



QUALITY OF TEACHING AND LEARNING (QTL): REALITY AND POSSIBILITIES

1st International Scientific Conference
November 17/18, 2023

Book of Proceedings



TEACHING, LEARNING AND TEACHER EDUCATION (TLTE)

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QUALITY OF TEACHING AND LEARNING (QTL) –
REALITY AND POSSIBILITIES



1st International Scientific Conference

Teaching, Learning and Teacher Education (TLTE)

Publisher

Pedagogical Faculty in Vranje, University of Niš, Serbia

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The publication of the Book of Proceedings has been funded by the Ministry of Education, Science and Technological Development of the Republic of Serbia.



Република Србија
Министарство просвете,
науке и технолошког развоја

1st International Scientific Conference
Teaching, Learning and Teacher Education (TLTE)

Conference theme:
***Quality of Teaching and Learning (QTL) –
Reality and Possibilities***

BOOK OF PROCEEDINGS

Vranje, November 17–18, 2023

1st International Scientific Conference
Teaching, Learning and Teacher Education (TLTE)
Vranje, Serbia, November 17-18, 2023
Venue: Pedagogical Faculty in Vranje, University of Niš, Serbia

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Foreword

The Proceedings were prepared following the *1st International Scientific Conference on Teaching, Learning and Teacher Education (TLTE)* organized by the Pedagogical Faculty in Vranje, University of Niš, Serbia, in collaboration with the Faculty of Education, Nevşehir Hacı Bektaş Veli University, Turkey, the Faculty of Education, Aristotle's University of Thessaloniki, Greece, and the Faculty of Education, University of Primorska, Slovenia, held in Vranje, November 17-18, 2023.

The main theme of the conference was *Quality of Teaching and Learning (QTL) – Reality and Possibilities*. Why this topic? The quality of education is relative, based on values, beliefs and interests and depends on the values that are important to society at a given time, as well as on the concepts of learning, teaching, instruction and education. Definitions of the quality of education change over time, so quality assurance is a process that is always current. It is crucial to the development of society as a whole, and education systems have changed fundamentally in recent years due to various events around the world. The coronavirus pandemic has changed almost every aspect of education. It was not just the shift from the classroom to the computer screen. It challenged fundamental ideas about teaching, learning, attendance, exams, funding, the role of technology, the human connections that hold it all together, and so on. A year on, a rethink is underway and there is a growing sense that some changes could be permanent. With this in mind, we felt that looking at various current issues related to the reality and possibilities of improving the quality of teaching and learning will help to clarify various issues in this area and overcome them in the future.

The conference brought together academics from 10 countries and 31 universities and scientific research institutions to raise awareness of the various global challenges related to the following topics: Assuring and enhancing the QTL, Leadership for QTL, the linkage between QTL and curriculum design, Teaching for learning, QTL – students at the heart of education, QTL in the changing social context, a good teacher and learning processes, modern technologies in the function of improving QTL and the other topics related to the theme of the conference. In this context, participants had the opportunity to learn about the experiences of different countries on each of these topics, which enabled them to look at these issues from different perspectives.

By looking at these issues of permanent importance from the perspective of those involved in the teaching process, some possible answers to questions related to the problems of teachers, students and vulnerable groups were provided.

Accordingly, participants addressed issues related to teachers and their professional development, their views on distance education and the creation of competency profiles for teachers. Issues faced by members of vulnerable groups included: issues related to ethnic minority students and teachers and their attitudes, women's careers and the challenges they face, LGBTQ+ studies, domestic violence, student diversity, etc. In the context of teaching and learning, various topics related to digital textbooks, picture books for children, math competitions, urban landscapes as teaching tools, microteaching, sustainable development

goals and cognitive models were addressed. The “guided” method, interactive teaching, hybrid learning, phraseology in effective learning were discussed.

In the area of modern technologies, the quality of distance learning during the Covid 19 pandemic, the use of artificial intelligence in teaching, e-mentoring, the barriers to the use of EDTECH as well as the impact of the use of video games in teaching, the use of digital devices in university education, teaching, educational computer software were examined. The attitudes, quality and competencies of future educators and teachers, the developmental and educational model of supervision and ethics in physical education were also examined.

By examining key aspects of educational quality, such as leadership, innovation in teaching, the relationship between teaching quality and curriculum design, the participants identified opportunities to improve educational practice. Particular attention was given to the application of modern technologies to improve the quality of learning, as well as the challenges faced by different social groups, including ethnic minorities, women, the LGBTQ+ community and people with special needs.

The conference highlighted the commitment of researchers, teachers and experts from different countries to improving the educational system. The exchange of ideas and experiences provided participants with diverse perspectives on the quality of teaching and learning, taking into account different issues and challenges.

As the global market for knowledge and education evolves, the academic community must constantly look for ways to improve and adapt the quality of teaching and learning to meet societal demands. The contributions presented at the conference aim to address these challenges, expand collective knowledge and build a robust professional network.

Through an interdisciplinary approach, the conference provided a platform to shed light on the complexity of educational processes and pave the way for new perspectives and solutions. The event emphasized that improving the quality of education is a dynamic process that requires continuous adaptation to social, technological and educational trends. This conference played a key role in promoting dialog and joint research and made a valuable contribution to the development of the education sector.

Finally, we would like to thank all the authors, co-authors, reviewers, organizers and participants who made this conference a resounding success. May these articles continue to inspire, educate and drive progress in the fields.

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Pedagogical Faculty in Vranje, University of Niš, Serbia

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PLENARY LECTURES



PATHS TOWARDS A BETTER QUALITY OF EDUCATION

UDC 005.6:373.5(497.11)

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Abstract. *The subject of this research is to analyse of the current evaluation framework of the pre-university education system in the Republic of Serbia. The paper aims to review the results of the external evaluation of the quality of school work in the 2019/2020 school year, with a special reference to the quality of students educational achievements. The quality of students' educational achievements is assessed, based on the results of the final exam, national and international tests, and other qualitative indicators. After the first cycle of external evaluation, the standards were revised and the existing methodology was improved. An overview of the new quality elements was given. The research sample consists of 131 primary schools. The content analysis method (Regulation on quality standards of the institution's work, 2018) and descriptive statistics were applied. Since the quality of students' educational achievements is measured by external testing, an integral part of the work is also an overview of the national and international research in which students have participated since 2019. The results of the external evaluation show that schools need the most support in achieving quality teaching and in providing conditions to improve the educational achievements of students. The only external exam that is conducted once a year for the entire population of eighth-grade students is final exam for the end of primary education. In order to ensure the quality of education, the continuous implementation of international research is necessary. Students from Serbia participate in international research (PISA, PIRLS, TIMSS, ICCS, ICILS). The guidelines for the future evaluation framework of the education system were proposed based on the experience from the previous period and the goals of the Strategy for the Development of Education and Training in the Republic of Serbia until 2030.*

Keywords: *external evaluation, educational achievements of students, final exam, international research*

Received February 14, 2024/Accepted March 24, 2024

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1. INTRODUCTION

Since its establishment in 2004, the Institute for Education Quality and Evaluation (IEQE) has institutionalized the evaluation of education quality in the Republic of Serbia. Within its scope of work, IEQE deals with pre-university education (pre-school institutions, primary and secondary schools). The evaluation of the pre-university education system is based on the need to monitor and continuously improve the work of educational institutions following rapid economic and social changes. The evaluation process consists of two parts: self-evaluation and external evaluation. Self-evaluation is an internal control, a procedure that leads to strengthening the school and improving quality "from within". External evaluation is a type of external supervision, which is carried out within defined areas of quality, based on standards, indicators, and norms that are precisely measurable with reliability. Chronologically, our educational system first introduced standards for student educational achievements, then standards for the quality of institutions, standards of competence for teachers, educators, professional associates, directors, and their professional development.

External evaluation of educational institutions has been widely used in Europe since the early 2000s as an effective approach to quality assurance (Eurydice, 2015, p. 7). As part of the international project "Monitoring the quality of school work", a new Law on the Basics of the Education and Training System ("Official Gazette of the RS", no. 72/09), introduced innovations into the education system aimed at achieving a high-quality and efficient education system, which foresees measures related to the improvement of overall quality of teaching and school life. Thus, since 2009, ensuring the quality of the work of institutions has been regulated by the Law on the Basics of the Education System ("Official Gazette of the RS", no. 72/09, 52/15, 5/13, 88/2017, 27/2018 - other law, 10/2019, 27/2018 – other laws, 6/2020, 129/2021, 92/2023). The external evaluation was implemented by employees of Ministry of Education (MoE). Their work is based on a large amount of information collected from numerous school documents and based on observations of teaching and school life. The external evaluation consists of three basic steps: analysing, visiting the educational institution and reporting.

An important area of external evaluation and self-evaluation is student progress towards educational goals defined by educational standards. Student achievement standards are norms based on which the educational achievements of students are evaluated at the end of a certain educational cycle. They are structured as information about functionally integrated knowledge, skills, and attitudes, in the cognitive and affective domains, at three levels of educational achievement: basic, intermediate, and advanced level. The current achievement standards for the end of the first and the end of the second cycle of compulsory education were adopted in 2010, the standards for the general education subjects at secondary education in 2013. Due to scientific and social changes, it is necessary to revise the standards periodically. The IEQE has prepared a proposal for standards of achievement at the end of primary and lower secondary schools, which are aimed at the development of key competencies, life-long learning, and development of functional literacy. On the basis of the educational standards, national tests are conducted, the final exam at the end of primary education („small matura“) and future exam at the end of secondary education ("big matura"). The results of the external national and international examinations are the basis for redefinition of the concept of quality of education. The final exam at the end of compulsory education is currently the only external examination conducted in Serbia,

conducted once a year for the entire population of eighth-grade students." (Karalić et al. 2020. p. 298.).

The educational standards are also the basis for the implementation of initial testing. The initial assessment of students is done at the beginning of the school year, in order to assess the previous achievements of the students, within a certain subject or area. The results of the initial assessment are used to direct teaching and learning, plan teachers' work and monitor student progress. Standardized initial tests contribute to the teachers diagnostic assessment quality and provide a good basis for differentiative responses to the individual student needs.

2. ANALYSIS AND RESEARCH

2.1. External evaluation and educational achievements of student

The self-evaluation process is not in the scope of this research, but the process of external evaluation of educational institutions is. External evaluation was introduced into the education system of the Republic of Serbia in 2012. The first evaluation cycle was implemented in the period 2012-2018. After the first evaluation cycle, the quality standards of the institutions and the evaluation methodology were revised in 2019 (Rulebook on the quality standards of the institution's work ("Official Gazette of the RS - Education Gazette", No. 14/2018).

The new evaluation quality framework for primary and secondary schools includes six¹ areas of quality:

- Programming, planning, and reporting,
- Teaching and learning,
- Student achievements,
- Student support,
- Ethos, and
- Organization of schoolwork and human and material resource management.

The number of standards has been reduced (24), some standards have been redefined, and others have been replaced by completely new statements. The indicators have been redefined and reduced in order to be more precise and measurable. The total number of indicators is now 124, while in the previous rulebook, there were 158 indicators. (Karalić et al. 2020. p. 297). The evaluation process is regulated by the Rulebook on the evaluation of the quality of the institution's work ("Official Gazette of the RS, no. 10/2019"). The evaluation is implemented by external evaluators, employees of the Regional departments (RD) of the Ministry of Education (MoE) and employees of the IEQE. During the evaluation process, their role is to determine the extent to which each of the indicators is present.

The evaluator's activities include analyzing school documents, the school development plan, the timetable, and the self-evaluation process. It also includes conversation with principal and school administration, teachers, students, and parents, attendance at classes and other activities, observation of school processes, and analysis of student documentation. During this procedure, the level of achievement for each standard is

¹ Framework for preschool institutions includes four areas of quality, but it is not of interest of this research

determined. Levels 1 and 2 indicate an unachieved standard, while levels 3 and 4 indicate an accomplished standard. Typically, the evaluation teams triangulate their findings by observing the required number of classes, analyzing the school's documentation, interviewing key actors in the institution, and observing other school activities during their stay at the school. The overall quality of the institution's work can be rated 1, 2, 3 or 4, with 4 being the highest rating. The ratings are based on two criteria. The first criterion is the percentage of achieved standards that are key for evaluation (key and selected), and the second criterion is the total percentage of achieved standards concerning all standards.

2.2. Final exam at the end of primary school

Since the indicators for the standard of our interest in this research are dealing with the results of the final exam, we will refer to the structure of the final exam.

The final exam at the end of primary education has the function of certifying the knowledge, skills, and competencies acquired during primary education. It also examines the level of achievement of the standards. The final exam is taken by all students who have completed the eighth grade of primary education, and by adults who wish to acquire primary education level, in accordance with the law that regulates adult education. The final exam is compulsory and if the student does not take the exam, he or she cannot receive a certificate of completion of basic education (primary education). In addition to the certification exam, the exam also has a selection function, as the students' results affect the selection for enrollment in secondary schools.

The final exam is the only external exam in the system that includes the eighth-grade student population. The data obtained after the enrollment of students enables the implementation of evaluative functions by providing insight into the educational achievements of students and represents the basis for proposing comprehensive measures to improve the educational system. The content of the final exam is determined by the Program of the final exam, adopted by MoE. From 2011, the content of this exam was changed in terms of the number of teaching subjects and the number of unknown items in the tests. In the first three years, students took an exam consisting of two tests with "known" items from published textbooks. Since 2014, students have an exam consisted of three knowledge tests: Serbian (i.e., mother language), mathematics, and a combined test (items from biology, history, geography, physics, and chemistry). The items were "unknown".

From 2023, instead of a third, combined test, students select one of five subjects and take a third test from this chosen science (biology, geography, history, physics, and chemistry). The principles of development and gradualism were therefore taken into account when the final exam was introduced into the education system. A student can achieve a maximum of 14 points on language test, 14 points on math test, and 12 points on science test. Based on general success, a student can achieve a maximum of 60 points. The maximum number of points a student can achieve based on general success and success on the final exam is 100 points. The exam results are displayed according to their three functions and are used at several levels: individual (student), school, municipality, district, region (RD as organizational units of the MoE) and at national level. The MoE organizes the preparation of all participants for the final exam (except eighth-grade students), organizes and conducts the final exam, and the tests are prepared by the IEQE, through special procedure.

2.3. Research and results

In this research, we analyze the results of school evaluation in the evaluation cycle that started in the 2019/2020 school year, in primary schools. During 2019/20 school year, 131 elementary schools from 16 school administrations were evaluated. The average grade of the general quality of the work of these schools, in this group of evaluated institutions, is 2.6.

In this research, the quality of educational achievements of students are evaluated based on two standards (standards 3.1 and 3.2) and 15 indicators (see Table 1).

Table 1 Area of quality educational achievements among students

<p>3.1. The results of the students on the final exam show the achievement of the achievement standards of the teaching subjects, i.e. the achievement of the set individual learning goals. Note: This standard is only applicable to elementary schools. Upon adoption of the high school graduation and final exam program, a special standard 3.1 will be adopted for this level of education.</p> <p>3.1.1. The results of students on the final exam in Serbian/mother tongue and mathematics are at or above the level of the national average.</p> <p>3.1.2. At least 80% of students achieve the basic level of the achievement standards on tests in Serbian/native language and mathematics.</p> <p>3.1.3. At least 50% of students reach the intermediate level of achievement standards on tests in Serbian/native language and mathematics.</p> <p>3.1.4. At least 20% of students achieve an advanced level of achievement standards on tests in Serbian/native language and mathematics.</p> <p>3.1.5. The students' results on the combined test are at or above the level of the national average.</p> <p>3.1.6. Students who receive additional educational support achieve the expected results on the final exam in terms of individual learning goals/outcomes.</p> <p>3.1.7. The average achievements of the class on Serbian/mother tongue and mathematics tests are uniform.</p> <p>3.2. The school continuously contributes to better educational achievements of students.</p> <p>3.2.1. The results of monitoring educational achievements are used for the further development of students.</p> <p>3.2.2. Students who need additional educational support achieve the following individual learning goals/adapted educational standards.</p> <p>3.2.3. Students are included in supplementary classes according to their needs.</p> <p>3.2.4. Students who attend remedial classes show progress in learning.</p> <p>3.2.5. Students who attend extra work classes make progress in line with program goals and individual needs.</p> <p>3.2.6. The school implements a quality program of student preparation for the final exam.</p> <p>3.2.7. The results of initial and annual tests and knowledge checks are used in the individualization of learning support.</p> <p>3.2.8. The results of national and international tests are used functionally to improve teaching and learning.</p>
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For the purpose of assessment of standards in quality educational achievements of students, we use the results of the final exam, the results of students attending supplementary classes and students studying according to the individual educational plan (IEP), as well as other quantitative and qualitative indicators of the educational progress of students in school are used. The level of achievement of the standards in the field of educational achievements of students is shown in Chart 1.

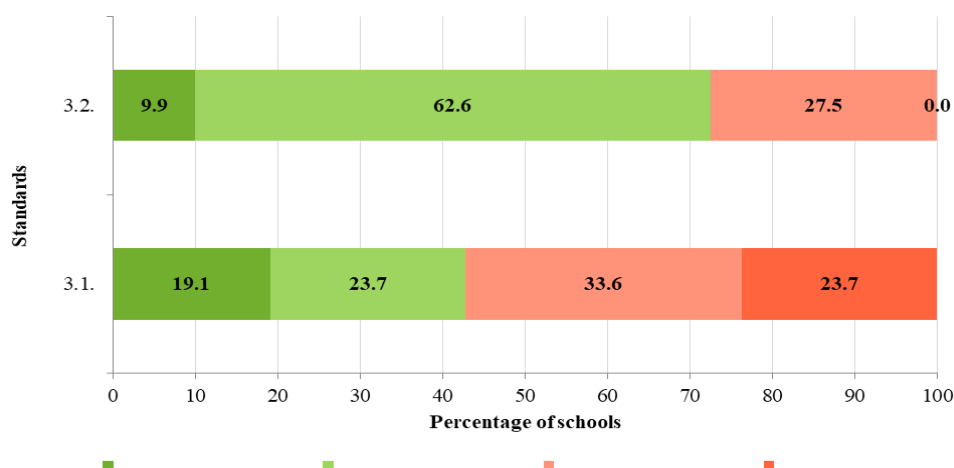


Chart 1 Achievements of standards 3.1 and 3.2

Dark green color indicates achievement level 4, light green color for achievement level 3, light red color for achievement level 2 and red color for achievement level 1. In Chart 1, standard 3.2 was achieved at the level of grade 3 in more than half of the evaluated schools, while standard 3.1. achieved grade 3 in only 23.7% of schools. When interpreting the realization of standard 3.1. we should bear in mind that the standard is assessed only based on quantitative data from the school report from the final exam. Only 9.9% of evaluated schools achieve standard 3.2. at the highest level, which means that every tenth primary school fully contributes to better educational achievements of students. The findings further indicate that for better teaching, it is necessary to empower teachers for differentiation and individualization of teaching, setting clear and precise criteria for evaluation and assessment of students following the general achievement standards for the end of primary school and the outcomes of teaching subjects.

When it comes to the educational achievements of students, there are still many challenges ahead for the evaluated schools. It has been estimated that there is a visible contribution of schools to the educational progress of students, but, on the other hand, educational performance, as measured by success in the final exam, is not sufficiently visible in most elementary schools. When interpreting this result, it should be borne in mind that, unlike all other standards, achievement of the standard for final exam results is generally assessed using numerical indicators. These are norms that are set at several levels which are observed cumulatively, and which are achieved by a small number of schools. In addition, this is the only standard that is evaluated based on quantitative indicators, which is why subjectivity in the evaluation is reduced to the smallest possible extent.

3. NATIONAL EXAMINATIONS AND INTERNATIONAL ASSESSMENTS

In the analysis of the educational achievements of students, special attention is required for the analysis of indicator 3.2.8. The results of national and international tests should be used functionally, in order to improve teaching and learning. National testing is

a survey that provides valid and reliable information about the acquired knowledge and skills of students in a certain grade during schooling. National testing also determines various factors that influence the educational achievements of students. Thus, in addition to the corresponding test that are solved by the students, the instruments of the national testing are also contextual questionnaires filled in by teachers, principals, parents, and students. Based on the insight into the average achievements at the national level, the school can monitor the progress of its students and take the necessary measures that are possible at school level to improve the educational process.

National examinations in Serbia are conducted periodically on a representative sample of a certain educational age in several subjects. National testing in Serbia was conducted for the first time in 2004, and the testing included 3rd-grade elementary school students. National testing of 4th-grade elementary school students was conducted in 2006. The national survey of educational achievements for students in the 7th grade of primary school and students in the 3rd grade of secondary school was conducted in 2018. Student achievements on national tests should influence the curriculum, teaching methods, student evaluation, school self-evaluation, and teacher professional development. The results of the national tests indicate that teaching process should be modern, functional, vitally and socially relevant. (Karalić et al. 2020. p. 298)

The results of the national tests are informative for the entire school system, teachers, classes, and individual students. Two forms of national testing of student achievement differ in terms of the number of students tested and the number of subjects from which testing is carried out. A more comprehensive way is to monitor the achievements of all students, each year, in one or more classes in all subjects. Another possibility is to determine the achievements of students who are a representative sample of students of a certain educational age, in several subjects. Based on this research, data are obtained on the acquired knowledge and skills of students at a certain educational age. The IEQE has developed a proposal for a new Rulebook on National Testing, which would include regular testing in the 3rd and 7th grades of elementary school and in the 3rd grade of high school. The ultimate goal of national research is to collect relevant, valid, and reliable data on existing educational practices, gaining insight into the real achievements of students and the factors that influence them to improve the education system.

In addition to national examinations, international assessments are a very important source of data on student achievement. The most well-known international comparative studies are

- PISA (Program for International Student Assessment),
- TIMSS (Trends in International Mathematics and Science Study), and
- PIRLS (Progress in International Reading Literacy Study).

In addition to the above, Serbia also participates in last cycles of the

- ICILS (International Computer and Information Literacy Study),
- ICCS (International Civic and Citizenship Education Study), and
- TALIS (Teaching and Learning International Survey).

International educational research, in which the Republic of Serbia participates, aims to identify aspects related to student achievement and to compare student achievement with international standards in order to ensure that our students acquire the competencies necessary for daily and professional life in modern society. The results of international research can also be considered in terms of their impact on society. The biggest echo in our

environment is the publication of the results of the PISA survey. Many studies have confirmed that student achievement in the PISA study is related to later academic success and success in the labor market. Namely, students who had better achievement on the PISA tests are later more successful in the academic domain as well as in the labor market (PISA 2018 National report, 2019, p.23)

International assessments are comparative, and they allow us to compare the achievements of students, as well as the consequences of the implementation of educational policies between two cycles of testing. The results of national examinations/tests should be in the function of supporting students who do not progress following their capacities, as well as in the function of evaluating teaching and learning programs and serve to assess the state and progress of education in Serbia. Schools should use all these results to improve their development plan, school program, student support plan, professional development plan, and teacher advancement.

One of the functional ways to apply the results of national testing and international assessments of student achievements is the implementation of internal testing, after providing support to students. IEQE has created and conducted several training cycles for teachers dealing with the development of knowledge tests and the improvement of the process of evaluating student achievements. During 2024, IEQE will continue the three-year cycle of the training "Development of knowledge tests and application in differentiating learning and teaching", which is accredited and free of charge. Based on the results of national tests and international assessments, the teacher can structure the material and formulate the level of achievement on the structured material and educational standards. Acknowledging the characteristics of a good assignment, which are clear instructions, specific requirements, reviewed assignments, and precise scoring, the teacher should combine tasks to test different levels of achievement in the initial testing. In this way, the tests serve to diagnose individual results and guide student progress.

Another way to utilize the results of national and international tests is to develop a strategy for answering test items. The skill of solving open-ended and closed-ended problems is very important for students. In addition to the fact that the student needs to understand the question/instruction in the task to be able to answer, he also needs to master basic answering strategies. The basic rules for students are to first solve tasks for which they assume they know the solution procedure or the answer, and only then the remaining tasks; after solving all the tasks, to return to the beginning of the notebook and check the accuracy of their answers and solutions.

The third way of applying the results of national and international research is the participation of teachers in professional development, in training aimed at the development of reading, mathematical, scientific literacy, and functional knowledge of students. One of the findings of the National Report on the results of the reading literacy research PIRLS 2021 showed that it is necessary to intensify training in the field of functional literacy, as well as encourage the development and application of reading strategies among students when working with literary and informational texts in print and digital form. Since our fourth-grade students have better achievements in reading for literary experience, compared to reading for finding and using information, it is necessary to improve the teaching and learning program and change the content and quality of teaching in the first cycle of elementary school.

The fourth possibility for applying the results of national and international research is the use of data from contextual questionnaires. For example, PIRLS 2021 also collected

extensive data on contexts for teaching and learning to read through questionnaires for students, questionnaires for their parents, questionnaires for teachers and questionnaires for school principals. Data on the student's home and school context, on the characteristics of the student as an individual, and the national context show that a positive attitude of parents/guardians toward reading is directly related to higher student achievement, which indicates the need to promote reading at the level of society. Promotion of reading is possible at the school and local community level. In addition to the PIRLS research, other important studies have shown that a higher degree of school safety is associated with higher student achievement. To protect and ensure the safety of students, most schools organize students on duty, video surveillance, or special security at the entrance to the school building.

The proposed activities for the functional use of the results of national and international assessments are just one segment of many possibilities for the use of data. The recommendations and guidelines are aimed at educational institutions that participate in national and international tests, as well as external evaluators who assess the quality of the institutions' work.

4. CONCLUSION

The quality assurance system in the Republic of Serbia is based on the principle of fostering a culture that strives for continuous improvement of the quality of teaching and learning. The current framework for the evaluation of educational institutions is realized through external evaluation and self-evaluation. External evaluation provides institutions with feedback on strengths, weaknesses and opportunities. The resulting assessment helps schools to review their working methods and provides them with information on areas for action. The information from the external evaluation process is also important for decision-makers and enables the public to gain an insight into the state of the institution, the educational system or individual areas or institutions.



Chart 2 Quality control framework of the educational system

Within the area of quality educational achievements of students, the indicators refer to the results of the final exam and the school's contribution to better student achievements. From the 2019/2020 school year introduced a series of novelties in the process of conducting the final exam, in the sense that a system of implementation of the final exam was established, which was digitized in all processes related to the preparation, review, and processing of tests. In this way, objectivity is ensured, the influence of the human factor is reduced, and thus the omission. As the results of the final exam have a certification, selection, and evaluation function, the tests themselves are high-risk tests. The results of the final exam point to unequal conditions for learning and advancement, which is certainly one of the key factors in the low achievement of students in certain districts. The continued implementation of educational standards and outcomes would contribute to mitigate the differences in the achievements of students taught under different conditions. At the same time, standards and outcomes allow for a more objective and reliable assessment of student progress and represent an important mechanism for ensuring the quality of assessment. One of the significant factors in student achievement is the socioeconomic status of the family, which indicates that the school's role in reducing inequality and providing equal education for all students should be strengthened.

In the schematic representation of the proposed framework for quality control of the educational system of the Republic of Serbia in pre-university education (Chart 2), external, national, and international research is visible on the timeline.

The determination of effective measures in the process of improving the education system is based on valid and reliable data obtained because of exact measurements and systematic monitoring of the educational achievements of students, the attitudes of teachers and directors, and statistical indicators of the social and economic environment of participants in the educational process. External tests (final exams), national tests, and international assessments provide reliable data that can be relied upon to further directions of improving the quality of education. The future "big matura", which should be introduced in 2026 will be one powerful tool and a good way to complete the process of ensuring the quality of pre-university education.

Acknowledgement: *This paper is supported by the Ministry of science and technological development through the scientific projects III-47003 and TR-32012 and by Ministry of Education through the IEQE internal project project 3.2. International assessments (IEQE).*

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PUT KA BOLJEM KVALITETU OBRAZOVANJA

Apstrakt

Predmet ovog istraživanja je analiza postojećeg okvira evaluacije sistema preduniverzitetskog obrazovanja Republike Srbije (predškolskog, osnovnoškolskog, srednjoškolskog). Rad ima za cilj da sagleda rezultate eksternog vrednovanja kvaliteta rada škola u školskoj 2019/2020. godini, sa posebnim osvrtom na kvalitet obrazovnih postignuća učenika. Kvalitet obrazovnih postignuća učenika ocenjuje se na osnovu rezultata završnog ispita, nacionalnih i međunarodnih testova i drugih kvalitativnih pokazatelja. Nakon prvog ciklusa eksterne evaluacije, standardi su revidirani i postojeća metodologija je poboljšana. Dat je pregled novih elemenata kvaliteta. Uzorak istraživanja čini 131 osnovna škola. Primenjena je metoda analize sadržaja (Uredba o standardima kvaliteta rada ustanove, 2018) i deskriptivne statistike. Budući da se kvalitet obrazovnih postignuća učenika meri eksternim testiranjem, sastavni deo rada je i pregled domaćih i međunarodnih istraživanja u kojima su učenici učestvovali od 2019. godine. Rezultati eksternog vrednovanja pokazuju da je školama najpotrebnija podrška u ostvarivanju kvalitetne nastave i u obezbeđivanju uslova za unapređenje obrazovnih postignuća učenika. Jedini eksterni ispit koji se sprovodi jednom godišnje za celokupnu populaciju učenika osmog razreda je završni ispit na kraju osnovnog obrazovanja. Da bi se obezbedio kvalitet obrazovanja, neophodna je i kontinuirana primena međunarodnih istraživanja. Učenici iz Srbije učestvuju u međunarodnim istraživanjima (PISA, PIRLS, TIMSS, ICCS, ICILS). Smernice za budući okvir evaluacije obrazovnog sistema predložene su na osnovu iskustva iz prethodnog perioda i ciljeva Strategije razvoja obrazovanja i obuke u Republici Srbiji do 2030. godine.

