Projesi kapsamında düzenlenen uzaktan hizmetiçi eğitimleri faydalı ve gerekli görmektedirler. Hizmet içi eğitimlerde, eğitimlerin teknoloji kullanım düzeylerine göre planlanmasını ve mümkün olduğunca bu eğitimlerin yüz yüze olmasını, uzaktan eğitim yapılacaksa da uygulama desteğinin sağlanacağı yüz yüze ya da çevrimiçi bir rehberlik hizmetinin sağlanmasının gerekliliğine inanıyorlar. Öğretmenler FATİH Projesi kapsamında düzenlenen uzaktan hizmetiçi eğitimlerin daha çok alan bazında olmasını istemektedirler. Alan yazından yapılan araştırmalar sonucunda bu bulgulara benzer bir bulguya rastlanmadığı için bu bulgular öncü bulgu özelliği taşımaktadırlar.

Öneriler

Uzaktan hizmet içi eğitimlere katılımın desteklenmesi ve teşvik edilmesi için hizmet içi eğitime katılımın kariyer basamaklarında, performans ölçümünde, başarı ödülü verilmesinde, yöneticilik atamalarında kullanılması sağlanabilir. Zorunlu kurslar kadar isteğe bağlı kursların düzenlenmesi, bunun için de hizmet içi eğitim kurslarının iyi organize edilip, öğretmenlerin ihtiyaçlarına ve isteklerine yönelik kursların düzenlenmesi sağlanmalıdır. Kursların faaliyet sürelerinin yeniden düzenlenmesi ve planlanması sağlanabilir. Kurs sonu standart sınavlar yerine alternatif değerlendirme sistemleri geliştirilebilir. Kursun etkililiği konu alanına göre farklılık göstermektedir. Bu nedenle eğitim sonrasında da öğretmenlere okulda destek verilmelidir. Öğretmenlerin eğitimde öğrendiklerini (FATİH Projesi Teknolojilerini) kullanma düzeyleri izlenmeli ve desteklenmelidir. Bu desteği öğretmenlerin ihtiyaçlarına uygun bir şekilde verebilmek ve alan transferini izleyebilmek için bir destek sisteminin geliştirilmesi ve kullanılması önerilmektedir. Bu destek sisteminde konu alanına özgü paylaşımların, öğretmenlerin doğrudan bireysel ihtiyaçlarına (düzeylerine) yönelik eğitimlerin yer alması önerilmektedir.

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Whatsapp'ın Matematik Öğrenimini Kolaylaştırma Özelliği

Önder ÖZTÜRK[1]

Özet

Bu çalışma, WhatsApp anlık mesajlaşmanın matematik öğrenmesi için bir araç olarak kullanıldığını göstermektedir. Çalışmamızda nitel ve nicel yaklaşımları birleştiren karma yöntem modeli kullanılmıştır. Bu çalışmaya katılanlar Lise öğrencilerden oluşmaktadır. WhatsApp'ın bir araç olarak kullanılması matematik öğrenimini sosyal etkileşim içinde öğrenmeyi kolaylaştırmasının yanı sıra bilişsel gelişim için yeterli olduğu düşünülmektedir.

Anahtar Kelimeler: *Mobil Destek, WhatsApp, Uzaktan Eğitim, Durum Çalışması.*

GİRİŞ

Bu çalışmanın amacı Lise öğrencilerinin kesintisiz bir şekilde eğitimlerini sürdürebilme, kendilerini geliştirebilme, aynı zamanda maddi durumu yetersiz olan öğrencilerin öğrenim süreçlerinin sekteye uğramaması adına WhatsApp öğrenme süreçlerinin zenginleştirilmesini adına kullanım kolaylığının yanı sıra fotoğraf, video paylaşmaya olanak vermesi bakımından destek sağlamak isteyen matematik öğretmenlerine katkı sağlayacağı düşünülebilir.

Araştırma Sorunsalı

Günümüzde, birçok anlık mesajlaşma programları ortaya çıkmış ve insanların iletişimini, birbirleri ile olan etkileşimini, öğrenme yöntemini kolaylaştıran bir süreç haline getirmiştir. Bu konuda, (Murray, 2008) öğrenme topluluklarında sosyal ağ ve mesajlaşma programları, insanların iletişim kurma şekillerini ve bilgi paylaşımlarını değiştirdiğini ifade etmiştir. Mobil teknolojilerin kolay ulaşılabilir ve taşınabilir olması sayesinde eğitim alanında uygulama ve pratik yapma fırsatı sunması öğrenme etkinliklerinin mekândan bağımsız olmasına olanak sağlar (Saran, Seferoğlu ve Çağıltay, 2009). Bu çalışmanın amacı Lise öğrencilerinin matematik öğrenmesine katkıda bulunmak ve destek sağlamak amacıyla WhatsApp uygulamasının hangi matematik araçlarına sahip olması gerektiği ve kullanılabilirliği tespit edilmeye çalışılmıştır.

Araştırmada nitel ve nicel yaklaşımları birleştiren karma yöntem modeli kullanılmıştır. Karma yöntem araştırması kullanılarak, nicel ve nitel yöntemlerin güçlü yönleri kullanılabilir ve bu yöntemlerin sınırlamaları minimize edilebilir (Creswell, 2003). Çalışmanın amacı doğrultusunda aşağıdaki sorulara cevap aranmıştır:

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- Öğrencilerin WhatsApp'ı destek olarak kullanımı ders başarısında önemli bir fark gösterir mi?
- Matematik öğreniminde ihtiyaç duydukları destek ve çalışma süreçlerini değerlendirme biçimleri nelerdir?
- Öğrenciye destek sağlayacak WhatsApp uygulamasının matematik bileşenleri ne olmalıdır?

İlgili Alanyazın

Alanyazında anlık mesajlaşma programları ile eğitim uygulamaları üzerine yapılan çalışmalarda, bu programların öğrenmeyi kolaylaştıran etmenlere sahip olduğu tespit edilmiştir (Smit, 2012; Cetinkaya, 2017). WhatsApp Messenger, öğrenen-öğreten arasında çalışma boyunca kullanılabilecek erişilebilirlik, yakınlık, dostluk, kullanışlılık özelliklerini göstermiştir. Geleneksel olarak uzaktan eğitimle bağlantılı matematik dersi zayıf olan öğrencilere desteği göz önüne alındığında, öğrenenler için WhatsApp'ı vazgeçilmez bir destek aracı olarak benimsedikleri görülmektedir. (Simui vd., 2018).

WhatsApp gruplarında yer alan öğrenciler yaptıkları çevrimiçi konuşmalarda, yapılan paylaşımlar ile sınavlarda elde edilen başarılar öğrencilere bilişsel bir katma değer sunmaktadır. WhatsApp grupları aracılığıyla yapılan tartışmalar öğrenenlerin etkinliğini artırır (Chan, 2005), bilgiye ulaşmada bilgiyi sentezlemede zorlanan öğrencilerin, bilgi birikimi ve hızlı paylaşımlar sayesinde bu zorlukları aşılması sağlanır.

Tait (2000), uzaktan eğitim ortamlarındaki öğrenciler için öğrenen destek servisleri fonksiyonlarını bilişsel, duyuşsal ve sistemsel üç başlık altında tanımlamaktadır. Öğrenci destek hizmetlerinin çoğu sistemsel özelliklere odaklanır. Genellikle rehberlik, danışmanlık, değerlendirme, koçluk vb. gibi öğrenen destek hizmetleri bilişsel bir işlevdir. Öğrenme toplulukları ile ilgili araştırmalarında (Strijbos, Fischer, 2007), işbirlikçi öğrenme stratejilerinin, bir eğitmen varlığında işbirliğine dayalı çevrimiçi ortamda öğrenciler arasında bilgi oluşturmak ve paylaşmak için çok faydalı olduğunu belirtmiştir.

Öğrenci kontrolü, öğrencilerin kendi öğrenimlerini oluşturması, akranları ile aktif etkileşimleri, sosyal ortamın öneminin yanı sıra öğrenme etkinliklerini değerlendiren bir kavramdır. Öğretenin geri bildirimleri ile cesaretlendirici bir şekilde desteklenmesini sağlayan öğrenciye rehberlik eden didaktik konuşma kavramını tanımlamıştır. Matematik öğrenme etkinliklerini desteklemek için çevrimiçi topluluklarda işbirlikçi öğrenme stratejilerinin benimsenmesini incelemiş ve öğrencilerin işbirlikçi topluluklara katılımını etkileyen bir dizi faktörün bulunduğunu tespit etmiştir. Öğrenciler, matematik dersleriyle ilgili bilgileri paylaşmak için çevrimiçi topluluklara katılmaya olumlu yönde odaklanırlar (Mercier , Higgins, 2013).

Çocuklara okul dışı yaşamlarında "matematiği anlamalarına" yardımcı olmak matematikle bağlantı kurarak çözüm yollarını birlikte geliştirmeleri için çok sayıda olanak tanınabilir. Mobil öğrenme yaklaşımı, öğrencilere hedefe yönelik çalışmaları için sosyal ilişkiler sunmaktadır. Bunların başında, mobil öğrenme, ev-okul arasında veya daha genel olarak formal ve informal arasında köprü kurmaya yardımcı olacak bilgi ve becerileri sağlamaktadır (Sharples, Taylor ve Vavoula, 2007).

Yaygın öğrenme ortamları, mobil destek sistemlerini örtük ve kusursuz bir şekilde hareket ettiği, zaman ve mekândan bağımsız ortamlardır. Öğrencilerin geleneksel olarak informal etkinlikler ile meşgul oldukları okul dışı zamanlarla da ilişkilendirilmiştir. Mobil öğrenme destek sistemlerinin motivasyon, katılım ve öz-saygı üzerinde önemli etkileri olabileceği ortamlar arasındadır (Miller, 2003).

YÖNTEM

WhatsApp Messenger matematik kullanım yoğunluğu farklı olan öğrenciler seçilerek veri toplanmıştır. Durum çalışmasında derinlemesine görüşmelerin iki yönlü iletişimi destekleyen avantajı, görüşülen kişinin görüşmeciye sorular sorabileceği ve söz konusu sorunun anlaşılmadığı zaman bir açıklama isteyebilmesidir. Derinlemesine görüşmeler, özellikle bir araştırmanın anket uyguladığı durumlarda, araştırmanın nicel yanına fayda sağlayacak kişilerin verdiği cevapların arkasında yatan gerekçeler hakkında bilgi vermektedir. Bu nedenle, derinlemesine görüşme, anket sonuçlarını sağlamlaştırmaya ve daha ayrıntılı hale getirmeye hizmet edebilir.

Araştırma Alanı ve Katılımcılar

Bu çalışmanın amacı lisede eğitim görmekte olan öğrencilere matematik öğrenimi ihtiyaç sahibi öğrencilere destek sağlaması için WhatsApp Messenger uygulamasının sahip olması gereken özellikler üzerinde durulmuştur. Araştırmada, çalışma grubunun belirlenmesinde alanyazında yer alan çok sayıdaki durumdan tipik olan bir durum üzerinden bilgi toplanması amacıyla tipik durum örnekleme tekniği kullanılarak lise öğrencileri ve bu öğrencilerle etkileşim halinde olan matematik öğretmenlerinden seçilmiştir.

