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NEW TEACHING PRACTICE FOR THE NEW ERA

Abstract: The aim of this paper is to present a new teaching practice that was enforced mainly because of the pandemic and the new circumstances for organizing the teaching process using distance learning and mostly blended teaching.

The pandemic has accelerated an existing trend towards online and hybrid learning. This shift has uncovered new and innovative ways for students and educators to organize their teaching and learning activities and to interact in a more personal and flexible manner online. We are aware that the teaching profession is a key mediating agency for society as it endeavors to cope with change and upheaval. The teaching profession must adapt a great deal so that it can act in a constructive manner within a fast-changing society if it is to retain the confidence of society.

The presented teaching practice in one Macedonian classroom with usage of different learning applications and learning platforms (Nearpod, Google Classroom, GoLab, Wordwall, Kahoot, Google Forms, Microsoft Teams, etc.) opens the discussion about the core competences teachers need as they are inadequately prepared to facilitate young people's understanding of and engagement with technologies in general.

In addition, the experience throughout one-school year with distance learning challenges the role that teacher has in the new era of teaching. His/her role changes towards equipping and motivating students' acquisition of skills and knowledge like self-directed learning, self-regulation, innovation, communication and cooperation.

The paper will present several recommendations for improvement of teaching with the usage of technology so to provide authentic experiences for both teachers and students.

Keywords: Teaching, Technology, Competences

Introduction – The Teaching Profession

The teaching profession in the modern course of life is confronted with numerous sources of information and ways of learning, and is in a situation where it has to "prove" its value and necessity. Even in the past it was concluded that this is not a simple profession, but a complex set of

knowledge, skills and behaviors that are expected of teachers. The review by Gustafsson (2003) suggests that there are important relations between different indicators of teacher competence and student achievement, including teacher education, experience, measured knowledge and skills, and in-service training.

Actually, the Teacher Competency Initiative originated in the United States in the 1960s as part of a larger movement to introduce competencies in education. Later in the 1980s and 1990s, competency-based education appeared in the United Kingdom, Australia, New Zealand, Asia and Latin America, mainly in vocational education. In the early discussions, teacher competencies were understood as "the ability to take action to achieve a certain standard". Teacher competencies have been interpreted as a set of discrete practical skills, free from theory. There has been a lot of criticism of the competency model for the teaching profession, primarily due to the fact that it was claimed to have served as an instrument to control the teacher.

Many attempts have been made to improve the model based on teachers' competencies. Knowledge from numerous scientific studies has been used for brain development, human development and the way people learn in order to overcome shortcomings. A holistic (integrated/connected) approach has emerged where competence is taken as a complex combination of knowledge, skills, attitudes and values seen in the context of task performance. Competence is not understood as learned, practiced behavior, with thoughtful ability and developmental process. The holistic approach to competencies is influenced by the constructivist perspective, i.e. the idea that people construct their reality in interaction with others. Cultural context and social practices are embedded in competing behavior, reflecting how personal attributes are used to achieve results in work within organizational and social relationships. Teaching conditions are taken into account (class size, shared value beliefs in the wider community about the role of the teacher) and they are essential when it comes to developing teacher competencies, and the description of teacher competence should take into account the context and personal characteristics of the teacher when emphasizing how competence and performance are related. Unfortunately, it turns out that the "human trait" with his/her personal characteristic is what is missing in many competency descriptions. Teachers also need socio-emotional competencies to be able to effectively manage students' emotional development. According to some researchers, socio-emotional competence is considered the basis for living today, where the ability to collaborate, communicate, create, understand cultural, religious, ethnic, sexual differences in class and environment are no longer something that is "good for a teacher to possess", but is "something that a teacher MUST" have as a basis for related issues in terms of world peace, social justice and environmental survival.