Ključne reči: spoljašnje vrednovanje, obrazovna postignuća učenika, završni ispit, međunarodna istraživanja

TEACHING FOR LEARNING



DIGITAL TEXTBOOK AND ITS PLACE IN MATHEMATICS INSTRUCTION IN LOWER GRADES OF PRIMARY SCHOOL

UDC 371.3:51:004; 37:004.032.6

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Abstract. *The development of digital media has led both to the digitalization of education and to an increased interest in an e-textbook, as one of the contemporary teaching resources. A digital mathematics textbook represents a special form of integration of teaching content into a multimedia environment, which provides multiple interaction and multimodality well suited to the characteristics of students in lower grades of primary school. Considering the importance of e-textbooks, our idea in this paper was to analyze primary school teachers' opinion as regards the use of a digital textbook in mathematics instruction in lower grades of primary school, with the aim of investigating the extent to which they use it in mathematics instruction, as well as what they view as the advantages and disadvantages of its use. The results show that primary school teachers are of the opinion that digital textbooks contribute to the quality of both the instruction and students' knowledge, though, on the other hand, that they use it sporadically in mathematics instruction. In addition, primary school teachers view multimodality and interactivity of e-textbooks as their key advantages, whereas a reduction in direct communication between students and teachers, as well as the limited application of e-textbooks are viewed as their main disadvantages.*

Keywords: *digital textbook, mathematics, mathematics instruction, primary school student, primary school teacher*

1. INTRODUCTION

The development of digital media and their role in a changing social context, due to the global health crisis, have attracted increasing interest from researchers and practitioners in digital textbooks. Although this textbook format has long been the focus of research, it is still considered “a new technology” since objective knowledge about almost all of its aspects, from the concept definition to the opportunities it offers in education, varies across studies. The limitations affecting successful integration of technology into mathematics education have been frequently studied and included: the availability of resources,

Received February 24, 2024/Accepted April 01, 2024

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professional development, the time needed for familiarization with new resources, as well as teachers' attitudes about the ways learning is related to the availability of technology (Utterberg, Lundin, & Lindström, 2017). For this reason, it can be said that the implementation of a digital textbook in the education is a very delicate process, based on the interaction among the learning environment, the technology and the users.

The need for a wider use of digital textbooks in education arises from the opinion that digital textbooks, due to their non-linear structure, facilitate differentiated instruction in terms of the adjustment of the level of difficulty of educational content and provide students with automated feedback. Digital textbooks also help teachers gain a better insight into their students' achievements, thus providing a variety of learning environments for students.

Considering the various definitions of a digital textbook that exist in the literature, three stages in its development and three corresponding approaches to its definition can be found:

1. a digital textbook as an electronic version of a printed book (Lynch, 2001; Hillesund, 2001);
2. a digital textbook as the content of a published textbook that is available in an electronic format (McKnight & Dearnley, 2003; Cox & Mohammed, 2001), and
3. a digital textbook as a digital object that includes textual and other multimedia content, as well as multiple functions (Anderson-Inman & Horney, 1999; Vasiljević et al., 2011; Vassilou & Rowley, 2008; Kouis & Konstantinou, 2014).

All three definitions point to the concept of a textbook being available in different formats, all of which play a different role in education. In general, all textbooks are intended for learning, but only digital textbooks as digital objects imply the book format, by being organized in a specific way and containing various visual and auditory forms which serve to better explain the main text. The analysis of the definitions of a digital textbook which were available in the papers published from 2000 to 2008 (Vassilou & Rowley 2008) indicated that there were inconsistencies in the existing definitions of a digital textbook, and that all analyzed definitions were written on the basis of four perspectives: media, content, devices and delivery. Therefore, in contemporary schools and in the context of a rapid technological development, the concept of a digital textbook must be approached from different perspectives and include various forms supported by different platforms that can be utilized in various learning situations. In addition to knowledge transfer, the use of a digital textbook in education requires two-way interaction as well as communication among different participants. It can therefore be concluded that a digital textbook represents a type of computer software the most prominent characteristics of which are multimediality and interactivity. For this reason, Zmazek et al. (2014) believe that these characteristics should have a constructive role in the learning process, as a useful tool for better presentation of facts, deeper understanding of learning materials and the promotion of students' active participation in the education. Flores, Ramos & Escola (2015) believe that a good quality digital textbook will provide students with more room for action, thus enabling them to learn more about each topic. It will change the assessment methods, as it stimulates informal learning, as well as teaching methods since it requires the pattern that can help students organize and transform information into efficient knowledge to be used critically in everyday situations.

As far as the importance of introducing digital technologies into mathematics instruction is concerned, several research studies (PISA, 2006; TIMSS, 2007) showed that

there were no significant differences in the achievements of those students who had access to ICT and those who did not. What was found to be significant was that the exposure to ICT increased students' motivation and ability to learn autonomously (Lipovec, Senekovič, & Repolusk, 2014).

Digital textbooks in Serbia are still being developed. However, what awaits us in the future is a huge step towards digitalization in education. The *Law on Textbooks* (Zakon o udžbenicima, 2023) states that the textbook package may also contain the so-called electronic supplementary materials, thereby making the problem of the gap in knowledge about almost every aspect of a digital textbook more acute.

2. DIGITAL MATHEMATICS TEXTBOOKS

Textbooks are one of the main sources of knowledge that teachers use in the classroom, so it can be concluded that a textbook is a very important teaching resource which should be improved, but also a resource which requires a specific approach in education. For this reason, digital textbooks in mathematics instruction should be regarded not only as new tools, but also, from a broader perspective, as tools that affect the roles of the teacher, the student, and the teaching and learning process.

Digital mathematics textbooks differ from printed textbooks primarily in their multimedia structure, which is an advantage the traditional textbook cannot compensate for. A dynamic and multimedia structure of the elements which a digital textbook consists of may be an important advantage in the learning process, thus attracting interest in the use of this type of resource in mathematics instruction. If the specific characteristics of the ways children from lower grades of primary school think are taken into consideration, as well as the fact that there is a significant influence on children's various senses during the learning process, the importance of using a digital textbook in education increases. The importance of a digital textbook also lies in the fact that it can help schools be open to reality and the world, but it must guide learning, thus making it meaningful, current, interactive and individualized. A good book is the one that helps schools carry out their mission by achieving good results and contributes to the proper education of generations that will be of use to society in the near future (Flores et al., 2015).

Mathematical content has a clearly defined logical structure whose width and depth depend on the students' grade and abilities, thus requiring a specific approach. Using a digital textbook is not a simple process, and to make the most of it, teachers should be trained in using and creating learning paths that will utilize the full potential of this digital resource. Changing the learning environment in mathematics instruction leads to a change in teaching, from the teacher giving instructions to spontaneous mathematical activities done by students (Lew, 2016). The research conducted by Poznič & Pečjak (2017) shows that autonomous learning can be far more successful if the teacher gives his/her students clear instructions as to how to use multimedia and interactive elements of a digital textbook. In that sense, teachers have a key role in using the textbook resources and adjusting the ways they are used in mathematics instruction (Lepik, 2015). This way, teachers shape the teaching approach, already incorporated into a digital textbook as a model of instruction, so the learning process is determined by the textbook but shaped by the teacher.

The analysis of mathematics textbooks and curricula, which was carried out as part of the Third International Mathematics and Science Study (TIMSS), included almost 50 countries and indicated some important negative aspects of the quality of mathematics textbooks, but also their significant influence on the learning process. The analysis also showed that the content of a digital mathematics textbook and the way it is used in education have a considerable influence on students' achievements (Robitaille & Travers, 1992). A similar research study (Lipovec, Senekovič, & Repolusk, 2014), which included fourth- and fifth-grade primary school students in Slovenia, showed that there are textbooks which positively influence students' mathematics knowledge, but that learning is more effective if digital materials are combined with traditional methods of instruction, thereby increasing students' motivation to learn.

Some of the research studies (Wijaya et al., 2022) dealt with the advantages of a digital textbook, stating the following as its greatest advantages: learning anytime, anywhere, multiple interactive functions, education and entertainment value, expanded and virtual reality, reduction in the expenses of printing books, and interactive knowledge tests. On the other hand, Lee et al. (2013) warn that the reduction in the expenses related to the production of printed books (printing, storing and selling) implies the expenses arising from the use of software, hardware, network infrastructure, maintenance, curriculum adaptation, as well as teacher training.

As far as digital textbooks are concerned, it must be borne in mind that the digitalization of the world and its ever-increasing influence on everyday life have resulted in the wide availability of devices (i.e., smartphones, laptops, desktop computer etc.), so that students can access a digital book anytime. Learning from a digital textbook also allows students to look for other information anytime, check their own schoolwork, and make connections between multiple content types, which is especially important for mathematics instruction. This way, students become active participants in knowledge construction, thus acquiring better and more permanent knowledge.

By using a digital textbook, students have the opportunity to learn and entertain themselves, so there is no pressure or fear from mathematics. Multimedia content attracts students' attention, so that the usual problem related to mathematics instruction, i.e., monotony or the use of the same teaching method, is resolved. That is, students do not have to sit and listen to the teacher for hours, but can actively participate and explore the content. The increased use of a digital textbook in the classroom provides students with a new experience, so they do not find learning mathematics boring (Figueiredo, Bidarra, & Bostad, 2016).

A wide variety of approaches, differentiated and individualized instruction enable potentially gifted students as well as those progressing more slowly to fully demonstrate their abilities and do their very best to acquire the necessary knowledge. This way, all students progress at their own pace and are able to identify and resolve any doubt that may exist in the learning content. Some digital textbooks allow teachers to, while using the same resources, more easily organize the activities which give a clearer picture of their students' achievements, either by using premade tests or by preparing tests in a digital format themselves. This is important both for teachers and their students since it allows students' self-evaluation in real-time, upon test completion. The research conducted by Weinhandl, Lavicza & Schallert (2020) shows that instant feedback obtained this way may be of great help to students in learning the content. This way, students are aware of their own mistakes and can easily correct them.

In addition to the numerous advantages a digital textbook offers in mathematics instruction, some research studies point out certain contradictions in the use of a digital textbook in mathematics instruction such as: the teacher's need for coherence and linearity versus a digital textbook with a wide variety of content types and non-linear paths; the teacher's need for a transparent learning process versus a non-transparent use of a digital textbook; the teacher's beliefs about the appropriate methods of teaching mathematics versus the pedagogy incorporated into a digital textbook, as well as the same instructions for all students versus a digital textbook encouraging the individualized approach to each student (Utterberg et al., 2019, p. 43). The research conducted by Utterberg Modén (2021) showed that planning mathematics lessons using a digital textbook is more demanding for teachers. The teachers believe that such forms of instruction require additional competences, as well as more resources, especially in terms of the time needed for preparing and planning lessons.

In addition to these limitations, which refer to the use and implementation of digital textbooks in mathematics instruction, there are also limitations related to the quality of a digital textbook. A large number of new digital textbooks and materials, which are not always of good quality or do not follow the curricula, are constantly being introduced to the market (Lipovec, Senekovič, & Repolusk, 2014).

The teacher-student interaction should not suffer because of the use of a digital textbook. The use of a digital textbook can be related to the reduction in the direct contact between the teacher and the student. It is a well-known fact that the work of teachers and students who use the traditional textbook has a special, irreplaceable educational value, so the question arises as to how to use it in work with a digital textbook.

One other problem concerns incompatible visualizations, which may hinder learning, especially in those situations where a visual representation of a concept is not intended to direct students' attention to specific detail. Such visualizations can attract children's attention to those details of an illustration which are irrelevant to the content. There is also evidence that music and sounds can easily hinder learning and negatively affect students' performance if the non-verbal elements are incompatible with the content (Bus, Takacs, & Kegel, 2014). The negative effects of multimedia and digital media in general are succinctly described by Carr (2010) as "interruption technologies". He claims that the transition from paper to screen does not only involve a change in the way one follows the text, but also a change in the level of attention with which reading is approached, as well as the depth of reading. The same author also argues that the Internet, for example, creates superficial readers, as the overall Internet setting promotes superficial reading as well as hurried and muddled thinking. Based on this, it can be assumed that a similar negative effect is produced by the inappropriate use of multimedia content in a digital textbook. That is, every insertion of an image, audio or video material can disturb students' attention and interrupt their flow of thinking during the reading process.

Digital textbooks allow students to relate what they read to other sources by means of hyperlinks or online, which may, on the other hand, be interpreted as a disadvantage due to the possibility of students' attention being distracted away from the main text or its main idea. While the traditional textbook is considered obsolete, as the old reading manner was linear and unilateral, online reading, with the many opportunities opened up by links and hypertext, is often very much approved of, as each text opens itself up to a great variety of new ideas. However, Terkl states that reading a printed book is related to daydreaming and personal associations since readers are focused on themselves. Online reading, according

to Terkl (2011), always takes us somewhere else and only rarely to the link leading to the content related to what is being read.

Considering all the advantages and disadvantages of a digital textbook, it can be said that the attitudes of teachers as well as other relevant parties, being directly or indirectly involved in education, are very important. Only in this way could possible problems be resolved and a good quality textbook, which is appropriate in terms of students' abilities and needs, as well as the very character of mathematics instruction, be selected and implemented in education. The main idea of the present research was to investigate the attitudes of primary school teachers in Serbia about digital textbooks, their use, as well as possible advantages and disadvantages in mathematics instruction.

3. RESEARCH METHODOLOGY

The research sample was drawn from the population of primary school teachers who worked in primary schools in the Republic of Serbia during the 2022/2023 school year. The sample comprised 112 primary school teachers chosen by random sampling method from the Zlatibor, Moravica and Raška districts. The structure of the sample of the primary school teachers is given in Table 1 below. As is evident from the table, academically educated and experienced primary school teachers (in terms of years of service) prevailed in the sample, which is relevant for the research.

Table 1 The structure of the sample of primary school teachers

Years of service	f (%)	Education level	f (%)
Up to 12	28 (12.5%)	College	40 (17.86%)
12 – 24	118 (52.68%)	University	184 (82.14%)
Over 25	78 (34.82%)		
Total	224 (100%)		224 (100%)

For the purpose of investigating this problem, the following research aims and objectives were set:

1. Investigate the attitudes of primary school teachers about the contribution of a digital textbook to improving the quality of mathematics instruction as well as mathematics knowledge of students in lower grades of primary school.
2. Investigate the presence of electronic textbooks in mathematics instruction in lower grades of primary school.
3. Investigate the attitudes of primary school teachers about the advantages of using electronic textbooks in mathematics instruction in lower grades of primary school.
4. Investigate the attitudes of primary school teachers about the disadvantages of using electronic textbooks in mathematics instruction in lower grades of primary school.

A descriptive method of research was used. The research data were collected by means of a close-ended questionnaire, which was designed specifically for the purposes of the present research. The questionnaire included questions to which the teachers were supposed to respond either by circling the answer options or by ranking the given items in order of importance. The survey was anonymous in order to ensure the honesty of the participants.

The dependent variable was the attitudes of primary school teachers about the use of a digital textbook and its advantages and disadvantages in mathematics instruction in lower grades of primary school.

Cronbach's alpha was used for determining the reliability of the survey. The value of Cronbach's alpha was 0.825, which indicates high reliability and strong internal consistency among the survey items for this sample size. A chi-squared test was used for determining the statistical significance of the differences between the answers of primary school teachers of different work experience (in terms of years of service) and education level.

4. RESULTS AND DISCUSSION

4.1. The contribution of digital textbooks to the quality of instruction and students' knowledge

Almost half of the teachers (46.4%) who responded to this question state that digital textbooks have only partially fulfilled their expectations as regards the contribution of a digital textbook to the quality of instruction and students' knowledge. Such a result suggests that digital textbooks are a useful learning tool, though more precise conclusions cannot be drawn from this answer. A surprisingly small number of primary school teachers are fully satisfied with the use of digital mathematics textbooks. The research results confirm the importance of multimodality as one of the fundamental characteristics of a digital textbook but also suggest the opportunity of "new practice exercises" being available in digital form.

However, considering a very small percentage of the teachers (31 or 27.7%) who state that digital textbooks have not fulfilled their expectations, i.e., that almost 72% of the respondents are more or less satisfied with the use of a digital textbook, it can be concluded that the teachers believe that a digital textbook has the potential of becoming a valuable learning tool in mathematics instruction.

Considering the obtained results in relation to the education level of the teachers, it can be concluded that those with a college degree and those with a university degree have a similar experience of using a digital textbook in the classroom. The teachers' responses, considered in relation to their work experience, are given in Table 2 below. Almost the same percentage of the teachers from both groups state that a digital textbook has completely fulfilled their expectations (31.8% of teachers with a college degree and 24.4% of teachers with a university degree). There are also teachers who state that a digital textbook has not fulfilled their expectations (22.7% and 28.9%, respectively) and that it does not contribute to the quality of instruction and students' knowledge. Somewhat less than half of all teachers (46.4%) are indecisive as to whether a digital textbook contributes to the quality of instruction and students' knowledge or not, which implies that they still do not have a definitive answer to this question.

The results of a statistical analysis show that education level does not have a significant influence on the teachers' attitude about the contribution of a digital textbook to the quality of instruction.

Table 2 Teachers' attitudes about the contribution of a digital textbook to the quality of instruction and students' knowledge in relation to education level

Education level	Contributes	Does not contribute	Indecisive	Total	
College	14 31.8%	10 22.7%	20 45.5%	44 100.0%	$\chi^2 = 1.239$; df = 4; p = 0.871
University	44 24.4%	52 28.9%	84 46.7%	180 100.0%	
Total	58 25.9%	62 27.7%	104 46.4%	224 100.0%	

The answers to this question were also analyzed in relation to the teachers' work experience (in terms of years of service) (Table 3). It is surprising that the largest percentage of the teachers who are at the beginning of their career (61.5%) are indecisive as to whether a digital textbook contributes to the quality of instruction and students' knowledge or not. However, in general, no significant differences in the attitudes of the teachers of different work experiences as regards this question were observed.

Table 3 Teachers' attitudes about the contribution of a digital textbook to the quality of instruction and students' knowledge in relation to work experience

Work experience	Contributes	Does not contribute	Indecisive	Total	
Up to 12 years of service	4 15.4%	6 23.1%	16 61.5%	26 100.0%	$\chi^2 = 4.813$; df = 4; p = 0.307
From 13 to 24 years of service	30 25%	32 26.7%	58 48.3%	120 100.0%	
Over 25 years of service	24 30.8%	24 30.8%	30 38.5%	78 100.0%	
Total	58 25.9%	62 27.7%	104 46.4%	224 100.0%	

By comparing the value $\chi^2 = 4.813$ with the threshold values, it can be concluded that the obtained value is lower, that is, that there is no statistically significant difference in the teachers' attitudes about the contribution of a digital textbook to the quality of instruction and students' knowledge considered in relation to their work experience.

Similar results were obtained by Lin, Liu & Kinshuk (2015) in their research on teachers' attitudes about the use of a digital textbook. Their results indicate that, when using a digital textbook, teachers have a positive attitude about its characteristics as well as about students' learning needs. Their research produced similar results, referring to there being no significant differences in the teachers' need to use a digital textbook and their work experience (in terms of years of service).

4.2. The use of digital textbooks in mathematics instruction

Based on the obtained results, it can be concluded that the majority of the teachers (62.5%) have never used a digital mathematics textbook, 31.2% of the respondents have used it occasionally, and only 6.2% of the teachers have used it frequently. Such results confirm the conclusion of the research on the use of a digital textbook in general, i.e., that the greatest number of teachers have no experience of using digital textbooks at all. Among

the teachers who have used an e-textbook in the classroom, a significant proportion is made up of those who have occasionally used it in mathematics instruction.

The extent to which a digital mathematics textbook is used in teaching was analyzed in relation to the education level of the teachers (Table 4). This feature had a certain influence on the teachers' responses, and it differed from the one expected on the basis of some theoretical conclusions. Namely, a somewhat larger percentage of the teachers with a university degree (63.3%), compared to those with a college degree (59.1%), responded that they had never used digital mathematics textbooks. In view of the principles of the theory of Diffusion of Innovations developed by Rogers (1995), this result is surprising. It is also interesting to observe that the teachers' responses to this question are quite similar and that there is no statistically significant difference in the extent to which the teachers of different education levels use a digital textbook (Table 4).

Table 4 The use of a digital textbook by the teachers of different education levels

Education level	Frequently	Occasionally	Never	Total	
College	0 0.0%	18 40.9%	26 59.1%	22 100.0%	$\chi^2 = 5.159$; df = 2; p = 0.075
University	14 7.8%	52 28.9%	114 63.3%	180 100.0%	
Total	14 6.2%	70 31.2%	140 62.5%	224 100.0%	

The obtained values of the chi-squared test show that the difference in the frequency of use of a digital mathematics textbook by the teachers of different education levels is not statistically significant. Although the teachers with a college degree completed their formal education a few decades ago and did not have the opportunity to be introduced to contemporary educational technology during their studies, there are several possible explanations for this result. Firstly, this is a fairly new and under-researched technology, which has not yet reached the level of development sufficient for the teachers to become used to it, especially in Serbia. Secondly, even though there are differences in the education level between the two groups of teachers, which may have repercussions on their knowledge about contemporary educational technology, the teachers with the lower education level can bridge this knowledge gap by various forms of professional development. Therefore, the obtained result is, only at first glance, opposed to the principles of the aforementioned theory of Diffusion of Innovations; however, the time at which the frequency of use of a digital textbook in education is being investigated, i.e., the level of development this type of innovation has reached so far, necessarily leads to such a result.

The results of the research conducted by Aleksieva (2019) indicated that students majoring in education (i.e., future teachers) also have a positive attitude towards using digital textbooks in primary school, but that they need adequate training in using them. Future teachers believe that digital textbooks should be used in the classroom and acknowledge the benefits of their use in most school subjects, among which mathematics ranks quite high.

The extent to which a digital mathematics textbook is used in education was also analyzed in relation to the number of the teachers' years of service (Table 5).

Based on the obtained results, it can be concluded that only a small percentage of the teachers who have up to 25 years of service (17.7%) frequently use a digital textbook, whereas the most experienced teachers use it only occasionally or never. This fact may be one of the reasons for the results of the statistical analysis, which indicate significant differences in the teachers' answers considered in relation to their work experience. Based on this same result, it can also be concluded that the most experienced teachers find it difficult to accept innovations and get used to the changes brought about by the digitalization of mathematics textbooks.

Table 5 The use of digital mathematics textbooks in relation to the teachers' work experience

Work experience	Frequently	Occasionally	Never	Total	
Up to 12 years	2 7.7%	10 38.5%	14 53.8%	26 100.0%	$\chi^2 = 9.797;$ $df = 4;$ $p = 0.0439$
From 13 to 24 years	12 10.0%	32 26.7%	76 63.3%	120 100.0%	
Over 25 years	0 0.0%	28 35.9%	50 64.1%	78 100.0%	
Total	14 6.2%	70 31.2%	140 62.5%	224 100.0%	

The research results show that the largest percentage of all teachers surveyed do not have enough experience of using digital mathematics textbooks, where the possible reasons given may refer not only to the lack of educational strategies but also to the personality of the teacher.

If both advantages and disadvantages of digital and traditional textbooks are taken into account, the question of validity of using only digital textbooks in the classroom arises. Hence, Muir and Hawes (2013) believe that digital and printed books can coexist and that using them both is an opportunity rather than a threat. A similar attitude is adopted by Mulholland and Bates (2014), who believe that digital textbooks should be regarded as an opportunity rather than a rival to the traditional textbook. The importance of using both formats in the classroom may be understood only by considering their individual advantages. It would be unfortunate if learning were to be limited to only one of these two formats since students have different natural tendencies and learning styles.

4.3. Advantages of using digital textbooks in mathematics instruction

As there is no standard attitude among theoreticians about the advantages of using a digital textbook in mathematics instruction, the primary school teachers were asked to rank, in order of importance, six possible advantages which are frequently referred to in the theory and practice of mathematics education. The obtained results further confirm that interactivity and multimedia presentation of the content are the most important elements of a digital textbook. Also, it has been shown that the teachers are able to recognize the educational potential of various elements of a digital textbook, though most of them have no experience of using it in the classroom. The obtained results show that there are no significant differences among the teachers' attitudes as regards the evaluation of the advantages of electronic mathematics textbooks. This is confirmed by the values of

standard deviations (Table 6). Namely, the advantage *multimedia presentation of the content* had the greatest percentage of agreement ($M = 1.15$; $SD = .385$), and was followed by *interactivity* ($M = 1.18$; $SD = .407$), *hyperlinks* ($M = 1.26$; $SD = .498$), *integrated supplementary materials* ($M = 1.27$; $SD = 0.484$), and *content manipulation* ($M = 1.32$; $SD = .647$). The advantage *video games used for learning* had the least percentage of agreement ($M = 2.42$; $SD = 1.062$).

Table 6 Teachers' attitudes about the advantages of digital mathematics textbooks

Advantages of digital mathematics textbooks	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	M	SD	Rank
Video games used for learning	40 17.9%	100 44.6%	42 18.8%	34 15.2%	8 3.6%	2.42	1.059	VI
Hyperlinks	170 75.9%	52 23.2%	0 0%	2 0.9%	0 0%	1.26	.496	III
Interactivity	186 83.0%	36 16.1%	2 0.9%	0 0%	0 0%	1.18	.406	II
Multimedia presentation of the content	192 85.7%	30 13.4%	2 0.9%	0 0%	0 0%	1.15	.385	I
Content manipulation	166 74.1%	50 22.3%	4 1.8%	2 0.9%	2 0.9%	1.32	.647	V
Integrated supplementary materials	168 75.0%	52 23.2%	4 1.8%	0 0%	0 0%	1.27	.484	IV

The answers show that the teachers, though having modest experience of using digital textbooks in the classroom, recognized as most important exactly those characteristics that are considered to be most important in both theoretical and empirical research studies. A varied presentation of the content (or multimediality) is an indispensable element of a digital textbook. Due to the combination of verbal and non-verbal types of content, teaching becomes more transparent, the visualization and presentation of the content are facilitated, and experience and understanding of the content are improved. Multimediality also has a significant influence on students' motivation and interest in the content. The teachers have adequately evaluated the significance of the multimedia content, thus confirming that a contemporary digital textbook should offer the opportunity of a varied presentation of the content.

An equally important element of a digital textbook is its interactivity. It implies any form of communication between the student and a digital textbook. The result of such communication should be manifested in the content of a digital textbook. There are many ways in which the interactivity of a digital textbook can manifest itself, though probably the most obvious one is providing feedback on students' answers. Considering the fact that, as the fundamental element of formative assessment, interactivity has a significant influence on the learning process, its very existence represents an important quality of a digital textbook. Depending on the level of interactivity, a digital textbook can offer a range of other opportunities related to learning, which all aim to adjust the content and teaching methods to the students' individual abilities.

Hyperlinks and integrated supplementary materials are also one of the advantages of using e-textbooks in the classroom. The hypertext function of a digital textbook allows a fast connection to other educational materials and databases, whether on the Internet or in the textbook itself. Therefore, a digital textbook can offer, in addition to a linear presentation of the content, a hypertext structure, i.e., hyperlinks to related topics within a specific lesson or to other lessons, connections among various types of content from two or more textbooks, the creation of one's own learning path, etc. This facilitates an integrative approach to a topic that crosses the boundaries of a single school subject and a single textbook.

The smallest number of teachers responded that video games used for learning are a possibly important characteristic of a digital textbook. Considering the fact that video games that are primarily used for learning and are based on educational and didactic-methodological principles represent a new and under-researched technology, it is not surprising that they are regarded only as a form of entertainment, but not as an alternative learning tool.

One other similar study (Aleksieva, 2019), which included students majoring in education, shows that the respondents are realistic about the possible advantages of a digital textbook, i.e., that they are well aware of the fact that digital textbooks will not improve understanding if they are not adequately used. The respondents recognized the benefits of using this type of textbook as regards better visualization of the learning content, saving teachers' time and providing access both in and out of the classroom.

4.4. Disadvantages of using digital textbooks in mathematics instruction

Numerous research studies that deal with the issue of digital textbooks and learning in a digital environment in general (Bus, Takacs & Kegel, 2014; Lipovec, Senekovič & Repolusk, 2014; Utterberg et al., 2019) have drawn attention to the disadvantages of which creators, authors, as well as users of digital textbooks must be aware.

Some disadvantages can be avoided, or at least minimized, during the process of creating a digital textbook. Dealing with an issue of using a digital textbook in education necessarily requires investigating teachers' attitudes about disadvantages, which may pose an obstacle to successful teaching.

Based on the obtained results (Table 7), it can be concluded that the teachers consider the *possible reduction of direct teacher-student communication* to be the major disadvantage of using a digital textbook in the classroom. It was followed by the disadvantage *limited possibility of using an electronic textbook for certain types of content*, the disadvantage *difficulties in focusing attention on the key elements of the content* and the disadvantage *reading from a screen*. The disadvantage of *knowing how to operate a digital textbook* was at the bottom of the list.

As already pointed out, one of the most important qualities of a digital textbook is its varied communication with the student. Owing to this quality of a digital textbook, students can choose a learning strategy on their own and adjust the learning content and activities to their own interests, previous knowledge and abilities. A highly interactive digital textbook can provide answers to most questions related to the learning content, hence the fear that the direct teacher-student communication and the teacher's influence could be reduced. It was this disadvantage that was ranked highest by the greatest number of teachers.

Table 7 Teachers' attitudes about the disadvantages of digital mathematics textbooks

Disadvantages of using a digital textbook in mathematics instruction	1.	2.	3.	4.	5.	M	SD	Rank
Difficulties in focusing attention on the key elements of the content	32 14.3%	70 31.3%	68 30.4%	40 17.9%	14 6.3%	2.71	1.112	III
Possible reduction of a direct teacher-student communication	136 60.7%	60 26.8%	18 8.0%	6 2.7%	4 1.8%	1.58	.887	I
Knowing how to operate a digital textbook	6 2.7%	6 2.7%	32 14.3%	44 19.6%	136 60.7%	4.33	.999	V
Reading from screen	14 6.3%	20 8.9%	26 11.6%	108 48.2%	56 25.0%	3.77	1.115	IV
Limited possibility of using an electronic textbook for certain types of content	36 16.1%	68 30.4%	80 35.7%	26 11.6%	14 6.3%	2.62	1.084	II

It is a well-known fact that the use of a digital textbook in teaching affects the nature of the teacher-student communication, but it is far from the teacher's role being threatened or his/her influence minimized in any way. On the contrary, the teacher's role has never been more complex, nor has the education system ever expected more from the teacher (Danilović, 2011). In view of that, regardless of the comprehensiveness and sophistication of its various functions, a digital textbook cannot relegate teachers to the periphery of the educational process as they have many obligations and responsibilities, due to the contemporary social context. The use of contemporary information technology alone demands dozens of new roles, specialties and skills from teachers. Today, it is almost generally accepted that teachers are familiar with, adequately use and value different types of educational software, contemporary media, have knowledge about design, and utilize electronic, mobile, online and offline learning, as well as distant learning, etc. This is only a small part of all the expectations that constitute the contemporary philosophy of education, which is not only generally accepted as being essential, but is also taken as a measure of the teacher's success and quality of his/her work.

