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UPDATING UNIVERSITY CURRICULA IN EARLY CHILDHOOD INTERVENTION

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Abstract

Early identification of developmental delays is at the utmost importance in a child's development. Professionals in psychological, medical, scientific and educational fields have documented the importance of the years between birth and five for learning and intervention. In Europe, the term Early Childhood Intervention (ECI) is used intermittently with the Early Intervention term. There is a large variety of ECI practices used in various European countries. Evidence suggests that the earlier the onset of intervention, the greater likelihood of an improved developmental trajectory. It is argued that early intervention is more cost- and time efficient than a "wait and see" approach.

In order to have an efficient Early Identification and Early Intervention certain practices must be set in place such as standardized instruments for screening and assessments as well as strategies for work with children with delays. In these modern times, we need to utilize all the available technology and create tools which are accessible to all.

In that direction, this project focuses on creation of an on-line platform that contains various screening methods for identification of children with disabilities as well as early intervention strategies. These instruments are being developed within this project in the form of intellectual outputs. The content from the platform is the basis on which a milestone tracker app is being created. With this app, parents, caregivers, pedagogues and special educators can monitor the development of each child. These change in practice will eminently lead to a change in theory. Hence this project predicts upgrade of the university curricula in the area of Early Intervention.

Key words: early intervention, university programs, Erasmus+

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Introduction

Skills such as taking the first step, smiling for the first time, and waving "bye-bye" are called developmental milestones. According to the Centre for Disease Control (2018) children reach milestones in how they play, learn, speak, act, and move (crawling, walking, etc.). Developmental milestones are physical or behavioural signs of development in infants and children as they grow and develop (MedlinePlus, 2023). These milestones are a set of functional skills or age-specific tasks that most children can do at a certain age range (Mohammed, 2022). Although all children develop at their own pace, most children reach developmental milestones at or about the same age. Developmental norms are sometimes called milestones, and they define the expected sequence and timing of physical, cognitive, and social-emotional growth and development.

Early identification of developmental delays is at the utmost importance in a child's development (Ristovska, 2021). Recognizing milestones and manifestations of certain behaviours help us identify developmental delays and disruptions (Rashikj-Canevska et al., 2019). Early intervention focuses on family-centred services, individually planned educational programs, and specialized teaching approaches (Karovska Ristovska, 2019). In order to have an efficient Early Identification and Early Intervention, certain practices must be set in place such as standardized instruments for screening and assessments as well as strategies for work with children with delays. In these modern times, we need to utilize all the available technology and create tools that are free and accessible to all.

In that direction, the UPDEIT[35] Erasmus+ project (presented in this paper) focused on creation of an e-learning Open Education Resource (OER) that contains various screening methods for identification of children with disabilities as well as early intervention working strategies. These instruments stemmed from the project results. The content from the web-based OER (enriched with developmental checklists and video/audio materials with exercises) was the basis on which a development tracker mobile application is currently being created. Through this app, students in the early education field but also parents, caregivers, educators and special educators can monitor the development of each child and work with the children in home and/or professional settings.

Ultimately, the content developed in the first part of the project will lead to the Update of University curricula in the area of Early Intervention for children with developmental delay in all HEIs participating in this project with a possibility of further dissemination with other universities, schools, preschool institutions and so on.

The project is led by a team of researchers from the Department of Special Education and Rehabilitation, Faculty of Philosophy, Ss. Cyril and Methodius

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[35] UPDEIT: Updating University Curricula in Early Intervention. 2021-1-MK01-KA220-HED-000022981. Erasmus+ KA220 Partnership in High Education

University-Skopje, N. Macedonia. The partners in the project come from eminent Universities and associations: Frederick University from Cyprus, La Laguna University from Spain, and Uchilnica Daskalovski from N. Macedonia.

Methodology

Addressing digital transformation through the development of digital readiness, resilience and capacity is the most relevant horizontal priority for the UPDEIT project. This project supports evidence-based practices and fosters innovative and creative IT solutions in the area of early childhood development and early intervention.

The needs assessments conducted before the application of the project indicated that a web-based OER combined with a mobile app for easy access has not been made in Europe. Via the update of university curricula university staff and students in the relevant fields and practitioners and various experts in the relevant fields can benefit from this user-friendly OER and app which enable the use of high-education tools. The development and use of such a web-based OER will improve the digital skills of all, in alignment with the challenges set in the new century.

The following objectives are set within the frames of this project proposal:

- Creating evidence-based practices in the area of Early Intervention for children with developmental delays.
- Digitization of the early intervention (video) practices by the creation of web-based OER for Early Intervention.
- Creation of a milestone tracker app for tracking the children's development.
- Updating University curricula in the area of Early Intervention for children with developmental delay (with which we will ensure the sustainability of the project results).
- Enabling access (through dissemination) to the web-based OER and milestone tracker to parents, caregivers, and professionals in the area of disability.
- Improving the level of key competencies and skills in professionals and future professionals in the disability area.
- Foster quality improvements and excellence in innovation at the high education institution level through enhanced transnational cooperation between education and training providers and other stakeholders.
- Promote and strengthen knowledge and acceptance of diversity in society.