Rolü	***Açıklama***	***Kod***
Öğrenci	Yaş:16, Erkek, Günlük ortalama WhatsApp kullanımı 2 saat, Anadolu Lisesi Sayısal Bölümü, Matematik Başarı Puanı 69	M1
	Yaş:17, Kız, Günlük ortalama WhatsApp kullanımı 2 saat, Kız Meslek Lisesi, Matematik Başarı Puanı 75	M2
	Yaş:18, Kız, Günlük ortalama WhatsApp kullanımı 4 saat, Ticaret Meslek Lisesi, Matematik Başarı Puanı 88	M3
	Yaş:18, Kız, Günlük ortalama WhatsApp kullanımı 3 saat, Matematik Başarı Puanı 77	M4
	Yaş:17, Kız, Günlük ortalama WhatsApp kullanımı 3 saat, Meslek Lisesi, Matematik Başarı Puanı 57	M5
	Yaş:17, Erkek, Günlük ortalama WhatsApp kullanımı 1 saat, Fen Lisesi Sayısal Bölümü, Matematik Başarı Puanı 82	M6
Öğretmen	Öğretmen, 15 yıllık öğretmenlik deneyimi, WhatsApp kullanımı yüksek, öğrencilerle sosyal ağlarda etkin (paylaşımlara yorum yapıyor) durumda	O1
	Öğretmen, 18 yıllık öğretmenlik deneyimi, WhatsApp kullanımı düşük, öğrencilerle sosyal ağlarda etkileşim kurmuyor.	O2
	Öğretmen, 25 yıllık öğretmenlik deneyimi, WhatsApp kullanımı çok yüksek, öğrencilerle sosyal ağlarda etkin (paylaşımları takip eder) durumunda	O3

Tablo 1. Araştırmada Kullanılan Kodlar

Araştırmada 6'sı öğrenci, 3'ü bu öğrencilerin matematik dersine yardımcı olan öğretmen olmak üzere 9 katılımcı yer almaktadır. Katılımcıların görüşleri daha sonraki bölümlerde tabloda yer alan kodlamalara göre ayrıntılı olarak verilmiştir.

Veri Toplama Araçları ve Veri Toplama Süreci

Verilerin toplanmasında yarı yapılandırılmış bireysel görüşme tekniği kullanılmıştır. Katılımcıların WhatsApp Messenger'ı matematik öğreniminde kullanım oranları, uygulama üzerinden yapılan yarı yapılandırılmış görüşmeler, soru veya konuların şematik bir şekilde ve görüşmeci tarafından araştırılan yarı yapılandırılmış görüşme rehberine dayanır. Görüşmeler öğrencilerin sınavları öncesinde ve sonrasında öğretmenleri ile birebir olarak gerçekleştirilmiştir. Görüşmeler yaklaşık olarak 15 ile 30 dakika arasında sürmüştür. İlk görüşme katılımcıların WhatsApp matematik kullanım oranlarını tespit etmeye yönelik olup, ikinci görüşmede süreç boyunca sağlanan desteğin yanında WhatsApp matematik kullanım oranları hakkında bilgi toplanılması sorular ile sağlanmıştır. Bununla birlikte, mevcut literatürün derinliğine ve aralığına bağlı olarak, vaka çalışmasında elde edilen veriler gruplandırılmış ve bu gruplar ile ilişkilendirilmiş kodlamalar arasında anlamlı bir ilişki olup olmadığına yönelik içerik analizi yapılmıştır.

Veri Analizi

Araştırma kapsamında sınavlar öncesinde ve sonrasında yapılan görüşmelerden, gözlem verileri ve sınav sonrası dokümanların incelemesinden elde edilen verilerin incelenmesinde içerik analizinden yararlanılmıştır. Analiz sürecinde, veriler organize edilerek olası tüm kodlamalar tanımlanmış ve farklı temalar aynı tema şemsiyesi altında birleştirmek suretiyle temaları genişletmekle başlanmıştır. Tanımlanmış tüm kodların gözden geçirilip harmanlanması ile kodların bazıları ana tema diğerleri alt tema olarak verilmiştir.

Araştırmanın Güvenilirliği

Araştırmada yorumlayıcı bir yaklaşım benimsendiğinden, araştırma için veri toplamak için derinlemesine görüşme ana yöntem olarak kullanılmasına karar verilmiştir. Yorumlayıcı araştırmanın temel endişesi, insan deneyimlerini bütüncül düzeyde ele almaktadır. Bu tür araştırmaların doğası gereği, araştırmalar genellikle derinlemesine görüşme, katılımcı gözlemi ve ilgili belgelerin toplanması gibi yöntemlerle sağlanır.

Etik Açıdan Bakış

Araştırma için öncelikli olarak öğretmenler ile görüşülerek çalışma amacına yönelik beklentileri tespit etmek için yüz yüze konuşma yapılmıştır. WhatsApp mesajları ve çalışmanın gizliliği esasında kendilerine sorumlulukları bildirilmiştir. Öğretmenlerden birlikte çalışabilecekleri ve çalışma boyunca destek olabilecek belirli sayıda öğrenci ile çalışmaları istenmiştir. Bu kapsamda, 30 öğrenci ile görüşme yapılmış, gönüllülük esasına göre katılımı kabul eden ve WhatsApp uygulamasını kullanan, her bir öğretmenin danışmanlığında 2'şer öğrenciden toplamda belirlenen 6 öğrenci çalışmaya dâhil edilmiştir. Öğrenenler ile öğretmenler arasında oluşturulan yazışmalar toplanarak elde edilen veriler sayısallaştırılmış ve analiz edilmiştir. Kodlanarak sayısallaştırılan görüşme kayıtları, alınan notlar, paylaşılan dokümanlar öğrenenlerin ve öğretmenlerin katılımıyla gerçekleştirilen görüşmede bilgiler yok edilmiştir.

Bulgular

Araştırma sürecinde elde edilen bulgular öğrencilerin WhatsApp-matematik kullanım oranları, eğitim öğretim süreçlerinde ihtiyaç anında duydukları destek ve öğrencilere WhatsApp-matematik uygulamasının tamamlayıcı parçaları ile belirlenen temalar doğrultusunda veriler kodlanarak analiz edilmiştir.

Öğrencilerin WhatsApp matematik kullanım oranları incelendiğinde **Teknik** (Matematiksel kavramların yazım basitliği, Öğrenenlerin her zaman kullanması, Öğretmenlerin desteğini yeterli bulması, Matematik dersine olan ilginin artması, WhatsApp ile birebir rehberlik desteği), **Eğitim** (Derinlemesine bilgi tartışma ortamı, Keyifli, güzel, hoş atmosfer, Gruba aidiyet duygusu, Öğrenenler arasında iletişim düzeyi, Öğrenenlerin birbirine yardım eder ve materyalleri birbiri ile paylaşır, Öğretmen-öğrenen arasındaki ilişki, Mezunlarla iletişim) ve Öğretici (Materyallere ulaşabilme imkânı, Öğretmenin müsait olma durumu, Herhangi bir yerde herhangi bir zamanda öğrenme, Hataları hemen düzeltebilme imkanı, Güvenli öğrenme ortamı) olmak üzere üç ana tema ortaya çıkmıştır.

Rolü	*Öğretmen-Öğrenci WhatsApp grubu*	*Öğrenen*	*Frekans*
Teknik	Matematiksel kavramların yazım basitliği	M1, M2, M3	3
	Öğrenenlerin her zaman kullanması	M1, M2, M3, M4, M5, M6	6
	Öğretmenlerin desteğini yeterli bulması	M2, M3, M5	3
	Matematik dersine olan ilginin artması	M1, M2, M3, M4	4
	WhatsApp ile birebir rehberlik desteği	M2, M4	2
Eğitim	Derinlemesine bilgi tartışma ortamı	M1, M2, M3	3
	Keyifli, güzel, hoş atmosfer	M1, M2, M3, M4, M6	5
	Gruba aidiyet duygusu	M1, M2, M3, M4, M5, M6	6
	Öğrenenler arasında iletişim düzeyi	M1, M2, M4, M5	4
	Öğrenenlerin birbirine yardım eder ve materyalleri birbiri ile paylaşır	M1, M3, M4, M6	4
	Öğretmen-öğrenen arasındaki ilişki	M2, M3, M6	3
	Mezunlarla iletişim	M1, M2, M5	3
Öğretici	Materyallere ulaşabilme imkânı	M1, M3, M4	3
	Öğretmenin müsait olma durumu	M2, M5	2
	Herhangi bir yerde herhangi bir zamanda öğrenme	M2, M4, M5	3
	Hataları hemen düzeltebilme imkânı	M1, M2	2
	Güvenli öğrenme ortamı	M1, M2, M3, M4, M5, M6	6

Tablo 2. WhatsApp-Matematik Kullanımları

Eğitmen ve öğrenenlerin çoğu WhatsApp kullanıyor ancak çoğu öğrenenin gelen iletileri kontrol etmemesi halinde zayıf iletişim gerçeğini ortaya koymaktadır. Katılımcıların bazıları, WhatsApp gruplarını öğrencilerle kişilerarası iletişim biçimi olarak da kullanmakla birlikte, gruplar içinde iletişimi kolaylaştırdığını söylemektedir.

Sonuç olarak, görüşmeler WhatsApp'ın öğrenciler tarafından kullanımının basit olması, herkesin tercih etmesi, iletişim ve sosyal ortam kurulmasına katkı sağladığından tercih edildiğini göstermiştir. Öğrencilerin net olarak ifade ettikleri, öğretmen öğrenci ilişkisinde öğretmenin öğrencileri derinlemesine tanıma fırsatı sağladığını söylediler.

WhatsApp matematik konusunda öğretmen ve öğrenciler arasındaki kişilerarası ilişkilere katkıda bulunabilir. Öğrenciler öğretmenlerine yaklaşma konusunda kendilerini daha rahat hissedeceklerdir.

WhatsApp, öğrencilerin okul saatlerinden sonra çalışma materyallerine erişimi grup içinde ortak çalışma alanları kurması, ders konuları üzerinde tartışmalarına olanak sağlamış olur. Soruların çözümlerinde öğretmenler ile iletişime geçmek için kullandıkları diğer uygulamalardan daha kolay ve hızlı ve pratik olması avantaj sağlamıştır. Çalışma materyallerini WhatsApp üzerinden göndermek, ders için tasarlanan video veya alıştırma çözümlerine herkesin ulaşmasını sağlar.

Öğretmenler öğrencilerin gönderdiği sorular ile tek tek ilgilenmesi, öğrenme sürecini potansiyelini artırmaktadır. Öğretmenin varlığı gruptaki öğrencilere güvenlik hissi verdiği düşünülüyor: rahatlıkla soru sorabilecekleri birinin olması bu sayede kendilerini yalnız hissetmediklerini belirtiyorlar.

SONUÇ

Sanal ortamda oluşturulmuş matematik gruplarının temelini oluşturan bir fikir olarak ortaya çıkmış olsa da, fikir başlangıçta kültürel olarak belirli alanlarda uygulamaya geçmiş okullarda öğretmenlerin deneyimlerini zenginleştirmesinde WhatsApp'ın önemli bir rolü vardır. Sınıf kavramını dönüştürerek içerik çalışmasını sınıf dışına çıkarması teknolojiyi kullanmak olarak yorumlanmamalıdır.

Öğrencilere WhatsApp üzerinden ödevlerini göndermek farklı stratejiler kullanarak, farklı öğrencilere ulaşmanıza yardımcı olabilir. Bazı öğrencilerin görsel, bazılarının ise işitsel öğrenenler veya okuyucu yönlerinin ön plana çıkarılması ile başarılarının artması sağlanabilir.

Bu çalışma fikri, yazarın deneyimlerinden ve öğrencilerin öğrenmelerini kolaylaştırmak sınıf içi ve dışında farklı teknolojiler kullanarak edindiğimiz deneyimlerden geliştirilmiştir. Amacımız, lisedeki öğretmenlerin öğrencilere matematik öğrenmesini kolaylaştıracak en uygun teknolojiyi seçmesine yardımcı bir kaynak olması ve bir dizi gözlem sunmaktır.