Consequently, a digital textbook should be regarded as a support rather than a threat that will minimize the teacher's influence or reduce the teacher-student communication to a minimum. This type of textbook should be a fundamental means of a new educational trend, which entails a thoughtful use of contemporary media, the Internet, new learning technologies and new approaches to education in general, which are all being unreasonably imposed on the teacher. By utilizing contemporary technologies, a digital textbook will facilitate and improve the teacher's work, as well as help students improve their knowledge, but will not affect the key roles the teacher has in the process of planning, giving and evaluating lessons. Today, perhaps more than ever before, teachers will have to educate children, motivate them, act as friends and role models for their students, and perform many other functions, so we believe that there is still enough room left for efficient and effective teacher-student communication. Besides, one should not neglect the teacher's influence as regards training students to efficiently and effectively use a digital textbook. Due to the fact that reading from screen and using a digital textbook are still a new

experience for students, teachers should have an important role in training their students in this process (Dobler, 2015). Many disadvantages of a digital textbook, including the screen size and reading from screen, turning pages, etc., have been removed due to the new generation of digital textbooks and readers, so new technological advancements will further reduce these problems (Buzzetto-More et al., 2007).

A digital textbook will not reduce teacher-student communication to a minimum, nor will it produce other negative effects in education; these may be produced by unwise and hasty decisions in the creation and use of digital textbooks. Finally, research studies have yet to determine the ways as well as conditions in which digital textbooks are most appropriately used, which implies that it may not be used as a learning tool in class at all.

The limited use of a digital textbook for certain types of content was ranked second (Table 7). However, this is only seemingly a disadvantage. A digital textbook should not be used at any cost, that is, after detailed research, it is necessary to select those types of content the presentation of which can genuinely be improved by using a digital textbook. The computer technology (artificial intelligence) development regularly creates new opportunities as well as ideas for improving human needs, thus, at least in theory, increasing the opportunities of using a digital textbook, which in turn reduces the number of types of content which cannot be presented by means of a digital textbook. However, despite the enormous power of artificial intelligence, some classroom activities will necessarily remain outside the scope of a digital textbook. It is clear that a digital textbook is not a perfect learning tool; it cannot and should not replace a printed textbook or become a predominant learning tool. Objectively, both digital and printed textbooks are necessary in education, and teachers should aim to find a balance in using and combining these two types of textbooks, as well as other available learning tools.

Difficulties in focusing attention on the key elements of the content was ranked third. Considering a wide variety of digital content types, as well as the fact that they are commonly used for the purpose of entertainment and play, the doubts the teachers expressed as regards their potential to achieve the basic educational aims and objectives are perfectly justified. However, this limitation can be removed during the process of creating a digital textbook. Authors of a digital textbook will first consider all idiosyncrasies of a specific type of content, learn about the aims and objectives, and then, from the many opportunities this new medium offers, choose those that have a clear purpose in the learning process. Varied multimedia content and other technological performances should not be an aim *per se*, as they can distract children's attention away from the main activity and reduce the quality of the basic content. Attractive computer program solutions as well as attractive designs make a digital textbook an appealing learning tool, thus indirectly affecting students' motivation to learn. However, attractiveness is not the same as quality, so the choice of design and computer program solutions should be approached carefully, taking into consideration both the content and the learning process.

Interestingly, reading from screen was ranked fourth. Some research studies (Liu, 2012) state that even 82% of the respondents consider reading from screen to be a major problem as regards learning from a digital textbook. Spending more time in front of a computer screen can cause computer vision syndrome, the symptoms of which include eye strain and fatigue, blurry vision and the like, as well as mental fatigue, which is the result of staring at a computer screen for too long. Objectively, this is the only disadvantage that cannot be completely removed. Again, the solution to this problem lies in a thoughtful use of a digital

textbook, which does not necessarily involve extensive reading or watching the same digital content for a long period of time. Also, in dealing with this problem, one must take into account the development of the digital reader technology, which offers devices that do not emit radiation, do not strain eyes, as is the case with the regular screen, etc. Of course, the unique relationship a student has with a printed book, even with a textbook, as a special material artefact, should not be ignored, but it is yet another reminder that one should not argue for “a digital or a printed textbook”, but support the idea of using both “a digital and a printed textbook”.

Knowing how to operate an electronic textbook is another problem that cannot be completely removed, at least not now. However, out of all disadvantages, this one was ranked lowest. The teachers surveyed do not consider this disadvantage of a digital textbook to be of great importance, probably because of its simple approach, as well as because of the fact that young generations of students are digitally literate. Devices that deliver electronic textbooks will definitely be more user-friendly in the future, though the simplicity that arises from the stability of a printed textbook can hardly be surpassed. The question as to how a page of a digital textbook should look like, including its dimensions, position, the amount of content, the way pages are turned over, the textbook structure, etc., requires a detailed analysis by experts from relevant scientific disciplines. For today’s teachers and, to some extent, students, an index finger will remain the most reliable “browser”, but future generations will for sure feel more comfortable in a digital environment, which will, due to technological advances, help reduce the problem of knowing how to operate an e-textbook.

5. CONCLUSION

A textbook, as a traditionally most important schoolbook and a resource considered to be an equal partner in pedagogical interaction, seemed an appropriate framework for integrating those values of contemporary technology that can foster learning. The possibility of a digital textbook creating new forms of interaction with the student, thereby contributing to their better acquisition of knowledge, as well as to the development of thinking and learning, was the main idea of the present research.

The importance of investigating the attitudes of teachers about the use of a digital textbook in mathematics instruction is twofold. Taking into consideration their direct experience of working with students, which involves, among other things, the use of a textbook, mostly a printed one, but also a digital textbook, teachers can give valuable suggestions as to how to use a digital textbook in the classroom. Since successful integration of contemporary technology into education primarily depends on teachers, it is also important to determine their ability to use this textbook format. The present research showed that the primary school teachers are, for the most part, indecisive as to whether a digital textbook improves the quality of teaching or not, but also that less than half of them frequently or only occasionally use digital textbooks in mathematics instruction.

The teachers stated that the most important advantages of a digital textbook are exactly those features the importance of which was most frequently stressed in theoretical and empirical research studies. The largest percentage of the teachers believe that multimodality and interactivity are the most valuable features of a digital textbook. These are followed by hyperlinks and the possibility of integrating supplementary materials. The

obtained results raise numerous questions that may serve as the subject of some future research studies. These are primarily related to determining the necessary level and forms of interactivity as well as the type and ways of using multimedia content. It is also necessary to look for new and creative ways in which multimedia content audio and video materials, animation and similar types of multimedia content can be used to foster learning and knowledge construction.

Although interactivity, multimediality and hypertextuality, being the most significant features of a digital medium, can be used for learning and can be regarded as the greatest advantages of a digital textbook, they also involve certain risks to the learning process. The literature has stated that there are problems of cognitive overload, which occurs due to a lack of balance among various types of content (multimedia, hypertext), lack of attention caused by a frequent change of focus, information overload, superficial reading, etc. Only about a fourth of the teachers considered difficulties in focusing attention to be a disadvantage of a digital textbook, which is surprising considering the fact that it is this problem the literature has focused on the most. More than half of the respondents believe that the reduction of the direct teacher-student communication is the greatest disadvantage of a digital textbook. Such attitude may be a result of the fact that they expect negative influences of digital technology in general. While digital technologies, on the one hand, increase the possibility of communication and strengthen relationships among people, they, on the other hand, threaten to become a predominant means of connecting people, which leads to the impoverishment of human communication and the overall degradation of interpersonal relationships. In view of that, authors of digital textbooks should be aware of the fact that they are, though being a manifestation of digital technology, primarily textbooks, and that they must not endanger the quality of the teacher-student communication or any other values of education, either with their content or function. One third of the teachers consider a limited use of a digital textbook for some types of content to be its second greatest disadvantage. It has already been pointed out that the question of selecting the content of a digital mathematics textbook requires special attention, as certain types of content included in the curriculum necessarily lie outside the scope of a digital textbook. Ivić (2019) believes that one of the most promising approaches is the creation of a hybrid of a printed textbook and a digital textbook, as it is based on the principle of making the most of each of the two media for the purpose of achieving those learning goals in which that specific medium is, owing to its characteristics, advantageous.

Digital mathematics textbooks have the potential to become a learning tool which will, by intensifying the communication, guide students to acquire knowledge by means of their own mental activity, but such performance requires a higher level of understanding of the teaching and learning process, as well as of the opportunities contemporary technology offers. The research findings presented in this paper can encourage further investigation of the content of digital mathematics textbooks, the ways they are used in the classroom and the attempts at defining their role in education, which may be a basis for providing better solutions. The creation of digital textbooks which, with the help of appropriate didactic shaping, can make the most of digital technology, but also reduce its disadvantages, will open up opportunities for comparative research on the results of learning from printed and digital textbooks and provide a definitive judgment on this learning tool.

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DIGITALNI UDŽBENIK I NJEGOVO MESTO U NASTAVI MATEMATIKE U MLAĐIM RAZREDIMA OSNOVNE ŠKOLE

Apstrakt

Razvoj digitalnih medija uslovio je i digitalizaciju obrazovanja i povećano interesovanje za elektronski udžbenik, kao jedno od savremenih sredstava u nastavi. Digitalni udžbenik za matematiku predstavlja svojevrsnu integraciju nastavnih sadržaja u multimedijalno okruženje, čime se obezbeđuje višestruka interakcija i multimedijalnost koja je prilagođena osobinama učenika mlađeg školskog uzrasta. Imajući u vidu značaj e-udžbenika, naša ideja u radu bila je da istražimo mišljenja učitelja o digitalnom udžbeniku u nastavi matematike u mlađim razredima osnovne škole, kako bismo utvrdili koliko ga oni koriste u nastavi matematike i šta izdvajaju kao prednosti i ograničenja njegovog korišćenja. Rezultati istraživanja pokazuju da učitelji smatraju da digitalni udžbenici doprinose kvalitetu nastave i učeničkog znanja, ali se, sa druge strane, povremeno opredeljuju da ga koriste u nastavi matematike. Pored toga, učitelji posebno ističu multimedijalnost i interaktivnost kao najznačajnije prednosti elektronskog udžbenika, dok kao najveća ograničenja navode slabljenje neposredne komunikacije između učenika i učitelja, kao i ograničene mogućnosti za njegovu primenu.

Ključne reči: digitalni udžbenik, matematika, nastava matematike, učenik, učitelj



MATHEMATICAL COMPETITIONS AND GENDER DIFFERENCES IN THE ACHIEVEMENTS OF THIRD-GRADE ELEMENTARY SCHOOL STUDENTS

UDC 37.016:51; 373.3:015.3-055.1/.3 (497.11)

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Abstract. *The research subject presented in this paper is the mathematics competitions among primary school students. The problem we investigate is the achievement of third-grade primary school students in district competitions in the Republic of Serbia, examining potential differences based on gender and the region they come from. The research sample was consisted of 953 third-grade primary school students who participated in the district competition in mathematics during the 2022/2023 school year. Employing a quantitative research method, the study utilized a 5-task test compiled by the State Commission for the Competition of Primary School Students in Mathematics as the research instrument. The findings indicate that students have, largely, mastered content taught in additional mathematics classes. The results also suggest that there are gender differences in terms of the number of participants in the competition, but the differences in the achievements of students in relation to the gender are not significant. On the other hand, statistically significant differences were observed in students' achievements based on the regions they come from. Students from developed regions achieved better results compared to those from underdeveloped regions.*

Keywords: *mathematical competitions, gender, level of regional development, primary school students*

1. INTRODUCTION

Since its founding in 1936, the Fields Medal has been awarded to 64 outstanding researchers. Only 2 of these researchers were women (Fields Medal, 2022). Such small number of female Fields Medal Laureates can be considered a logical consequence of the pre-existing low female rates in mathematics, but it cannot completely explain the discrepancy.

UNESCO reveals only 28% of all the world's researchers are women (UNESCO, 2017) and such profound inequality does not occur by chance. Since ancient times, women have

Received December 23, 2023/Accepted March 01, 2024

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been deprived of acquiring knowledge. Social norms and societal expectations influence the quality of education both genders receive and the subjects they study. Stereotypes influence student's preferences and expectations. Prescriptive stereotypes, such as conservative beliefs about the role of women in society, have long been identified as a factor that can explain much of the gender gap in school achievements between male and female students.

2. THEORETICAL FRAMEWORK

It has become a general perception or stigma that mathematics is a predominantly male school subject. What is contributing to this perception is the open debate about whether the gender gap in mathematics achievement results from biologically based differences in brain functioning or cultural and social conditions (Nollenberger, Rodríguez-Planas, and Sevilla, 2016). Whether for biological or socio-economic reasons, the literature has consistently documented a higher academic achievement in mathematics among male students compared to their female peers in many countries (Kane, and Mertz, 2012). Cavaglia et al. (2020) reveal that at the age of 11 in the United Kingdom, male students are four percentage points more likely to achieve the expected standard in mathematics than female students. The same group of authors indicates that male students are eight percentage points more likely to achieve the higher standard in standardized tests. A similar pattern is also found in other countries. Borgonovi et al. (2018) analyzed data from thirteen OECD countries and found, on average, female students' mathematics achievements are lower than males' at the age of 15. The TIMSS study also shows the difference in average mathematics achievement between boys and girls. According to TIMSS 2019, the fourth-grade boys had higher average achievement than girls in nearly half of the 58 participating countries (Mullis et al., 2020). More specifically, girls had higher average achievement than boys in 4 countries, gender equity in average mathematics achievement in 27 countries, and boys had higher average achievement than girls in 27 countries.

Mathematics competitions play a significant role in motivating high-ability students to go beyond the standard school curriculum and develop greater knowledge and problem-solving skills. However, the gender gap in mathematics achievements is particularly noticeable among the most able students (Ellison and Swanson, 2010; Machin and Pekkarinen, 2008; Vulović, Mihajlović, and Milinković, 2023). Ellison and Swanson (2010) specifically investigated gender gap in mathematics among high-achieving students. As a source of research data, they used results from the American Mathematics Competitions (AMC). The authors indicated that, in total, high-achieving girls and boys are roughly equally likely to participate in the AMC 12. Specifically, 44% of AMC 12 test takers were female students, and 56% were their male peers. When they compared achievements relating to gender, they detected a gap with a ratio of 4.2 to 1 male-female students at the level of 100 out of possible score of 150 points. When they compared the higher students' achievements in the AMC 12 test, this gap was even greater. Only 14% of female students scored 114 or higher points and 10% scored of 130.5 or higher. Ellison and Swanson emphasized that all of the AMC 12 top 46 scorers were male.

If mathematics competitions are less appealing to female than to male students, then this could be a reason why fewer female students are reaching very high achievement levels. In their study, Vulović, Mihajlović, and Milinković (2023), analyzed students'

achievements at district mathematics competitions in the Republic of Serbia relative to gender from 2014 to 2023. The research sample consisted of 53490 primary school students, from fourth to eight grade. The authors indicate that there were gender differences in participation and students' achievement. Although there was a slight decrease in the representation of male students identified during the transition from earlier grades to subject teaching, there was a trend of increased male representation. In 60% cases, there was a statistically significant difference in achievements in relation to gender, with the difference benefiting male students in 96.67% of cases. The authors stated that among the 5% of the most successful students, observed by school years and grades, in 98% of cases the number of male students was greater than the number of female students. Additionally, among the 5% of students with the highest achievements at district competitions, there was no statistically significant difference in the number of points achieved in relation to gender.

Another factor that could potentially be important for students' achievements in mathematics is regional disparities. Numerous studies have indicated a strong connection between student's achievement and their economic status (Barro, 2001; Hanushek and Kimko, 2000; Hanushek and Woessmann, 2008). Daniele (2021) used the results of the PISA 2012 mathematics test to analyze the relationship between relative poverty rates and regional mean scores in mathematics in a sample of 35 Italian and Spanish regions. The author found the gap in mean regional mathematics scores between the highest and lowest performing regions in Italy was of 92 points, and in Spain the gap was 89 points. The results showed that poverty rates in the southern regions of Italy ranged between 27% and 29% and corresponding to lower achievement in mean PISA scores. Mathematics scores were highly correlated with regional GDP per capita and were also moderately correlated with school educational resources and school infrastructures.

Greater success in mathematics is achieved by students who live in urban areas and in socioeconomically more developed regions (Chiu, 2015; Graham and Provost, 2012; Gumus and Atalmis, 2012; Skryabin et al., 2015). Sulku and Abdioglu (2015) used TIMSS 2011 data for mathematics to assess the achievement of eighth-grade students in Turkey. The authors found a range of variables that affect students' achievement: geographic region, rural/urban environment, school type, family location, family economic status etc. In conclusion, the findings of Sulku and Abdioglu study indicated that achievement is significantly lower in disadvantaged regions and regional differences are critical for student success in mathematics. Similar findings are reported in the study by Oral and McGivney (2013) which stated, based also on TIMSS 2011 findings, that academic achievement at schools increases with a region's socioeconomic position.

Within the Republic of Serbia, regions are classified into developed and underdeveloped regions (Uredba o utvrđivanju jedinstvene liste razvijenosti regiona, 2014). Considering the absence of similar previous studies, our research will focus on examining differences in students' achievements in mathematics competitions in relation to the gender of students and the level of development of the region they come from.

3. METHODOLOGY

The research subject presented in this paper is the mathematics competitions of primary school students. The problem we are investigating is the achievement of third-grade primary school students in the District Mathematics Competition (DMC) in the Republic

of Serbia. We aim to explore whether differences exist based on gender and the level of the regional development.

The first research task was to investigate whether there are differences in mathematics achievement of third grade students in DMC based on gender. The second research task focused on investigating potential variations in mathematics achievement among third-grade students in DMC with respect to the level of regional development.

Sample. The research sample comprised 953 third-grade primary school students who participated in the district mathematics competition during the year 2022/2023. There were 352 female (36.94%) and 601 male students (63.06%) in total. The participants hailed from 27 different regions in the Republic of Serbia and they were classified into two categories in relation to the development of their respective regions: developed and underdeveloped. This categorization was in compliance with the classification given in the *Uredba o utvrđivanju jedinstvene liste razvijenosti regiona* (2014). The distribution of the sample based on the level of regional development is shown in Table 1.

Table 1 Structure of the sample in regard to the level of regional development

region	Total		Gender			
			female		male	
	f	%	f	%	f	%
underdeveloped	792	83.11%	302	85.80%	490	81.53%
developed	161	16.89%	50	14.20%	111	18.47%

Instrument. The instrument used was a five-task test compiled by the State Commission for the Competition of Primary School Students in Mathematics. The maximum test score was 100 points, and each correctly solved task awarded 20 points. The test is available on the official website of the Mathematical Society of Serbia (<https://dms.rs/wp-content/uploads/2023/03/Resenja-zadataka-2023-1.pdf>).

In the second (Z2) and third (Z3) tasks, the content covered in regular classes is presented, while the content of the first (Z1), fourth (Z4), and fifth (Z5) tasks is largely covered in additional mathematics classes.

A detailed description of tasks is given in Table 2.

Table 2 Description of DMC tasks

Task code	Description
Z1	Students are required to fill in a given magic figure based on the provided values. The figure is presented in a relatively simple form, as the central element of a square is specified, leading directly to the characteristic sum.
Z2	The task represents an example of developing initial ideas about a function. It requires students to observe the relationship between dependent and independent variables, or how changes in the components of arithmetic operations (addends) affect the final result (sum).
Z3	Tasks Z3 and Z4 represent counting problems in the fields of geometry and numbers, respectively. Unlike task Z3, which involves direct counting based on a given image, task Z4 requires a higher degree of abstraction from the

Z4	students. In addition to counting skills, students must be equipped with a good understanding of the positional number system and initial forms of combinatorial thinking.
Z5	The task represents a decryption problem in which multiple identical addends are involved. Based on these, students are required to infer the extreme value of the given expression.

Analysis. The quantitative research method was applied. The statistical analyses were conducted using SPSS for Windows, version 23.0. For statistical analysis, p values lower than 0.05 were considered statistically significant. The normality of the data was evaluated using the Kolmogorov-Smirnov test. Descriptive statistics methods (frequency, percentage, mean, standard deviation, mean ranks) and the Mann-Whitney test were utilized for the quantitative analysis of data. The independent variables in the data analysis were gender and the level of regional development.

4. RESULTS AND DISCUSSION

The first research task was to investigate gender-based differences in DMC test scores. Table 3 displays the mean scores (M) and standard deviations (SD) for the DMC test overall, as well as for each task.

Table 3 DMC test mean scores overall and for each task

Task	female		male	
	M	SD	M	SD
Z1	17.73	5.05	17.33	5.67
Z2	16.24	5.28	16.98	4.90
Z3	16.58	5.11	16.60	5.24
Z4	8.57	8.27	9.12	8.43
Z5	13.47	7.63	13.17	7.85
overall	72.59	19.25	73.20	17.99

The overall findings, presented in Table 3, show that there was a difference in mean scores between female and male students both overall and in individual tasks. The boys performed better in general and in tasks Z2, Z3 and Z4. On the other hand, girls were more successful in solving tasks Z1 and Z5. The highest score was achieved in first three tasks, while the lowest score was recorded in task Z4. This is also expected considering that task Z1 is the simplest, while the content of tasks Z2 and Z3 is covered in regular classes. The weakest performance on the fourth task could be anticipated and can be explained by the fact that it requires a higher degree of abstraction and logical-combinatorial thinking from the students. Kolmogorov-Smirnov test of normality revealed that the DMC test scores were not normally distributed across the groups. Therefore, in order to examine possible statistically significant differences in achievement in terms of the gender, Mann-Whitney test was performed. The results show that there were no statistically significant differences in test scores in general ($U = 105245.000$, $z = -0.130$, $p = 0.897$) and in tasks Z1 ($U = 103613.000$, $z = -0.747$, $p = .455$), Z3 ($U = 101950.000$, $z = -0.975$, $p = .329$), Z4 ($U = 101730.500$, $z = -1.017$, $p = .309$) and Z5 ($U = 102920.000$, $z = -0.727$, $p = .467$).

However, findings indicated that there were significant difference in Z2 scores between boys and girls ($U = 97463.000$, $z = -2.329$, $p = .020$).

Although there was no significant difference in DMC test scores overall, the fact that boys achieved better results than girls implies that more attention should be given to this issue. Also, it should not be overlooked that the number of male participants (63.06%) is almost twice as large as the number of female participants in the DMC. Some further studies should tend to examine the possible reasons for this discrepancy. Is it due to factors related to teachers, parents' aspirations, or the perceived appeal of mathematics competitions for girls? Participation in mathematics competitions is associated with a successful career in STEM (Campbell, and O'Connor-Petruso, 2008; Steegh et al., 2019). The age of 9 is particularly important, as some studies indicate that children develop their first career aspirations around this age (Auger et al., 2005).

With *the second research task*, we aimed to investigate whether there are differences in the mathematics achievement of third-grade students in DMC test scores based on the level of regional development. The mean scores (M) and standard deviations (SD) for the test scores overall and in the individual tasks are presented in Table 4.

Table 4 Descriptive statistics for DMC test scores based on the level of regional development (1 – underdeveloped; 2 – developed)

region	z1		z2		z3		z4		z5		overall	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
1	17.43	5.54	16.56	5.15	16.43	5.30	8.78	8.29	13.20	7.83	72.40	18.40
2	17.73	5.02	17.45	4.52	17.36	4.54	9.59	8.72	13.68	7.46	75.81	18.50

The mean scores and standard deviations show that students from the developed regions outperformed their peers from the underdeveloped regions, both overall and in all individual tasks. We aimed to investigate whether there were any significant differences in these scores. Due to the non-normality of the variables in regard to the level of regional development, a Mann-Whitney test was performed.

The findings indicated a significant difference in DMC test in general ($U = 56789.000$, $z = -2.189$, $p = .029$), and concerning tasks Z2 ($U = 57761.000$, $z = -2.163$, $p = .031$), and Z3 ($U = 57123.500$, $z = -2.178$, $p = .029$). There were no statistically significant difference in tasks Z1 ($U = 62908.500$, $z = -.377$, $p = .706$), Z4 ($U = 59992.500$, $z = -1.218$, $p = .223$) and Z5 ($U = 60957.500$, $z = -.917$, $p = .359$). These results are in accordance with the results of some other studies (Chiu, 2015; Daniele, 2021; Graham and Provost, 2012; Gumus and Atalmis, 2012; Skryabin et al., 2015; Sulku and Abdioglu, 2015). If we take into account the fact that regions are classified into developed and underdeveloped according to regional GDP per capita, we can confirm that there is a certain disparity in the mathematics achievement of highly able students with respect to regional economic development.

As a part of the second research task, we wanted also to examine if there are differences in achievement of female and male students in regard to the level of regional development. The descriptive statistics (means and standard deviations) for DMC test scores in relation to gender for underdeveloped and developed regions are displayed in Tables 5 and 6.

Table 5 Underdeveloped regions – descriptive statistics for DMC test scores in relation to gender

gender	z1		z2		z3		z4		z5		Overall	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
female	17.59	5.18	16.26	5.31	16.45	5.16	8.16	8.11	13.24	7.78	71.70	19.16
male	17.33	5.75	16.74	5.04	16.42	5.40	9.16	8.39	13.18	7.87	72.84	17.93

Table 6 Developed regions – descriptive statistics for DMC test in regard to gender

gender	z1		z2		z3		z4		z5		Overall	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
female	18.62	4.12	16.16	5.16	17.34	4.77	11.00	8.87	14.90	6.55	78.02	19.06
male	17.33	5.35	18.04	4.10	17.37	4.45	8.95	8.62	13.13	7.80	74.82	18.24

Since the scores were not normally distributed across the groups, a Mann-Whitney test was performed in order to examine possible differences in test scores in terms of gender.

The findings point out that there were no statistically significant differences in test scores in general ($U = 72317.500$, $z = -.535$, $p = .593$), neither in individual tasks (Z1: $U = 73666.500$, $z = -.146$, $p = .884$; Z2: $U = 70324.000$, $z = -1.331$, $p = .183$; Z3: $U = 71463.000$, $z = -.841$, $p = .400$; Z4: $U = 69343.000$, $z = -1.531$, $p = .126$; Z5: $U = 73032.000$, $z = -.319$, $p = .750$), between boys and girls from underdeveloped regions.

As for the students from developed regions, although there was no statistically significant difference in test scores in general ($U = 2434.500$, $z = -1.245$, $p = .213$), we found a statistically significant difference in task Z2 ($U = 2196.500$, $z = -2.608$, $p = .009$).

There was no significant difference in tasks Z1 ($U = 2454.500$, $z = -1.681$, $p = .093$), Z3 ($U = 2727.000$, $z = -.189$, $p = .850$), Z4 ($U = 2515.500$, $z = -.981$, $p = .327$), and Z5 ($U = 2456.000$, $z = -1.231$, $p = .218$).

5. CONCLUSION

Mathematics competitions play a significant role in motivating high-ability students to go beyond the standard school curriculum, develop greater knowledge and problem-solving skills, as well as to choose career in STEM. The findings of our study indicate the need to encourage more female students to actively participate in mathematics competitions to overcome gender related differences.

Furthermore, the results suggest that there is a need to provide greater support to students from underdeveloped regions with the aim of performing higher achievements in mathematic competitions. The results indicate the need to focus greater attention on the implementation of additional teaching content. Furthermore, in future research, it should be determined which factors influence the participation of girls, as well as the lower success of students from underdeveloped regions.

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MATEMATIČKA TAKMIČENJA I POLNE RAZLIKE U POSTIGNUĆIMA UČENIKA TREĆEG RAZREDA OSNOVNE ŠKOLE

Apstrakt

Predmet istraživanja u ovom radu su matematička takmičenja učenika osnovnih škola. Problem istraživanja su postignuća učenika trećeg razreda osnovne škole na okružnim takmičenjima u Republici Srbiji, njihov uspeh, kao i utvrđivanje postojanja razlike u postignućima učenika u odnosu na pol i sredinu iz koje dolaze. Uzorak istraživanja predstavlja populaciju učenika trećeg razreda osnovne škole koji su u školskoj 2022/2023. godini učestvovali na okružnom takmičenju iz matematike. Primenjena istraživačka tehnika u radu je testiranje, a instrument istraživanja je test koji je sastavila Državna komisija za takmičenje učenika osnovnih škola iz matematike. Rezultati istraživanja pokazuju da su učenici u velikoj meri savladali gradivo predviđeno dodatnom nastavom matematike, da postoje polne razlike u pogledu broja učesnika takmičenja, ali da razlike u postignućima učenika u odnosu na pol nisu izražene. Sa druge strane, uočene su statistički značajne razlike u postignućima učenika u odnosu na razvijenost regiona iz kojih dolaze, pri čemu je utvrđeno da učenici iz razvijenih regiona postižu bolje rezultate u odnosu na učenike iz nerazvijenih regiona.

Ključne reči: matematička takmičenja, pol, razvijenost regiona, učenici osnovne škole



THE ROLE OF AUTOBIOGRAPHICAL MEMORY FOR TEACHING EMOTIONAL SKILLS IN PRESCHOOL CHILDREN

UDC 159.942:159.95; 373.2; 371.382-053.4

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Abstract. *Autobiographical Memory (AM) encompasses memory for personally significant event episodes from an individual's life (Nelson & Fivush, 2004). It is critical for self-identity and psychological well-being. The aim of the research was to design an experimental teaching method whose main objective was the development of emotional intelligence in children ages 4 to 6 years old through the key factor of autobiographical memory. The research question is whether autobiographical memory could be a contributor factor to exploring the emotional knowledge and interpretation of preschool children who are experiencing intense emotional states and how it would help in designing a teaching method including emotional skills. The participants in the present study were 24 preschool children, 12 boys and 12 girls, and interview was chosen as the data collection tool, which was semi-structured. The questions examined whether children were familiar with emotions and how they express and regulate them via the report of event from memory under difficult emotional circumstances. The results of the study showed that the children are able to share a memory about the emotion reported to them and that in terms of self-regulatory strategies. Although, the present sample showed weakness in identifying how they control their negative emotions and especially the emotion of jealousy. In conclusion, the present study showed that preschool children are able to identify, express and regulate their emotions to a large extent. This paper will be discussing implications about activities in the form of learning emotions through games and design an experimental program based on rational-emotional theory.*

Keywords: *emotional intelligence, autobiographical memory, self-regulatory strategies, rational emotive education, play*

Received February 15, 2024/Accepted March 24, 2024

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1. INTRODUCTION

This study reports and analyzes the concepts of emotional intelligence and self-regulation in preschool children. Emotions are a key element of a child's development as from infancy children are able to communicate, to other people, what they feel through facial expressions, sounds and the rest of their body (Hyson, as cited in Doliopoulou & Kontogianni, 2000). Children's emotional intelligence is characterized by the ability to express an emotion and also to recognize it both in themselves and in others. When a child can recognize and subsequently control this emotion, it shows, as reported in the literature, a high level of emotional intelligence and self-regulation (Izard et al., 2001).