Three transnational meetings are conducted within the frame of this project: First kick-off meeting with the purpose of fine-tuning of different aspects of the project activities, explanation of financial rules and procedures, as well as sharing ideas about the methodology for the research; Second transnational meeting closely related to the second and third project results - Implementation and testing of the web-based OER and preparations for creation of the mobile application; and Third transnational meeting after the web-based OER and mobile application have been created and the University curricula updated and tested. Final remarks will be given and further project ideas and possibilities for cooperation between the partners will be discussed.

Several target groups directly benefit from this project: pre-service early childhood and early intervention specialists (these are the future professionals in the field) but also in-service teachers and special educators that currently work with children in pre-schools or early intervention centres. Parents also have the opportunity to track their children's developmental progress with this application and find creative and innovative ways to boost their child's development through the OER possibilities. Also, academic staff and students from other closely related fields benefit from the final products envisioned within this project. Finally, the biggest benefit is for the children with developmental delays and their families, who will get to work with highly skilled and well-trained professionals introduced to all the novelties in the special education area. In this manner we can achieve the goal of early intervention for children with developmental delay, and that is to give these children an equal opportunity in life.

Discussion and results

Four results stems from the project's activities:
1. The production of the first project result was oriented towards exploring the best early intervention practices in Europe and worldwide. The research entailed desk-top and field studies for evidence-based practices, as well as strategies and exercises on how to improve the developmental outcome of every child. This project results were finalised via the publication of a Manual for assessment of early childhood development (Daskalovski, et al, 2022).

2. The second project result is the creation of a web-based OER with screening instruments (development screening instruments) and early intervention exercises for children with developmental delay. They are being placed on a web-based open-source web-based OER for early interventions in children. Different types of screening instruments for different ages from birth-to-six are created, adequate for the European region. The early intervention exercises for differ-

ent developmental milestones are created, recorded and placed on the web-based OER.

3. The third project result is the creation of an innovative solution - a mobile application for easy access of the web- based OER for early intervention. Photos and videos in this app illustrate every milestone and make tracking easy. In this manner, students in special education, pedagogy, psychology, medicine, etc. then every parent, caregiver or professional in the disability area are able to monitor the progress of every child and they have information on what to do if there is a concern that the child is not developing at a certain pace. This information is given through video tutorials.

4. The fourth project result is a well-designed curriculum that contains innovative elements (such as the created web-based OER and mobile app within this project) that nurtures both student learning and student retention. New and updated curriculums can improve the quality of e-learning as well. This updated curriculum will emphasize the learning outcomes or knowledge/attitudes/skills that should be attained by the students. In this way, the curriculum that will originate from this project will be a competency-based curriculum. All project countries that have special needs departments will update their university curriculums. The web-based OER and mobile app will be used as segments for e-learning.

The tangible and intangible results can be further defined in the following manner>

Tangible results:

• Manual for development monitoring and strategies for work with children with developmental delays;

• Web-based OER with child development-related content;

• Web-based OER with strategies for enhancing children's developmental pathways;

• Developmental milestones tracker content;

• A mobile app developed for easy access to the OER;

• Updated University curricula in the area of early intervention for children with special needs;

• More integrated use of ICT and open resources in University institutions;

• New teaching methods and open pedagogy approaches;

• Increased access to online materials to pre-service educators;

• Increased access to online materials for in-service preschool teachers and special educators;

• Increased access to online child-development content for parents;

- Increased transnational cooperation and exchange of good practices in the field of special preschool education.

Intangible results:

- Increased IT and media literacy skills in HEI staff and students;
- Improved connection between different types of formal and non-formal learning;
- Increased motivation;
- Increased satisfaction in everyday work;
- Increased opportunities for the business sector;
- Increased competition on the labour market;
- Increased quality of education.

Addressing digital transformation through the development of digital readiness, resilience, and capacity is the most relevant horizontal priority for the UPDEIT project. This project supports evidence-based practices and fosters innovative and creative IT solutions in the area of early childhood development and early intervention. This web-based Open Educational Resource (OER) will also offer a large variety of working strategies that will enhance the developmental outcomes of children. The biggest benefit is the development of an open educational resource for in-service teachers, pre-service teachers, special educators, and parents who will have the possibility to track the developmental milestones of young children (between the ages of birth to six).

The digitization of education is a growing trend that is expected to continue in the future. The use of digital technology in education allows for a combination of classroom learning and online learning (Ainslee, 2018, Agrawall, 2022). Digitization offers a huge opportunity to transform learning and address some of its current deficiencies (Telore, 2023).