A competency-based model was later developed, which is an advanced version of the teacher training model, although it was supposed to go beyond the behavioral orientation of teacher education. The basic idea of the model is that if the goal is for teachers to successfully cope with the rapid changes in education and society as a whole, then they must be staffed with skills, abilities, knowledge and attitudes that will make them autonomous professionals. Under the auspices of competence, the concept of teacher education introduces pedagogical disciplines (teaching sciences) and supervised practical training, and on the other hand develops research orientations that aim to increase the ability of the teacher to participate in solving professional problems. (Buchberger, et al., 2000; 61)

Criticism of the concept of teacher training led first to the concept based on competencies and then to the concept of teacher education. In this last concept, the teaching profession is not reduced to a skill, on the contrary, this concept insists on the scientific basis of teaching and education of teachers. In this concept, teaching is understood as a complex activity that requires theoretical knowledge, without which the teacher cannot realize complex goals of the educational work. At the same time, the role of the teacher as a researcher is strongly embedded in the concept.

On the other hand, by the end of last century in their meta-analyses, Greenwald *et al.* (1996) and Hedges and Greenwald (1996) found that variables such as teacher education, teacher

experience and teacher ability show strong relations with student achievement. As Coolahan (2002) has argued, when society is undergoing profound and accelerating change, particular pressures emerge to improve the alignment between the education system and these changing societal needs. The teaching profession is a key mediating agency for society as it endeavors to cope with change and upheaval. As the society develops, the teaching profession needs to develop and adjust to the change requirements and circumstances in which teaching is taking place and the way learners learn.

The New Era in Teaching

The technological development globally in all areas of the societies implied changes in the education as well. Education must respond to the demands of the modern society because the functioning of the society is based on technology and digitalization. The digitalization of everyday life requires the digitalization of all segments of life and education cannot be neglected. But when it comes to the educational process, things here become more complicated because it is not enough for the teacher to just know how to use digital tools, it is necessary for his knowledge to be at a higher level so that she/he can transfer her/his knowledge to students.

The pandemic of Covid 19 in 2020 and 2021 and the realization of distance learning brought to the surface the shortcomings in terms of digital competencies of teachers who through no fault of their own have not acquired the level necessary to be realized at a distance. With the urge to close the educational facilities, countries started practicing different methods of providing learning spaces. These methods included variety of approaches: from preparing instructional packages for the students, to broadcasting educational programs through radio and national televisions, to setting up online resources and creating online studying planforms (Schleicher, 2020).

OECD stated that over 60% of teachers got an opportunity for professional development in the field of Information and communication technologies and 18% of professors stated that they have a need for more development in the area. These number showed how (un)prepared the teachers were for the sudden digitalization of the educational process. The fact that the students got access to education from their homes and could learn remotely, in different environment, offering different learning opportunities, also meant that the role of the teachers is being changed in accordance with the new digitalized systems (Schleicher, 2020). It is important to note that besides this new opportunity, some of the students, especially the younger ones (such as pre-school children and students in the lower classes), lacked age-appropriate learning opportunity and were in a more disadvantaged position than their older peers (World Economic Forum, 2022).

These findings and shared concern about the quality of teaching and learning brought to attention the importance of the *European Framework for Digital Competences for Educators* (DigCompEdu) which teachers should attend in order to properly prepare students for the needs of the market of the 21st century. According to this framework three main categories can be noted:

- professional competencies for teachers,
- digital pedagogical competencies for teachers and
- digital competencies for students.

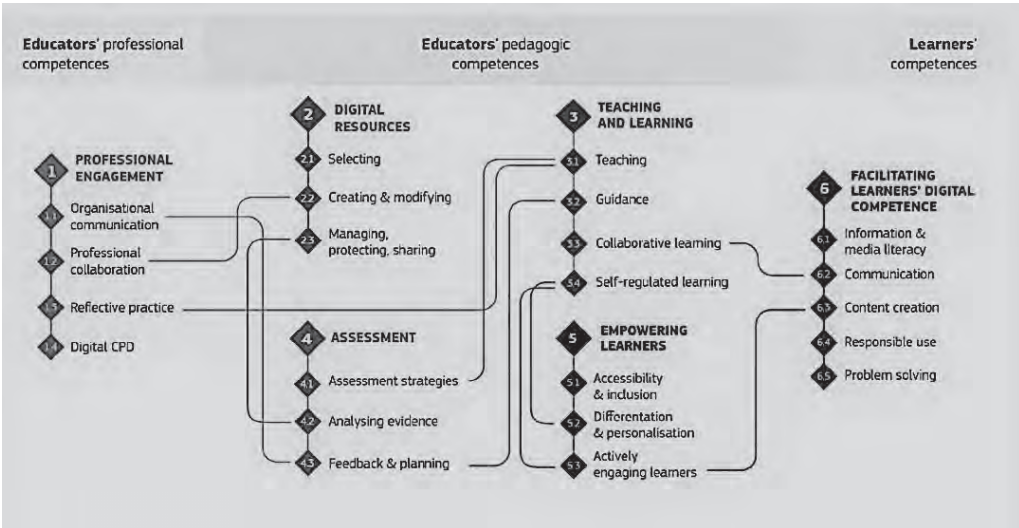
The DigCompEdu Framework aims to capture and describe these educator-specific digital competences by proposing 22 elementary competences organized in 6 areas: Area 1 is directed at the broader professional environment, i.e. educators' use of digital technologies in professional interactions with colleagues, learners, parents and other interested parties, for their own individual professional development and for the collective good of the organization. Area 2 looks at the competences needed to effectively and responsibly use, create and share digital resources for learning. Area 3 is dedicated to managing and orchestrating the use of digital technologies in teaching and learning. Area 4 addresses the use of digital strategies to enhance assessment. Area 5 focuses on