Self-regulation is presented as a key factor for the proper development of many aspects of a child's life, including peer relationships and school life (Herndon et al. 2013, Gershon & Pellitteri 2018, Ersan 2019). As far as the school context is concerned, emotional intelligence and self-regulation facilitate relationships with peers, because when the child is able to recognize the emotions of others and control his/her own, this results in the emergence of socially acceptable behaviors and the resolution of difficult emotional situations that may arise. At the same time, when a child can regulate their negative emotions, the learning process is promoted as the child associates school with positive experiences.

As the present research deals with the analysis of the emotional intelligence of preschool children through interview in which the child is asked to report a memory regarding each emotion under an event (joy, sadness, anger, fear, and jealousy), the phenomenon of autobiographical memory emerges. Autobiographical memory is characterized as a process in which the individual not only presents the basic characteristics of an event, such as where, how and what happened, but is able to relive the memory at the time they recount it, that is, to put themselves back in that situation, to remember what they were thinking at the moment of experiencing the event, what emotions arose, but also to be able to place this event in a personal timeline, thus knowing which event came before and which after the particular memory (Fivush, 2011).

The purpose of this research is to find out whether children can identify specific emotions and associate them with their own memories of experiencing these emotions, to what extent they are able to self-regulate when experiencing a negative emotion and last but not least, to design an experimental teaching method whose main objective was the development of emotional intelligence in children ages 4 to 6 years old through the key factor of autobiographical memory. The present research is considered pioneering for the Greek data because it examines the connection between children's emotions and their autobiographical memory while at the same time it offers preschool teachers the opportunity to be further informed about children's emotional intelligence and their memories about specific emotions (joy, sadness, anger, fear, jealousy) as well as the self-regulation strategies they use to control their unpleasant emotions.

1.1. The emotions of preschool children

Goleman (1995) presents a definition for the word "emotion" where it is defined as "a feeling and the specific thoughts it evokes, the psychological and biological states that accompany it, and the set of tendencies to action" (p. 395). Children express their emotions from infancy using both facial expressions and the rest of their bodies and, as time goes on, the ways of expression are enriched as the ability to speak develops (Hyson, as cited in

Doliopoulou & Kontogianni, 2000). Preschool children are able to identify both the basic emotions, which according to the literature, are joy, sadness, anger and fear (Volling et al, 2002) as well as the more complex ones such as shame, guilt, jealousy, etc. (Lewis as cited in Prosen & Smrtnik Vitulić, 2018). The above emotions are characterized as complex since an individual can express them in a variety of ways making it difficult to recognize them (Ekman & Davidson as cited in Prosen & Smrtnik Vitulić, 2018).

The expression and recognition of emotions are key features of emotional awareness (Denham et al. 2003) which is an important factor in many areas of a child's life, such as social relationships (Parker et al. 2013). Results of many studies over the years show that preschool children who are able to recognize their own emotions and those of the people around them are presented by their teachers as emotionally and socially competent, tend to be more sympathetic to their peers, develop strong relationships with other people (Denham & Burton as cited in Παπαδημητρίου in O. M.E.R., 2014), exhibit behaviors that are more socially acceptable to a greater extent and emotional regulation to a high degree (Izard et al. 2001). The characteristics, namely the knowledge and naming of emotions in oneself and others and the ability to regulate intense emotions, are the two dominant features of emotional intelligence (Gershon & Pellitteri, 2018). Denham et al. (2011) argue that the definition of emotional intelligence involves four key factors, "a) the perception, evaluation, and expression of emotions, b) the use of emotions to facilitate thinking, c) the antecedent and posterior effects of emotions, and d) the regulation of emotions on self and others" (p. 1).

At the same time, emotional competence seems to be linked to children's academic performance both in pre-school and in the later years of their school life. When children have high levels of emotional intelligence, they are able to form functional relationships with peers and teachers alike, which makes the process of learning enjoyable with the end result being a positive association between the school contexts and learning in general (Denham & Brown, 2010).

1.1.1. The emotion of happiness

According to research, happiness is the most easily recognizable emotion by children (Shortt et al. 1994, Doliopoulou & Kontogianni 2000) and one of the emotions that children express most often (Prosen & Smrtnik Vitulić, 2018). Thoilliez (2011) states that to examine the emotion of happiness to an adequate extent, the researcher must take into account two factors: how happiness is defined and what causes it. Happiness, is classified among the basic emotions and according to the research of Prosen & Smrtnik Vitulić (2018), it is caused in children by 8 factors: "play, a specific pleasant event, an achievement, the offer of a material object, the feeling of affection from a loved one, finding a beloved object that was lost, a funny condition and the arrival of a loved one" (p. 1679).

1.1.2. The emotion of sadness

According to the research of Μότσιου and Βαλετόπουλος (2021), sadness ranks among the four basic emotions that are the most easily recognizable and nameable by children. There are disagreements in the literature regarding the issue of children's recognition of sadness in others. This is because sadness is an emotion that can be expressed

simultaneously with other emotions and this results in the child being confused, specifically, as stated by Μότσιου and Βαλετόπουλος (2021) when labeling the emotion of fear as sadness. The research of Doliopoulou & Kontogianni (2000) also identified seven main causes of the emotion of sadness, based on the words of the children interviewed in the research: physical or verbal punishment, the non-fulfilment of their desires regarding material and non-material goods, being away from loved ones, exclusion from the process of play, a generally poor psychological state, a minor or serious accident that may occur to them or to a significant other, and finally, their voluntary or involuntary removal from a positive event.

1.1.3. The emotion of anger

Anger, and therefore aggression, has been of particular concern to researchers over the years. This emotion is reported to cause difficulty in children's recognition and naming (Widen & Russell 2010; Μότσιου & Βαλετόπουλος, 2021). The triggering of this emotion arises from many factors. As reported in the survey by Doliopoulou & Kontogianni (2000), children reported nine reasons for getting angry, and some of them are also found in other surveys. Among them are the removal of a cherished material possession, not having their "wants" fulfilled, physical violence and punishment, and the feeling of rejection (Doliopoulou & Kontogianni 2000; Prosen & Smrtnik Vitulić 2018). Emotional intelligence is directly related to the induction of anger and aggression in childhood. When a child is not able to recognize that what they are feeling is anger, frustration as well as other negative emotions are evoked and they cannot be managed, resulting in aggressive behaviors.

1.1.4. The emotion of fear

Fear is the fourth basic emotion and is caused by various situations. The emotion of fear is a key developmental stage of the child as all children experience this emotion either to a lesser or greater degree and it is very normal for it to occur (Ollendick et al., 2002). Muris et al. (2000) characterize the emotion of fear as a situation in which a dangerous condition is presented to the person experiencing the emotion. Driessnack (2006) also states that fear functions as an innate warning system in the individual's body which is designed to protect the individual from a situation that may prove to be harmful. Among others, Doliopoulou & Kontogianni (2000) state that some conditions that cause fear in children are bad dreams, specific places and situations where children have associated them with something negative, when they are left alone without loved ones around, while fear of the dark and the night in general is also very common (Doliopoulou & Kontogianni 2000; Prosen & Smrtnik Vitulić 2018).

1.1.5. The emotion of jealousy

Jealousy is referred to in the literature as a complex emotion (Volling et al., 2002) and according to Prosen & Smrtnik Vitulić (2018) it develops in children during the 18th to 24th month of life, like other emotions that are described as complex (e.g., shame). Jealousy may arise from many situations in a child's everyday life, such as, according to Volling et al. (2002) between a loved one and a third person who is labeled as a competitor. Competitors in the eyes of children are those who distract and transfer the attention of the

loved one onto them (Murphy et al., 2020). Therefore, this is why jealousy seems to be presented as a triangle between the child, the loved one and the competitor. Especially, the object that the two individuals are competing for may also be a material good, such as a toy, which is a common phenomenon for children (Volling et al. 2002; Doliopoulou & Kontogianni 2000).

1.2. Emotion control and self-regulation

A key element of emotional intelligence is "the regulation of emotions in oneself and others" (Denham et al., 2011 p.1). This emotional regulation is defined as "the system of control over the emotions a child experiences and/or expresses" (Herndon et al., 2013 p.3). Emotion regulation strategies, tend to occur during the preschool years and play an important role in development (Kopp, Sroufe, Thompson as cited in Volling et al. 2002; Cole et al. 2009; Eisenberg as cited in Παπαδημητρίου, 2014). Specifically, according to Eisenberg & Spinrad (2004), when an individual is able to control their emotions, depending on the social context in which they develop, they exhibit emotional regulation, which is a key factor in developing positive social relationships. For this regulation to occur, the individual must establish functional interactions with the people around them and use some strategy to manage problems that arise within the social context, such as expressing their emotions in an appropriate way (Eisenberg & Spinrad, 2004). Along with the child's cognitive development, their ability to regulate their emotional state evolves (Thompson 2011; Sala et al. 2014).

Self-regulation is defined as "the ability to suppress momentary urges and primary biological impulses for the sake of achieving higher goals" (Stenseng et al., 2014 p. 1638). Παπαδημητρίου (2014) refers to it as "the child's ability to manage their behavior without the guidance of others, so as to conform to the rules and requirements of the society in which they live" (p. 386). A child's emotional regulation and self-regulation helps in optimizing their social life as well as their school life (Herndon et al. 2013, Denham et al. 2003 as cited in O.M.E.P 2014, Gershon & Pellitteri 2018, Ersan 2020) as the child is able to control and calm their negative emotions such as anger and consequently aggression (Ersan, 2020) resulting in socially acceptable behavior, thus creating good relationships with peers and teachers, which also facilitates the learning process (Macklem 2008 as cited in Ersan, 2020).

The emotional regulation includes several strategies. As Παπαδημητρίου (2014) research states, there is the strategy of externalizing emotions, such as displaying aggressive behaviour, the functional strategy where children seek support for their problem and the strategy of avoiding the problem. Emotional regulation can occur both intentionally and unintentionally in the child, meaning, it can occur in a controlled or spontaneous way (Cole et al. 1994; Gross & Thompson, as cited in Sala et al., 2014). Finally, according to Gershon & Pellitteri (2018), emotional regulation develops throughout the lifespan and evolves the strategies.

1.3. Autobiographical memory

Autobiographical memory is defined as the kind of memory that moves beyond the basic characteristics of episodic memory, i.e. what happened, where and when, but adds the self into this event, so the individual is able to recognize that this event happened to

them, they remember how they felt and what interactions they had with the environment around them (Fivush, 2011). For an individual is to be able to develop a memory from episodic to autobiographical, Fivush (2011) states that two conditions must be present. The first is that the individual must be able to view the event in question from a subjective perspective rather than as something that simply happened, therefore remembering their thoughts and actions during the event. The second condition is the connection of these thoughts, actions and feelings with the present self so that there is a continuity in the memories and life history of the individual.

According to Fivush (2011), the encouragement for the development of autobiographical memory is particularly evident in Western culture as from a very early age the child's environment creates formats for the child to develop the ability to narrate events and do things with the parents. This is of course helped by the kind of questions the environment will ask the child. Accordingly, when the questions are not direct the child towards a particular answer, then there is a greater likelihood of the child developing techniques of coherent and detailed narratives (Fivush, 2011).

2. METHOD

The present research is classified as qualitative research as the interview and the interpretation of the children's words were chosen as a data collection tool. Regarding the definition of qualitative research, Denzin & Lincoln (as cited in Ίσαρη & Πουρκός, 2015) state that, "qualitative researchers study things in their natural context, attempting to make sense of or interpret phenomena in terms of the meanings people give to them" (p.13). Pathak, Bijayini, & Sanjay (2013), for qualitative research, refer to that as research that aims to examine research questions from a humanistic perspective. They also state that this method is used to help the researcher understand the experiences, perceptions, behaviors and interactions exhibited by the individuals in the research sample.

2.1. Participants

The sample of this study consists of preschool children attending two kindergartens in Thessaloniki, one in the east and one in the west of the city. The total number of children was 24, an equal number of 12 boys and 12 girls. The children were also selected according to the level of speaking the Greek language to ensure the integrity of the data obtained from the interviews.

2.2 Data collection tool

The data collection tool of this research is the interview. The interview was semi-structured and consisted of 6 basic questions to elicit information about the association of emotions with autobiographical memory: "Can you tell me a story about when you were happy/ sad/ angry/ scared/ where you felt jealous/ where you got revenge?" and by extension the question "Then what did you do?" in order to examine children's self-regulation strategies. Some questions also emerged which were not mentioned in the original questionnaire in order for the children to describe a story more clearly such as "Who did you get angry at?" and also to examine the possibility that the children did not know a definition of an emotion, "Do you know what jealousy is?".

3. RESULTS

For the analysis of the results, qualitative research was conducted using content analysis as a research methodology. This resulted in the following topics:

3.1. Children's autobiographical memories regarding emotions

3.1.1. Autobiographical memories regarding the feeling of happiness

Our results showed that the dominant memory related to the feeling of happiness is play. Play was mentioned both as a single event and in combination with other situations such as playing outdoors, with friends and with family. Regarding family, there were several mentions of parents and how much joy the moments with parents, grandparents and siblings bring to children. Another source of happiness for children is reading children's fairy tales. Many children chose activities outside the house as a happy memory and more specifically, amusement parks, theatre performances and the playground. Two children referred to feeling happy when someone gave them a gift and food, specifically sweets. Sleep, school and the memory of the child's birthday celebration were also among the responses. Finally, an important fact is the inability to find a happy memory by one child, who mentioned that "I don't know, I am never happy...".

3.1.2. Autobiographical memories regarding the feeling of sadness

According to our data, the most common source of sad memories of the children who took part in the survey resulted from various fights with siblings and friends. Secondly, many children mentioned being scolded by a family member, while being isolated from playing with peers also seems to bring them sadness. Another common memory was the physical abuse they had suffered on various occasions. The next common experience of the children is the non-fulfilment of wishes such as parents refusing to buy them a toy and also refusing to go out. Among the data, there were also individual memories that caused sadness such as darkness, separation from loved ones, isolation in an environment, a trauma as a result of an accident. Finally, one child reported that they did not know what sadness was and even after an explanation was given, they were unable to bring up a memory.

3.1.3. Autobiographical memories regarding the feeling of anger

The dominant memory of anger provocation in the children interviewed was arguing with their siblings and friends over issues such as toys and lying. Physical violence was also a common and frequent response as several children reported getting angry when someone hits them and also not having their wishes fulfilled. Then, being scolded by the family was reported by three children. Two children were unable to report a memory, while one of the two showed difficulty in defining the emotion of anger even after an explanation was given. Frustration and anger with self were reported as individual response events, and one child mentioned exclusion from play as a source of anger.

3.1.4. Autobiographical memories regarding the feeling of fear

For the feeling of fear, most of the children's reports dealt with darkness, while another common experience was the provocation of fear by others. Nightmares were also reported

by four children and fictional situations seem to be a common cause of fear. Isolation in an environment without familiar people is also a source of fear for children as well as scary stories, games and movies. Two children were unable to name a memory that caused them fear stating that "I have never been scared!" and one had difficulty understanding the definition of the emotion. Individual incidents included reporting a traumatic event and the noise from the exhaust of a motorcycle.

3.1.5. Autobiographical memories regarding the feeling of jealousy

Regarding the emotion of jealousy, most of children reported that they experienced jealousy about an object that someone else had. Next, eight children showed difficulty in defining the emotion of jealousy and stated that they did not know what it was. There were also nine children who stated that they had never experienced jealousy. Finally, jealousy that emerged through the relationship between siblings and friends was mentioned by one child.

3.2. Children's autobiographical memories regarding their self-regulation strategies

3.2.1. Self-regulation strategies regarding sadness

For the parameter of self-regulation in the context of the emotion of sadness, the results revealed multiple topics. The most common strategy of the children seems to be the externalization of their emotions to manage sadness, with crying being the main feature, while this is also combined with other strategies. Then, 5 children reported that when they experienced this emotion, they preferred to move to a different environment to either be alone or to focus their attention on another activity. There were also four reports of psychological support from a parent as a self-regulation strategy. Furthermore, 6 different themes emerged in which there was one mention on each: violent behaviour, playing with a stuffed doll, reflection on actions, physical contact with parents, singing and finally relaxation exercises.

Regarding the inability to answer, four children were not able to think about how they can manage the emotion of sadness and one more did not mention self-regulation strategies as when asked about a memory of this emotion they answered "I don't know".

3.2.2. Self-regulation strategies regarding anger

Regarding self-regulation on the issue of anger, the most predominant response from children was to seek support from an adult (parent, teacher, etc.). This is immediately followed by a shift of attention to deal with anger to some other activity such as books, toys, TV and food. Then, four children referred to seeking remorse, i.e. acceptance of the feeling of anger by others, while three references were made regarding seeking solitude. Relaxation exercises as well as day dreaming was also mentioned by two children as a self-regulation strategy.

It is important to note the deficit in the children's responses regarding self-regulatory behaviors as two of them reported that they did not know what they could do to manage their anger and two others had mentioned in the previous question regarding their recollection that they had not felt the emotion of anger or do not know what anger is.

3.2.3. *Self-regulation strategies regarding fear*

In terms of self-regulation strategies for the emotion of fear, the majority of children report that physical contact with their parents or a doll helps them manage this emotion. Next, three references were made to seeking tranquility, mainly in the form of sleep and another three to shifting the child's attention from the object of fear to a toy. There was also one reference to the topic of relaxation exercises and the externalization of emotions.

A high number of responses mentioned the inability to identify self-regulatory behavior with regard to fear and there were also three children who did not give an answer as they had previously mentioned that they had never felt fear.

3.2.4. *Self-regulation strategies regarding jealousy*

The data on how children self-regulate, in terms of the feeling of jealousy, seem to be far less compared to the rest of the emotions. This comes as a result of the inability to answer the previous question regarding a memory about the emotion of jealousy as nine children reported either that they had never felt jealousy or that they did not know the definition of the word. In conjunction with this data, four more children stated that they did not know how to self-regulate in such a situation, despite the fact that they reported an experience in which they experienced jealousy, while four others reported that acquiring the object that provoked this emotion is the calming factor which shows that there is no self-regulation strategy.

The following answers are divided into two topics: the acquisition of the object of jealousy and the polite way of acquiring it. Then, there were two children stating that they patiently waited for their turn to get the toy that was the object of jealousy. Finally, there was also a mention of shifting attention away from the jealousy object as a self-regulatory strategy.

4. DISCUSSION

4.1. Are preschool children able to associate the specific emotion in question with an experience?

Regarding the first research question, which addresses the issue of whether preschool children are able to associate a specific emotion with an experience, the data points that there is a difficulty. There were, of course, some difficulties concerning the emotion of jealousy, which is characterized by Prosen & Smrtnik Vitulić (2018) as a complex emotion, both in identifying the emotion, and in connecting it with some memory although, several reports of memories addressing the jealousy regarding a material good.

However, after examining the data, we can say with certainty that children are able to associate at least one emotion with an autobiographical memory. Even the children who did not give an answer regarding some basic emotions, joy and sadness for instance, they were able to report memories about other emotions, such as anger, fear and jealousy. From the above it can be concluded that preschool children have the ability of mnemonic recall and autobiographical memory, a fact that is verified by the relevant literature. Perner and Ruffman (as cited in Howe et al. 2003) state that the autobiographical memory associated

with other cognitive abilities must be developed first, which happens between the ages of 3-5.

The question "What did you do next?", which followed the questions about children's memories of emotions, was mainly to test whether children are able to self-regulate when experiencing a negative emotion (sadness, anger, fear, jealousy) but also to make sure that children are not just recalling an event, what happened, how it happened and where it happened, but are able to place this event in a timeline of their personal memory indicating both what happened afterwards and ultimately how they self-regulated. This integration of an event into a personal timeline but also how the situations are connected to each other are a main feature of autobiographical memory as well as the reporting of the person's feelings when recalling this memory (Fivush, 2011). Therefore, we can say that preschool children have begun to develop the ability of autobiographical memory and also the association of the memories with the emotions felt during the event.

4.2. To what extent can they control their emotions and self-regulate?

Regarding the second research question, which deals with the issue of self-regulation and to what extent children are able to control their emotions, our data show that children develop different kinds of self-regulation strategies. However, it is important to note that children showed difficulties in reporting self-regulation strategies related to the emotions of fear and jealousy. At the same time, we should take into account that the inability to answer the question of self-regulation regarding these two emotions stems, to a large extent, from the inability of some children to report some recollection about the emotion of fear and especially jealousy. Since these children were unable to present a memory where they felt fear and jealousy, the question "What did you do next?" could not be asked and subsequently the children could not mention a self-regulatory strategy.

According to the relevant literature, emotional regulation is referred to as the regulation that occurs when an individual tries to control how they externalize their emotions (Saarni, as cited in Carlson, 2007). With regard to the emotion of jealousy, some children reported that the only way to make this feeling pass was by acquiring the object that caused jealousy which, in the majority of cases, was a toy. Jealousy between siblings was reported by only one child, therefore we conclude that the children in the sample are not as prone to being jealous of their siblings, which contrasts with the findings of the research by Doliopoulou & Kontogianni (2000) in which the children were asked what causes them to be jealous and the 36% of the sample answered relationships between siblings and peers.

As presented in the relevant literature, pre-school is the developmental stage in which children develop and evolve their strategies of self-regulation regarding the regulation of their emotions (Cole et al. 2009, Sala et al. 2014). These statements are confirmed by the findings of the present research since every child in this sample was able to report some self-regulation strategy for at least one of the emotions considered.

5. EDUCATIONAL APPLICATIONS

5.1. Designing a experimental program based on rational emotional theory

According to rational emotional theory (Ellis & Bernard, 2006) our cognition, emotions and behavior are connected. Specifically, in order to understand the impact of events and situations that preschool encounter throughout their daily life, it's essential to look at the beliefs children hold about these experiences and the emotions that arise as a result of these beliefs. The rational emotive therapy used in the school settings nowadays (Khoirun, 2024). The main goal of rational emotive therapy is to help children respond rationally to situations that would typically cause stress, depression or other negative feelings. When faced with this type of situation in the future, the emotionally healthy response would be to realize that is not realistic to expect success in every endeavor. One of the techniques used in rational emotive therapy is disputation (Ellis & Bernard, 2006). The disputation uses cognitive strategies. The teacher will challenge the child's irrational beliefs about an event. The teacher may question the children's beliefs head-on, causing children to rethink them, or the teacher could ask to imagine another point of view that the child hasn't considered before.

Another techniques that are useful to preschool children according to Ellis & Bernard (2006) are:

- a. Teaching children an emotional vocabulary and an emotional schema (feelings vary according to intensity).
- b. Explicit teaching of "emotional responsibility" namely you, not others are the major influence on how you feel and behave.
- c. Self-talk before communicating with other children in rational, positive thinking. The self-talk is found in preschool children to have greater emotional regulation and competency (Flanagan & Symonds, 2022).
- d. Instructing children in the class rational beliefs in problematic situations including self-acceptance, high frustration tolerance and unconditional acceptance of others.

6. RESEARCH LIMITATIONS

6.1. The differences in childrens' levels of emotional intelligence according to the place they live (large urban center and semi-urban area)

The sample for the present study consisted of children who live in the Thessaloniki. Therefore, there is a limitation in the research regarding the sample due to the lack of samples from other places in the country. A similar survey could therefore be carried out with a sample of children from two different regions of the country, a large urban centre and a semi-urban area. In this context, researchers would have the opportunity to examine the differences that may arise, with regard to the issue of childrens' emotional intelligence, between the two.

6.2. The findings in the same study with a larger number of children

A very important limitation of our research is the small sample size of children who participated in the interviews. Specifically, the sample of the present research consisted of

24 children, 12 boys and 12 girls. In this context, our findings were sufficient to draw some conclusions and to verify our research questions, but it was not possible to make precise comparisons between the data as the answers to the questions were limited. For this reason, a larger sample of preschool children would have been able to present more answers as to which condition causes each emotion in children and what self-regulation strategies they use.

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ULOGA AUTOBIOGRAFSKOG PAMĆENJA ZA PODUČAVANJE EMOCIONALNIH VEŠTINA KOD DECE PREDŠKOLSKOG UZRASTA

Apstrakt

Autobiografsko pamćenje (AM) obuhvata sećanje na personalno značajne događaje iz života pojedinca (Nelson & Fivush, 2004), što predstavlja jedan od ključnih faktora za njegov samoidentitet i psihičko blagostanje. Imajući to u vidu, cilj istraživanja bio je osmišljavanje eksperimentalne nastavne metode, čiji je osnovni zadatak razvoj emocionalne inteligencije kod dece uzrasta od 4 do 6 godina, kroz ključni faktor autobiografskog pamćenja. Da li bi autobiografsko pamćenje moglo biti faktor koji doprinosi istraživanju emocionalnog znanja i interpretacije dece predškolskog uzrasta koja doživljavaju intenzivna emocionalna stanja i kako bi to moglo da pomogne u osmišljavanju nastavne metode koja bi uključivala emocionalne veštine, bilo je osnovno istraživačko pitanje u radu. U istraživanju je učestvovalo dvadeset četvero dece predškolskog uzrasta, i to 12 dečaka i 12 devojčica, a kao instrument za prikupljanje podataka izabran je polustrukturirani intervju. Pitanja u okviru intervjua bila su strukturirana tako da se, kroz razgovor sa decom o njihovim sećanjima na iskustva koja su se odnosila na teške emocionalne okolnosti, dolazilo do saznanja o tome da li su deca upoznata sa emocijama i kako ih izražavaju i regulišu. Rezultati studije pokazali su da deca mogu da podele sećanje na emociju, i to u smislu samoregulatornih strategija, mada je ovaj uzorak pokazao slabost u identifikaciji načina na koji deca kontrolišu svoje negativne emocije, a posebno emociju ljubomore. U zaključku, ova studija je pokazala da su deca predškolskog uzrasta u velikoj meri sposobna da identifikuju, izraze i regulišu svoje emocije, na osnovu čega su, kao implikacije, date odgovarajuće aktivnosti u vidu učenja emocija kroz igru, a osmišljen je i eksperimentalni program, zasnovan na racionalno-emocionalnoj teoriji.

Ključne reči: emocionalna inteligencija, autobiografsko pamćenje, strategije samoregulacije, racionalno emotivno obrazovanje, igra



TRAINING AND QUALIFYING FUTURE TEACHERS: EFFICIENT LEARNING TECHNIQUES FOR EFFECTIVE TEACHING

UDC 37.012; 371.3

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Abstract. *Micro-teaching is an educational technique used worldwide in the preparation of future teachers, regardless of their specialization or level of education. Practicing the presentation and animation skills of trainee teachers helps young, inexperienced teachers to adapt more smoothly to their role and achieve significant results in the early stages of their work. Microteaching, a teacher training technique currently practiced worldwide, provides teachers the opportunity to improve their teaching skills by improving various simple tasks, known as teaching skills. With proven success among the novice and senior teachers, microteaching helps to promote real-time teaching experiences. Microteaching is a targeted tool that allows essential teaching skills to be practiced safely and effectively at any age. The research methodology used is the "case study" based on didactic sequences. The research took place at the Faculty of Education of the University of Western Macedonia as part of the course "Microteaching and Graduate Training". The results revealed that the connection between theoretical knowledge and practical application in the classroom and the familiarization with the modern educational reality was achieved. Furthermore, students learnt how to structure, plan and deliver a lesson, to apply teaching skills, self-assess their teaching, to evaluate and to comment on the elements of a lesson. Students realized that the most important quality of participants of microteaching sessions is the ability to give and receive constructive feedback with an open mind and to achieve appropriate teaching-learning goals. The research contributed to highlight the importance of microteaching and graduate training as an Efficient Learning Technique for Effective Teaching.*

Keywords: *teaching methodology, graduate training, teaching skills, micro-teaching, efficient learning, effective teaching*

Received January 21, 2024/Accepted March 20, 2024

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1. MICROTEACHING A TECHNIQUE FOR EFFECTIVE TEACHING

Micro-teaching is a simulation technique with which we can create a desired form of the teacher's teaching behavior or change a given undesired form. Micro-teaching is used to train (prospective) teachers are trained in the basic skills of the teaching dimension of their professional role. In the context of this technique, teaching is seen as a process that can be learnt, just as a pilot learns to fly an airplane or as a surgeon learns to perform a heart transplant. What characterizes a good pilot or a good surgeon is a broad base of general scientific training, but also a set of specific skills that contribute to the effective performance of their professional duties. And just as we do not allow a pilot to fly an airplane or a surgeon to perform a heart transplant without having practiced properly and without having acquired the basic skills necessary to carry out their work successfully, so the teacher must also practice various teaching skills in order to prepare and carry out with efficiency and success the responsible and difficult task they have to do every day in the classroom.

The main purpose of the course is to develop specific educational and professional skills related to the design, organization and delivery of teaching and educational intervention and support services for people with special educational needs and/or disabilities. The specific objectives of the course are for postgraduate students to: a. Become familiar, both in theory and in practice through the design and implementation of micro-teaching sessions with the key issues concerning the prioritization of educational priorities and teaching-learning activities and the planning and evaluation processes of teaching/educational intervention; and b. evaluate, analyze through systematic observations the key components/structural elements of teaching (prerequisites and conditions for effective planning and evaluation of the teaching-learning process) through systematic observations, using their theoretical knowledge in conjunction with existing practices of planning, conducting and evaluation of teaching or educational intervention.

In the pedagogical departments of the Greek university, the connection between pedagogical theory and pedagogical practice is an aspiration, constantly renegotiated, redefined and dynamically evolving issue. It has been about fifty years since micro-teaching was invented as an educational method was invented at Stanford University in the USA by Allen and his colleagues in the early 1960s (Allen, 1967; Stift, 2009), in an attempt to find new ways to improve teacher education (MacLeod, 1995).

It was seen at the time as an innovation that could bring positive results in teacher education. It quickly spread to various countries and continents (Gall, Gall, & Borg, 2007) and generated a great deal of research interest in the early years of its emergence, which seemed to wane during the 1980s, but revived in the 1980s. The last twenty-five years (Cornford, 1996). Micro-teaching is a method of education based on the simulation of the educational process. It allows trainee or practicing teachers to practice in specific teaching skills and actions, but also the whole teaching process. The method is based on the active participation and involvement of trainees who plan, conduct, observe and evaluate teaching activities that are usually limited in terms of objectives, time, content and number of students, number of trainees. Teaching can be directed either to real students or to actual students, as in Stanford's original model of 'classical micro-teaching' or, more commonly nowadays (Bell, 2007), with the trainee's colleagues (Klinzing, 2002).