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Etkileşimli e-Kitaplara Yönelik Uzaktan Öğrenenlerin Görüşleri

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Özet

Bilgi ve iletişim teknolojilerinde yaşanan gelişmelerle birlikte öğrenme ortamlarında çeşitli değişimler yaşanmıştır. Özellikle ağ teknolojilerinde yaşanan baş döndürücü değişimler uzaktan eğitimin gelişmesine ve öğrenme ortamlarında önemli bir yere sahip olmasına aracılık etmiştir. Uzaktan eğitim ortamlarında birçok farklı araç kullanılmakla birlikte son zamanlarda etkileşimli e-kitapların öneminin arttığı ve daha fazla kullanılmaya başlandığı söylenebilir. Açık ve uzaktan eğitimde öğrenim görmekte olan bireylerin etkileşimli e-kitaplara yönelik görüşlerinin belirlenmesi ile eğitim materyallerinin daha etkili ve verimli tasarlanması ve yeniden düzenlemelerin yapılabilmesi için oldukça önemlidir. Bu doğrultuda mevcut araştırmada uzaktan eğitim yöntemi ile öğrenim görmekte olan açıköğretim fakültesi öğrencilerinin etkileşimli e-kitaplara yönelik görüşleri belirlenmeye çalışılmıştır. Bu amaç doğrultusunda nitel araştırma yöntemlerinden durum çalışması yöntemi tercih edilmiştir. Çalışmada gönüllülük esası ile amaca uygun olarak Temel Bilgi Teknolojisi II dersini alan öğrenenler çalışmaya dahil edilmiştir. Katılımcılarla gerçekleştirilen görüşmeler neticesinde etkileşimli e-kitapların beğenildiği, öğrenci-içerik etkileşimini artıran öğrenme aktivitelerinin diğer öğrenme materyallerine göre e-kitapları seçmelerinde etkili olduğu, etkileşimin yanında alıştırma ve pekiştirme aktivitelerinin de e-kitaplarda beğenilen unsurlar olduğu sonuçlarına ulaşılmıştır.

Anahtar Kelimeler: *uzaktan öğrenme, açıköğretim, e-kitap*

GİRİŞ

Gelişen teknolojiler günümüzde eğitim ortamlarında kullanılan içeriklerin yapısından çeşitli değişikliklere sebep olmuştur. Geleneksel olarak tabir edilen ve bilgi - iletişim teknolojilerinin yetkinliklerini kullanmayan öğrenme içerikleri günümüzde kullanılmaya devam edilirken bunun yanında akıllı tahta, tablet bilgisayarlar gibi teknolojiler öğrenme ortamlarına dâhil olmuş ve bu teknolojilerin kullanabildiği yeni öğrenme içerikleri de yaygınlaşmaya başlamıştır. Teknoloji hem sınıf içi öğrenme ortamlarını desteklemekte hem de açık ve uzaktan öğrenme gibi farklı öğretim yaklaşımlarının uygulanmasına destek olmaktadır. Diğer bir ifade ile bireylerin bilgisayar ve internet kullanımının artması ile yüz yüze eğitim ile beraber zamandan ve mekândan bağımsız olan uzaktan eğitim ortamlarının da yaygınlaştığı görülmektedir (Daş, vd., 2013).

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Açık ve uzaktan eğitimin zaman ve mekân kısıtını ortadan kaldırması, bireysel hızda öğrenme imkânı sunması, verimli okumayı sağlaması, bireylerin içerikle aktif etkileşime girebilmesi, ders içeriklerine kolay erişim imkanı tanıması ve farklı içeriklere tek bir ortamdan erişim sağlaması gibi çeşitli avantajları bulunmaktadır (Hatipoğlu, 2011). Bu avantajlı noktaların etkin hale gelebilmesi için öğretim süreçlerinde öğrenme ihtiyaçlarını odağa alan ve teknolojinin imkânlarını daha etkin öğrenme süreçleri için kullanan içeriklerin kullanılması da oldukça önemlidir. Bu durum özellikle açık ve uzaktan öğrenme faaliyetlerinde kendisini göstermeye başlamıştır. Örneğin; uzaktan eğitim sistemiyle eğitim veren kurumlar gelişen teknolojiyle birlikte öğrencilerine, basılı materyal yerine elektronik materyaller sunmaya başlamışlardır. Bu bağlamda öğrenme süreçlerine dahil edilen temel materyallerden biri de e-kitaplar olmaya başlamıştır. E-kitaplara yönelik alanyazında gerçekleştirilen ilk tanımlarda bu materyallerin başlangıçta basılı materyallerin bilgisayar ortamına aktarılması olarak algılandığı (Lam, Lam, Lam & McNaught, 2009) ancak zamanla günümüzde çeşitli etkileşimler barındıran zenginleştirilmiş öğrenme materyalleri haline geldiği görülmektedir.

E-Kitaplar

E-kitaplar, geleneksel kitaplar gibi temel öğrenme kaynağı olan materyallerdir. E-kitaplar basılı materyallerin ve içeriği tamamen elektronik ortamda oluşturulmuş yazılı metinlerin bilgisayarlarda, tabletlerde ve akıllı telefonlarda okunabilmesi için tasarlanmış bir dosya formatıdır. Etkileşimli e-kitaplar ise basılı kitapların ve içerisinde etkileşim bulundurmayan e-kitapların tüm özelliklerinin yanı sıra içerisinde video, ses, alıştırma gibi etkileşimi sağlayan içerikleri de içinde barındıran bir dosya formatıdır (Akt: Önder, 2011). Bu tanımlar göz önüne alındığı zaman e-kitaplar; temelde öğrencilerin ihtiyaç duydukları bilgileri yazılı metinler halinde sunan ve çeşitli çoklu ortam bileşenleri ve web bağlantılarını barındırabilen dijital kitaplar olarak tanımlanabilir.

E-kitaplar öncelikle basılı metinlerin dijital hale dönüştürülmesiyle oluşturulmuştur. Daha sonra metin ve görselleri içinde bulunduran pdf dosyaları haline gelmiştir. Sonraki yıllarda pdf dosyaları içeriğin daha fazla zenginleştirildiği formatlara dönüştürülmüştür (Bozkurt, 2013). Gelişen teknolojiyle birlikte e-kitaplarda farklı özelliklerde ve formatta üretilmeye başlanmıştır. Özer (2015)'in aktardığına göre Hawkins (2000) e-kitapları; indirilebilir, e-kitap okuyucular için özel tasarlanmış, web erişimli ve isteğe bağlı yazdırılabilenler olarak dört kategori altında sınıflandırılmıştır. Ayrıca Gümüş ve ark. (2012), günümüzde sık kullanılan e-kitap formatlarını: HTML (html), Portable Documant Format (pdf), ePub/IDPF (ePub), Kindle (azw), Microsoft reader (lit), eReader (pdb), Mobipocket (prc/mobi), DjVu (djvu), Plain text (txt), Postscript (ps), Fictionbook olarak listelenmiştir.

Hazırlanması için çok fazla çaba gerektirmemesi ve yaygın kullanımının olması nedeniyle günümüzde pdf formatındaki e-kitaplar öğrenme ortamlarının tüm kademelerinde sıklıkla kullanılmaktadır. PDF formatı Adobe firması tarafından ilk olarak 1993 yılında 1.0 sürümü olarak üretilmiş ve içerisinde metin ve görselleri barındıran bir dosya biçimi olarak ortaya çıkmıştır. 2000'li yıllardan sonra daha fazla etkileşimi sağlayan daha zengin içeriği destekleyen pdf sürümleri kullanılmaya başlanmıştır (Bozkurt, 2013). pdf formatındaki e-kitaplar alternatif okuyucu yazılımlar ile farklı işletim sistemlerine sahip cihazlarda sorunsuz çalışmakta ve görüntülendiği yazılımların bir-

çoğunun ücretsiz olması sebebiyle yaygın bir şekilde kullanılmaya devam edilmektedir. Günümüzde birçok kurum elektronik belgelerini pdf formatında yayınlamaktadır (Daş vd., 2013).

E-kitapların üretimi için kullanılan bir diğer format ise ePub'tır. Digital Publishing Forum (IDPF) tarafından geliştirilen ePub formatı da birçok donanım tarafından desteklenen, ücretsiz ve açık kaynak kodlu yaygın olarak kullanılan bir formattır (Bozkurt, Bozkaya, 2013). ePub Bilgisayar, tablet, cep telefonları ve diğer e-kitap okuyucuları ile okunabilen ve basılı kitapların elektronik ortamda kopyası olarak oluşan e-kitaplar, basılı kitapların bütün özelliklerini barındıran ve bunun yanı sıra okuyucuya kolaylıklar sağlayan yeni bir kitap biçimidir (Mutlu vd., 2006). ePub formatının sunmuş olduğu yapı ile e-kitapların etkin kullanımı için sahip oldukları özelliklerinin yanı sıra e-kitap okumak için geliştirilmiş E-kitap okuyucu yazılımları ile okuma esnasında kullanıcılara kaldıkları yeri işaretleyebilme, önemli yerlerin altını çizebilme, karanlık ortamda ışık ihtiyacı duymadan okumaya fırsat verme, dipnot oluşturma ve birden fazla kitabı hafızasında barındırma gibi imkanlar sunulabilmektedir (Mutlu, Korkut, Yılmaz, 2006).ePub, Windows, Android, IOS gibi işletim sistemine sahip birçok cihaz tarafından desteklenen ePub'ların asıl amacı e-kitaplarda ortak bir standart oluşturmaktır (Daş vd., 2013).

Geleneksel basılı kitaplar öğrenme ortamlarında yaygınlığını devam eden ve kullanıcıları tarafından sıklıkla tercih edilen öğrenme ortamlarıdır. Bunun yanında yeni teknolojilerin desteklediği e-kitaplar çeşitli formatları ile günümüz öğrenme ortamlarına dahil edilmiş ve sağladığı çeşitli avantajlar sayesinde artan bir ivme ile kullanılmaya devam edilmektedirler. Bununla birlikte e-kitaplar barındırdıkları farklı özellikleri ile okuyucuların beklentilerine göre değişim göstermekte ve geleneksel bir kitabın dijital halinden çoklu ortam bileşenleri ile zenginleştirilmiş alternatif öğrenme aktivitelerini ve harici kaynakları barındıran bir hale kadar geniş bir yelpazede çeşitlenmiştir. Özellikle çoklu ortam bileşenleri farklı öğrenme alternatifleri sunabilmekte ve Daş ve arkd. (2013), ifade ettiği gibi etkileşimli e-kitaplara eklenen bu materyallerle birlikte kullanıcı öğrenme sürecine daha aktif olmaktadır. Günümüzde geniş kitlelere hizmet veren, açık ve uzaktan eğitim faaliyetleri giderek yaygınlaşmakta ve bu kurumlar genellikle e-kitaplardan yararlanmaktadırlar. Büyük yatırımlar ve uzun süreli çalışmalar neticesinde üretilebilen etkileşimli e-kitapların okuyucular tarafından nasıl algılandığı ve kullanım durumlarının neler olduğunun ortaya çıkarılması, açık ve uzaktan öğrenme faaliyetlerinde kullanılacak e-kitapların yapısına yönelik fikir sunabilir. Bu gerekçe ile geleneksel kitapların yansıması olan ve herhangi bir etkileşim içermeyen pdf temelli e-kitaplar ile içerisinde konuya özel tasarlanmış ses, video, alıştırma gibi etkileşimleri barındıran etkileşimli e-kitapların açıköğretim öğrencileri tarafından nasıl algılandıkları sorusu bu çalışmanın temel odağını oluşturmaktadır. Bu amaç doğrultusunda aşağıdaki araştırma sorularının cevapları aranmaktadır.