the potential of digital technologies for learner-centered teaching and learning strategies. Areas 6 details the specific pedagogic competences required to facilitate students' digital competence.

All areas of this framework are not new to educators and policy makers, but required fast adaptation and urgent interventions in time-frames not sufficient to make good preparations and efficient guidelines to teachers who had to find their own ways to transform the teaching process and focus on variety of student learning opportunities and needs in times of restricted face-to-face interactions and physical presence in the classroom.

The virtual classroom and hybrid models of teaching forced teachers to become more self-directed learners of the variety of digital tools available to them. This paper is focusing on some of these tools and activities a teacher in Macedonian primary school implemented in a course of one school year with her students.

Figure 1.



Description and Discussion on the Effective Use of Digital Tools in Online Teaching

At the begging of the pandemic and shifting to remote learning we tried to meet our students in the virtual space using ZOOM platform. It was a big challenge for all teachers especially for those with lack of digital competence. Faced with a new setting and motivated to be with our students and continue educational work, we started exploring and learning tools that can be beneficial for us to teach, and for students to be able to learn. Nowadays, only two years after the pandemic, it is very convenient to use different platforms for synchronous communication.

This is a short basic description of tools and platforms a teacher in science subjects used in everyday teaching during distance and blended teaching.

ZOOM is easy to use platform for delivering face to face lectures, but the free version allows only 40 minutes session and there is no option for sharing contents from other participants, only the host has that privilege. It is easy to record, save and share the session with students and colleagues.

NEARPOD as an app offers to teachers interactive teaching during the remote learning. The best feature of this app is that teachers can follow the student's activity and achievements in real time while also getting written reports about their progress during the remote classes.

Preparing the teaching material is by uploading the material from the computer or simply with drag and drop action. The tools for preparing teaching materials are divided in two categories. Tools for creating contents where you can find various aids such as (slides, video, Nearpod 3D, Sway and etc. see Figure 1) and tools for creating activities (Quiz, Flipgrid, Poll, draw it and etc. (see Figure 2)

Figure 1

Nearpod reports print screen

Figure 2

Nearpod activity print screen

Figure 3

Nearpod content print screen

The teaching material is easy to share through simply sharing the code of the activity. Students can access the lesson by logging with their Microsoft or Google accounts. According to the results obtained in a study (Naumoska, A, et al., 2022), they find “that Nearpod-based activities positively influenced students’ motivation in learning chemistry”.

GOOGLE CLASSROOM is an app that allows teachers good organization of teaching materials and assessments. Google classroom is a powerful and easy-to-use app with students friendly interface. Students very easily learn how to navigate and use the platform, it is easy to join with a google account and it is free. From the teacher’s point of view, every teacher with a google account can use google classroom. They can organize their students in classes by simply adding their google accounts. Teaching material is set by uploading from the computer, also the same material can be added to several classes at the same time, that is really a time-saving activity. Assignments can be delivered to the whole class or only to specific students. Teachers can access very easily the students’ work and check their assignments by giving feedback or grading their work (Figure 4). The learning progress of students is tide organized and is very clearly presented. (Figure 5)