A micro-teaching is a miniature lesson, an indicative lesson, an indicative teaching, a small "teaching rehearsal" designed to help the (candidate/beginner/new) instructor to

acquire and/or improve the teaching skills, but also the attitudes and behaviors, that are consistent with their role – always within the context of the training context defined at any given time. In micro-teaching, the emphasis is on how something is taught, i.e. the focus is on acquiring and/or improving teaching skills as a prospective trainer. Its main purpose is not to provide 'concentrated' or 'condensed' training. Its main purpose is not a "condensed" or fast-paced teaching that tries to cover the material of an entire unit. It is typical that the most common mistake made by trainee trainers in micro-teaching is that they try to 'cram' a large amount of knowledge or skills into a very short time. Micro-teaching was developed in the early to mid-1960s by Dwight Allen and his colleagues as part of the Education Program for Instructor Training Program at Stanford. The Stanford model emphasizes the "teach, review, reflect and re-teach" approach using elementary school children as listeners. The model was subsequently adapted for teaching at colleges and universities.

1.1. Basic principles of micro-teaching

Micro-teaching is real teaching, it takes place in a controlled learning environment. Furthermore, it aims to achieve specific objectives in a comparable and controlled way. It emphasizes the teaching skills of the teacher, which must be adapted to the specific characteristics of each individual. In addition, it allows feedback and improvement of the trainer as well as the improvement of the trainer and the participants. It also promotes reflection by all those involved in the teaching process through constructive (rather than critical and evaluative) evaluation feedback.

Since micro-teaching is a simulation, educational laboratory process, and exercise, it must be carefully designed, typically using a Lesson Plan, so that it does not stray from the boundaries and limitations of a micro-teaching activity while also meeting the needs of the group to which it is addressed. During the implementation, the trainer is invited to work within an educational, simplified, controlled but realistic situation in which he/she teaches for 15 minutes in a group (usually the rest of the trainees, all together or in a small group).

The curriculum must be a natural continuation in the sequence of the whole curriculum in which the micro-teaching is integrated, but in the case of micro-teaching it is very limited and needs to be clearly described. The educational objectives must be described with absolute precision and classified into the three levels of knowledge/skills/attitudes. It is not necessary to address all three levels of objectives in a single micro-teaching session - in practice this is often very difficult.

In the micro-teaching session, one or two (at most) activities are selected to be carried out (the very limited time usually does not allow for more). It also specifies the training techniques to be used and the estimated time for their implementation, as well as the technical resources to be used.

Each micro-teaching contains an element of evaluation leading to feedback and reassessment of the initial design. This means that after a micro-teaching has been carefully designed, it must then be evaluated. The evaluation is very important because it allows the trainer to see and deepen what went well and what did not and, especially what they could do differently so that things might go better in future teaching. How the evaluation will be done has been foreseen and described by the micro-teaching coordinator/supervisor and depends on the context in which the micro-teaching takes place. The evaluation process is carried out either by the group of trainees and the facilitator/supervisor (together or separately) and is often based on the self-evaluation by the trainer.

The evaluation is greatly aided by the feedback on the micro-teaching and then studying it, so that the strengths and weaknesses of the teaching carried out can be identified with certainty. The trainer recognizes through the feedback of others how important issues such as the organization of the lesson, the development of concepts, the targeting and precision of the content, the duration of the activities or the quality of the feedback are. At the same time, additional elements such as movements and posture, hand movements, facial expressions, posture, facial expressions, tone of voice, etc. are evaluated.

The three basic phases of any micro-teaching are therefore: planning, implementation and evaluation.

1.2. Steps of microteaching

The micro-lesson is planned in one topic, which can then be developed into a full 45-minute lesson that is part of a larger thematic unit, chapter, of a classroom book - elements mentioned. The design (see file Microteaching Plan) includes: the title of the micro-lesson, the thematic unit in which it falls, the introduction and the educational contract that the teacher makes.

The title of the course is the title of the lesson and the contract between the trainer and his team, the link between the content of the micro-teaching and the overall content of the course and the overall curriculum,

Then they are drawn and described: the educational objectives on the three levels of knowledge/skills/attitudes, the activities to be carried out, the educational techniques chosen by the trainer, the tools and materials to be used, the link with the next steps and the 'closure', the time distribution of the parts of the micro-teaching.

Finally, the design also defines the type of evaluation that the teacher will use to check whether the educational objectives have been achieved.

After the Micro-teaching, the instructor reflects on the feedback received for their micro-teaching and critically evaluates issues such as the organization of the lesson, the development of concepts and the accuracy of the lesson content, the use of participatory techniques and the quality of the chosen educational activities, the use of time, etc. and can thus also carry out their personal self-assessment and their own self-evaluation.

1.3. Advantages of microteaching

The advantages of this approach are that the new instructor receives important feedback on various aspects of teaching. He also has the opportunity to do a self-evaluation, because after micro-teaching he can evaluate what went well and what did not, what he liked and what he would like to adopt, what he would like to change or do differently, etc. Some indicative modules he can focus on in his self-assessment are the following:

Content: Was it understandable, clear and appropriate for the specific?

Was it clear, understandable and comprehensible for the specific group, subject area and the selected micro-lesson? What was the content of the lesson? Were the educational objectives set realistic? Were they ultimately achieved?

Organization: Did I make adequate preparation and provision for the practicals?

Did I prepare in advance for the practical issues (e.g. space, resources, materials, conditions etc.)? Was I able to adhere to them? Did I have sufficient time?

Educational approach: Did I use creative activities?

Did I use creative activities and participatory educational techniques? Did I make a good selection? Did I make good use of the supporting material? Did I manage to activate my team?

Speech: How do I judge my tone of voice in terms of the correct speed?

How do I judge how well I use my voice in terms of speed, volume, clarity, etc.? Was I clear and concise in my instructions and explanations? Did I use expressions, vocabulary and terms that are appropriate for the group?

1.4. Mode of presentation

The type of presentation plays an important role in the whole teaching process, so she/he needs to ask herself/himself some questions, such as: Did I have eye contact with the audience? What was the image of "body language"? What was my body language?

Interaction with the group: Did I manage to interact with the group? Did I interact with my group? How did I respond to any questions? Did I use humor? Did I adopt an authoritarian and 'teacher-like' attitude?

Indicative time allocation in a 15-minute Micro-teaching session:

Introduction – purpose – connection – 10% – 1.5';

Implementation – 70% – 10.5';

Evaluation – 10% – 1.5';

Closing connection with the following – 10% – 1.5'.

The trainees have the opportunity to experiment and come into first contact with didactics in order to reduce the "shock of the act" and their anxiety as novice teachers (Peker, 2009), on the other hand, their mistakes (of which, as expected, there were not a few) have no impact on the student audience.

By cultivating their critical and creative thinking, the interns entered the process of planning and structuring a teaching, which is part of teaching. Thus, they had to reflect and collaborate in developing a conceptual framework for teaching the module with their fellow student, in the case of the dyad, or with the other members of their tripartite group (Karagiannidou, 2007) and co-decide what they will teach, how they will teach it, what steps and phases they will follow in the course of their teaching and what kind of exercises and/or activities they will incorporate in their teaching. All of this fosters their creativity and professionalism as future teachers. Reflecting on what they will implement, what they will do at each step of their teaching and, most importantly, why they will do it, develops their critical thinking and leads them to become the type of critically reflective teacher.

They are trained to identify positive and negative elements, find alternatives and generally observe and analyze their own and their fellow students' teaching (Amobi, 2005).

Elements that are key factors for the professionalization of teachers, such as self-confidence, self-esteem and behavioral control as well as self-criticism, were empowered. Reflection on teaching and the feedback that student teachers receive from various sources help them to identify the strengths and weaknesses of their micro-teaching (Benton-Kupper, 2001). They also avoid the traditional teacher-centered approach to teaching, as has been shown in other research efforts with prospective teachers (Golightly, 2010). It is considered very important that prospective teachers are placed in the process of teaching for most of them for the first time addressing an audience of students, whether they are minors or adults.

1.5. Micro-teaching presentations: Micro-teaching analysis and reflection

The main objective of 'micro-teaching' is to provide a practical application of the knowledge acquired in the form of micro-teaching. In this course (see also the detailed description of the course in the study guide), students explore issues related to teaching and learning methods and techniques of the language, e.g. learner autonomy, grammar teaching, teaching the foreign language, learning through discovery, experiential learning, projects, collaborative learning and projects, cooperative learning. In the second part of the seminar, students with the preparatory work done, will be able to design and teach a lesson themselves in a micro-teaching format and also reflect on their teaching so that they are better prepared for teaching. The objective is achieved by placing great emphasis on experiential learning through reflection and feedback, linking theory to practice and, above all, to the experiences gained by the students during micro-teaching.

The aim is for students to apply the knowledge and skills they have acquired in practice. After their preparation, they will be able to apply their skills in practice. Experiential learning is also a goal of the Practical Training of students in the 8th year of the course. Through the delivery of lessons based on specially designed protocols and the opportunity to teach themselves in a real classroom setting. The environment with real students is different than in educational institutions. And herein lies an important requirement that is highlighted in the extensive work submitted by the students.

2. METHODOLOGY

The research methodology used is the "case study", which is based on didactic sequences. The case study highlights the social context in which a phenomenon takes place and is therefore considered a suitable model for researching educational innovations. The advantages of the case study are that the data are 'strong in reality', they can form a record of descriptive material that is rich enough to be suitable for later reinterpretation. These studies recognize the complexity and contextual validity of social truths.

The research took place at the Faculty of Education of the University of Western Macedonia as part of the course "Microteaching and Graduate Training". For one semester, 13 teaching sequences were carried out, part of which were micro-teaching, systematically and methodically conducted by the students, and 30 interviews were conducted. The survey sample was randomly drawn and each interviewee could leave at any point.

The interview format was semi-structured as this allowed for flexibility in conducting the interview. A feature of the interview is a set of pre-defined questions, without these being binding, as the interviewer has the ability to shape the content of the questions as the interview progresses, changing and adding or removing questions if deemed appropriate. Furthermore, this type of interview provides the opportunity to include aspects of the topic that may have arisen during the course of the interview. The research tool for the interview was based on key points that guided the interview. The questions used to structure this guide were the questionnaire, which contained open-ended questions in order not to restrict the interviewees. The transcribed interviews formed the research material.

The aim of the teaching sequences was, on the one hand, to acquire a theoretical background and, on the other hand, to practice the organization and implementation of teaching. Furthermore, teachers are given the opportunity to improve their teaching skills by improving the various simple tasks, the so-called teaching skills. With proven success

among the novice and senior teachers, micro-teaching helps to promote real-time teaching experiences. Specifically, the aim was to provide prospective teachers with real work experience and practice the basic skills of teaching separately, to develop teaching skills before they are involved in a real classroom, and to give prospective teachers the opportunity to experience a variety of student conditions in the classroom.

The aim of the interviews was to find out the ways in what micro-teaching had helped them, namely whether they had been able to improve their teaching skills, whether they thought they had become better teachers as a result of this process, whether they could distinguish the essential points of good micro-teaching. Moreover, to discover necessity of the feedback to improve their teaching, what elements and techniques are needed for effective teaching and what the benefits of microteaching are in general.

- 1) Do you think that your experience in microteaching improved your teaching skills?

Student A: "Absolutely, I have focused my microteaching on some teaching skills and I tried to achieve them".

Student D: "I don't think so, it lasts too little that it wasn't enough to improve teaching, I think it's just practice".

Student E: "Definitely, I chose some teaching skills and I tried to achieve them it was difficult for me to set these skills in action maybe because it was the first time".

- 2) In what ways do you think that microteaching helped you become a better teacher?

Student A: "I learnt to set specific goals, to organize my teaching and control my time".

Student C: "I learned to enrich my teaching with a variety of material and I understand that the better preparation the better teaching results".

Student Z: "At first I was very anxious but then when the procedure went by I became cooler, I learnt to choose what is important and should be highlighted and what should not".

- 3) What do you think make a good microteaching?

Student Z: "I think a good preparation, time control and equanimity".

Student B: "I think you have to organize what you have to teach and to clarify what you want to achieve".

Student X: "When you set specific goals, specific teaching skills and you know what you have to teach then you will make a good microteaching".

- 4) In your opinion is it important to get feedback about teaching skills from your colleagues and your teacher?

Student E: "I think feedback is one of the most important things because it helps you to become better".

Student A: "It is really important to have an informed opinion about your work, this can help you correct your mistakes and become better".

Student F: "Feedback is a necessary part of the microteaching procedure and should be a part of teaching in general".

- 5) What elements make up effective teaching?

Student F: "I think effective teaching is multifactorial issue, we have to organize your teaching according to your students, their educational needs and their ways of learning".

Student Z: "I think one element is to have good relationships with students in order to create a good educational climate and to find ways to attract students' attention".

Student D: “I believe that effective teaching requires effective educational strategies and a responsive teacher to listen to the students’ needs and adapt the teaching accordingly”.

6) Which techniques do you think will provide an effective learning?

Student E: “The basic technique I think is to have a dialogue not a lecture, to organize projects to motivate students”.

Student X: “A group study and cooperation will provide an effective learning”.

Student G: “The right environment and frequent feedback are essential for an effective feedback”.

7) Do you think that microteaching is essential part of the education of a future educator?

Student B: “Micro-teaching is the necessary antechamber for the preparation of the teacher, it helps to get familiar with the teaching».

Student A: “I firmly believe that is essential because it helps the future teacher to practice preparing the teaching”.

Student C: “Microteaching is a useful tool, there is a safe environment that helps future educator learn from teaching”.

8) How microteaching has qualified you?

Student D: “I learn to organize the suitable information for my lesson, I learn to set specific educational goals”.

Student A: “Microteaching is a teaching simulation and makes me feel less anxious, I learnt to control my voice and my time”.

Student B: “Microteaching helped me to exploit the critiques of my fellow students and teachers, I learnt how important feedback is”.

3. RESEARCH RESULTS

In the first question, the majority of students stated that microteaching has definitely improved their teaching skills and they justified their answer by saying that they have practiced their teaching skills. In the second question, students agreed that microteaching has helped them to become better teachers in many ways and that this is a positive element of the whole process. Furthermore, they pointed out that it not only helped them on a cognitive level, but also on a psychological level as they felt less anxious. In the third question on the elements required for good microteaching preparation, time control and educational objectives were mentioned. The fourth question related to the need for feedback. The majority of students highlighted that it is not only necessary but also an important part of the process. The fifth question asked them to indicate the elements that make up effective teaching, and the answers varied widely. Some students claimed that it is very important for teachers to organize their teaching in such a way that they pursue specific educational goals and use effective teaching strategies. Others, however, focused their responses on the psycho-sensitive part of creating a good educational climate. The sixth question related to the techniques they use to create effective teaching. Many different techniques were mentioned in response to this question, with the dialectical method and the group collaboration method being the most common answers. To the seventh question, how they think microteaching can help them as future teachers, the students answered that they find the whole process very important and interesting. They also think it is a useful

tool in the educational process because it has prepared them for their future profession. It helped them to feel more comfortable and confident, it was a phase before their official teaching job at the school during their graduate education. In the final question, students were asked to evaluate the skills they gained throughout the process. Firstly, they indicated that they learnt how to manage their time and teaching materials. Since this was their first teaching experience, they also learned how to prepare for it, how to control their vocal timbre, and the importance of the feedback process as they considered not only their instructor's comments but also those of their peers.

4. CONCLUSIONS

In a review of more than 100 studies on microteaching, Klinzing & Floden (1991, p. 40-43) document the finding that microteaching improves both the individual teaching behavior and the skills of trainee teachers that make up their general teaching behavior. It therefore contributes to the formation of their teaching identity so that their teaching activity is successful and effective.

A basic criticism of micro-teaching is that it emphasizes the technical nature of teaching and downplays the actual conditions under which it is carried out.

It is therefore nothing more than a laboratory exercise that cannot reproduce the conditions of real 'school classroom'. With the possible result that they cannot be transferred to the skills necessary for the skills developed during micro-teaching (Cornford, 1996). A variant of Stanford's microteaching model developed by Borg and his colleagues at Berkley University in the United States for the continuing education of (Borg et al. 1970).

Argyle (1970) argues that teaching is a complex social activity that is highly dependent on good interpersonal relationships and effective communication between instructor and learners. In this logic, teaching competences are a set of social skills that are essential to the teaching process, skills such as the ability to handle opposing views, tolerance and the ability to deal with critical remarks, to moderate discussions, etc.

Brown (1975) argues that microteaching is a method of developing the social skills of teaching and understanding the processes of social interaction and develops a model of microteaching based on the principle that the teacher learns at the same time as the learners are learning. This model includes three elements: Planning→conduction→evaluation of micro-teaching.

In the mid-1970s, the theory-based behavioral models of microteaching were subjected to strong criticisms, but few alternative theoretical approaches to the micro-teaching were fully developed (Klinzing & Floden, 1991). These theoretical approaches are enriched by the theories of Vygotsky (1977), especially on the social character of learning. One of the main theses of Vygotsky's theory emphasizes that people learn through the experiences of others. Therefore, joint activities with more experienced people and apprenticeships are essential learning activities. This is because the social relationships and social interaction that develop in the context of these activities play a crucial role in shaping them. This position offers a broader perspective on microteaching as a learning activity (Vare, 1993).

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OBUKA I KVALIFIKACIJA BUDUĆIH NASTAVNIKA: EFIKASNA TEHNIKA UČENJA ZA EFEKTIVNU NASTAVU

Apstrakt

Mikronastava je obrazovna tehnika koja se koristi širom sveta u pripremi budućih nastavnika, bez obzira na njihovu specijalizaciju ili nivo obrazovanja. Vežbanje veština prezentacije i animacije polaznika pomaže mladim, neiskusnim instruktorima da se lakše prilagode svojoj ulozi i da daju značajne rezultate već u ranim fazama svog rada. Mikronastava, tehnika obuke nastavnika koja se trenutno praktikuje širom sveta, pruža nastavnicima priliku da unaprede svoje nastavne veštine poboljšanjem različitih jednostavnih zadataka koji se nazivaju veštine podučavanja. Sa dokazanim uspehom među početnicima i starijim osobama, mikronastava pomaže da se promovišu nastavna iskustva u realnom vremenu, da se bezbedno i efikasno uvežbaju osnovne nastavne veštine na bilo kom uzrastu. U radu je primenjena „studija slučaja“, zasnovana na didaktičkim sekvencama. Istraživanje je obavljeno na Pedagoškom fakultetu Univerziteta Zapadne Makedonije u okviru predmeta Mikronastava i diplomski trening. Rezultati su pokazali da je ostvarena veza između teorijskih znanja i praktične primene u nastavi i upoznavanja sa savremenom obrazovnom stvarnošću. Štaviše, studenti su obučeni da strukturiraju, planiraju i izvode čas, da primenjuju nastavne veštine, sami procenjuju svoju nastavu, da evaluiraju i komentarišu elemente lekcije. Studenti su shvatili da je najvažniji kvalitet učesnika mikronastavnih sesija sposobnost da daju i dobiju konstruktivnu povratnu informaciju otvorenog uma i postižu odgovarajuće ciljeve nastave i učenja. Istraživanje može doprineti isticanju važnosti mikronastave i postdiplomskog usavršavanja kao efikasne tehnike učenja u realizaciji efektivne nastave.

Ključne reči: metodologija poučavanja, nastavne veštine, mikronastava, efikasno učenje, efektivna nastava



URBAN LANDSCAPE AS A TOOL FOR TEACHING PRE-SERVICE TEACHERS ABOUT ENVIRONMENTAL ISSUES – CASE STUDY

UDC 378.147:712

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Abstract. *This study explores the effectiveness of the field trip method approach for teaching preschool teacher students about the urban landscape as a result of human activities and decisions. In particular, an 'Environmental Trail' on the Campus of Aristotle University of Thessaloniki, about 2.5 km long, was designed. Photographs depicting changes in the space during the 19th and 21st centuries as well as historical narration, were also used for discussing socio-historical and environmental factors that have influenced campus landscape configuration over time. Ninety students participated and worked in groups of nine. During their participation, they were asked to observe the landscape's natural and anthropogenic characteristics and record their thoughts and feelings concerning the study area. They were also asked to analyse the campus' spatial organization, green spaces, and accessibility, to suggest what they wished to see change, and finally to record their suggestions of how they could use the landscape for educational purposes as future teachers. The students' different responses were compared and a limited number of categories were produced. Results indicate that students suggest environmentally friendly ideas for the sustainability of the campus landscape and ideas about integrating what they learn into their future teaching practices.*

Keywords: *urban landscape, field trip method, university campus, teaching and learning, pre-service preschool teachers*

1. INTRODUCTION

Teaching pre-service teachers about environmental education encompasses a multifaceted approach aimed at fostering a holistic understanding of environmental issues

Received January 25, 2024/Accepted March 29, 2024

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and a deep sense of responsibility towards the environment. The main objectives of environmental education include cultivating environmental awareness, emphasizing the interconnectedness of environmental issues through interdisciplinary learning, and promoting experiential learning through active engagement in outdoor education activities such as field trips. Furthermore, educating future teachers about the environment and sustainability aims to cultivate critical thinking and problem-solving skills, enabling future educators to analyse environmental challenges critically and devise sustainable solutions (Dimitriou, 2009; UN, 2015, 2018; UNESCO, 2017, 2021).

Teaching pre-service teachers about environmental issues prepares them to become effective educators who can teach and empower their future students to become environmentally literate and responsible citizens. Therefore, pre-service teachers need to have a comprehensive understanding of environmental issues and sustainability principles, as well as the interconnections between humans and nature. In particular, understanding the interrelationship of human actions with the environment is crucial for addressing environmental challenges and promoting sustainability (Council of Europe, 2000). Therefore, urban landscapes present unique opportunities and challenges for environmental education.

1.1. Urban landscapes

The urban landscape is a dynamic and complex entity that evolves over space and time. It reflects the interaction between human activities, environmental factors, cultural influences, and economic dynamics. The study of these factors contributes to the understanding of the natural environmental configuration in an anthropogenic environment. Understanding the urban landscape involves examining both the physical structures and the intangible elements that shape a city.

It is widely accepted that anthropogenic activity through the years has affected geographical space, leading to the formation of modern cities that are the place of development of social, cultural, and economic activity for the majority of people (Egger, 2006). Consequently, the landscape form of modern cities reflects the way in which humans individually and societies collectively have over time affected the geographical space to meet their needs at every level (living, cultural, and social) through the influence of socio-historical, cultural, and environmental factors, transforming it into a man-made one (Cepollaro & Zanon, 2021).

The study and understanding of the factors influencing the temporal evolution of urban space and the shaping of modern cities, highlights the role of humans and societies in shaping the man-made environment and is, therefore, of great research and educational interest in the context of environmental education for sustainability (Andersson, 2006; Chokhachian, Perini, Giulini et. al., 2019; Dimitriou, Theodoridis & Mantouvalos, 2016).

The environmental landscapes of modern cities reflect human history, the evolution of land use, the choices and activities of individuals and societies and their impact on the natural environment over historical time. The urban landscape, when used as a tool for environmental and sustainability education, can provide valuable insights into the interconnectedness of human activities, the environment, and the potential for sustainable development. (Bandarin & Oers, 2012; UNESCO, 2021; Vieira, Rumenos, Gheler-Costa, Toqueti, & Spazziani, 2022).

1.2. The field trip as an educational tool in environmental education

The main purpose of environmental education is to cultivate individuals capable of understanding the way the environment functions as a whole, to approach environmental problems holistically, understanding their complex and multilevel nature, to explore in depth both the value system that causes them and the choices made at individual, social and political levels, and to develop strategies and set up actions to address them. In order to achieve this goal, it is important that environmental education today be characterised by approaches such as systems thinking and interdisciplinarity. At the same time, it promotes a constructive approach to knowledge, cooperative learning, interdisciplinarity, the cultivation of values, the development of systemic and critical thinking and participation in democratic processes (Dimitriou, 2009; UN, 2015, 2018).

The above suggests that the urban landscape can be integrated into the educational process. In essence, as suggested by both Huang, Hsieh, & Chen (2023) and Michelutti & Guaran (2020), integrating the urban landscape into education offers a powerful means to merge experience with knowledge, thereby enhancing the learning process. The urban space transcends its traditional role as a mere backdrop, actively participating in education and capturing the learner's attention. This approach facilitates learning and also makes it more interesting.

Students learn about environmental issues by moving around in the field and following specific linear routes. These routes, called environmental trails, are organised within sites in the natural and man-made environment. Environmental trails give students the opportunity to observe and study the characteristics of the natural and anthropogenic environment, the identification and study of changes in the characteristics of the environment over time and the study of environmental problems that occur along them due to human-environment interaction (Ateşkan & Lane, 2016; Ezechi, 2018; Kudryavtsev, Stedman, & Krasny, 2012).

The field trip method is an ideal learning process for environmental education, as it helps to cultivate emotions and attitudes that contribute to changing attitudes towards the study area (Kudryavtsev, Stedman, & Krasny, 2012). Participating in environmental trails provides students with the opportunity to explore and comprehend the local environment, distinguish between natural and man-made components and realize their interconnections. They can also recognize the impact of human activities and decisions on shaping the environment, understand environmental changes, investigate their root causes, and identify issues resulting from human actions while proposing alternative solutions. The field trip method allows students to get involved in the educational process. It gives them the opportunity to activate all their senses, to go out into the field, to observe, to record and finally to express their opinion (Wilson, 2011). It increases the motivation for active participation and gives the opportunity for observation and involvement. Furthermore, the apprentice involved in the field study will be able to link his/her theoretical knowledge more easily with practical application (Skop, 2009). Learning ceases to be a solitary process but is more the result of interaction with the group. The democratic processes on which environmental education is based give everyone space to express themselves. Each member expresses its own perspective on the space and in the end, it is easier to understand the complexity and different needs of each (Sgard, 2021). The educator guides the students in the field, helps them observe and explore the space and lets them express their thoughts, feelings, and concerns (Wong & Wong, 2008).

2. METHODOLOGY

A field trip study was used to educate students on the factors that influence the formation of the environmental landscape and to record their views on its improvement. Specifically, an environmental trail of about 2.5 km long was carried out in the landscape of the Aristotle University of Thessaloniki, Greece, to get acquainted with the historical, social and political events that influenced the shaping of the area since the end of the 19th century until today. The field was explored through five stops made at different locations within the university campus.

2.1. Study group

The field trip method was implemented with a group of 90 preschool students attending Aristotle University of Thessaloniki, Greece. These students were between the ages of 18 and 20 and were studying in the 1st to 4th grades. The group consisted of 85 women and 5 men, forming a total of ten groups with nine individuals each.

During the field trip, participants were asked to observe and explore the campus characteristics and suggest what they would change to improve the university campus area in a more sustainable manner. They also asked for suggestions on how they could utilize the university campus for educational purposes. Participants recorded their answers and ideas on a piece of paper.

2.2. Field trip method implementation

The design and implementation of the field trip aimed to: 1) familiarize students with the wider geographical area of the university, and its natural and man-made characteristics; 2) understand the socio-historical and environmental factors that have influenced the shaping of the landscape of the campus over time; 3) formulate proposals for the shaping of the area to improve the quality of daily life and the sustainability of the university community; and 4) discuss how they can use the campus for educational purposes in the field of environmental education in their future teaching practices.

An 'environmental trail', from the south side to the north side of the campus was designed and implemented, starting from (1) the Faculty of Education to the old building of the Faculty of Philosophy (2), and back to the starting point, with intermediate stations the building of Meteorology (Meteoroskopio) (3), the Memorial of the old Jewish cemetery (4), and the building of Astronomy (Asteroskopio) (5) (Fig. 1).



Fig. 1 Environmental trail in the campus area.

This path was chosen as it includes important points and milestones in the history of the university that have contributed decisively to its current form. Various important historical, social, and political events have led to many different uses of buildings and land in different parts of the chosen ‘environmental trail’. Before starting the environmental trail, the researchers provided participants with photographs depicting various parts of the study area as they have been over the past decades. The material was used to identify past features of the study area over the past decades, as well as changes that have occurred over the years, and compare them to the current campus image. The presentation of the previous features of the study area through photographs allows participants to discuss the changes that have taken place and the conditions that led to these changes (Fig. 2).

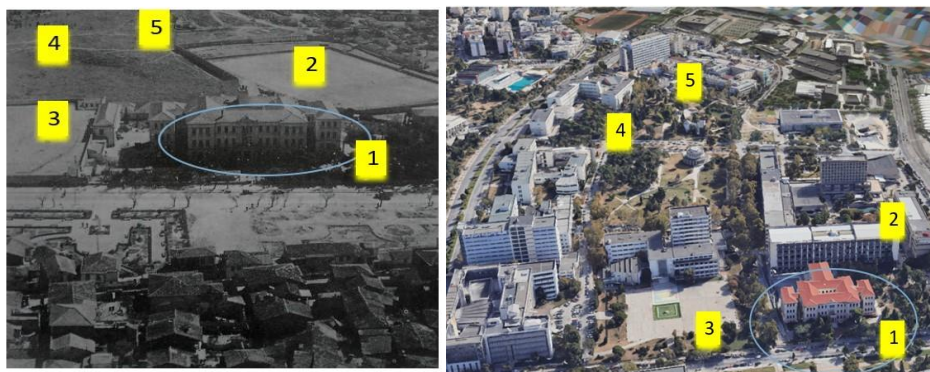


Fig. 2 Aristotle's university campus over space and time. Decade of 1930 and nowadays.

As is shown in Fig. 2, in the decade of 1930, the building of the Faculty of Philosophy (1) was the dominant building in the campus area. Near were the stadiums of the two

football teams of the city (positions 2 and 3), under which flows a stream, which has been covered. In the area beyond the stadium (3), there was the cemetery of the city's Jewish community (4) and the settlement of 'Hagia Fotini' (5) that housed refugees from the Asia Minor catastrophe of 1922 (Yerolympos, 1988). Nowadays, this area is the campus of Aristotle University, where the buildings and facilities of the university are now located. Specifically, in places (4) and (5) are located the building of the meteorology station, and the building of astronomy, respectively. The Faculty of Theology (2) and the Chemistry Department (3) are now located where the football fields used to be.

Along the way, the researchers narrated the historical events that took place from the late 19th century to the present day and influenced the shaping of the study area. At each of the aforementioned stations, the students were asked to express and record their opinions, feelings, and thoughts about the historical events they were told about, as well as their opinions about the campus nowadays.

2.3. Data collection and analysis

At the end of the environmental field trip, participants worked in 10 groups of 9 and were asked to record: 1) their thoughts and feelings about the area of the study; 2) their suggestions for the improvement of the university campus area, specifically the ways they suggest for the configuration of the landscape to be more sustainable and improve the quality of the daily life of the university community; and 3) their suggestions of how they may use the study area to develop their educational interventions for teaching environmental issues to young children. Participants were free to respond without any restriction on the answers.