Uzaktan öğrenenlerin etkileşimli ve geleneksel e-kitaplara yönelik genel görüşleri nelerdir?

1. Uzaktan öğrenenlerin ders içeriklerini etkileşimli ya da geleneksel e-kitaplarda kullanma tercihleri nelerdir?
   a. Uzaktan öğrenenlerin etkileşimli ve geleneksel e-kitapların okunabildiği teknolojilere yönelik tercihleri nelerdir?
   b. Uzaktan öğrenenlerin etkileşimli e-kitapların ayırt edici özelliklerine yönelik görüşleri nelerdir?
   c. Uzaktan öğrenenlerin etkileşimli içeriklerin e-kitaplarda kullanılmasına yönelik görüşleri nelerdir?
   d. Uzaktan öğrenenlerin etkileşimli e-kitapların öğrenme sürecine ve sınav başarısına etkilerine ilişkin görüşleri nelerdir?
   e. Uzaktan öğrenenlerin etkileşimli ve geleneksel e-kitaplarda değerlendirme süreçlerine yönelik görüşleri nelerdir?

YÖNTEM

Nitel araştırma yöntemleri kullanılarak yapılan bu çalışmada bir durum çalışması olarak gerçekleştirilmiştir. Alanyazında durum çalışması, sınırlı bir sistemin derinlemesine betimlenmesi ve incelenmesi olarak tanımlanmaktadır (Merriam, 2013). Durum çalışması eğitim alanında nitel araştırmalarda yaygın olarak kullanılan bir yöntemdir (Gall, Gall ve Borg, 2003). 'Niçin' ve 'Nasıl' sorularını temel alan, araştırmacının kontrol edemediği bir olgu veya olayı derinliğine incelemesine olanak veren bir araştırma yöntemidir (Akt:Seggie ve Bayburt, 2015). Durum çalışmaları; daha somut, daha bağlamsal, okuyucunun yorumlarına açık ve okuyucunun belirlediği teorik evreni temel alır (Merriam, 2013). Bu bağlamda mevcut araştırma kapsamında da kullanıcıların görüşlerinin ayrıntılı bir şekilde incelenebilmesi ve görüşlerinin altında yatan nedenlerinin belirlenebilmesi için durum çalışması en uygun yöntem olarak görülmüştür.

Çalışma Grubu

Bu çalışma Atatürk Üniversitesi Açıköğretim Fakültesi Temel Bilgi Teknolojileri II dersini alan ve etkileşimli e-kitaplardan en az 3'er ünite indirdiği sistemde tespit edilen 15 katılımcı ile başlatılmıştır. Çalışma grubu amaca uygun örneklem stratejisi kullanılarak belirlenmiştir. "Amaca uygun örneklemede, araştırmacı ilgili evrenin özelliklerini belirler ve bu özelliklere sahip bireyleri örnekleme almaya çalışır (Johnson, Christensen, 2014)". Eğer bir örneklemin seçimi, araştırmacının evren ile ilgili kendi bilgilerine veya çalışmanın amacına bağlı ise, bu tür örnekleme olasılıklı olmayan (amaca yönelik) örneklemedir (Marczyk vd., 2005). 15 katılımcının 4'ü etkileşimli e-kitap dosyalarını indirdiklerini; fakat incelemediklerini ve kullanmadıklarını belirtmişlerdir. E-kitap kullanım sürecine yönelik görüş bildiremedikleri için 4 katılımcı çalışma grubundan çıkarılmıştır. Neticede çalışma grubu TBT II dersini 2018-2019 bahar yarıyılında alan, araştırmaya gönüllü olarak katılan 7 farklı bölümde öğrenim gören ve hem normal e-kitaplar hem de etkileşimli e-kitapları kullanan 6 erkek 5 kadın katılımcı ile gerçekleştirilmiştir. Çalışma grubunun bilgileri Tablo 1.1'de gösterilmiştir.

	Erkek	Kadın
İş Sağlığı ve Güvenliği Önlisans Programı	3	0
Adalet Önlisans Programı	1	2
Sağlık Yönetimi Lisans Programı	0	1
Çocuk Gelişimi Önlisans Programı	0	1
Reklamcılık Önlisans Programı	1	0
Acil Durum ve Afet Yönetimi Önlisans Programı	0	1
Laborant ve Veteriner Sağlık Önlisans Programı	1	0

Tablo 1. Çalışma Grubu Bilgileri

Veri Toplama Aracı, Süreci ve Analiz

Bu çalışmada veri toplama aracı olarak yarı yapılandırılmış görüşme formu kullanılmıştır. Görüşme formu geleneksel e-kitap tercih nedenleri, etkileşimli e-kitap tercih nedenleri, etkileşimli e-kitapların nasıl olmasına yönelik görüşlere, etkileşimli e-kitapların öğrenme sürecine yönelik katkılarına, etkileşimli e-kitapların sınav başarısına yönelik katkılarına odaklanan 13 açık uçlu sorudan oluşmaktadır. Alanyazın temelinde hazırlanan sorular uzman görüşleri alınarak son haline getirilmiştir. Türkçe dil denetimi yapıldıktan sonra üç katılımcı ile gerçekleştirilen pilot çalışmanın ardından veri toplama aracı son halini almıştır. Yarı yapılandırılmış görüşme türünde sorular önceden belirlenir fakat açık olmayan noktaları belirlemek ve detaylandırmak için bazı sorular açık uçlu olarak hazırlanır. Bu görüşme türü derinlemesine bilgi elde etmeye olanak sağlar (Patton, 2014).

Etkileşimli e-kitapların erişim bilgileri açıköğretim fakültesindeki tüm öğrencilere mesaj, web sayfası duyurusu gibi iletişim kanalları üzerinden dönem başında duyurulmuştur. E-kitapların bilgisayar ve mobil platformlardan kullanılabilmesi için gerekli yazılımlar ve program tanıtım broşürleri hazırlanarak web sitesi aracılığıyla öğrencilere sunulmuştur. Çalışma dönemin 10. haftasında başlatılmış ve veri toplama süreci toplam üç hafta sürmüştür. Katılımcılar ülkenin farklı bölgelerinde olduklarından karşılıklı görüşme gerçekleştirilememiştir. Görüşme süreci organize edilirken katılımcıların iletişim bilgileri elde edilmiş ve çalışma tanıtılarak katılım onayları alınmıştır. Gönüllü olan katılımcılar ile telefonla mülakat yoluna gidilmiştir. Katılımcıların müsait oldukları anların dikkate alındığı görüşmeler yaklaşık olarak 8-15 dakika arasında gerçekleşmiştir. Görüşmeler katılımcıların onayı alınarak ses kaydı yöntemi ile kayıt altına alınmış ve ardından transkript edilerek metin haline dönüştürülmüştür. Anlaşılmayan ifadeler ve teyit için gerekli görülen durumlarda katılımcılarla tekrar iletişime geçilmiştir.

Veri analizinde içerik analizi yöntemi kullanılmıştır. İçerik analizi bilimsel yöntemler kullanılarak metin ya da başka biçimlerdeki içeriklerin, mesajların özetlenmesi, sınıflandırılması, karşılaştırılması ve sayısal olarak ifade edilmesidir (İslamoğlu, Ursavaş ve Reisoğlu, 2015). Bu çalışmada çalışma grubundan derinlemesine bilgi almak ve ilişkisel sonuçlar ortaya çıkarmak amacıyla içerik analizi yöntemi tercih edilmiştir. Veriler NVİVO 12 programı kullanılarak analiz edilmiştir. Araştırma soruları çerçevesinde veriler kod, kategori ve tema bileşenlerine göre organize edilmiştir.

E-Kitaplar

Bu çalışmada kullanılan geleneksel e-kitaplar, pdf formatında sunulan yani sadece yazılı metinlerin ve görsellerin içinde bulunduğu e-kitaplardır. Etkileşimli e-kitaplar ise yazılı metinlerin ve görsellerin yanı sıra alıştırmaların, video ve ses dosyalarının içinde bulunduğu ePub formatına sahip e-kitaplardır. Etkileşimli e-kitaplarda kullanıcılar kendi notlarını oluşturabilmekte, önemli noktaların altını çizebilmekte ve konu içerisinde istediği noktaya içindekiler ile kolayca erişebilmektedirler. Bu özellikleri sayesinde etkileşimli e-kitaplar katılımcıların öğrenme sürecine aktif katılmalarını sağlamaktadır.

Geçerlik ve Güvenirlik Çalışmaları

Alan yazın taranarak elde edilen temalar dikkate alınarak geliştirilen görüşme formu öncelikle iki alan uzmanına danışılarak gerekli düzeltmelere gidilmiştir. Daha sonra bir dil uzmanına gösterilerek yapılan yeni düzeltmeler yapılmıştır. Formun son hali bir adet ön lisans öğrencisine okutularak anlaşılabilir olduğu sonucuna varılmıştır.

Veriler analiz edilirken araştırmacı tarafından yorumlardan uzak betimleyici bir yaklaşım kullanılmaya çalışılmıştır. Elde edilen veriler başka bir alan uzmanına analiz ettirilerek araştırmacının ulaştığı sonuçlar karşılaştırmalar yapılarak ulaşılan bulgular kontrol ve teyit sürecinden geçirilmiştir. Çalışmanın geçerliği açısından amaca uygun örneklem seçilmesine dikkat edilmiştir.

Sınırlılıklar

Bu araştırma çalışma grubunda yer alan 11 kişi ile sınırlıdır.

BULGULAR

E-kitapların kullanım durumlarını ortaya koymak için gerçekleştirilen bu çalışmada bulgular araştırma sorularının odağında sunulmuştur.

Ders İçeriklerinin Etkileşimli ya da Geleneksel e-Kitap Şeklinde Kullanılma Tercihlerine Yönelik Bulgular

Çalışma kapsamında geleneksel e-kitaplar ile etkileşimli e-kitaplar arasındaki tercih durumuna odaklanılmıştır. Bulgulara göre sadece etkileşimli e-kitap kullanıp diğer içerik alternatiflerini tercih etmeyen 4 katılımcı bulunmaktadır. Bunun yanında 7 katılımcı da hem geleneksel hem de etkileşimli e-kitapları kullanmaktadır. Ayrıca 4 katılımcı ise etkileşimli e-kitapları indirmelerine ve incelemelerine rağmen bu materyalleri kullanmaktan ziyade geleneksel e-kitapları kullanmayı tercih etmişlerdir. Bulgular incelendiğinde katılımcıların alışkın oldukları kaynakların yerine etkileşimli e-kitapları kullanmaya doğru bir eğilim sergilemeye başladıkları görülmektedir. Buna rağmen alışkanlıkları değiştirmeyen katılımcılar da mevcuttur.