Figure 4
Review print screen

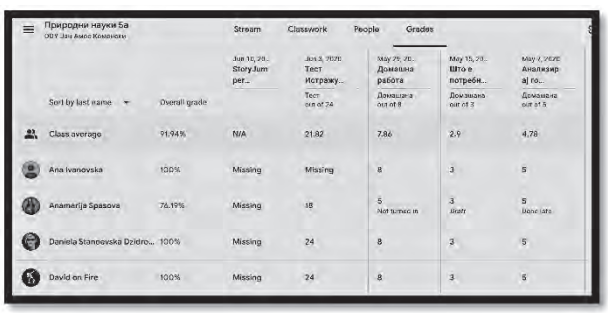
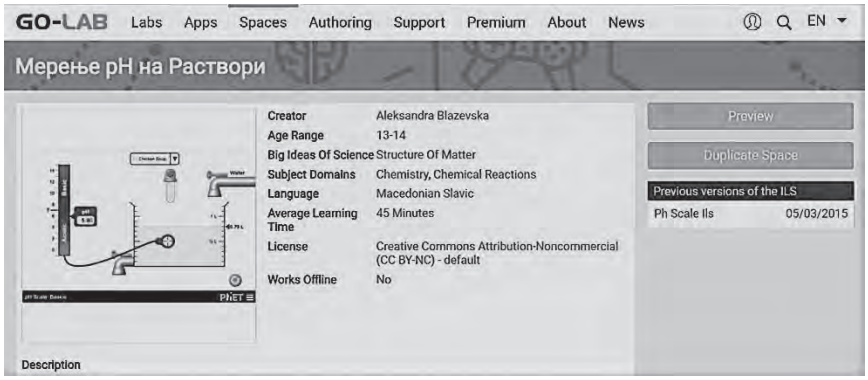


Figure 5
Learning progress print screen

GO-LAB (https://www.golabz.eu/) is sharing and authority ecosystem with 1000 online labs and 54 interactive apps combined into 1635 Inquiry Learning Spaces where students can virtually experience doing science. Inquiry Learning Spaces (ILS) can be created by teachers from screech or can be adapted from other teachers’ ILSs. They

are structured to follow the steps of the scientific method and they are an excellent opportunity for students to conduct scientific experiments in the virtual environment. Teachers guide students through the investigation process and follow their progress thanks to the interactive apps that give this opportunity.

Figure 6
https://bit.ly/3s9DetM



WORDWALL is an app that allows teachers to create digital resources mainly for synthesis and evaluating students` knowledge. It is very easy to make an account by using some of the existing accounts on google, yahoo, or others. Making the digital resources can start from scratch or by adopting some of the digital resources made by other teachers which can be found in the Community tab. There are various templates (match up, random well, group sort and etc. see Figure 7) for creating different activities. The good thing is that one activity can be switched to another template, thereby providing an entirely different perspective at the activity. Another positive thing is that resources can be shared with students via a link as an assignment in which students will compete between themselves in order to get better results. Furthermore, the wordwall gives a written report (Figure 8) analysis with details for each student about their participation and progress in the activity.

Figure 7
Wordwall template – print screen

Figure 8
Wordwall result list – print screen

Same as Wordwall, **Kahoot** is an app that can be used for synthesis and evaluating students` knowledge. Mainly it is an app for creating quizzes (Figure 9) where students working in teams or individually compete with each other in order to get better results. They use their smartphones as a tool for submitting the correct answers. It is an excellent resource for the evaluation of students' knowledge and raising the motivation and competitive spirit among students. Kahoots are very easy to be created either from scratch or from other teachers' resources. A variety of Kahoot quizzes made by other teachers can be found in the Discovery tab. Students enter the Kahoot by entering a six-digit number shared by teachers. Same as many others apps Kahoot also gives written reports with students' results which can be found in the Reports tab.