Students' answers constitute the basic themes of the data analysis. The method applied for data analysis was a qualitative one (Cohen, Manion, and Morrison, 2000). For the analysis of data, content analysis was applied. The students' answers to each of the 3 research questions were analysed and categories were developed following a bottom-up approach where the unit of meaning was the unit of analysis, that is, phrases having the same meaning. In this way, the empirical data were condensed and grouped according to the coherent comments of each student. Subsequently, the different responses were compared, and a limited number of categories were produced for each one of the research questions. Details about the types of responses that constituted the above different categories of each of the central questions of this study are presented below (see 3.1-3.3).

3. RESULTS AND DISCUSSION

3.1. Thoughts and feelings concerning the study area

The first question asked them to record their thoughts and feelings that came from the tour of the site, the information they received, and their overall assessment. The analysis of the students' comments on their thoughts and feelings about the study area, the historical narrative, and their observations, knowledge, and experiences gained during the environmental field trip led to the construction of four different categories (Table 1).

3.1.1. Thoughts concerning the study area

As shown in Table 1, participants expressed 349 different thoughts, feelings, and experiences. The majority of their answers (120, up to 34.38%) focused on the issue of land use. They also focused on the existence of green on the campus, with 81 references (23.21%), on the buildings and the history of the campus, with 75 references (21.49%), and on several environmental problems occurring at the university campus (20.92%).

Table 1 Categories of students' thoughts concerning the study area

Categories	Frequency (f)	Percentage %
Use of land	120	34.38
Campus green spaces	81	23.21
Buildings and history of the area	75	21.49
Environmental problems	73	20.92
Total	349	100.00

Each of the categories presented in Table 1 contains a variety of responses constituting different dimensions (Table 2). Especially, the 'land use' category encompasses responses pertaining to the utilization of campus space. A majority of students (63) discussed 'Changes in land and building use over the years', citing examples such as *“it is impressive that in the area of the campus, there were cemeteries and football fields”*, *“it is remarkable that the building of the Faculty of Philosophy School changed its use in the past and was even used as a military hospital”* and *“I was very surprised that there was a stream underneath the campus and now it has been covered...”*. Forty-one participants highlighted the 'Use of the space by students for entertainment,' emphasizing the campus as a venue for picnics, parties, and leisure activities, *“a campus is a great place where students can have picnics, parties and have fun”*. Sixteen responses addressed 'inappropriate use/unsafe places' on campus, expressing concerns about safety and mentioning potential risks like drugs, *“I do not feel well to be on campus, especially at night, I think that is not a safe place as it contains risks, maybe drugs or other dangerous things”*.

The 'Campus Green Places' category comprised 81 responses regarding the presence of greenery on campus. Students noted the abundance of plants (46), the maintenance of green spaces (20), and the biodiversity of campus flora (15).

The 'Buildings and History' category included insights from 75 participants concerning the university's history, architecture, and monuments. Thirty responses focused on the university's history, while 25 discussed the architecture of old buildings, noting their preservation over time: *“I was impressed by the fact that old buildings such as the building of the Faculty of Philosophy have been preserved from 1880 until today”*. Twenty responses mentioned campus monuments.

The 'environmental issues' category encompassed ideas related to waste management and environmental concerns. Thirty-five responses highlighted the problem of insufficient waste bins, while 30 mentioned the absence of recycling bins. Eight responses addressed noise pollution.

Table 2 Analysis of categories of students' thoughts concerning the study area

Categories	Frequency (f)
Use of land	120
Changes in land and building use in the study area	63
Use of the space by students for entertainment	41
Inappropriate use/unsafe places	16
Campus Green places	81
Plenty of green places	46
Well-maintained green place	20
Biodiversity	15
Budlings and History	75
The history of the university	30
The architecture of the old buildings	25
The monuments on the campus	20
Environmental issues	73
Insufficient waste bins	35
Lack of recycling bins	30
Noise pollution	8
Total	349

3.1.2. Students' feelings concerning their experience on the environmental trail

From the analysis of participants' responses concerning their feelings about their experience on the environmental trail along the university campus, three categories surfaced. Two of them included declarations expressing positive and negative feelings about the area of the campus. The third category included feelings concerning their experience of their participation in the environmental field trip method (Table 3). Each of the categories presented in Table 3 contains a variety of responses (Table 4).

Table 3 Categories of students' feelings concerning their experience in the study area

Categories	Frequency (f)	Percentage %
Positive feelings about the study area	260	70.27
Negative feelings about the study area	35	9.46
Feelings about the field trip method	75	20.27
Total	370	100.00

Table 4 Analysis of categories of students' feelings concerning their experience in the study area

Categories	Frequency (f)
Positive feelings about the study area	260
Tranquility, serenity, and relaxation	50
Joy	17
Happiness greenery/nature	29
Admiration for the architecture and land use over the years	75
Desire to learn more	20
Strong emotion due to the unique history of the landscape	59
Negative feelings about the study area	35
Sadness for the covering of the streams existing in the area	20
Insecurity within the campus/ delinquency	15
Feelings about the field trip method	75
A new teaching approach that promotes collaboration	30
Pleasant learning environment	25
A new teaching approach that promotes creativity	20
Total	370

In Table 3, it is demonstrated that participants conveyed a total of 370 statements regarding their sentiments about the study area. Among these statements, 260 (70.27% of the total) reflected positive feelings toward the area, while 35 (9.46%) conveyed negative sentiments and 75 (20.27%) expressed feelings about the field trip method.

As it is shown in Table 4, the category 'Positive feelings' included declarations that express feelings such as happiness, tranquility, freedom, joy, desire for learning, emotion, admiration, and strong emotions due to the unique history of the landscape. As students explain, "*I feel calmness and tranquility, the trees and plants all over the campus also make me feel happy*". "*I feel strongly emotional because of the settlement of refugees in the area of the campus. They experienced great difficulties*", and "*All the things I learn make me happy but I also have the desire to learn more about the history of the campus*".

Thirty-five of the participants experienced negative feelings, 20 of them felt sadness because of the covering of the streams that existed in the area decades ago, while the other 15 students felt unsecured on the campus. For example: "*I don't feel safe on the campus, especially during the night*", "*I feel unsafe on the campus, this feeling prevents me from moving around on campus*".

The third category concerns the positive feelings of the participants (75) about the field trip method'. Thirty of them supported the idea that this method promotes collaboration between the students, while twenty-five of them stated that this method creates a pleasant teaching and learning environment. Finally, 20 of them suggested that this method contributes to the cultivation of creativity.

3.2. Students' suggestions for improving the campus

Students were asked to make suggestions for the improvement of the university campus, envisioning its future. The analysis of their responses revealed five distinct categories (Table 5) composed of several ideas (Table 6). The initial category, labeled 'public facilities and space utilization,' encompasses 259 suggestions, constituting 40.27%

of the total suggestions. This category addresses concerns regarding the accessibility of the campus to both the public and students, emphasizing the necessity of establishing facilities catering to their needs. These include kiosks, benches, reading areas, cafeterias, canteens, public fountains, outdoor theaters, outdoor restrooms/toilets, and sports facilities.

The second category of 'environmental issues' included 175 suggestions (27.33%). Their suggestions focused on the necessity of a waste management system to reduce the garbage on campus and promote recycling (less trash and more recycling bins). They also proposed feeding stations for the stray animals (dogs) on the campus, "*bowls with water and food for stray animals*" as well as the improvement of the greenery on the campus, for example, the "*creation of little gardens*" as well as the "*creation of gardens for the cultivation of fruit and vegetables*".

Suggestions (82) about the improvement of the campus for accessibility for all people and facilitating mobility compose the third category entitled 'accessibility and mobility'. Speaking of inclusivity, participants agreed on the need for handicap ramps as well as a bike path within the campus.

The fourth category concerns the 'restoration of buildings' (69), and finally, it includes proposals regarding the restoration of some of the buildings in the area as well as the removal of graffiti from them.

The fifth category, entitled 'activities', includes suggestions (58) related to educational or other recreational actions and activities for the students in the campus area. They suggest opening the university to the community through "*organization of seminars to motivate citizens for the protection of the area*", or "*seminars for the student to get involved to better manage the campus landscape*" as well as "*seminars for students about the history of the campus landscape*" and, as a part of the educational process, "*the campus can be used for our studies*".

Table 5 Students' suggestions for campus improvement

Categories	Frequency (f)	Percentage %
Public facilities and Space Utilization	259	40.27
Environmental issues	175	27.22
Accessibility and Mobility	82	12.76
Restoration of buildings	69	10.73
Activities	58	9.02
Total	643	100.00

Table 6 Analysis of categories of students' suggestions for campus improvement

Categories	Frequency
Public facilities and Space Utilization	259
Kiosks, benches	70
Reading areas and reading facilities	50
Student gathering spots	71
Cafeterias and canteens food	10
Public fountains	32
Outdoor theater	6
Outdoor restrooms/toilettes	20
Sports facilities	15
Environmental issues	175
Waste management systems	80
Feeding stations for homeless animals (dogs)	28
Improve green spaces	67
Accessibility and Mobility	82
Maps for easier navigation in the area and information about the buildings	27
Improved security	17
Handicap ramps	15
Bike paths within the university	14
Better lighting	9
Restoration of buildings	69
Building repairs and restoration	40
Graffiti removal from buildings	29
Activities	58
Conferences and seminars by external organizations	28
Utilize the space for educational purposes	30
Total	643

3.3. Students' suggestions for improving the campus

Participants' responses to the third question of this study, which is their suggestions about the use of the university campus to develop educational interventions for teaching environmental issues to young children in the future, suggested many issues that constituted six different categories (Tables 7 and 8).

The issues they suggested focused on 'biodiversity' (123 statements), on the flora of the area, as well as on the organisms living in the lake inside the campus. According to their comments, the existence of stray animals on campus also gives the opportunity to teach about the care and protection of animals. The second important issue seems to be the 'waste management/recycling' issue (53 references, up to 16.62%). The teaching of scientific concepts of 'Meteorology' (48 references, 15.04%) is also suggested by the participants, which supports the existence of the Building of Meteorology, while, as they explained, it provides opportunities for teaching about weather and climate as well as the determination of climatic factors by the use of weather measuring instruments.

Participants also suggested educational applications concerning landscape changes over the years, which means teaching about how human beings use the land over the years as well as the factors that affect the landscape configuration (47 proposals).

They also suggested the teaching of cultural and historical issues that focused on the history of the buildings on the campus as well as the history of the human settlements in the area of the campus in the past decades (30 proposals). Finally, the covering of the streams that flow under the campus seems to be another important issue for teaching (18).

Table 7 Educational interventions on environmental issues

Categories	Frequency (f)	Percentage %
Biodiversity	123	38.56
Waste management/ Recycling	53	16.62
Meteorology	48	15.04
Landscape changes over time	47	14.73
Cultural/historical issues	30	9.41
Natural resources	18	5.64
Total	319	100.00

Table 8 Educational interventions on environmental issues

Categories	Frequency (f)
Biodiversity	123
Animal care	38
Flora	50
Organisms in the lake	35
Waste management/ Recycling	53
Meteorology	48
Weather / climate (climatic factors)	34
weather measuring instruments	14
Landscape changes over the time	47
How human beings use the land	34
How the use of land changes over time/factors affects the landscape	43
Cultural/historical issues	30
The history of the buildings	20
The history of human settlements	10
Natural resources	18
Underground water (covering streams)	18
Total	319

4. CONCLUSIONS

The results of this study support that field trips provide experiential and contextualized learning experiences, promote critical thinking, and foster social interaction and collaboration. By utilizing the urban landscape as a tool for environmental and sustainability education, students can develop a deep understanding of the challenges and opportunities associated with urban sustainability.

The field trip method allowed students to learn about the history of the campus and understand the role of social conditions that affect its formation over time, as well as the role of human beings and the interrelation of human actions with the environment.

Students suggest environmentally friendly ideas for the sustainability of the campus landscape and ideas about integrating what they learn into their future teaching practices. Their participation in the field trip method seems to encourage them to integrate what they learn on campus into future teaching practices.

The university campus offers a unique opportunity for them to connect theory with real-world examples, equipping them to become effective in teaching about environmental issues in their future classrooms as they suggest environmentally friendly ideas for the sustainability of the campus landscape and ideas about integrating what they learn into their future teaching practices.

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URBANI PEJZAŽ KAO SREDSTVO ZA PODUČAVANJE STUDENATA, BUDUĆIH VASPITAČA O PITANJIMA ŽIVOTNE SREDINE – STUDIJA SLUČAJA

Apstrakt

Studija istražuje efikasnost pristupa metode terenskog izleta za podučavanje vaspitača o urbanom pejzažu kao rezultatu ljudskih aktivnosti i odluka. Konkretno, u kampusu Aristotelovog univerziteta u Solunu projektovana je „Ekološka staza“, duga oko 2,5 km. Fotografije koje prikazuju promene u prostoru od 19 do 21. veka, kao i istorijska naracija, korišćene su za diskusiju o društveno-istorijskim i ekološkim faktorima koji su uticali na konfiguraciju pejzaža kampusa tokom vremena. U istraživanju je učestvovalo 90 studenata u grupama od po 9. Tokom svog učešća studenti su zamoljeni da posmatraju prirodne i antropogene karakteristike pejzaža i zabeleže svoja razmišljanja i osećanja u vezi sa proučavanim područjem. Od njih je takođe zatraženo da analiziraju prostornu organizaciju kampusa, zelene površine i pristupačnost, da predlože odgovarajuće promene i na kraju da, kao budući vaspitači, zabeleže svoje predloge korišćenja pejzaža u obrazovne svrhe. Upoređeni su različiti odgovori studenata i na osnovu toga je napravljen odgovarajući broj kategorija. Rezultati pokazuju da studenti predlažu ekološki prihvatljive ideje za održivost pejzaža kampusa i ideje o integraciji naučenog u okviru buduće nastavne prakse.

Ključne reči: Urbani pejzaž, metoda izleta, univerzitetski kampus, nastava i učenje, vaspitači



POTENTIAL OF ‘GUIDED’ METHOD FOR EDUCATING PRE-SERVICE TEACHERS ON URBAN ENVIRONMENTAL ISSUES: ENVISIONING A FUTURE SUSTAINABLE CITY WITH LOW ECOLOGICAL FOOTPRINT

UDC 371.3; 502.131.1; 502.17

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Abstract. *Creating a more sustainable future with a low ecological footprint is one of the main concerns of environmental education for sustainability. To achieve this aim, it is important that environmental educators become familiar with methods that allow individuals to explore alternative futures, create the future they imagine and find ways to turn these ‘imaginings’ into action. The ‘guided visualization’ method can be a powerful tool in environmental education to promote a sustainable future. It can help to create a deeper connection to the environment and improve understanding of environmental and sustainability issues. The aim of the present study is to explore ‘guided visualization’ as a pedagogical tool for teaching and learning about environmental sustainability issues and to inspire them to contribute to a sustainable world. ‘Guided visualization’ was applied to 40 pre-service students who participated in eight groups of 5 people each. Participants were asked to discuss the environmental quality of contemporary cities, explore the ecological footprint of cities and investigate the ways for creating a sustainable city with a low ecological footprint. Through the use of descriptive language and imagery participants were guided through a mental journey for the achievement of the future they envision, encouraging to imagine their role in that future, the actions they can take, and the positive impact they can have. Participants were encouraged to share their insights, thoughts, and ideas. The method applied for data analysis was a qualitative one. Data were condensed and grouped according to each participant’s comments. The different responses were compared and a limited number of categories were created. The results of this study support that the ‘guided visualization’ method can contribute to the development of environmentally aware and responsible educators with critical thinking and problem-solving skills.*

Received February 03, 2024/Accepted March 02, 2024

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Keywords: *'Guided' method, pre-service teachers, sustainable cities, ecological footprint, environmental education, sustainability*

1. INTRODUCTION

Environmental Education for Sustainability (EES) is one of the most important priorities for modern schools. The main aim of EES is to cultivate citizens who are able to recognise and understand environmental problems and who are equipped with knowledge, values and skills to design strategies and formulate actions to address these problems from an environmental and social sustainability perspective (UN, 2015, 2018). The EES aims to promote the vision of a sustainable future and build resilience in the face of environmental challenges. It aims to empower individuals and communities to adapt to a lifestyle that promotes social and ecological sustainability (UN, 2012). In this context, the approach to environmental issues requires, among other things, the training of people with critical and systemic thinking. In other words, people who are able to take a holistic approach to the environment and understand how thinking within a whole influences each other.

1.1. "Ecological footprint" as a means of environmental education for sustainability

The use of natural resources and energy to meet people's daily needs, the implementation of economic activities and development processes have an impact on the quality of the environment. On the one hand, they contribute to the enhancement and/or creation of environmental problems; on the other hand, the intensity with which these processes are carried out puts pressure on natural ecosystems and resources, resulting in their degradation and/or collapse (EEA, 2019). In other words, human choices and demands on the activities of daily life and the intensity with which they are carried out consume and damage natural resources and ecosystems, leaving their mark on them and recording their 'ecological footprint'. The concept of ecological footprint is a kind of scale that shows how humans use nature and natural resources and reflects how human activities can lead to different types of pressures and impacts on environmental quality at local, national or global level. The ecological footprint therefore refers to the measurement of the impact that an individual, community or group has on the environment. It usually involves calculating the resources consumed by an entity and the waste it produces, taking into account the consumption of energy, materials and water (UNECE, 2003; Wackernagel & Rees, 1995).

From the above, it seems that the issue of ecological footprint brings new challenges for environmental education in the field of sustainability. The exploration of its conceptual content and its educational use can help to raise awareness and activate individuals to adopt a sustainable lifestyle and act individually and/or collectively through participatory processes for the protection of the environment (Collins et al., 2018; Ortegon & Acosta, 2019).

In addition, the ecological footprint can serve as a tool for citizens to understand the extent of the impact of their daily practises and activities on the environment. In this sense, the ecological footprint can be used to record and analyse the impact of current consumption patterns on the planet (Keles & Aydogdu, 2010). In addition, its application makes it possible to identify and quantify the environmental impact of individual and/or

collective lifestyles and contributes to the dissemination of the concept of sustainable development by providing citizens with understandable and simple information about the state of the planet and illustrating the impact of our actions (Belcakova et al., 2017; Evans et al., 2017).

1.2. 'Guided' method: envisioning sustainable future

Creating a more sustainable future with a low ecological footprint is one of the main concerns of environmental and sustainability education. To achieve this aim, it is a challenge to encourage pupils and students to critically reflect on their current lifestyles and actions and to enable them to make informed choices and changes towards a more sustainable world. It is therefore important that environmental educators familiarise themselves with methods that allow individuals to explore alternative futures, create the future they imagine and find ways to turn these 'imaginings' into action.

Due to the complexity of environmental issues, the systematic involvement of adults is necessary to address them. In this sense, environmental education for sustainability empowers individuals to actively participate within the community, as it is recognised as the most appropriate approach for their education. In this context, citizens are empowered to explore community needs, recognise environmental problems, understand their causes, imagine the future of the community and take initiatives to ensure sustainability in the community (Holm et al., 2016; Mirza & Sadri, 2013).

Participatory methods of adult education in environmental sustainability education, such as the guided visioning method in the community, are suggested to be more appropriate. The guided visioning method is a process in which community members are encouraged by facilitators to imagine the future of the community they wish to see, formulate a 'community vision' and plan how to achieve it (Green, Haines, & Halebsky, 2000; WHO, 2002; Moss & Grunkemeyer, 2010). It is a creative, student-centred and democratic method in which participants try to address the environmental problems and issues in their environment. In the visioning workshops, they discuss the issue in question together and dream of a better future so that at the end of the workshop, the groups create their own collective vision of the community they wish and seek to build (Kilpatrick, 2001; Vidal, 2005).

The creation of a shared vision through this method aims to strengthen relationships between members of the community and helps people to develop co-operation to achieve the shared vision. It enables individuals to rethink their place in the community and their impact on the future and encourages the development of actions to promote sustainable living conditions and more sustainable cities. Finally, it enables individuals to rethink their place in the community and their impact on the future (Green et al., 2000; Moss & Grunkemeyer 2010).

Combining the unknown with visioning techniques can raise awareness and improve our ability to deal with intergenerational responsibility. It can be an important tool for creative thinking and problem solving in the community in which we live. Thus, guided visualization is a promising method for preparing decisions - an innovative pedagogical form for teaching (Bluedorn & Standifer, 2006; Byrne et al., 2010).

The use of guided visualization as a method to educate pre-service teachers on urban environmental issues can be an effective and engaging approach. This technique can help pre-service teachers develop a deeper understanding of urban environmental challenges

and brainstorm innovative solutions. It also leads students to become more actively involved in the learning process by using their ideas as the initial source of understanding and inspiration, taking them on a visual journey with infinite possibilities. With this in mind, this study aims to examine guided visualization to teach preservice preschool teachers about the ecological footprint and inspire them to imagine a sustainable city.

2. METHODOLOGY

As already mentioned, the aim of this study was to investigate whether the method of "guided visualization" gives pre-service teachers the opportunity to actively participate in the educational process, develop a deeper understanding of the challenges of the urban environment and brainstorm innovative solutions.

2.1. Study group

The method of 'guided visualization' was applied to 40 preservice preschool teachers aged 18-20 years at a northern Greek university. 37 women and 3 men participated in eight groups of 5 people each. Participants in each group were asked to discuss the factors that influence the environmental quality of today's cities and the ecological footprint of cities, and to explore how to create a sustainable city with a reduced ecological footprint. Participants' responses and ideas were recorded and then analysed, forming a limited number of categories.

2.2. 'Guided' method implementation

There were four phases in the implementation of the method (Lewis & Walker 1998; Green et al., 2000; Moss & Grunkemeyer, 2010).

Firstly, the researchers introduced the objectives, the process and the purpose of the method and informed the participants that they would first discuss the quality of contemporary cities and finally imagine the sustainable city of the future.

In the second phase, the participants were divided into eight groups of 5 people each. The participants in each group were asked to discuss about the environmental quality of contemporary cities and the exploration of the cities' ecological footprint and to record their answers and ideas: "Try to see the city with your own eyes, think about the quality of the city, what factors influence the quality of the city, what activities and actions that people do every day in the city influence the quality of the city and the ecological footprint".

Guided imagination: In the third phase of the method, participants were asked to close their eyes and relax while listening to music. The researchers then read out a scenario and guided them to visualize it: "We are in the year 2043, we are residents of Thessaloniki, we have always had a vision for a liveable city. I have always thought of a city without social and environmental problems. However, the efforts of my fellow citizens and my own endeavours on an individual and collective level have led to positive results. I envision the city I live in in 2043 in a positive light. My future city is a sustainable city with a low ecological footprint".

The researchers encouraged the participants: "Find as many images as you can. Walk around the city, visualise images, express your feelings about what images your environment creates for you. Make a note of what you see. What images arise in your mind.

Give yourself the freedom to create images of the future. As many as you can". They also encouraged participants to engage their senses – sights, sounds, smells and feelings – as they move through this imaginary urban environment and imagine their role in this future.

Discussion and reflection: In the fourth phase of the method implementation, participants were asked to discuss what they had imagined and were encouraged to share their experiences and observations. Open questions were asked for the discussion such as: What did you see? How did you feel? What were the main issues? How did you deal with these issues in your visualization? The researchers also encouraged participants to relate their experiences in the visualization to real urban environmental problems. Finally, they asked participants to discuss possible strategies and measures that could be used to address these issues in order to achieve a future sustainable city with a low ecological footprint. They were encouraged to imagine their role in the future and the actions they could take for a sustainable city.

2.3. Data collection and analysis

The ideas and suggestions of each participant expressed during each phase of the implementation of the guided visualization method were the data of the survey. The method used to analyse the data was a qualitative method (Robson, 1993). The collected data was summarised and grouped according to the comments of the individual participants. The different responses were compared and a limited number of categories were formed. In this way, the empirical data was summarised and grouped according to the coherent comments of the individual participants. Subsequently, the different responses were compared and a limited number of categories were created for each of the central themes: 1) factors influencing the environmental quality of contemporary cities, 2) factors influencing the 'ecological footprint' of cities and 3) the possibilities for creating a sustainable city with a low ecological footprint.

Specifically on the first topic of this survey, factors influencing the environmental quality of today's cities, participants made 682 statements. When analysing these statements, 6 different categories were formed: 1) Social issues, 2) Environmental issues, 3) Environmental problems, 4) Public transportation system, 5) Services (health, education) and 6) Sports and cultural activities.

The following 7 different categories emerged from the analysis of the participants' responses to the factors influencing the 'ecological footprint' of cities: 1) consumer behaviour, 2) transportation system, 3) waste management, 4) land use and urban planning, 5) green spaces/biodiversity, 6) energy consumption and 7) water consumption. The tables in section 3.2 show the types of responses that make up these categories.

The analysis of the data on ways to create a sustainable city with a low ecological footprint revealed various suggestions that form 9 different categories, namely 1) improving the transportation system, 2) more green spaces in cities, 3) reducing waste and promoting recycling, 4) promoting sustainable urban planning, 5) reducing consumption, 6) improving energy efficiency, 7) saving water, 8) educational issues and 9) social issues.

Details of the types of responses that made up the above different categories of each of the key themes of this study are presented below in the results section (see 3.1-3.3).

3. RESULTS AND DISCUSSION

The participants had to address the following central themes: the environmental quality of modern cities, the exploring of the ecological footprint of modern cities and exploring ways to create a future sustainable city with a low ecological footprint. For each of these topics, there were specific categories containing different types of answers, which are explained below (3.1-3.3).

3.1. Factors that influence environmental quality of contemporary cities

The participants made a total of 682 statements on various factors that influence the environmental quality of contemporary cities. As shown in Table 1, the most important factors are social issues with 185 references (up to 27% of total responses). Environmental problems with 167 mentions (24%) and environmental issues with 138 mentions (20%) are also very important factors. Public transportation system and services (health, education) are equally important according to the participants, with 66 and 67 responses respectively. Sports and cultural activities are also factors that influence the environmental quality of modern cities (59 responses).

Table 1 Factors influencing the environmental quality of contemporary cities

Factors	Frequency (f)	Percentage %
Social issues	185	27
Environmental problems	167	24
Environmental issues	138	20
Services (health, education)	67	10
Public transportation system	66	10
Sports and culture activities	59	9
Total	682	100

Social issues were of great importance to the participants in this study. As can be seen in Table 2, the category social issues includes responses relating to various social dimensions. Almost all participants (39) mentioned “crime” as a negative factor (“Crime in cities is a negative factor for modern cities, we live in unsafe cities”), 34 of the participants mentioned social isolation/loneliness (“There is no communication between people, there are many lonely people”). Accessibility was mentioned by 29 participants: “An important factor is accessibility for all people, there are difficulties for people with visual impairments and disabilities to get around because the streets and pavements are unsuitable”. 24 of the participants mentioned homelessness, such as “There are many homeless people who do not manage to live a proper life”, and 18 diversity (“Eliminating racism and allowing citizens from different social groups to live together can improve the quality of life in modern cities”). Fourteen respondents cite the existence of many stray animals as a negative factor for the quality of modern cities, while unemployment and poor working conditions are negative factors for 14 and 7 respondents respectively. Finally, overpopulation also has a negative impact on the quality of today's cities.

Table 2 Social issues that influence environmental quality of contemporary cities

Social issues	Frequency (f)
Crimes	39
Social isolation/loneliness	34
Accessibility	29
Homelessness	24
Diversity	18
Unemployment	14
Stray animals	14
Poor working conditions	7
Overpopulation	6
Total	185

Environmental problems are also among the factors that influence the environmental quality of today's cities. As shown in Table 3, 47 respondents mentioned the problem of waste pollution (e.g. increased amounts of waste, pollution of the sea and land by plastic or other waste). In addition, all participants mentioned the problem of pollution in general, the traffic problem (e.g. increasing car traffic, cars parked on pavements, lack of parking spaces, lack of cycle paths) and air pollution as important environmental problems of modern cities.

Table 3 Environmental problems that influence environmental quality of contemporary cities

Environmental problems	Frequency (f)
Waste pollution	47
Pollution in general	40
Traffic problem	40
Air pollution	40
Total	167

Among the factors that, according to the participants, influence the quality of today's cities are various environmental issues. By the term "environmental issues" we mean the consequences of human activities and decisions that can harm the environment and become a problem. Four different categories emerged from the analysis of participants' responses (Table 4), relating to urban greenery, waste management and recycling programmes, and water and air quality. As can be seen from Table 4, participants specifically cited green places and waste management and recycling as the two most important environmental issues, with 57 and 35 mentions respectively. References to lack of greenery included in particular the lack of green spaces, the lack of green parks and open spaces in urban areas and limited biodiversity, which have a negative impact on the quality of modern cities. References to waste management and recycling programmes, such as "lack of rubbish bins, lack of recycling bins and inadequate recycling programmes", formed the environmental theme of waste management and recycling programmes. The topic water and marine quality was mentioned by more than half of the participants (26). Finally, half of the participants (20) cited air quality as important to quality of life.

Table 4 Environmental issues that influence environmental quality of contemporary cities

Environmental issues	Frequency (f)
Urban greenery	57
Waste management and recycling programmes	35
Water and marine quality	26
Air quality	20
Total	138

Public systems and services were also cited as factors influencing the quality of contemporary cities (Table 5). In particular, respondents made 66 references to the public transport system (e.g. insufficient number and frequency of public buses), 67 references to public services related to healthcare and education (e.g. hospitals for all people, educational facilities, access to quality healthcare and education for all people). Finally, they made 59 references to the need for public facilities that give people the opportunity to engage in sporting, entertainment and cultural activities (e.g. the quality of modern cities is deteriorating due to the lack of sports grounds, the lack of gyms for all, the lack of sports facilities, the lack of restaurants, theatres and museums, cities must have public facilities for entertainment).

Table 5 Public systems and services as factors that affected the quality of contemporary cities

Public systems and services	Frequency (f)
Public services	67
Public transport system	66
Public facilities	59

As can be seen from the above discussion, for the future pre-school teachers who participated in this study, there are not only environmental problems and issues that influence the quality of modern cities, but also social problems and issues as well as public facilities and services are recognised as important factors that influence the quality of life in modern cities.

3.2. Factors that influence Cities' Ecological Footprint

Participants were asked to discuss the factors that influence the ecological footprint (EF) of cities. The analysis of their answers resulted in the following 7 different categories: 1) transportation system, 2) waste management, 3) green spaces/biodiversity, 4) land use and urban planning, 5) consumer behaviour, 6) energy consumption, 6) water consumption (Table 6).

Table 6 Factors influencing the ecological footprint of cities

Factors	Frequency (f)	Percentage %
Transportation system	165	32
Waste management	87	17
Green spaces/biodiversity	79	15
Land use and urban planning	72	14
Consumer behaviour	40	8
Energy consumption	38	7
Water consumption	37	7
Total	518	100

As shown in Table 6, the ecological footprint of cities is influenced by 7 key factors according to the participants' responses. The most important factor is the transportation system with 165 mentions and a percentage of 32%. The participants mentioned, among other things, the means of transport used by residents (bus or car), the use of public transport as a factor that can reduce the city's ecological footprint, as well as the distance people have to travel for their work and daily activities.