Geleneksel e-Kitapları Tercih Etme Nedenlerine Yönelik Bulgular

Çalışma kapsamında katılımcıların e-kitapları tercih etmelerinin altında yatan gerekçelere odaklanılmıştır. Geleneksel e-kitapları tercih eden katılımcılar bu kitapların kendi alışkanlıklarına daha uygun olduğunu ve istedikleri zaman çıktı alarak okuma sürecini gerçekleştirdiklerini ifade etmektedirler. Bu noktada okuma alışkanlıklarının ağır bastığı ve basılı ortamlarda okumayı tercih etmelerinin geleneksel e-kitapları tercih etmelerinin temel etmeni olduğu katılımcılar tarafından ön plana çıkarılmaktadır. Geleneksel e-kitapların tercih edilmesine yönelik örnek katılımcı görüşleri şöyledir;

> *"Geleneksel e-kitapları tercih ediyorum. Çünkü bilgisayar üzerinden çalışmak beni yoruyor. Bu yüzden çıktı alarak kâğıt üzerinden çalışmayı seviyorum ve öyle çalışıyorum." (Ö1)*

Bir diğer öne çıkan husus öğrencilerin ders çalışma alışkanlıklarını değiştirmek istememeleridir. Bununla birlikte video dersler etkileşimli e-kitaplardaki videolarla karıştırılmaktadır. Bu durum öğrencilerin zaten video derslere erişebiliyorum şeklinde düşünmelerine neden olmaktadır. Etkileşimli e-kitapların içeriğinde bulunan videoların, video dersler ile aynı olduğunu düşünen örnek katılımcı görüşleri şöyledir;

> *"Geleneksel e-kitap formatında sunulmasından gayet memnunum, bu formatta olmasından verimde aldığım için e-kitapları pdf formatında kullanmaktayım. O yüzden geleneksel e-kitap formatında sunulmasını istiyorum. Verilen pdfleri çıktı alabiliyoruz üzerinde not alarakta çalışabiliyoruz video derslerde zaten dinlenebiliyor. Bu şekilde ders içeriklerinin gayet verimli olduğunu düşünüyorum."(Ö3)*

Öğrencilerin geleneksel e-kitapları kullanmaya devam etmelerinin bir diğer nedeni etkileşimli e-kitapları indirmiş olmalarına rağmen henüz kullanmamalarıdır. Etkileşimli e-kitapları henüz kullanmamış örnek katılımcı görüşleri şöyledir;

> *"Etkileşimli e-kitapları indirdim ancak henüz kullanmadım. Bu nedenle geleneksel e-kitapları kullanmaya devam ediyorum."(Ö2)*

Etkileşimli e-Kitapların Tablet, Bilgisayar ve Telefon Gibi Farklı Ortamlarda Kullanımına Yönelik Bulgular

Akıllı telefonlar artık günümüzün vazgeçilmezleri arasında yer aldığı için etkileşimli e-kitapları kullanan bütün katılımcılar etkileşimli e-kitapları ağırlıklı olarak telefonlarında kullandıklarını ifade etmişlerdir. Bulgular incelendiğinde bilgisayara erişimin telefon ve tabletten daha zor olduğunu dile getiren katılımcılar telefondan istedikleri zaman etkileşimli e-kitaplar aracılığıyla ders çalışabildiklerini ifade etmişlerdir. Etkileşimli e-kitapların farklı ortamlarda kullanımına yönelik örnek katılımcı görüşleri şöyledir;

> *"Her zaman elimizin altında masaüstü bilgisayar olmayabiliyor. Ama herkesin elinin altında bir akıllı telefon ya da tablet bulunuyor. Buda yaygınlığın olumlu bir yansımasıdır."(Ö4)*

> *"Çalışan insan olduğumuz için tablet ve bilgisayara çok zaman ayıramıyorum fakat telefonda kullanılması büyün avantaj. Çünkü iş molalarında telefonumu açarak konuyu çalışabiliyorum."(Ö6)*

> *"Ben genelde telefondan kullandım etkileşimli e-kitapları ve her an yanımda olduğu için telefonum istediğim her an temel bilgi teknolojileri dersine çalışma imkânı buldum."(Ö7)*

Etkileşimli e-Kitaplarda, İçerikte Arama Yapma, Altını Çizme, Not Alma Gibi Özelliklere Yönelik Bulgular

Bulgular incelendiğinde katılımcılar etkileşimli e-kitapların bu özelliklerini geleneksel e-kitaplar ile karşılaştırdıklarını ve içerikte arama yapma, altını çizme ve not alma gibi özelliklerin çok faydalı olduğunu ifade etmişlerdir. Etkileşimli e-kitaplardaki not alma, içerikte arama yapma ve istenilen bilginin altını çizme gibi özelliklerin katılımcıların öğrenmelerini olumlu etkilediği düşündükleri görülmektedir. Geleneksel e-kitaplarda bulunmayan, etkileşimli e-kitaplarda bulunan özelliklere yönelik örnek katılımcı görüşleri şöyledir;

> *"Sınavda çıkabilecek önemli konuların altını çizip, not alarak çalıştım ve buda akılda kalıcılığı artırdı benim için."(Ö6)*

Bulgular incelendiğinde bir diğer öne çıkan husus öğrencilerin çalışma alışkanlıklarını değiştirmedikleri ve ders çalışırken bu özellikleri kullanmadıkları yönündedir. Fakat ders çalışırken etkileşimli e-kitapları tercih eden bütün katılımcılar bu özelliklerin çok faydalı olacağını düşünmektedir. Bu konuda örnek katılımcı görüşleri şöyledir;

"Bu özelliklerin olması çok iyi. Geleneksel e-kitaplarda (pdf) bu özellikleri kullanamıyorduk. Gerçi etkileşimli e-kitaplarda bu özellikleri bende kullanmadım. Belki de pdf formatına çok alıştığım için kullanmadım ama çok mantıklı çünkü altını çizerek ya da not alarak ve o notların üzerine kendi notumuzu yazarak daha etkili öğrenme sağlayabileceğimi düşünüyorum."(Ö4)

Etkileşimli e-Kitaplarda İstenilen Bölüme Kolayca Erişime Yönelik Bulgular

Bulgular incelendiğinde etkileşimli e-kitaplardaki içindekiler ile istenilen bölüme erişimin katılımcılar tarafından aktif kullanıldığı, katılımcılara zaman kazandırdığı ve çok faydalı olduğu görülmüştür. Özellikle ünite sonu sorularını çözdükten sonra yanlış bilgilerini düzeltmek adına istenilen konuya içindekiler bağlantısı ile hemen eriştiklerini ve ilgili konuyu arayarak zaman kaybetmediklerini ifade etmişlerdir. İstenilen bölüme erişim yönelik örnek katılımcı görüşleri şöyledir;

> *"Değerlendirme sorularını çözdükten sonra yanlış yaptığım sorular hangi konuya aitse içindekiler bağlantısıyla kolayca o konuya gittim ve zaman kazandım. Pdf'te olduğu gibi konuyu aramakla zaman kaybetmedim. Kolayca istenilen konuya erişmek için çok iyi bir uygulama olduğunu düşünüyorum."(Ö6)*

> *"Etkileşimli e-kitaplardaki bu özellik daha pratik olmamızı sağlıyor. İçeriğine bakıyorsun hangi konuyu çalışmak istiyorsan kitapta aramak yerine hemen içindekilerden bulup tıklayarak kolayca ulaşabiliyorsun. Buda zaman kazanmamızı sağlıyor."(Ö5)*

> *"İçindekiler ile kitapta istediğim konuya gidebildiğim için çok rahat ettim. İstediğim konuyu bulmam çok kolay oluyordu böylece. Takıldığım konuda hemen arayarak o konuya kolayca ulaştım."(Ö7)*

> *"Çok güzel bir özellik. Ben tez yazmıştım. Tezimi yazdığımda içindekiler kısmına girip benim okumak istediğim bölüme yönlendirilmem en büyük kolaylıklardan bir tanesiydi. Çünkü aksi takdirde yüzlerce sayfalık metinlerin içinde boğulmak gibi bir durum oluyor. Etkileşimli e-kitaplarda bu özellik sayesinde öğrenmek istediğiniz bilgiyi anında öğrenebiliyorsunuz."(Ö4)*

Etkileşimli e-Kitaplarda Ünite Sonu Sorularına Yönelik Bulgular

Bulgular incelendiğinde etkileşimli e-kitaplardaki ünite sonu sorularında programın anlık dönüt vermesi katılımcıların kendilerini sınamalarına yönlendirdiğini görülmektedir. Bununla beraber tekrar tekrar ünite sorularını çözdükleri zaman kendi öğrenme süreçlerini izleyebildiklerini ifade etmektedirler. Ayrıca elde edilen veriler incelendiğinde katılımcıların ünite sonundaki anlık dönütler ile yanlış bilgilerini düzeltebildikleri ve doğru bilgiyi öğrenebildikleri görülmektedir. Bu konuda örnek öğrenci görüşleri şöyledir;

"Değerlendirme sorularında verdiğimiz cevapların program tarafından kaydediliyor olması çok verimli bir uygulamadır. Değerlendirme sorularını tekrar çözdüğümüz zaman önceden verdiğimiz cevaplarla karşılaştırdığımızda geldiğimiz noktayı görmemiz daha kolay oluyor. Hangi düzeye ulaştığımızı görebiliyoruz."(Ö5)

"Açıkçası ben geleneksel e-kitaplarda ünite sonu sorularını cevaplandırdıktan sonra ünite sonundaki doğru cevaplara dönüp bakmak zor geliyor ve bazen cevaplarımı kontrol etmeyi bile unutabiliyorum. Ama anlık dönüt öğrenme düzeyimi ölçebilmem için gayet olumlu oldu."(Ö7)

"Soruyu cevaplandırdığımda yanlış olduğunu ve doğru seçeneği bana gösterdiği için değerlendirme sorularında sadece bildiklerimi sınamak yerine yanlış bilgilerimi de düzeltme şansım oluyor."(Ö6)

Bu görüşlerin yanı sıra e-kitaplardaki ünite sonu sorularının geleneksel e-kitaplardan farkı olmadığını düşünen bir katılımcı bulunmaktadır. Etkileşimli e-kitaplardaki ünite sonu sorularının farkı olmadığını düşünen örnek öğrenci görüşü şöyledir;

"Ünite sonu sorularında pdf formatından farklı olan bir şey görmedim."(Ö4)

Etkileşimi Sağlayan İçeriklerin Kullanım Yerlerine Yönelik Bulgular

Katılımcılara video, ses ve alıştırma gibi etkileşimi sağlayan içeriklerin kullanım yerlerine yönelik düşüncelerini sorduğumuzda, etkileşimi sağlayan içeriklerin öğrenmelerine katkı sağladığını ve öğrenme süreçlerini hızlandırdığını ifade etmektedirler. Bulgular incelendiğinde video, ses ve alıştırmaların katılımcıların öğrenmelerini kolaylaştırdığını ve ders başarılarına olumlu etkisinin olduğu belirlenmiştir. Etkileşimi sağlayan video, ses gibi içeriklerin kullanım yerlerine yönelik örnek katılımcı görüşleri şöyledir;

"Etkileşimi sağlayan bu içerikler benim için çok verimli oldu ve Temel bilgi teknolojileri 2 dersini geçmemi sağladı ve ben geçemediğim derslerin birçoğunu bu etkileşimli e-kitaplarla geçebileceğimi düşünüyorum."(Ö6)

"Video ve ses bilgilerin görerek ya da duyarak öğrenilmesi için daha etkili oluyor. Akılda kalıcılığı artırıyor ve daha hızlı öğrenmemi sağlıyor."(Ö7)

Geleneksel e-Kitaplarda Olmayan Etkileşimli İçeriklerin e-Kitaplarda Kullanılmasına Yönelik Bulgular

Etkileşimli e-kitapları kullanmış olan katılımcıların verdiği cevaplardan elde edilen bulgulara göre öğrenciler artık sadece metinlerden bilgiyi yeterince öğrenemediklerini öğrenme sürecine artık videoların ve ses dosyalarının da katıldığını ifade etmişler-

dir. Bulgular incelendiğinde öğrenme tercihlerini değiştirebilen öğrencilerin sadece metinlerden öğrendikleri bilgilerin yeterli olmadığını ve her bilginin metinlerden öğrenilmediğini, video ve ses dosyalarının konuyla ilgili öğretici olduğunu dile getirmişlerdir. Etkileşimli e-kitapların tercih edilmesine yönelik örnek katılımcı görüşleri şöyledir;