The future of education will likely rely on digital platforms to assist students in their learning journeys (Jonathan, 2023). Having in mind that digitalization is the future of education (here including higher education as well), this web-based OER will also be the key instrument for building student competencies as it will be used both in theory and in practice. This innovative solution (which will be also accessible by a mobile app) will bring developmental milestones and early intervention strategies for children closer to the students that will directly work with children with developmental delays and their parents. In this manner, we will update the university curricula by starting the process of digital transformation of the study materials for future professionals that work with this most vulnerable group of society.

There are several trends in digital transformation in education, including improved accessibility and access, personalized learning approaches, virtual reality, and cloud-based solutions (Berguerand, 2023). Several OERs in similar topics have been developed in the U.S. (OER Commons, 2023; OER Initiative, 2022; OER-MJC, 2023; OER Lehman College, 2023; OER San Bernandino Valley

College, 2023). The web-based OER created within this project and following these trends will enable quick access to e-materials which inherently leads to higher efficiency and development of new ICT skills in the professionals as well as students and academic staff. This OER will also enable the embedment of evidence-based practices in the high education institution's curricula and practicum which will contribute to the development of basic skills and key competencies in professionals who work in early childhood education.

This project will have a cross-sectoral influence as well. Through the development of this web-based OER (and successively a mobile app) and the updating of the university curricula, all students and future professionals will gain advanced skills for working for children with developmental delays. The practices and strategies (and interventions) which will be a part of this OER will lead to a more in-depth knowledge of the structure of early childhood education and care systems as well (and methods for their improvement). This project, in this manner, is also aligned with the school education sector-related priority Developing high-quality early childhood education and care systems. Technology and other changes in society demand innovation in education. Education and more specifically preschool education will benefit the most from utilizing and teaching innovation in the classroom. Education is a community-wide challenge and it requires talented teachers, committed parents, and guardians. It also requires tools especially innovative ICT solutions which will improve the work efficiency of educators as well as decrease their workload hence increasing the access to high-quality child education and care. This OER will bring exactly that.

Conclusion

It is of vital importance that these innovative web-based OERs, mobile apps, and updated curriculums are developed as a result of transnational cooperation because of the exchange of good practices and positive examples between all partners. The experience that other countries have in the area of early childhood development, as well as the working strategies for children of different ages, bring added value to the project and result in an OER which can be used in different settings.

Transnational cooperation in all segments takes place when several entities join forces and work together. This partnership applies an internationalization strategy where all partners will work on joint activities. The advantages of this transnational cooperation are related to increased capabilities in all the HEI staff, greater flexibility content-wise, facilitated knowledge sharing, and increased specialization of all involved participants in the project activities. One of the biggest benefits is the acceleration of the learning process reducing the time required to implement a new idea and in this case an e-learning OER and updated university curricula. Of course, such transnational partnerships reduce

the costs because of the joint development of ideas (and in this case services for early intervention). All partners contribute and benefit equally.

Individual development of a product (in this case the e-learning OER and mobile app) or service (in this case the updating of the HEI curriculums) gives a very narrow focus on one particular region. One of the advantages of transnational cooperation is that it focuses on predicting the needs and preferences of several cultures across various countries. This results in the development of a product and service that can be disseminated in most countries on a European level.

This project and its results stem from this transnational cooperation because:
- There is a balance in the scientific capacity between countries;
- There is an understanding of the different early intervention practices and strategies across countries;
- There is an understanding of the legal and cultural differences;
- There is a cross-sectoral communication.

The project includes suitable measures to produce a long-term multiplier effect and durable impact both internally and, where necessary, outside our education and early intervention institutions.

In the long-term, the project will benefit learners in participating institutions. Teachers' staff in pre- schools, special schools, kindergartens, educator and rehabilitators in early intervention child development centres will benefit from:
1. Increased use IT methods and strategies in early intervention process;
2. Knowledge of different working methods;
3. Creation of bonds with professionals in the area of early intervention from other countries;
4. Project management skills development;
5. Social skills development;
6. Motivation to work in a multi-disciplinary team;
7. Motivation for professional development;
8. Motivation for the job.

Institutions-wise (educational institutions, preschool and early education institutions, and departments of health/social work) it will have an impact in:
1. Introduction of new teaching systems, new content, using ICT in work;
2. Improvement of work in these institutions;
3. Development of interdisciplinary approaches;
4. Development of openness and cooperation with institutions from other countries;
5. Better teamwork between teaching and health departments.

For parents and children with developmental delays it will bring:
1. Knowledge of developmental milestones and their tracking;

2. Knowledge of developmental delays;
3. Skills for early intervention working strategies; and
4. Direct benefit over their children's development.

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