The second factor is waste management with 87 mentions and a percentage of 17%. Green spaces and biodiversity is the third most important factor 79 mentions and a percentage of 15%. Participants agreed that the lack of green spaces or parks is a negative factor and emphasised the importance of open and green spaces in the urban area, which contribute to a low ecological footprint.

Land use and urban planning is the fourth most important factor with 72 mentions and a share of 14%. The mentions mostly refer to the amount of land needed for the development of the city (e.g. the non-utilisation of unused land for the creation of free parking spaces for citizens and the use of unused public buildings for the permanent housing of homeless people).

Another category is consumer behaviour with 40 references and a percentage of 8%. This category includes the consumption patterns and lifestyle choices of residents, the demand for resources for consumer goods, the intensive consumption habits mentioned by the participants, among others.

Energy consumption with 38 mentions and a percentage of 7%. Participants indicated that the type of energy sources used for electricity generation and heating, or the use of fossil fuels for heating and/or transport, contribute to the increase in the ecological footprint of modern cities. Finally, water consumption emerged as another category with 37 mentions (7%), including inappropriate water management practices, water wastage and water pollution.

3.3. Envisioning a sustainable city with a reduced Ecological Footprint. Participants suggestions for sustainable cities

The third and final challenge for the participants was to find ways to create a sustainable city with a reduced ecological footprint. The analysis of the responses has shown that the participants' suggestions for sustainable cities are related to their answers on the factors that negatively impact the ecological footprint of today's city. Three main categories emerged from the data analysis, which are 1) environmental issues, 2) social issues and 3) educational issues.

Table 7 shows the participants' statements on environmental issues and ways to improve them. As you can see, 313 statements were made, which were categorised into 7 different categories, similar to the categories listed as factors affecting the environmental footprint of cities (see Table 6).

For the first category, transportation, 60 statements were made. Participants were in favour of using public transport, the need to improve public transport to make it the preferred mode of transport, and distance. They also suggest efficient and accessible public transport systems for all people, including buses, trams, subways, and trains. They also recommend the use of bicycles and footpaths, pedestrian-friendly infrastructure and incentives to reduce the use of private cars in everyday life.

The improvement of green spaces (58 statements) is of great importance for a city with a low ecological footprint. They suggested improving green spaces, creating more parks and green roofs and planting trees in all cities. They argued that these measures could help to reduce the heating of cities in summer.

In the land use and urban planning category, 50 suggestions were made for sustainable urban planning. Participants suggested well-planned cities, mixed land use (i.e. residential, commercial and recreational areas nearby) that reduces the need for extensive commuting, easy access to essential services and public transport, and designing streets and public spaces for pedestrians.

Waste management is another important factor in improving modern cities with a low environmental footprint. The participants in this study made 45 statements on this topic. In particular, they referred to the need to recycle, reducing consumption, reducing the use of products in daily life, buy products with minimal packaging, avoid plastic products and use reusable bags.

Consumer behaviour (42 statements) also plays an important role in the ecological footprint. Participants recognised the importance of consumer behaviour and suggested reducing consumption, consuming responsibly by favouring products with a longer lifespan, supporting the reuse of goods and recycling.

Participants also referred to energy consumption (33 statements) as an important factor for modern cities with a low environmental footprint. They suggested the improvement of energy resources, the construction of environmentally friendly buildings, renewable energy sources, the generation of electricity from solar and wind energy and the promotion of renewable energy sources in households and public buildings.

Table 7 Participants suggestions for sustainable cities. Environmental issues

Environmental issues	Frequency (f)
Improving the transportation system	60
More green spaces in cities	58
Promoting sustainable urban planning	50
Reducing waste and promoting recycling	45
Reducing consumption	42
Improving energy efficiency	33
Saving water	25
Total	313

The last and most important point mentioned by the participants in their action plan for a city with a low ecological footprint is water consumption (25 statements). They

recommend saving water, promoting water saving practises, reusing rainwater for landscaping and using it for non-potable purposes.

Participants identified education as an important factor contributing to the creation of future cities with a low ecological footprint (Table 8). In their opinion, environmental education for sustainability (EES) could play an important role in this direction (60). Under EES, awareness and sensitivity to the environment could increase, as could understanding of the environment and related problems and the role of humans in creating or exacerbating environmental problems. They also support the right to education, access to quality education for all citizens, regardless of age, origin or social status (27).

The improvement of various social aspects is also an important factor in the realisation of sustainable cities. According to the participants, sustainability is closely linked to society and social issues. They made 199 different statements covering 12 different social issues, dominated by building cities with accessibility for people with visual and mobility problems (28), offering cultural, entertainment and leisure activities for all (21). A sustainable city is a city without poverty (20), without hunger (7), with opportunities for work for all citizens (20). To achieve a sustainable city, it is important to reducing and combat crime (18), to reducing racism (6) provide better working conditions (17), actively involve citizens (18), keep the cost of living low and create housing opportunities for all (15). It is also important to have an active local government with measures for the benefit of the population (15), which enables access to high-quality healthcare (14).

Table 8 Participants suggestions for sustainable cities. Educational and Social issues

Educational issues	Frequency (f)
Environmental education for sustainability	60
Providing access to quality education for all	27
Total	87
Social issues	
Accessibility for people with visual & mobility problems	28
Cultural, entertainment and leisure activities for all	21
Opportunities for work for all citizens	20
Without poverty	20
Reduce and combat crime	18
Better working conditions	17
Active citizen participation	18
Low cost of living and housing opportunities for all	15
Active local government with measures for the benefit of the population	15
Access to quality healthcare	14
Without hungry	7
Reducing racism	6
Total	199

4. RESULTS AND DISCUSSION

The results of this study show that, according to the preservice pre-school teachers, creating a sustainable city with a reduced ecological footprint requires an approach that takes into account different aspects of urban life. It is also an ongoing process that requires co-operation between individuals, society and local authorities.

Participating in the guided visualization method gave participants the opportunity to analyse their ecological footprint and understand how their actions affect the environment and take steps to reduce their footprint through sustainable practises and behavioural changes. It is worth noting that the environmental issues mentioned by the participants are important environmental problems faced by residents of modern cities. Students recognised various factors that influence the ‘environmental quality of modern cities’, such as environmental issues (e.g. green spaces, air and water quality), environmental problems (e.g. pollution), transport, infrastructure and services (e.g. health care, educational facilities), cultural activities (e.g. museums, restaurants) and social issues (e.g. connectivity, diversity, crime, isolation).

The ecological footprint of cities is influenced by various factors, such as consumer behaviour, population density, traffic, waste management, land use, biodiversity, building design and water consumption.

The guided visualization method can be an effective way to teach pre-service teachers about urban environmental issues. It seems that it contributes to the development of environmentally aware and responsible teachers who can understand the environmental problems and the ways to improve environmental quality. The teachers who participated in this study seem to become more active citizens who are able to suggest ways to improve modern cities and achieve more sustainable cities.

The guided visualization method encourages students to actively participate by constructing images and scenarios in their minds, thus becoming co-creators of their understanding of the environment and environmental issues. Using the guided visualization method has helped students to develop a deeper understanding of complex concepts. It allows students to explore ideas, promote critical thinking and problem solving by encouraging them to think critically and problem solve by exploring different scenarios and outcomes and making an emotional connection. Students also had the opportunity to express their feelings and personal experiences, which is an important factor in learning.

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POTENCIJAL 'VOĐENE' METODE ZA OBRAZOVANJE SVRŠENIH VASPITAČA O PITANJIMA URBANE ŽIVOTNE SREDINE: ZAMIŠLJANJE BUDUĆEG ODRŽIVOG GRADA SA NISKIM EKOLOŠKIM OTISKOM

Apstrakt

Stvaranje održive budućnosti sa niskim ekološkim otiskom jedna je od glavnih briga ekološkog obrazovanja za održivost. Za postizanje ovog cilja važno je da se edukatori u oblasti životne sredine upoznaju sa metodama pomoću kojih pojedinci mogu da istraže alternativne budućnosti, kreiraju budućnost koju zamišljaju i pronađu načine da ostvare 'maštanje'. Metoda „vođene vizuelizacije“ može biti moćno sredstvo u ekološkom obrazovanju za promovisanje održive budućnosti, može pomoći i u stvaranju dublje veze sa životnom sredinom, kao i u boljem razumevanju pitanja životne sredine i održivosti. Cilj ove studije je da ispita „vođenu vizuelizaciju“ kao obrazovno sredstvo za

podučavanje i učenje pitanja održivosti životne sredine i inspiriše svršene vaspitače da doprinesu održivom svetu. „Vođena vizuelizacija“ primenjena je među 40 svršenih vaspitača, podeljenih u osam grupa od po 5 učesnika, koji su razmenjivali mišljenje o kvalitetu životne sredine savremenih gradova, istraživali ekološki otisak gradova i načine za stvaranje održivog grada sa niskim ekološkim otiskom. Korišćenjem opisa i slika, učesnici su bili vođeni kroz mentalno putovanje u zamišljenu budućnost, ohrabreni da zamisle svoju ulogu u ovoj budućnosti, akcije koje će preduzeti, kao i njihov pozitivan uticaj. Takođe, bili su podstaknuti da podele svoje uvide, misli i ideje. Za analizu dobijenih podataka korišćena je kvalitativna metoda, koja je poslužila za sažimanje i grupisanje podataka prema komentarima svakog od učesnika u studiji. Različiti odgovori učesnika su upoređivani, na osnovu čega je izdvojen odgovarajući broj kategorija. Dobijeni rezultati potvrđuju da metoda „vođene vizuelizacije“ može doprineti razvoju ekološki svesnih i odgovornih edukatora koji poseduju kritičko mišljenje i veštine rešavanja problema.

Ključne reči: „Vođena“ metoda, svršeni vaspitači, održivi gradovi, ekološki otisak, ekološko obrazovanje, održivost



MICRO – TEACHING AND GRADUATE TRAINING: VIEWS AND ATTITUDES OF FUTURE TEACHERS

UDC 371.213.3; 371.3

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Abstract. *Microteaching and graduate training are a "teaching rehearsal" aimed at strengthening the future teacher in order to acquire and/or improve his/her teaching skills, attitudes and behaviors. The main objectives of the research are to examine: a) how specific teaching skills can be cultivated b) how a teaching session can be organized c) how the future teacher can improve through 'teaching rehearsal'. In order to achieve the above objectives, the following research questions are asked: a) How do students perceive the role of microteaching? b) How can they cultivate specific teaching skills? c) What problems and difficulties do they face in their teaching practice? The research took place at the Faculty of Education of the University of Western Macedonia in the Department of Primary Education. Questionnaires were distributed to future teachers to evaluate the process of microteaching and practicum and to explore the beliefs and opinions of the prospective teachers in order to substantiate the findings of the research process. The research methodology was that of a "case study". The research material was analyzed using the qualitative content analysis method. The results revealed that after the successful completion of microteaching and gradual training, the students have a comprehensive empirical perception of the characteristics and specificities of the teaching activity they will perform as future teachers. The present study contributes to the emergence of educational techniques used worldwide in the preparation of future teachers, regardless of their specialization or level of education.*

Keywords: *micro-teaching, graduate training, teaching, learning, future teacher*

Received January 21, 2024/Accepted April 21, 2024

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1. THE ROLE OF UNIVERSITY EDUCATION IN SHAPING FUTURE TEACHERS IN MODERN SOCIETIES

1.1. Microteaching as a means of training future teachers

Micro-teaching, as a term and as a teaching technique, was first developed by Allen Dwight at Stanford University in 1963 and described as a "...method that effectively prepares future teachers for the challenges of their future professional role" (Schuck, 1971), being a diagnostic tool for assessing the performance of participating teachers. It has also been characterized (Allen & Clark, 1967) as a prior experience and practice of teaching, a research engine to examine teaching outcomes under controlled conditions, and an internal training tool aimed at experienced teachers. Specifically, in terms of the simulation technique aimed at developing or modifying skills and forms of teaching behavior to enable future teachers to engage in depth with the "art of teaching" and gradually familiarize themselves with the complex situation of conditions prevailing in a classroom (Remesh, 2013). The development of microteaching in various forms has led to a rich bibliography in which concepts and theories that have been applied have been presented, research that has been conducted has been described and both theoretical and practical problems have been discussed (Cornford 1996, Falus 1975, Trott 1977).

Microteaching as a method of teacher training was introduced at Stanford University in the USA in 1961 and at the University of Stirling in the UK in 1968 and has since become more widespread (Klinzing & Floden, 1991). As Klinzing & Floden (1991) state, "a large number of publications and research reviews indicate that microteaching was widespread in Europe by the end of the decade of 1960 and in government agencies by the decade of 1970. The method of microteaching was used in a range of training practices in teacher education". Microteaching is a 'chunk' of teaching, a micro-course that gives teachers the opportunity "to acquire and perfect pedagogical skills, social skills and techniques in a safe and 'laboratory-like' environment and to improve their teaching by observing and critically commenting on the microteaching of their colleagues. In a sense, microteaching is a kind of short "apprenticeship" that aims to familiarize the trainee with a variety of teaching activities, teaching skills and different teaching problems in order to improve their teaching. Through his own practice and by observing the microteaching of his colleagues, he is helped to become aware of his weak points and to improve them, but also to build on his strengths and develop them.

As recorded by Griffiths (1977) they have widely used in the various models of micro-teaching four sources of feedback:

- recording on video or other digital media,
- the critical observations of a microteaching supervisor,
- the comments of the trainee's peers,
- the observations of the trainees.

Today, the role of the university has changed radically. This is because we live in a globalized society whose main characteristics are competition, the globalization of the economy and education, and the scarcity of resources. The development of technology, especially in the areas of communication and information, creates a need for knowledge workers who are able to respond fully or adequately to the demands of society. The university, as a social institution that influences both social and economic development, must support the development of the economy and contribute to improving the quality of

life and social attitudes, as well as strengthening moral values and security. At the same time, it must respond to problems concerning the cost of its operation and the quality of the services it provides.

In modern societies, teachers are seen as key actors in the implementation of reforms aimed at ensuring quality education. To fulfil this role, they need to develop professionally, improve their existing skills and acquire new ones. Future teachers also need the guidance of experienced colleagues to put their theoretical knowledge of education into practice in a safe environment.

Several researchers point to the gap between theory and practice during the training of future teachers and argue that the theoretical and practical training of future teachers needs to be improved (Juhler, 2018). They also emphasize the importance of lifelong teacher education (Saito, 2012).

Microteaching is an early stage of teacher education that focuses on the development of teaching competences through the practice of fundamental teaching skills. This is consistent with the teach-reteach cycle described by Trott. It consists of (1) the briefing phase, (2) the preparation phase, (3) the teaching phase, (4) the review by the class and supervisor and, (5) either preparation for the next session or re-teaching the same skill (Trott, 1976).

Microteaching helps develop skills in preparing lesson plans, choose teaching goals, speaking in front of a group, asking questions, and using assessment techniques. Teachers' confidence grows in a comfortable environment (Higgins & Nicholl, 2003). Trainee teachers also valued microteaching as an effective pedagogical tool that enhances their teaching skills and confidence (Ralph, 2014).

Microteaching was found to reduce difficulties in the real teaching process, give student teachers the opportunity to evaluate their strengths and weaknesses, and help them improve timing, planning, asking questions, classroom management, use of different materials and examples, and physical appearance during teaching (Saban & Çoklar, 2013). Finally, the microteaching experience has been reported as an influential process for teacher trainees' strong self-efficacy beliefs (Arsal, 2014).

The presentation of microteaching aims to acquire comparative and interpretative assessment skills as well as to improve the quality of teaching and learning (analyzing-reflecting and redesigning microteaching).

The presentation of microteaching aims to acquire comparative and interpretative evaluation skills, as well as improving the quality of teaching and learning (analysis-reflection and redesign of microteaching).

More specifically, the content of the course is structured as follows:

- Instructional and learning design: concept, characteristics and utilization
- Models of learning and teaching design
- Phases of learning and instructional design
- Elements of learning and teaching design
- Presentation of a lesson plan: Analysis and Reflection on the Plan

The Analysis and Reflection on the Teaching Plan

- Effective teaching
- Models of Effective Teaching
- The dynamic model of teaching effectiveness
- Quality and evaluation of teaching: approaches and quality criteria
- Lab for quality assurance and improvement of teaching quality

- Lesson Study as an approach to improve the quality of teaching: Examples
- Analysis, feedback and reflection on teaching
- Lesson Plan Structuring: A laboratory approach
- Micro-teaching presentations: Micro-teaching analysis and reflection

The links between theory and practice are often not explicit and obvious, especially in the case of traineeship programmes, resulting in a sense of incompleteness and lack of knowledge of the subject, especially in the case of trainee teachers, and a negative self-perception of the quality of their work and the quality of their training of their teaching skills (Mergler & Tangen., 2010).

As early as the late 1960s, Berliner (1969) and later Morrison & McIntyre (1973) emphasized the need for teacher candidates to "put themselves" in the shoes' of conditions in which good and bad things happen, so that they have the opportunity to evaluate teaching behavior in order to decide which to emulate.

2. METHODOLOGY OF THE RESEARCH

The course is structured in two levels. At the first level, the general theoretical principles and practical approaches of didactics are presented and analyzed, namely: a. the preparation and planning of the teaching process and the design of the teaching process, b. the preparation and planning of teaching, c. the quality assurance of teaching, d. the evaluation of teaching the assessment of teaching/checking the achievement of course objectives, e. dimensions of teaching reality highlighted by educational topicality and students' interests.

At the second level, students through the planning, quality assessment evaluation, and monitoring of micro-teaching by fellow students observe and document the structural elements of teaching based on specific key axes observation with the goal of practicing the acquisition/improvement of their teaching skills through experiential approaches.

It is an empirical study that was conducted using a questionnaire that included eight open-ended questions to allow participants to express their views freely. The data was analyzed using qualitative content analysis. The sample of the study consisted of 60 students who had completed the sixth semester of the Pedagogical Department of Primary Education at the University of Western Macedonia.

The basic assumption of the study is that the use of microteaching in academic education is related to dimension:

- the acquisition and practice of basic skills, that are a prerequisite for strengthening and enhancing the work and role of student trainees as designers of teaching and creators of a favorable school environment for learning, and
- the acquisition of competences and skills related to the formation of the conditions of the targeted professional educator.

The main purpose of this study was to explore the perceptions and experiences of the students participating in the survey regarding the design of their teaching in the context of micro-teaching.

In particular, the paper aims to explore students' perceptions:

- a. regarding the meetings-workshops that took place in the context of the microteaching and

- b. about the steps and procedures of the cycle of micro-teaching the steps and procedures of thing process.

The main objectives of the study are: a) How to cultivate specific teaching skills? b) How to organize a teaching session? c) How can the future teacher improve through 'rehearsal teaching'? d) How do the students perceive the role of micro-teaching? e) How can they cultivate specific teaching skills? f) What problems and difficulties do they encounter in their teaching practice? The research took place in the summer semester of the academic year 2022-2023 at the Faculty of Education of the University of Western Macedonia in Greece, in the Department of Primary Education, among students who completed the 6th year of the programme. The trainees designed and conducted a 20-minute micro-teaching session. The instrument for data collection was the questionnaire, which was completed by 60 (36 female and 24 male) students who participated in the lesson "Microteaching and Practical Exercise".

More specifically, the questionnaires were distributed to prospective teachers to evaluate the process of micro-teaching and practicum and to explore the beliefs and opinions of the prospective teachers to corroborate the results of the research process. The research methodology was that of a "case study". The case study emphasizes the social context in which a phenomenon takes place and is therefore considered an appropriate model for researching educational innovation. The advantages of the case study are that the data is grounded in reality. They can form a record of descriptive material that is rich enough to allow for subsequent reinterpretation. These studies recognize the complexity and contextual validity of social truths. The data were collected using the qualitative content analysis method.

The research questions that are posed and to which students had to answer are:

1. Do you consider that the theoretical/introductory courses have contributed to organize your micro-teaching?
2. Have the introductory activities (working in groups) contributed to a better understanding of the process of implementing micro-teaching?
3. What difficulties/obstacles you encountered in carrying out the micro-teaching?
4. What difficulties/obstacles you encountered in preparing the micro-teaching?
5. In what way do you consider that the feedback following the micro-teaching prepared you for the graduate training?
6. Which teaching skills do you think you have cultivated through the micro-teaching you have implemented?
7. What did you learn from the implementation of micro-teaching?
8. What do you consider to be the role of micro-teaching in shaping you as a future teacher?

The questionnaire consists of four (4) parts/axes and eight questions. The first axis includes demographic data relating to the gender of the student respondents. The second axis contains statements about the course meetings and workshops. The third axis contains statements about the cycle and the fourth axis consists of statements relating to the application and learning from microteaching.

The second axis contains statements relating to the information meetings of the Course Study. The understanding of the objectives of Lesson Study, the assimilation of the material, the appropriateness of the time allocated and the usefulness of the meetings. In the third area, eleven criteria were used to record students opinions of the participating students about the Course Study. The co-operation between the group members, the

planning, the usefulness and the success of the study course. Furthermore, the statements of the fourth axis examined the benefits that the student interns derived from their involvement in the Study Course and the application of the positive effects to their teaching.

3. RESEARCH FINDINGS

The results of the qualitative analysis have shown that the lesson study experience motivates trainee teachers to achieve specific goals and improve their performance because it enables them to analyze their lessons based on the stated learning objectives, have detailed discussions about educational strategies such as questioning techniques and predicting student responses, to assess the lesson plan and assess their attempt. In addition, the most important advantages from the implementation of the lesson study are collaboration, trainee teachers' professional development, reflection and active learning that includes constructive discussion, planning, practice, observation and feedback.

The first questions (1st - 2nd question) contain the results on the students' views on the introductory courses, particularly on the training sessions, the assimilation of the material, the adequacy of the time allocated and the usefulness of the sessions. Specifically, the vast majority of students who responded to the survey primarily indicated that they fully agreed that the time they spent with their peers/groups helped them understand the techniques of the micro-teaching process and the materials. Moreover, the introductory activities helped them to gain a better understanding of the whole process, and finally, they understood the objectives and process of the lesson before starting the planning cycle of the research lesson. In other words, they believe that the introductory courses and activities helped to improve their teaching by encouraging participants to share their thoughts, experiences and expectations about teaching and learning, generate ideas, share insights and discuss potential teaching strategies or challenges they might face during the micro-teaching activity.

In the second axis (3rd-4th question), the trainee teachers commented on the difficulties they faced in preparing for micro-teaching and the obstacles they had to overcome during micro-teaching. These questions revealed a wide range of opinions. For example, some students indicated that they had difficulty finding valid information, others had difficulty organizing the information, and still others had difficulty deciding what information was appropriate for the class they would be teach. During micro-teaching, most students indicated that they felt anxious and uncomfortable teaching for the time they had available and were afraid to control the time. They also had difficulties with teaching, namely teaching everything they had in mind and not lecturing at the same time.

The third axis (5th question) contains the results on the students' views on the feedback they received after their micro-teaching. The majority of students felt that both the process of micro-teaching and the overall lesson prepared them for graduate training. It was a safe environment and they felt that they would not be judged for their mistakes because the basic goal of the process was to become better teachers. In other words, because micro-teaching is free from the pressures of teaching in real-life situations, it provides the opportunity and context for feedback on teaching practice and thus for teacher trainees to become aware of the relationship between their thoughts and their practice. Feedback can be an area of metacognitive process in the practical training of trainee teachers with micro-

teaching, as micro-teaching is followed by projection and then discussion about what has previously taken place between the students and the supervisor-teacher.

Regarding the skills they cultivated through micro-teaching (6th question), the majority of students stated that they learnt to prepare their lessons, control their teaching time, set their educational goals, understand that they need to set specific educational goals and experiment with new teaching methods. Moreover, they argued that their participation in micro-teaching not only as teachers but also as listeners contributed to their improvement as future teachers. Through micro-teaching, the future teachers had the opportunity to practice the basic skills of the teaching dimension of their professional role. In the context of this technique, teaching is seen as a process that can be learnt, just as a pilot learns to fly an airplane or a surgeon learns to perform a heart transplant. What makes a good pilot or a good surgeon is a broad base of general scientific training, but also a set of specific skills that contribute to the effective fulfilment of their professional tasks. And just as we do not allow a pilot to fly an airplane or a surgeon to perform a heart transplant without first having practiced properly and without having acquired in the course of that practice the basic skills necessary to carry out their work successfully, so too the teacher must practice various teaching skills in order to prepare and carry out efficiently and successfully the responsible and difficult task he has to perform every day in the classroom.

The vast majority of students surveyed regarding the micro-teaching sessions conducted as part of the implementation of the micro-teaching and practicum course (7th question) indicated that the time spent with their fellow students in the group helped them to better understand the process. Also, the introductory courses were useful, the facilities provided helped them to understand the course better and the materials provided helped them to understand the whole process. Also, the introductory activities helped them to better understand what they had to do and finally that they understood the objectives and process of micro-teaching before they started designing their assigned research lesson. This positive result, recorded by the students' responses in our survey, is confirmed by other relevant research that teachers systematically review their teaching methods, the content of their lessons, their lesson plans, and the strategies they use in the classroom in the context of implementing micro-teaching (Lewis & Tsuchida, 1998). In this context, the purpose of microteaching and graduate training is to improve teaching and learning in the classroom and is based on the logic of collaboration, mutual assessment and feedback between teachers who take an research role in classroom implementation, which they use appropriately for their professional development and for the benefit of their students.

Regarding the role of micro-teaching in shaping their role as future teachers (question 8), the overwhelming majority of students surveyed stated that micro-teaching was essential to their studies. They strongly agreed that their course was successful, that it met their main objective, that their team used textbooks, research papers or other external information to shape their course. The research they did to design their course allowed them to expand their knowledge of the content of their course, observing learners' learning and thinking during class was an important learning experience, participating in the course was a valuable learning experience, and the course was a valuable learning experience for the students. The vast majority of students surveyed indicated that they benefited from microteaching in relation to their classes and for anticipating potential questions from their fellow students in the course. The enrichment of the research course through the contribution of knowledge, experiences, suggestions and different perspectives of the team members promotes their professional development. These collective processes, which are

encouraged in the implementation of micro-teaching, promote the level of knowledge of the participating trainees and their professional development in the context of their initial training programme.

4. CONCLUSIONS AND SUGGESTIONS

The present survey showed that the students who had done micro-teaching were very well informed about the process. The survey also showed that the participation of student trainees in a climate of mutual respect, sympathy and collegiality is important for the success of micro-teaching. In addition, the present study shows that micro-teaching contributes to the motivation of trainee teachers to achieve certain educational and teaching objectives and to improve their performance. Their mobilization for conquering achieve specific goals and to improve their performance through their experience of micro-teaching, which motivates them based on the intended learning objectives to engage in detailed discussions about educational strategies, such as questioning techniques and predicting student responses, to assess the lesson plan and evaluate their efforts (Sims & Walsh, 2009). In addition, micro-teaching encourages feedback and collaborative reflection among beginning teachers, places student learning at the center and supports teachers' continuous professional development (Wessels, 2018). These findings are consistent with the results of other relevant research that micro-teaching and graduate education helps trainee teachers to recognize the value of collaboration, become more collaborative in planning their lessons, develop the ability to observe and collect important data about student learning, and reflect more openly and honestly on their lessons (Lucas, 2014).

In particular, it is noted that the prospective teachers' mobilization to achieve specific goals and improve their performance is achieved through their micro-teaching experiences which enable them to analyze their lessons in relation to the intended learning objectives, have in-depth discussions about teaching strategies such as questioning techniques, predicting student responses, assessing the lesson plan and evaluating their efforts. Students were able to recognize and identify teaching skills (e.g. asking questions, reinforcing students). Furthermore, they were familiar with various participatory teaching techniques (e.g., brainstorming, case study, concept map, simulation, etc.) that encourage active participation and that they can use in their teaching. They have also understood that different alternative methods can lead to effective teaching. Moreover, they have improved their teaching fluency by observing the teaching activities of other fellow students and discussing various teaching issues with them. Finally, they practiced the process of reflection, which contributes to the self-assessment of their personal learning. The main benefits of implementing micro-teaching are highlighted as collaboration, professional development of the trainee teachers, reflection and active learning with constructive discussion, planning, practice, observation and feedback.

Students were able to reduce their compositional experiences and technical training to a educational tool, both purely and in combination with other musical and creative activities. They trained to identify and describe the factors and conditions that promote the effectiveness of composition teaching. They learnt to examine, critically evaluate and use available teaching materials and to formulate teaching materials that are tailored to the students' needs. As a result, they practiced preparing, organizing and implementing teaching scenarios under conditions (micro-teaching) and under real-life conditions

(internship in music schools). They also practiced how to deal with challenges related to teaching practice (e.g. time management, adapting to unexpected programme changes, etc.). They also learnt to become familiar with flexible, curriculum-aligned practices as well as individualized and bottom-up teaching. They had the opportunity to experiment with alternative teaching practices and materials, trying to recognize their own particular teaching identity, self-evaluate their teaching and adjust their teaching methods according to the objectives and plan of teaching. Finally, micro-teaching is a technique for practicing teaching skills and behavioral patterns, it involves video recording lessons. It is not a mechanistic process, as not only social but also emotional intelligence skills are cultivated. Through micro-teaching, students seem to recognize the importance of key factors for teaching success, such as time management, student empowerment and systematic preparation, which also leads to a better knowledge of the subject matter by searching for material beyond what the textbook offers (Fernandez & Robinson, 2006).

Microteaching is a versatile teaching technique. It has been used in various fields such as life sciences, business, psychology and many others. It focuses on 'how to teach'. Furthermore, it emphasizes practicing teaching under controlled conditions and with a certain teaching behavior. Every teacher would agree that microteaching is crucial for their professional growth as it helps them develop their knowledge, skills and professional attitude. The importance of micro-teaching cannot be ignored as it helps an educator to gain the required skills. One of the major benefits of micro-teaching is that it allows student teachers to focus on practicing a specific, well-defined skill. Through the micro-teaching cycle, teachers receive immediate feedback that they can implement right away. Another factor that emphasizes the importance of micro-teaching is the fact that it does not put students at risk if the teacher fails. It should be briefly noted that the specific practice of micro-teaching in the training of future teachers has also confirmed the assertion that micro-teaching is a useful laboratory exercise and that it would be appropriate to integrate it into the curricula of teacher training departments or to enhance its use. Micro-teaching is already used in training programmes for practicing teachers and it would be interesting to extend its use to higher education teaching staff, with a view to share experiences, ideas and practices, deepen teaching and reflect on teaching.