"Zaten şöyle bir süreç başladı benim gördüğüm kadarıyla. Sadece görsel imgeler ve metinler değil, videolar ve müziklerde çok şey öğretiyor. Bu yüzden etkileşimli e-kitaplardaki video ve seslerde kesinlikle e-kitaplar için bir artı puan."(Ö4)

"Video ve sesler konuların daha kalıcı olması için daha etkili oluyor. Konulara hâkimiyet için ve konuları daha iyi anlamak için daha iyi oluyor."(Ö5)

"Konular çok detaylı anlatılmış. Her konunun atlında videolu anlatımlar mevcut ve benim için buda konuları daha iyi öğrenmemi sağlıyor. Etkileşimli e-kitaplarda beni yönlendiren, bilgilerin aklımda kalmasını sağlayan asıl içerik videolardır. Her konunun altındaki videolar ve sesli anlatımlar çok başarılı olmuş."(Ö6)

Bulgular incelendiğinde bir diğer öne çıkan husus ise etkileşimli e-kitapların geleneksel e-kitaplardan daha kolay okunabildiği yönündedir. Etkileşimli e-kitapların geleneksel e-kitaplara göre daha kolay okunabildiğine dair örnek katılımcı görüşleri şu şekildedir;

"Daha rahat okunabiliyor. İçerik ve kullanım şekli etkileşimli e-kitaplarda daha kullanışlı ve daha verimli olmuş."(Ö7)

Etkileşimli e-Kitapların Öğrenme Sürecine Etkilerine Yönelik Bulgular

Etkileşimli e-Kitaplarda Farklı İçeriklere Tek Bir Ortamdan Erişebilmeye Yönelik Bulgular

Bulgular incelendiğinde video, ses, metin ve görsel ögelerin bir arada olmasından dolayı katılımcılar ders çalışmak için farklı kaynaklara ihtiyaç duymadıklarını ifade etmişlerdir. Farklı içeriklerin tek bir ortamdan erişilmesine yönelik örnek katılımcı görüşleri şöyledir;

"Öğrenmeyi gerektiren bütün bilgileri video, ses ve metin gibi içeriklerle sunduğu için beni ders çalışırken başka bir bilgi kaynağına yönlendirmiyor."(Ö4)

"Ses, video ve metin olan içeriklere aynı ortamda ve aynı anda ulaşmamız bilgi kargaşasını önlüyor."(Ö5)

"Kafa karışıklığı olmadan tek bir yerden ders çalışmak gerçekten çok verimli. Videoya, sese ve metinlere tek bir yerden ulaşmak öğrencinin bölünmesini engelliyor ve bence buda öğrencinin öğrenmesini kolaylaştırıyor."(Ö6)

Etkileşimli e-Kitaplarda Kullanıcıların İçerikle Aktif Etkileşime Girebilmesine Yönelik Bulgular

Bulgular incelendiğinde katılımcılar anında dönüt alabildiklerini, içeriği sadece okumayarak video, ses ve alıştırmalar gibi etkileşimli içeriklerle uygulama yaparak öğrendiklerini bununda daha kalıcı öğrenme olduğunu düşündüklerini ifade etmektedirler. Katılımcıların ünite ile aktif etkileşime girebilmesine yönelik örnek katılımcı görüşleri şöyledir;

"Etkileşimli e-kitaplar öğrencinin ünite ile iç içe olmasını sağlıyor. Örneğin Temel Bilgi Teknolojileri II dersinde video ile anlatılan bir konuyu bende aynı zamanda bir Word belgesi açarak tekrarladım ve buda konuyu daha iyi öğrenmemi sağladı."(Ö5)

"Ben sadece okuyarak her bilgiyi öğrenemiyorum açıkçası o yüzden Temel Bilgi Teknolojileri II dersindeki ses ve video gibi etkileşimli içerikler benim öğrenmemi oldukça kolaylaştırdı."(Ö6)

Etkileşimli e-Kitapların Bireysel Hızda Öğrenme İmkânı Sunmasına Yönelik Bulgular

Bulgular incelendiğinde katılımcılar etkileşimli e-kitapların içinde bulundurduğu video, ses, alıştırma gibi etkileşimli içeriklerin farklı öğrenme stilleri olan bütün öğrencilere hitap ettiğini düşündüklerini ve böylece her öğrencinin kendi öğrenme stilinde ve kendi öğrenme hızında defalarca konuyu tekrar edebildiğini düşündüklerini ifade etmektedirler. Bu konuda örnek katılımcı görüşleri şöyledir;

"Etkileşimli e-kitapları bireysel hızımızda ders çalışmamıza imkân sunduğu için çok olumlu buluyorum. Şöyle ki geleneksel kitapları okurken bilgi tek bir birim üzerinden yürüyor. Metinler üzerinden. Ama etkileşimli e-kitapta bunlar yazılı olarakta söyleniyor, görseller aracılığı ile de destekleniyor. Videolar, müzikler, sesler aracılığıyla da veriliyor. Eğitim süreci 4 ayrı kanaldan besleniyor. Dolayısıyla hemen hemen herkesin öğrenme stillerine hitap etmiş oluyor. Bu özellikte etkileşimli e-kitapların olumlu bir yanıdır.(Ö4)

"Açıkçası ben birçok dersten çok fazla bilgi sahibi değildim. Fakat etkileşimli e-kitapla Temel bilgi Teknolojileri II dersini çalışırken kendi öğrenme hızımla çok daha kısa sürede öğrendim."(Ö6)

Etkileşimli e-Kitapların Verimli Okumayı Sağlamasına Yönelik Bulgular

Bulgular incelendiğinde katılımcılar etkileşimli e-kitapların geleneksel e-kitaplara göre daha hızlı okunduğunu yani öğrenme süresini azalttığını ifade etmektedirler. Bu konuda örnek katılımcı görüşleri şöyledir;

"TBT dersinden örnek vererek anlatacağım. Ben günde 2 saat tbt dersine ayırarak bütün üniteleri pdf'ten okumayı yaklaşık 10 günde bitirebiliyordum. Etkileşimli e-kitapta ise hemen hemen yarı yarıya zamanda bütün konuları bitirebildim."(Ö6)

Ayrıca dikkat çeken diğer husus ise bir katılımcı tarafından ifade edilen etkileşimli e-kitapların öğrenciyi tembelliğe ittiğini görüşüdür. Etkileşimli e-kitaplarda video, ses gibi etkileşimi sağlayan içeriklerin öğrencide farklı ortamlarda araştırma isteği oluşturmayacağını ve böyle bir durumda öğrencinin ders çalışmak istemeyeceğini ifade etmektedirler. Bu konuda örnek katılımcı görüşü şöyledir;

"Geleneksel e-kitapla kıyaslarsak bu konuda eksi bir puanı olabilir. Çünkü zihin klasik e-kitaba baktığında diyor ki bunun içinde metinler ve görsel ögeler var deyip kendisini okumaya ve arada bir ünitede bulunan görselleri görmeye endeksliyor. Ama etkileşimli e-kitap söz konusu olduğunda tamam ben tamamen okumayacağım videolar göreceğim, müzik dinleyeceğim onlar aracılığıyla öğreneceğim. Okuma, yazma, dinleme becerisinden sadece okumayı kullanmam gerekmeyecek diye düşünüp öğrenciyi tembelliğe itebilir."(Ö4)

Etkileşimli e-Kitapların Akılda Kalıcılık Düzeyini Artırmasına Yönelik Bulgular

Bulgular incelendiğinde video ve ses gibi etkileşimli içeriklerin metin ve görsel içeriklerden daha fazla öğretici ve akılda kalıcı olduğu düşünülmektedir. Katılımcılar etkileşimli e-kitaplardaki metinsel bilgilerin minimum düzeyde tutularak video ve ses içeriklerin artırılmasının öğrenmeye katkısı olacağını ifade etmişleridir. Akılda kalıcılık düzeyini artırmasına yönelik örnek katılımcı görüşleri şöyledir;

"Metinlerin ve görsellerin yanı sıra video ve ses dosyalarının da olması akılda kalıcılığı artırıyor. Ama metinler ve görsellerden minimum düzeyde tutularak onların yerine video ve seslerle desteklenirse daha faydalı olacağını düşünüyorum."(Ö4)

Bulgular incelendiğinde etkileşimli e-kitaplardaki bilgilerin altını çizmenin ve not almanın akılda kalıcılığını artırdığı düşünülmektedir. Bu konuda örnek katılımcı görüşleri şöyledir;

"Altını çizdiğimiz bilgileri ve not aldığımız bilgileri bir arada toplayabileceğimiz bir yerin olması ders çalışmamızı kolaylaştırıyor ve bilgileri daha çok hatırlamamızı sağlıyor."(Ö5)

Etkileşimli e-Kitapların Sınav Başarısına Etkilerine Yönelik Bulgular

Bulgular incelendiğinde bazı katılımcılar okudukları bölümlerin ders içeriklerinin sadece metin olmasının öğrenmeyi sağlaması açısından yeterli olmadığını ve bu yüzden etkileşimli e-kitapların içinde bulundurdukları video içeriklerinin bu konularının anlatılması için çok faydalı olacağını ifade etmişlerdir. E-kitapların sınav başarısına etkisine yönelik örnek katılımcı görüşleri şöyledir;

"Okuduğum bölüm Reklamcılık Önlisans Programı olduğu için bana farklı reklamları gösterecek ortam videolardır. Yani ben teoriği istediğim kadar okuyayım onu bir reklam üzerinde görmediğim sürece bir şeyler eksik kalıyor. O yüzden örneğin reklamcılığa giriş veya reklam okumaları tarzı derslerde farklı videolarla desteklenebilir ve böyle dersler etkileşimli e-kitap olursa sınav başarılarıma da olumlu etkileri olacağını düşünüyorum. Bu yüzden diğer derslerde de etkileşimli e-kitap olması gerektiğini düşünüyorum."(Ö4)

Bazı katılımcılar ise daha önce Temel Bilgi Teknolojileri II dersinin sınavlarından başarılı olamadıklarını fakat etkileşimli e-kitaplar ile ders çalışarak Temel Bilgi Teknolojileri II dersini geçtiklerini ifade etmişlerdir. Bu konuda örnek katılımcı görüşleri şöyledir;

"Etkileşimli e-kitaplar benim Temel Bilgi Teknolojileri II dersini geçmemi kolaylaştırdı. Dolayısıyla diğer derslerde de uygulanırsa diğer dersleri de geçeceğimi düşünüyorum."(Ö6)

"Sınav başarıma olumlu etkisi olmuştur. Ben önceden geleneksel e-kitapları çıktı alarak çalışıyordum. Fakat TBT dersinde etkileşimli e-kitaplardan çalıştım ve bütünleme sınavında başarılı oldum."(Ö5)