Figure 9
Kahoot quiz

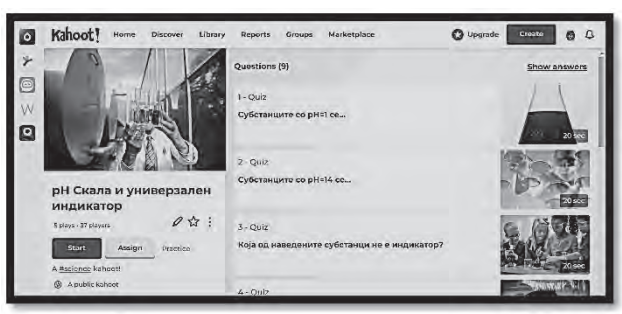


Figure 10
Kahoot report – print screen

Google forms mainly is an app for online forms and surveys. As an app, it gives an opportunity for creating different types of questions (multiple choice, true-false, matching and grouping and etc.) setting feedback, correct answers, and points. All these possibilities make google forms a very used app as a tool for evaluating students' knowledge among teachers. Creating assignments by organizing questions in different sections is easy and fast. Also getting the results and feedback can be set differently. Results can be sent to the student's emails automatically or after a manual review by the teacher. Additionally, an excel report with a detailed record with chosen answers for all questions by each student is generated after every assignment.

Microsoft Teams is an app from the Microsoft 365 package that was the most used app for synchronous communication during the pandemic 2020-2021 school year. MC Teams is not only an app for delivering online lessons, it is an app in which interface can be easily added to different tools such as MOODLE, OneNote, Poly, and many more that makes online communication with students more engageable. The various options for setting give the app personalized features such as controlling when students enter and leave the online class, option for dividing students into groups, options for on-off microphones, options for changing the background, recording the online sessions and many more.

Conclusion

The pandemic has accelerated an existing trend towards online and hybrid learning. This shift has uncovered new and innovative ways for students and educators to organize their teaching and learning activities and to interact in a more personal and flexible manner online. We became more aware that the teaching profession is a key mediating agency for society as it endeavors to cope with change and upheaval. But this also emphasized the need that teachers must adapt a great deal so that it can act in a constructive manner within a fast-changing society if it is to retain the confidence of society.

The experience throughout one-school year with distance learning challenged the role that teacher has in the new era of teaching. His/her role changed towards equipping and motivating students' acquisition of skills and knowledge like self-directed learning, self-regulation, innovation, communication and cooperation.

Unfortunately, the last year and a half proved that teachers lack core competences to facilitate young people's understanding of and engagement with technologies in general. This is why there is a need for urgent and effective changes in the curricula of the faculties that educate teachers in order to prepare the future teaching staff with adequate digital competences. Policy makers also need to develop systematic support measures for an on-going professional training of the already employed teachers, for upgrading their digital competences and supporting the network of teacher-to-teacher learning and sharing of good practices in this field.

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PROFESSIONAL DEVELOPMENT OF TEACHERS WITHIN THE CONCEPT OF EDUCATION FOR SUSTAINABLE DEVELOPMENT

Abstract: The answer to the question on how to prepare young people to take the role of active citizens, develop their abilities, skills and values that will help them to integrate into a sustainable society and face all challenges, uncertainties and problems of the 21st century lies, among other things, in the continuity of education and training of young people, which is reflected in the continuous progress and professional development that we can see in the concept of sustainability, with special emphasis on the discourse of competence. In that sense, in the paper, through the analytical-theoretical approach, we emphasize the need to change the paradigm in the professional development of teachers as an important factor in the transformation of education for the sustainable future. The model of sustainable professional development of teachers, which is the subject of our study, does not only deal with the development of professional competencies but also explores the areas of personal and social behavior of teachers, as development guidelines in raising awareness, gaining knowledge and conceiving actions for sustainable development. The implications of studying this problem point to the need for a holistic, integrative, and transformative approach in the professional development of teachers and in the construction of a support system for teachers in accordance with the new educational discourse – education for sustainable development.

Keywords: Professional development, Teachers, Education for sustainable development, Competencies

Introduction

The concept of sustainable development, which represents a paradigm of modern development and progress in technology, economy, ecology and society, has its foothold in science and education, and is one of the proper solutions for the challenges faced by modern society, but also the initiator of further changes. In a society where globalization and intercultural conversation become the backbone of new relationships, the creation of new life skills and lifelong education become the primary objectives of modern society. In this context, "at the gates of postmodernism, contemporary pedagogy turns to everyday life as a time for lifelong education and learning: non-formal and informal ways of acquiring knowledge, professional competences and a culture