TARTIŞMA VE SONUÇ

Geleneksel e-kitaplar ve etkileşimli e-kitapların kullanım tercihlerinin incelendiği bu çalışmada katılımcıların etkileşimli e-kitapları kısa süre kullanmalarına rağmen benimsedikleri ve öğrenme süreçlerin kullanmaya başladıkları görülmüştür. Bu durum etkileşimli e-kitapların çoklu ortam ögeleri ile alternatif öğrenme içerikleri sunması ve okuyucunun bireysel öğrenme tercihlerini daha fazla desteklemesiyle açıklamak

mümkündür. Benzer bir şekilde Bozkurt ve Bozkaya (2013), zengin ve çeşitli içeriklerin öğrenmeyi kolaylaştırdığını ve okuyucuların e-kitapları tercih etmesinin temel sebeplerinden biri olduğunu belirtmektedirler. Bununla birlikte birkaç katılımcı e-kitapları merak edip incelemelerine rağmen kullanmaya devam etmemiştir. Bu durum mevcut alışkanlıklarını devam ettirme istekleridir. Çünkü geleneksel e-kitapları basılı metin haline getirerek okudukları görülmüştür. Benzer bir şekilde Öngöz (2013) etkileşimli e-kitapların gözleri yorduğunu ve basılı kitapları okurken verdiği duyguları veremediği için tercih edilme oranlarının azaldığını ifade etmiştir. Ayrıca e-kitapları okumak için sürekli elektronik cihazlara bağlı olmakta okuyucuların basılı metinleri tercih etmesini açıklayabilir. Geleneksel e-kitapların tercihinde e-kitapları basılı olarak da okuyabilme imkânlarının olması en öne çıkan durum olarak karşımıza çıkmaktadır. Bu durum katılımcıların mevcut alışkanlıklarını devam ettirme eğilimlerinde oldukları ile açıklanabilir. Ayrıca etkileşimli e-kitaplarında okuyucuların alışkanlıklarında değişiklik sağlayacak kadar dikkat çekici veya cazip karşılanmamış olmaları da bu durumu ortaya çıkarmış olabilir. Bu durumu destekler bir diğer sonuç ise katılımcıların e-kitaplarda sunulan içeriklerin öğretim sürecinde sunulan ders anlatım videoları, sesli sunumlar veya değerlendirme aktiviteleri ile aynı olduğunu düşünerek içerikte yenilik olmadığını düşünmeleridir. Bu durum içeriklerin e-kitaplar için yeniden hazırlanabileceğini düşünmemelerinden veya tercihlerine göre bir kaynağı inceleyip diğerlerini göz ardı etmelerinden kaynaklanıyor olabilir.

Etkileşimli e-kitapların katılımcıların öğrenme tercihlerini daha iyi karşıladığı ve içerik alternatifi sunduğu ortaya çıkan bir diğer sonuçtur. Bu durum okuma yerine video veya sesli içerikleri tercih eden katılımcıların etkileşimli e-kitaplarda okumanın yanında video, ses ve alıştırma gibi diğer içerik türleri ve farklı öğrenme aktivitelerini bulmalarından kaynaklanıyor olabilir. Benzer bir şekilde Yeung (2004) etkileşimli e-kitapların içeriğinde görsel ögelerin, video, ses dosyalarının, animasyon ve simülasyon gibi materyallerin kullanımı kullanıcıların motivasyonunu artırarak öğrenmeye karşı ilgisini artırdığını ve bilgiye yönelik merak duygusunu artırdığını ifade etmiştir. Ayrıca çoklu ortam bileşenlerini daha fazla içeren e-kitapların daha öğretici olarak görülmesi ve akademik başarıyı ve kalıcılığı olumlu yönde etkilediği görüşü katılımcıların birden fazla kanala hitap eden içeriklerin daha etkili öğrenmeler ile sonuçlanan yaşantılara dâhil olmalarını sağlamasından kaynaklanıyor olabilir. Benzer bir şekilde birden fazla kanaldan giden verilerin zihinsel süreçlerde işlenmesi daha etkin öğrenmeler ile sonuçlandığı Sarıkaya (2018) tarafından da ifade edilmektedir. Ayrıca bireysel öğrenme hızlarında ve istenildiği kadar tekrar edebilme imkânı sunması da etkileşimli e-kitapların katılımcılar tarafından beğenilen yönleri arasında yer almaktadır. Bu durum birçok farklı içeriğin alternatifli olarak seçilebilmesi ve bireysel tercihlere ve öğrenme hızına göre kullanılabilmesi ile açıklanabilir. Maden (2012), yaptığı çalışmada etkileşimli e-kitapların bireysel tercihlere ve öğrenme hızına göre kullanılmasının kalıcı öğrenme sağladığını ifade etmektedir.

Elektronik ortamda okunduklarında okuyucular etkileşimli e-kitapların daha kullanışlı ve okunabilir olduğunu ifade etmekte ve mobil ortamlarda etkileşimli e-kitapların kullanımının oldukça kolay olduğunu belirtmektedirler. Bu durum etkileşimli e-kitapların okunması için kullanılan e-kitap okuyucuları ile ortaya çıkan arama yapma, not alma, vurgulama, erişimli içindekiler listesi gibi özelliklerin daha etkin okumalara imkân tanımasından kaynaklanıyor olabilir. Ayrıca e-kitapların basılı ortamlara göre

çok daha taşınabilir olması ve binlerce kitabın tek bir cihazdan erişilebilir olması da ortam bağımlılığını kaldırarak memnuniyeti artırmış olabilir. Benzer şekilde Agee (2003) yaptığı çalışmada etkileşimli e-kitaplardaki önemli yerleri vurgulamak, not almak, kitap içerisinde arama yapabilmek gibi özelliklerin etkileşimli e-kitapların olumlu yönleri olarak ifade etmiştir. Etkileşimli e-kitaplar ekrandan okumayı sağladığı için okuyucunun beynindeki çoğu bölgeyi harekete geçirerek öğrenmeyi desteklediği ifade edilmiştir (Testart, Vaillant ve Bettayeb, 2009).

Alıştırma ve pekiştirme süreçleri için kullanılan sorular çalışma da kullanılan öğrenme materyallerinin temel bileşenlerinden biridir. Geleneksel e-kitaplarda kitabın sonunda cevapları bulunan alıştırma ve değerlendirme soru ve cevapları, etkileşimli e-kitaplarda sorunun bulunduğu alanda soru etkileşimi neticesinde kullanılabilmektedir. E-kitapların daha çok beğenildiği bu durum alıştırma ve pekiştirme etkinliğinin sonunda cevap aramak için çaba sarf edilmemesi ve anlık geribildirim alınmasından kaynaklanıyor olabilir. Ayrıca etkileşimli e-kitapların öğrenci-içerik etkileşimini üst düzeye çıkarması da bu içeriklerin tercih edilmesini sağlayan diğer bir faktör olarak karşımıza çıkmaktadır. Bu durum öğrencinin içerikte bulunan geribildirimler ile öğrenmesini değerlendirmesi ve öğrenen içerik etkileşiminin iki yönlü olmasından kaynaklanıyor olabilir. Açıköğretim sisteminde örgün eğitimdeki gibi öğrenci-eğitici ve öğrenci-öğrenci etkileşimi sınırlı olduğu için öğrencinin içerikle aktif etkileşime geçebilmesi öğrencinin öğrenme hedeflerine istenilen düzeyde ulaşabilmesi için çok önemlidir (Mutlu, Kip, Kayabaş, 2005). Ayrıca e-kitapların zengin içerik alternatifleri öğrenme sürecini olumlu yönde etkileyen bir özellik olarak görülmekle birlikte öğrencinin öğrenmek için araştırma yapma ve çaba sarf etme sürecini kısaltması günlük öğrenme yaşantısında gayret sarf etme süresini azaltarak tembellikle sonuçlanabileceği düşüncesi de mevcuttur.

ÖNERİLER

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Uzak Laboratuvar Yönetim Sistemi Tasarımı

Uğur YAYAN[1]

Özet

Günümüzde, uzaktan eğitim sistemleri hızlı bir şekilde yaygınlaşmaktadır. Uzaktan eğitim sistemleri içerisinde mühendislik eğitimi de büyük bir yer ve önem kaplamaktadır. Maalesef, uzaktan mühendislik eğitimi sadece teorik olarak verilebilmekte ve mühendislik için olmazsa olmaz olan pratik uygulamalar mevcut sistemlerde yapılamamaktadır. Son zamanlarda artan bir şekilde bu problemin çözümü için sanal veya uzak laboratuvar sistemleri geliştirilmekte ve kullanılmaktadır. Geliştirilen bu sanal veya uzak laboratuvarlar içerisinde de sadece deneyin yapılabileceği ortam bulunmaktadır. Bu çalışmada, uzaktan eğitim ve laboratuvar sistemlerinin daha verimli kullanılabilmeleri için uzak laboratuvar yönetim sistemi önerilmiştir. Önerilen uzak laboratuvar yönetim sistemi (LabYS) uzaktan eğitimde kullanılan Moodle, Blackboard gibi materyal paylaşımı ve yönetimi sistemine yeni bir bakış açısı getirerek üniversite laboratuvarları içinde bir standart haline gelmesi hedeflenmektedir. LabYS içerisinde eğitim dokümanları, deneyler, föyler ve ön sınavlar eğitimciler tarafından öğrencilerine sunulmakta ve bu sayede öğrenciler tek bir platformda uygulamalı bir şekilde mühendislik deneylerini gerçekleyebilmektedirler. Önerilen sistem uzak eğitim sistemleri ve laboratuvarlar uyumlu geliştirilmiş olup, önerilen API kullanılarak tüm sistemlere entegre olabilmektedir.

Anahtar Kelimeler: *uzaktan erişimli laboratuvar, sanal laboratuvar, laboratuvar yönetim sistemi*

GİRİŞ

Mühendislik disiplininin geliştirilmesine katkı sağlamak üzere nitelikli kişilerin yetiştirilmesi için eğitim müfredatında planlamalar veya yaşam boyu öğrenme kapsamında çalışma ortamlarının sağlanması gerekmektedir (Edrees, 2013:90-96). Fakat lisans eğitiminde öğrenci sayılarının fazla olması veya çalışan mühendislerin yaşam boyu öğrenme için mesai saatleri içinde sınırlı zamanlarının olması nedeniyle mühendislik eğitiminde uzaktan erişim laboratuar önemli bir ihtiyacı karşılayabilecektir. Mühendislik eğitiminde laboratuvar uygulamalarının yapılabilmesi etkin öğrenime katkı sağlamaktadır. Fakat öğrenci sayılarındaki artış laboratuvar maliyetleri ve zaman kısıtları nedeniyle öğrenciler her zaman laboratuvarlarda çalışmamaktadır.

Son yıllarda eğitim ve araştırma amaçlı uzaktan/sanal (melez) laboratuarların etkileyici şekilde yayılımına tanık olunmuştur (Luis ve Seta, 2009: 4744-4756), (Aldo, 2009: 4817-4825). Bu laboratuvarlar, öğrenciler ve araştırmacılara internet üzerinden gerçek dünya deneyleri ile mühendislik problemlerini gidermelerine izin vererek eğitim alanında büyük bir etki oluşturmuşlardır. Genellikle Web tabanlı uygulamalar daha

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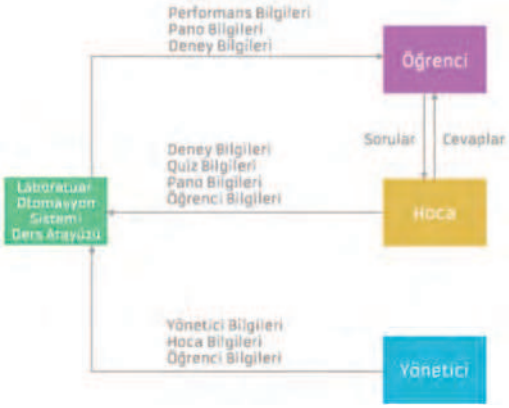
esnek ve güçlü yapıya sahip olmaktadır. Bunun yanında prensip olarak zaman veya mekân benzeri kısıtlamalar da bulunmamaktadır.

Bu çalışmada, uzaktan eğitim ve laboratuvar sistemlerinin daha verimli kullanılabilmeleri için uzak laboratuvar yönetim sistemi önerilmiştir. Önerilen uzak laboratuvar yönetim sistemi (LabYS) uzaktan eğitimde kullanılan Moodle (Moodle, 2019), Blackboard (Blackboard, 2019), Learning Management System, (Hussain, 2011:86-93) ve SCORM (SCORM, 2015) gibi materyal paylaşımı, standartlar ve laboratuvar yönetimi sistemine yeni bir bakış açısı getirerek üniversite laboratuvarları içinde bir standart haline gelmesi hedeflenmektedir. LabYS içerisinde eğitim dokümanları, deneyler, föyler ve ön sınavlar eğitimciler tarafından öğrencilerine sunulmakta ve bu sayede öğrenciler tek bir platformda uygulamalı bir şekilde mühendislik deneylerini gerçekleyebilmektedirler. Önerilen sistem uzak eğitim sistemleri ve laboratuvarlar uyumlu geliştirilmiş olup, önerilen API kullanılarak tüm sistemlere entegre olabilmektedir.

Şekil 1. **LabYS Mimari**

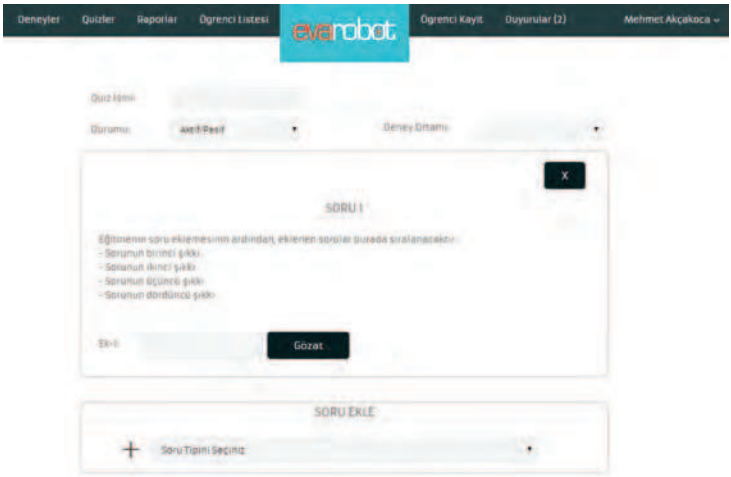
LABORATUVAR YÖNETİM SİSTEMİ (LABYS)

LabX ders içerikleri değiştirilebilir/geliştirilebilir olmakla birlikte oldukça zengin bir deney kütüphanesine sahip, eğitim ve araştırma alanında öncü olacak bir yapıdadır. LabYS sistemi hem öğrenciler hem de eğitimciler tarafından kullanılabilmekte, öğrencilere eğitimcilerinin hazırlamış olduğu deney yapma, ön sınav ve soru çözme, anket doldurma gibi işlemleri gerçekleştirme imkânı sağlamaktadır. Sistem aynı zamanda öğrencilerin deneylerdeki başarı oranlarını göstermekte ve istenilen deneyin tekrarlanmasına olanak tanımaktadır. Böylelikle öğrencilerin konuları en iyi şekilde öğrenmesi ve mühendislik alanında geliştirme yapabilmedeki kabiliyetlerinin artırılması hedeflenmektedir. Ek olarak öğrencilere quizlerinde ve deney raporlarında eğiticilerinden geri dönüş alabilme olanağı sağlanmış böylelikle yapılan deney üzerindeki hâkimiyet ve öğrenme düzeylerinin en üst seviyede olması sağlanabilmektedir.



Şekil 2. **LabYS Mantıksal Veri Şeması**

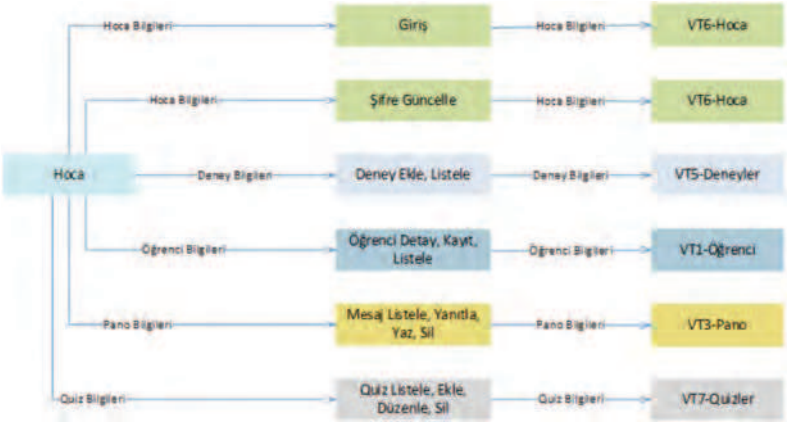
LabYS deneylerin yapılacağı uzak laboratuvar ortamıyla birlikte geliştirilmesinde temel RMS (Robot Management System, 2015) olarak adlandırılan açık kaynak kodlu bir yazılım kullanılmaktadır. Eğitimciler için deney ve quiz yönetimini kolaylaştırmakla beraber öğrencilere ise her birine açılacak hesap üzerinden benzetim ortamında eş zamanlı çalışma ve quizlerine erişebilme olanağı sağlamaktadır. Bu anlamda RMS hiçbir yazılım bilgisi olmadan web üzerindeki sistemin yetkisi sağlanmış kişi tarafından kolayca düzenlenebilmesini ve aynı anda yapılan düzenlemelerin öğrenciler tarafından eş zamanlı görüntülenebilmesini sağlamaktadır.



Şekil 3. **LabYS örnek arayüz**

LabYS Eğitimci Ekranları

Yapılan yetkilendirme sonucu eğitmenler kendileri için tasarlanmış özel arayüze yönlendirilerek, yetki alanları dahilinde öğrenci tanımlama, öğrenci listesi görüntüleyebilme, deney tanımlama, deney durumunu aktif ya da pasif olarak belirleyebilme, quiz oluşturma, rapor tanımlama, duyuru yapma ve öğrencilere gerekli konularda geri bildirimde bulunma işlemlerini gerçekleştirebilmektedirler.



Şekil 4. Eğitimci Mantıksal Veri Akış Şeması

"Öğrenci Listesi" arayüzünde eğitimciler sınıflarında bulunan öğrencilerin sisteme giriş izni alabilmesi için kayıtlarını yapabilmekte, öğrenci bilgilerini düzenleyebilmekte ve hangi grupta hangi öğrencilerin bulunduğunu görüntüleyebilmektedirler. "Deneyler" arayüzünde eğitimci sistemde daha önce tanımlamış olduğu deneyleri görüntüleyebilmekte, deneyleri düzenleyebilmekte, sistemden kaldırabilmekte ve yeni deney ekleyebilmektedir. "Quizler" arayüzünde ise öğrenciler için hazırlanmış quizleri görüntüleyebilmekte, düzenlemelerini yapabilmekte ve sisteme yeni quiz ekleyebilmektedir. "Raporlar" arayüzünde eğitimci, öğrenci listelerini görüntüleyebilmekte ve listeden seçtiği öğrencinin yazdığı raporları ve puanlamalarını görüntüleyebilmekte, gerekli gördüğü durumlarda raporla ilgili yorum yazabilmektedir."Randevu Listesi" arayüzünde öğrenciler tarafından kayıt yapılmış, gerçek ortamda deney yapabilmelerini sağlayan saatlik bölümler listelenmekte. Eğitimci hangi saat aralığında hangi öğrencinin deney yapacağı bilgisini elinde tutabilmektedir. "Profil" arayüzünde ise sadece şifre ve mail değişikliklerini gerçekleştirebilmektedir.

LabYS Öğrenci Ekranları

Öğrenciler kendilerine özel arayüze yönlendirildiklerinde eğiticileri tarafından sisteme girilmiş olan deneyleri görüntüleyebilmekte, eğitimcileri tarafından aktif statüde olduğu belirtilen deneyleri gerçekleyebilmekte, deneye ait quizleri çözebilmekte, deney sonrası raporlarını oluşturabilmekte, eğiticilerinden gelen duyuruları görüntüleyip deneyleri hakkında soru sorabilmekte ve son olarak da gerçekledikleri deney ve quizlerinin sonuçlarına göre aldıkları puanların ortalamalarının görüntülendiği performans sayfası sayesinde gerçekledikleri deney konusundaki hakimiyetlerini somut bir şekilde gözlemleyebilmektedirler.

Şekil 5. Öğrenci Mantıksal Veri Akış Şeması

"Performans" sayfası öğrenci anasayfası olarak adlandırılmakla birlikte öğrencilerin gerçekleştirmiş oldukları deneyler ve deneylere bağlı quizler ile raporlardan aldıkları notlandırmaların grafiksel veriler halinde tutulduğu ekrandır. Aynı zamanda öğrencinin toplamda kaç deney yaptığı, deneylerin ortalama puanı, her deneyin net puanı, deneylerdeki seviyesi ve grubunda kaçıncı sırada olduğuna dair istatistiksel verilere de bu sayfa üzerinden ulaşılmaktadır. "Deneyler" arayüzü eğitimci tarafından oluşturulmuş deneylerin öğrencilere sunulduğu ekrandır. Öğrenci bu ekran üzerinde aktif, pasif tüm deneyleri görüntüleyebilmekte. Deney detaylarına erişebilmekte ve deney detaylarında deneye ait quizi, raporu görüp, deneyi gerçekleyebileceği ortama bu sayfa üzerinden geçiş yapabilmektedir. İstendiği takdirde bir deneyi birden çok kez gerçek ortamda veya benzetim ortamında gerçekleyerek konu üzerindeki hakimiyetini artırabilmektedir. "Quizler" arayüzü deneylere ait quizlerin listelendiği ekrandır. Öğrenciler bu ekran üzerinden geriye dönük quizlerini görüntüleyip, hardcopy alabilmekte ve çalışmalarını pekiştirme şansı bulabilmektedirler. "Duyurular" arayüzü eğitimci tarafından bütün gruba gönderilmiş, deney ve ders hakkındaki duyuruların öğrencilere sunulduğu arayüzdür. Bu sayfa üzerinden istenirse konu hakkında eğitimciye soru sorulabilmekte ve eğitimciden gelen cevap yine bu sayfada görüntülenebilmektedir. "Randevu" arayüzü öğrencilere deneyleri laboratuar ortamında gerçekleştirdikleri esnada herhangi karışıklığa yol açılmaması için saatlik dilimler halinde kayıt olabilecekleri bir takvim sunmaktadır. Böylelikle bir öğrencinin kayıt yaptırdığı saatler içerisinde diğer öğrenciler sadece benzetim ortamında çalışabilmekte ve sistemde bir çakışma olmasının önüne geçilmektedir.

TARTIŞMA VE SONUÇ

Teorik olarak anlatılan yöntemlerin, araştırmacılar tarafından programlanması ve deneyler üzerinde sonuçların gözlemlenmesi; bilgiyi kalıcı kılmakta, uygulama deneyimi kazanılmasına imkân vermekte, hataların çözümünde sistematik yaklaşımlar geliştirme kabiliyeti kazandırmaktadır. LabYS temelde deneylerin gerçeklenebilmesi ve bu deneylerin öğreniminin takibinin en kolay şekilde yapılabilmesi için tasarlanmıştır. Sonuç

olarak, uzak laboratuvar yönetim sistemi gelecekte entegre bir şekilde uzaktan eğitim sistemleri ve sanal laboratuvar ile çalışabilecek ve tüm eğitim sistemlerinde bir standart haline gelebilecektir. Gelecek çalışmalarda, LabYS'nin kodlanarak hayata geçirilmesi ve uzak / sanal laboratuvar sistemleri ile testlerinin yapılması planlanmaktadır.

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