In other words, micro-teaching is a simulation technique with which we can create or change a desired or a given undesired form of the teacher's teaching behavior. Through microteaching, future teachers are trained in the basic skills of the teaching dimension of their professional role. In the context of this technique, teaching is seen as a process that can be learnt, just as a pilot learns to fly an airplane or a surgeon learns to perform a heart transplant. What characterizes a good pilot or a good surgeon is a broad base of general scientific training, but also a set of specific skills that contribute to the effective fulfilment of their professional duties. And just as we do not allow a pilot to fly a plane or a surgeon to perform a heart transplant without having practiced properly and without having acquired the basic skills necessary to carry out their work successfully, so too the teacher must practice various teaching skills in order to prepare and carry out efficiently and successfully the responsible and difficult task they have to perform every day in the classroom. Moreover, we have found that it trains teachers in self-monitoring and self-control through the use of technology, stimulates self-perception, increases interest and helps to reduce anxiety in teacher candidates, introduces teachers to the construction and use of evaluation tools and observation sheets, familiarizes participants with the practice of monitoring and evaluating teaching behavior and encourages them to formulate

alternative and improvement suggestions, can gain a broader research perspective and can be used as a tool for evaluating teaching behavior.

Despite the positive results arising from the use of microteaching, there are some limitations. The research sample was relatively small. The use of a larger sample would have increased the reliability of the study. In addition, there were time constraints associated with conducting the survey (it lasted one semester) that did not allow for a longer duration.

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https://doi.org/10.1007/978-3-319-72170-5_41

MIKRONASTAVA I DIPLOMSKA OBUKA: POGLEDI I STAVOVI BUDUĆIH NASTAVNIKA

Apstrakt

Mikronastava i diplomatska obuka predstavljaju „nastavnu probu“, koja ima za cilj da ojača budućeg nastavnika da stekne i/ili unapredi svoje nastavne veštine, kao i stavove i ponašanja. Imajući to u vidu, glavni ciljevi ovog istraživanja bili su da se ispita: a) kako se specifične nastavne veštine mogu kultivirati, b) kako organizovati nastavnu sesiju, c) kako budući nastavnik može da unapredi svoje veštine kroz „nastavu na probama“. Da bi se postigli navedeni ciljevi, u radu su postavljena sledeća istraživačka pitanja: a) Kako studenti vide ulogu mikronastave? b) Kako mogu da neguju posebne nastavne veštine? c) Sa kojim problemima i poteškoćama se susreću u svojoj nastavnoj praksi? Istraživanje je obavljeno na Pedagoškom fakultetu Univerziteta Zapadne Makedonije, na Katedri za osnovno obrazovanje. Od metoda istraživanja primenjena je “studija slučaja”, a kao instrument je korišćen upitnik sa pitanja koja su se odnosila na stavove i mišljenja budućih nastavnika o procesu mikronastave i praktikuma. Analiza istraživačkog materijala izvršena je metodom kvalitativne analize sadržaja. Rezultati su pokazali da su studenti nakon uspešno završene mikronastave i usavršavanja formirali sveobuhvatnu empirijsku percepciju o karakteristikama i osobnostima nastavnog rada koji će obavljati kao budući nastavnici. Ovo istraživanje može doprineti nastanku obrazovnih tehnika koje se koriste širom sveta u pripremi budućih nastavnika, bez obzira na njihovu specijalizaciju ili stepen obrazovanja.

Ključne reči: mikronastava, diplomatska obuka, nastava, učenje, budući nastavnici



INTERACTIVE TEACHING USING LITERARY TEXT AS A MEANS OF MOTIVATING AND ACTIVATING STUDENTS

UDC 371.314.6::821.163.41; 371.311.4::821.163.41

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Abstract. *The shortcomings of traditional instruction, reflected in weak student motivation, insufficient verbal and practical activity, inadequate consideration of needs and interests, can be effectively addressed through the use of interactive instruction. The aim of this paper is to emphasize the value of literary text as a solid foundation for ensuring smooth interaction and promoting prosocial behaviour among students. The objective is to demonstrate the possibilities of multidirectional interaction among students about the text, while acquiring functional knowledge. This provides conditions for emotional and moral development, as well as prosocial behaviour among students. Using the theoretical analysis method of literary texts (Aesop's fable 'The Lion and the Mouse,' folk fable 'The Fox and the Raven,' and the fairy tale 'Moon Flower' by Grozdana Olujić), we will demonstrate the methodological possibilities of animating students to reflect on what they read, react to what they learn, and engage with their immediate environment. In such established interaction with literary texts, as well as with other students in the group and class, significant changes occur in intellectual, emotional, aesthetic, and especially moral and social development of personality, leading to self-reflection and prosocial behaviour.*

Keywords: *literary text, interactive instruction, teacher, student, prosocial development*

1. INTRODUCTION

Numerous studies, as well as everyday unfortunate events involving increasingly younger individuals, particularly elementary school-age children, confirm that families and schools are struggling to meet important educational objectives in personality development. Incomplete families, busy parents, negative role models from the environment, virtual reality (which most young people live in today), along with poorly developed communication skills, insufficient socialization, lack of empathy, and weak interaction, produce socially unmotivated, egocentric personalities. Unlike traditional schools, which were catalysts for visible progressive changes in society, and thus in

Received December 12, 2023/Accepted February 05, 2024

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personality development, today's school is (un)justifiably becoming a frequent target of public criticism due to insufficiently visible effects when it comes to the educational aspect of personality. The fact is that, apart from certain knowledge, the process of teaching and learning should help a young individual build themselves as a person. The path to a well-rounded, complete, emotionally sensitive, spiritually rich, and morally strong personality is accompanied by obstacles, difficulties, and dilemmas. It is full of ups and downs, but it is a sure way to discover the truth, overcome evil, and strengthen one's personality. Today, this is a path less frequently taken, even when adults are concerned.

Under the conditions of rapid development in science and technology, the emergence of artificial intelligence, and other modern achievements that replace the human factor in every field, the role of schools and teachers becomes even more crucial. Growing up with modern media that capture the attention of young people from the very first days of life, gradually, these media take precedence, focusing on themselves without caring for others. Sound, clicks, light signals, animation – these are things they surrender to completely, disregarding words, advice, pleas, or cries for help. Under such circumstances, a skilled teacher, as a good creator of education, especially literary education, can significantly change students' attitudes toward each other, work, school, and the immediate and broader environment by applying modern teaching models, such as interactive instruction. The first step in this is a harmonious relationship among students in the classroom, starting with the personal satisfaction of each of them. By organizing learning situations in which they would actively participate according to their abilities, engaging with others leads to the development of well-rounded personalities. Many authors argue that one of the main objectives of the school is to find methods that motivate students to engage in self-activity, as well as collaboration with others.

This paper will further explore the benefits of interactive instruction, which can be a good strategy for meeting educational objectives of the school. It can successfully create a stimulating environment to encourage activities and develop the social skills of students, enriching their emotional and spiritual world.

2. INTERACTION AS THE PRIMARY HUMAN NEED

Since ancient times, humans have had the need to come together, initially due to existential problems and later for meeting social and other needs. Over time, humans have become social beings, and their complete development is possible only through interaction with others. The significance of interaction has always been and remains an essential factor in the development of speech, social, and moral aspects of personality. Interaction, as mutual action and joint effort, arises from the reciprocal actions and influences of all participants, confirming the interconnected functioning of all elements in a society or segments of an individual's personality. It is an integral part of the teaching process. Research in Dutch primary schools have shown that increased interaction significantly contributes to the development of children's social, emotional, and cognitive abilities (more in *Interactive Teaching, Dynamics of Effective Learning and Teaching*, 2003).

If society is advanced in technological, social, democratic, scientific, and every other sense, it is expected that the individual would be or strive to be the same. However, the rapid development of science and technology, instead of assisting young individuals in self-education, keeping up with changes, and actively participating in them to adapt to the

current times, increasingly disrupts the concept of a human being as a rational, thinking, and social being. The individual closes themselves off, becoming a self-sufficient personality, inadequately motivated for any substantial qualitative change in themselves or their surroundings. There is a diminishing sense for others, depriving oneself of many pleasures and joys that social life and its diversity bring.

Simultaneously, one cannot form a real image of oneself that arises based on the observations of others about us.

In order to alleviate the consequences of the modern way of life, at least until a young individual matures and acquires a sufficient level of critical awareness through education to distinguish between good and bad, positive and negative, moral and immoral, support for productive and progressive behaviour should be sought in a good educational system and teaching strategies that are implemented. A crucial role in all of this is played by the teacher as the primary pillar of elementary education.

3. TEACHER, STUDENT AND INTERACTIVE INSTRUCTION

The teacher is someone entrusted with the upbringing and education of children during their most intensive developmental period. Their instructional efforts affect the students' formation of value systems, positive personality traits are developed, the emotional world is enriched, creativity is encouraged, and the development of humane interpersonal relationships is influenced. Teachers are expected to constantly listen, observe, and notice, thoroughly get to know each student's personality, reflect on an individual approach to each, and recognize the need for establishing interaction. Interaction initially occurs between the teacher and the student, and over time, it extends to interactions among students within the classroom and beyond. A competent teacher knows that interactive instruction, which involves, among other things, the active involvement of students in group activities and the exchange of thoughts, ideas, and perspectives, significantly contributes to nurturing an individual style. Besides actively acquiring knowledge, skills, and habits, this type of teaching contributes to increased activity and the development of creativity, responsibility, and independence.

The essence of modern instruction should not merely be the transfer of knowledge. Today, information is almost always and everywhere accessible to students, often without the presence of a teacher. Hence, the teacher's role is evolving. The primary objective becomes shaping (and in some cases preserving) a curious, research-oriented, active, and emotionally sensitive personality in the child. Creating stimulating situations, posing problems, encouraging critical thinking, and finding possible solutions through pair work, group work, or teamwork that would lead to the progressive development of personality. Encouraging each student to express their opinions, use personal experience, provide justifications and arguments ensures cognitive, social, and emotional activity. Simultaneously, there is a sense of satisfaction with achievements, strengthening self-confidence, developing self-responsibility, and responsibility for the success of the group. Well-prepared questions and assignments encourage students to explore, discover, compare, generalize, conclude, propose, and apply what they have learned. Over time, the trust instilled leads to a sense of responsibility for self-education, personal development, and relationships with others. This contributes to overcoming conflicting situations and creating a progressive society where the progress of each individual is equally important.

By working in this way, the self-confidence of students is enhanced, along with an awareness of their own value and their role in a group. Intrinsic motivation is developed to be better, more humane, more successful, and more responsible. This type of motivation arises from "objectifying general intrinsic needs and internalizing previous external regulation of behaviour, but the help of others is indispensable" (Trebješanin, 2005, p. 64).

4. LITERARY TEXT AS A MEANS OF ENCOURAGING ACTION AND INTERACTION AMONG STUDENTS

"School work is primarily focused on learning and development, thus requiring social interaction" (Roeders, 2003, p. 39). The interconnection between these two aspects necessitates the need for a proper selection of learning objectives and assignments, as well as valuable content. Literary contents can significantly activate students in the classroom and contribute to quality interaction within the class. Literature, as the art of words, with its poetic world, positive characters, their traits, actions, messages, language, and style, significantly influences the spiritual development and behaviour of the recipient (more in Stojanović, 2011). Reading and working with the text (analyzing what has been read, experienced, learned) are individual acts for each student. At the same time, the individual experience of a literary work can be the subject of discussion and evaluation at the level of a larger group or class.

Interactive literature instruction allows the student to simultaneously act as an individual and as part of a group. While reading a literary work, the student engages personal experience, imaginative abilities, and creative potential. During the analysis and interpretation of the literary work at the group level, their individual opinion encourages diversity in the views of others, leading to productive interaction (more in Vilotijević & Vilotijević, 2016, pp. 113-116). This ensures a broader understanding of the work, as well as getting to know the student, their intellect, moral, social, and emotional views. Through mutual communication related to the work, a more comprehensive picture of the poetic world of the work, relationships among characters, their traits, actions, and behaviour is obtained. Knowing that there are no right or wrong answers in interpreting a literary text as long as the student has valid arguments speaks volumes about the value of this learning content in developing critical and creative thinking, imagination, and enriching emotions.

The primary goal of education, according to Pestalozzi, should be *the unity of head, heart, and hands* - the integration of cognitive, affective, and psychomotor aspects. Working with well-chosen texts ensures this unity, leading to significant qualitative changes in development. Student activity would be at an admirable level if we devise stimulating questions, thereby ensuring quality interaction in the group. Reciprocal influences positively affect the overall climate in the classroom, especially when group composition changes. Discussing the content of the text, characters, their actions and behaviour, traits, confronting opinions, evaluating each from their own perspective, and aligning with others establish new relationships for the student, helping them get to know their peers better and become closer. Often, the activity from school transfers to socializing at home regarding assignments such as dramatization, mask making, posters, and similar activities. Working in small groups creates a favourable socioclimatic environment within the class and beyond. Students become more open, collaborative, supportive, and humane. Below, we list a series of possibilities for interactive work in analyzing selected fables and fairy tales.

5. METHODOLOGICAL POSSIBILITIES OF INTERACTION WITH AND ON LITERARY TEXTS

The value of a literary text lies, among other things, in its multiplicity and the multitude of messages it carries, as well as the approaches that can be used in analyzing it (more in Stojanović, 2016, 2011). Regardless of the approach, reading, and particularly interpreting and analyzing a work, provides various opportunities for interaction, both between the student and the text, and among the students themselves. Interaction should be encouraged and nurtured from the first grade. For example, in analyzing Aesop's fable *The Lion and the Mouse*, whose message is that *someone's small deed can mean a lot*, you can start with a game. Students in pairs draw cards with concepts: *wisdom, naivety, politeness, gratitude, thoughtlessness, impulsiveness, resourcefulness, arrogance, consistency, courage*, etc. They are tasked with reflecting on the concept they drew, exchanging opinions with their partner about what it implies, what it means to them, whether they have ever been in a situation to exhibit such a trait, and preparing to explain the concept together.

After the teacher's expressive reading and individual reading by students, it is possible to organize group work. Groups can be diverse in abilities if we want to leverage the value of peer learning and the opportunity for stronger students to assist weaker ones by explaining, guiding, encouraging, and developing solidarity and empathy. Periodically, it is beneficial to practice homogeneous groups if we want to provide the possibility of an individualized approach and progress for each student. Below are possible assignments for interactive work on Aesop's fable *The Lion and the Mouse*, grouped according to the actions of the characters. These assignments aim to develop imagination, observation, and naming of feelings, recognition of relationships among characters, as well as the expression of experiences and knowledge. It is recommended to select a smaller number of tasks given that these are first-grade students. The teacher can choose tasks that they are confident will significantly contribute to the development of the students' educational aspects in their class.

Group 1 (characters' actions) – *Do good and do not regret it; do evil and hope for the best.*

Let one student from the group read the fable. Others listen carefully. Each task should be read carefully, they should think about it, exchange their thoughts with others in the group, and prepare the answers together.

- Think about how the mouse acted when it decided to run over the lion.
- Did you expect the lion to eat the mouse? Why?
- Analyze the mouse's behaviour when addressing the lion. In what tone does it do so? Why?
- What do you think about the lion's decision to spare the mouse? Did he do the right thing?
- What do you think about the lion laughing at the mouse? Is it okay? Why or why not?
- Why is the lion laughing at the mouse? What does it say about him? What kind of lion is he?
- How do you understand the sentence that the lion roared helplessly? What preceded this?
- How did the mouse act when it heard the lion's roar? Did it hesitate for a long time? What did it do?

- Why did the mouse remind the lion of the event at the beginning of the fable? Would you have done the same?

Group 2 – *My imagination can create anything*

Let's imagine the encounter between the lion and the mouse. Let each person in the group describe that encounter. Using the given questions, vividly depict the meeting and what happened.

- Where did the lion and the mouse meet? What kind of dream was the lion having when he felt the mouse running over him? How was the mouse running? What was the mouse thinking about when the lion woke up?

Now, imagine the situation of the captured lion.

- Where did this happen? What preceded it? Who captured the lion? What was the lion thinking while in the net? Did he believe that someone would come to help him? Whom was he expecting? Did he remember the mouse?

Listen to each other and write the best possible story about the lion and the mouse, incorporating ideas from everyone. We assume that they are now friends and that they will always be there for each other in the future

Group 3 (feelings of the characters) – *I feel – you feel...*

Carefully read the fable, reflecting on the feelings of the mouse and the lion. Now, let's together come up with answers to the given questions.

How did the mouse feel?

- while running over the lion _____
- when the lion caught him and said he would eat him _____
- when the lion released him and spared his life _____
- when he heard the lion roaring helplessly _____
- when he was biting the net _____
- when he freed the lion _____

How did the lion feel?

- when he saw the mouse on him _____
- when the mouse pleaded with him _____
- when he laughed _____
- when he released the mouse _____
- when he found himself trapped in the net _____
- when he saw the mouse biting the net _____
- when the mouse chewed through the net _____

Group 4 (reflexive behaviour) – *Me and others*

Connect the event from the fable with your own experience. Let the following questions help you. Remember if you have ever acted similarly to the lion, or to the mouse. Has anyone treated you similarly? Exchange experiences and be prepared to talk about it.

- Has something similar to the mouse ever happened to you? Have you ever acted like the lion at the beginning of the fable? Share with others in the group.
- How would you behave if you were in the mouse's shoes at the beginning of the fable?
- What else would you do to appease the lion? What advice would you give to the little mouse?

- What virtues of his would you emphasize based on his actions in the fable?
- What would you do if you were in the lion's shoes at the beginning of the fable?
- How would you behave towards the mouse or someone else weak, small, or helpless in everyday life?
- How would you advise the lion? What were his flaws in the fable?

Group 5 (role play) – *In someone else's shoes*

Divide yourselves into three groups, and then decide which group will dramatize each situation from the ones listed.

1. The encounter between the lion and the mouse at the beginning of the fable. Make an effort to express the feelings and moods of the characters.
2. The encounter at the end when the lion was captured, and the mouse saves him. Make an effort to express the feelings and moods of the characters.
3. A new accidental encounter between the lion and the mouse. How did it unfold? What did they say to each other? In what kind of relationships are they now?

After the group work, there will be a report on the activities at the class level, followed by a joint discussion with messages that the knowledge gained should be applied in life. Whenever we can, we should help others. We should not mock or underestimate the small, weak, or vulnerable because sometimes a small help means a lot.

In a similar way, we can prepare questions and assignments for group work on the fable *The Fox and the Crow*, which is analyzed in the second grade. Considering the age characteristics of the students, we can create exploratory tasks that guide them to pay attention to the characters, their actions, behaviour, and speech while reading. Questions such as: Pay attention to how the fox addresses the crow at the beginning and at the end of the fable. How does the crow feel at the beginning and at the end of the fable? Increase the students' alertness during reading and understanding the fable.

We can facilitate group interaction with the following questions: What do we learn about the fox at the beginning of the fable based on the tone she uses to address the crow? Does the crow pay attention to her tone? What could warn him that he should pay attention? How would the encounter end? What would happen? Imagine the crow's cawing. How does the fox feel then? What is she thinking? How does the crow feel while "singing"? What is he expecting? Why is it important to pay attention to the speech of others? What do we communicate to others through our speech? What can others find out about us based on our speech? How do we reveal our feelings through speech? Do we reveal what we think through speech? What do we convey about ourselves through gestures and facial expressions?

In order to develop students' abilities to interpret the speech of others, both verbal and non-verbal, it is possible to use video recordings of actors with different messages that students need to discover. Additionally, visual recordings without sound can be utilized, where students interpret the feelings, moods, and intentions of characters based on facial expressions. Exercises of this type are valuable for acquiring social and emotional competencies, enabling students to easily recognize and name the feelings and intentions of others in everyday communication, thereby avoiding many misunderstandings that often escalate into serious problematic situations.

The fairy tale is a specific literary genre that, with its twists, obstacles, and challenges faced by the protagonist, provides an opportunity for interesting discussion among young readers. The constant presence of uncertainty about whether the hero will overcome, defeat

evil, how, in what way, and with what consequences, leads to a productive multidirectional dialogue and rich interaction. By using an interactive approach in analyzing the fairy tale "Mesečev cvet" (Moon Flower) by Grozdana Olujić with fourth-grade students, we increase their activity in class. We help them better understand the boy Vedran, his lifestyle in the apartment, behaviour in nature, relationships with others, and the transformation that occurs until the end of the fairy tale when he finds the Moon Flower. With this approach, they can easily identify with him. The problem of contemporary children in this fairy tale, isolated from society, far from nature, on top of a skyscraper, provides an opportunity for productive discussion. After a content analysis, it is possible to form five groups: *Vedran's* group, *Parents'* group, *Raspberry bush* group, *Ants'* group, and the *Spring* group.

Each group will receive assignments for a more in-depth study of the segment describing a specific aspect of Vedran's life (in the tower, on the street, in the meadow, in the forest, by the spring). The first group should study what kind of boy Vedran is, where he lives, with whom, how, and why he does not grow up. The second group should describe Vedran's parents, what they do, what their relationship is with Vedran, and where they make mistakes. The third group examines his relationship with nature, the encounter with the raspberry bush. How does he behave when he sees it on his leg, what he does, why, whether it is okay, and why not. The fourth group observes the boy based on his relationship with the ants, how the encounter with them unfolds, what he does, whether it is okay, what changes, when, how, and why. The fifth group examines his character based on his relationship with water as the source of life. By exchanging thoughts about the spoiled boy, caring parents, his inhumane attitude towards ants, the raspberry bush, and the spring, they come to the realization that by spending time in nature, redeeming himself for his mistakes, serving water, the forest, and ants, Vedran undergoes a physical and spiritual transformation. In the end, he grows into a beautiful boy who refuses to pick the Moon Flower, visible only to those who are sensitive, humane, and noble.

All of this is a good motivation for the teacher to encourage students to examine themselves, their qualities, actions, relationships with others, and their relationship with nature, plants, and animals. If the teacher decides to expand on what was learned in the fairy tale and incorporate extracurricular activities, it is possible to design project tasks for group work that would engage students in implementing environmental actions in the local community. They could plant trees, care for abandoned animals, provide shelter for birds during winter, clean classrooms, the schoolyard, nearby streams, meadows, create and display eco-messages, and more.

6. DISCUSSION OF RESULTS AND CONCLUDING REMARKS

Life in the virtual world, with the focus on counting likes, without verbal interactions and the immediate presence of others, leads to spiritual and emotional impoverishment, apathy, destruction, and violence. Modern children often grow up without meeting their basic social and psychological needs, which are crucial for mental health. Besides the family, the school's task is to provide stimuli for the unhindered development of the child's complete personality. Through interactive work on literary texts, as well as extracurricular activities after analyzing these texts, the qualitative developmental changes on intellectual, emotional, aesthetic, moral, and social levels are possible in younger students. The

outcomes of such organized learning are reliable indicators of students' activity in education (Ivić et al., 2001) as they are observed through:

- *students' ability* to successfully observe important personality traits (both positive and negative, virtues and flaws);
- *knowledge* of different personality types: tolerant, polite, skilful, sincere, just, moral, persistent, gullible, flattering, etc.;
- *the ability* to understand and express different feelings and moods of characters through dialogue analysis that is characteristic of specific situations; the ability to "put oneself in someone else's shoes" and view many real-life situations from another perspective;
- *the ability to understand* the actions and behaviour of characters by recognizing cause-and-effect relationships;
- *the ability* to critically evaluate and assess people's actions in everyday life; recognizing the good and bad intentions of people in the environment;
- *the ability* to establish successful communication;
- *the ability to apply what has been learned* in practice, leading to a reduction in conflict situations and violence;
- *a negative attitude* towards violence and aggressors, belief in the power of kind words and positive gestures, leading to social responsibility.

Through successful methodological interpretation of literary texts and by providing effective motivation for interactive group work, teachers contribute to the development of various aspects of students' personalities. A quality analysis of literary works, empathizing with characters, noticing feelings and moods, reflecting on actions, valuing, connecting with everyday experiences, and exhibiting reflective behaviour lead to fundamental changes in the students' personalities. Over time, students become active members of the broader social community, independent, and responsible for their own actions.

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INTERAKTIVNA NASTAVA NA PRIMERU KNJIŽEVNOG TEKSTA KAO NAČIN MOTIVACIJE I AKTIVACIJE UČENIKA

Apstrakt

Nedostaci tradicionalne nastave, koji se ogledaju u slaboj motivaciji učenika, nedovoljnoj govornoj i praktičnoj aktivnosti, nedovoljnom uvažavanju potreba i interesovanja, uspešno se mogu otkloniti primenom interaktivne nastave. Cilj rada je ukazati na vrednosti književnog teksta kao dobre polazne osnove za obezbeđivanje nesmetane interakcije i prosocijalno ponašanje učenika. Zadatak je pokazati mogućnosti višesmerne interakcije između učenika u vezi sa tekstem, uz sticanje funkcionalnih znanja. Time se obezbeđuju uslovi za emocionalni i moralni razvoj i prosocijalno ponašanje učenika. Metodom teorijske analize književnih tekstova (Ezopove basne „Lav i miš“, narodne basne „Lisica i gavran“ i bajke „Mesečev cvet“ Grozdane Olujić) pokazaćemo metodičke mogućnosti animiranja učenika da, radom na tekstu, promišlja o pročitanoj, reaguje na saznato, ali i angažuje se u neposrednom okruženju. U tako uspostavljenoj interakciji sa književnim tekstem, kao i ostalim učenicima u grupi i odeljenju, nastaju suštinske promene u intelektualnom, emocionalnom, estetskom, a posebno moralnom i socijalnom razvoju ličnosti, što vodi ka samorefleksiji i prosocijalnom postupanju.

Ključne reči: *književni tekst, interaktivna nastava, učitelj, učenik, prosocijalni razvoj*



(DIS)HARMONY BETWEEN THE PRESCHOOL CURRICULUM AND INITIAL READING AND WRITING INSTRUCTION IN THE FIRST GRADE OF PRIMARY SCHOOL

UDC 37.091.4; 373.2.022; 159.953.3/5-053.4

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Abstract. *Concept The foundation of the preschool education programme – Years of Ascension – implies a set of educational competences for lifelong learning, including communication in the mother tongue. In line with these competences, early literacy is developed through symbolic recording activities, while written communication is not developed through separate learning of reading and writing, but as an independent, spontaneous activity. The teacher has the opportunity to provoke preschool children by focusing on a specific project activity that matches the child's interests. It is noticeable that the preparation for teaching initial reading and writing, which in the earlier period was focused on acquiring the basics of initial reading and writing according to the new foundations of the programme, is missing, which results in discourse in the preparatory preschool period because the child is not sufficiently trained to acquire the basics of initial reading and writing as required by classroom instruction. The aim of the article is to point out the limited possibilities of this defined concept of preparing a child for the teaching of initial reading and writing, as well as the difficulties and dilemmas faced by teachers in the first grade of primary school. Using the content analysis method, we found that there is no correspondence between the basics of preschool education and the teaching of initial reading and writing in the first grade of primary school, but also the teaching of other subjects in the younger grades of primary school. The results show that there is a discrepancy between the goal of the programme and all points of the implementation of pre-school education and the educational programme. We therefore conclude that the first grade students are not fully trained for the teaching of initial reading and writing in the first grade of elementary school.*

Keywords: *years of ascension, competence, first grade, teaching of initial reading and writing*

Received December 23, 2023/Accepted March 20, 2024

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1. INTRODUCTION

The modern approach to education prescribes a concept that is orientated towards children's interests and is consistent with theoretical assumptions about childhood, learning and child development. The foundation of the preschool curriculum in Serbia is based on humanistic values, but also emphasizes the place and importance of children's play in learning and development. Play represents "the child's cognitive activity in which he or she acquires new experiences by structuring his or her existing experiences and at the same time moves along the ladder of cognitive development towards its higher and more contemporary forms." (Budimir-Ninković, Stojanović, 2013, p. 67). Looking at the child's play found in the starting points of the Preschool Curriculum Fundamentals concept, we encounter a document that defines the concept of preschool children's education. Similar to contemporary researchers of this approach to learning (Lofgren & Fefferman, 2007), Comenius believed that children should not be deprived of joy and happiness, which for them is essentially play, which he considered an important and natural didactic strategy because play is an imitation of life itself. According to Comenius (Comenius, 2008, p. 301), "pre-school childhood is one of the most turbulent periods in the development of all potentialities, especially creativity, which has an irreplaceable function for the overall personality of the child." The foundations of Comenius learning can be found in the foundations of the Preschool Curriculum (Breneselović & Krnjaja, 2021) with the aim of "influencing "the development of predispositions for lifelong learning in children, such as openness, curiosity, resilience, the ability to reflect, perseverance, self-confidence in one's own abilities and a positive personal and social identity" (Krnjaja & Pavlović-Breneselović, 2017, p. 18). The foundations of the curriculum represent a "framework for achieving continuity between preschool and primary education" (Breneselović & Krnjaja, 2021, p. 5). The framework provided in the form of guidelines for preschool teachers represents a system based on the child's interests, a system that basically lacks a clearly elaborated set of activities that represent the elementary knowledge necessary for the transition from preschool to the first grade of primary school. If we look at the teachings of Comenius, we can see that he saw play and dialogue as good examples of a mixture of useful and entertaining elements (Comenius, 1907). It should be emphasized that students, like young children, should only be taught serious content, but teachers still need to do this in a 'fun' (playful) manner (Kamenov, 2008).

Play is considered crucial to the development of a child's well-being and learning. However, if a preschool child does not acquire new knowledge and form new concepts through play, then play becomes merely a project activity that reinforces previously learnt concepts. Project-organized activities in spatial units that are oriented towards the child's interests are precisely the basis on which cognitive (dis)harmony is built. These activities form the basis for the pre-school education programme and the initial teaching of reading and writing (Kamenov, 2008).

2. THE ARRANGEMENT OF SPACE AND THE ORGANIZATION OF SPATIAL UNITS AS THE FOUNDATION FOR THE PRESCHOOL EDUCATION PROGRAMME AND FOR THE CLASSROOMS IN THE FIRST GRADE OF PRIMARY SCHOOL

The modern foundations of preschool education are based on the organization of spatial units in accordance with the interests of preschool children. The following possibilities for

the organization of spatial units are identified: Spatial unit for building activities; spatial unit for visual expression; spatial unit for symbolic play; literary spatial unit; spatial unit for independence and hiding; spatial unit for sound and movement; spatial unit for exploring light and shadow; sensory spatial unit and kinesthetic spatial unit.

The transition from pre-school to the first grade of primary school is made more challenging due to the change from an organized space to the structured environment of primary school. We believe that in the primary school setting, certain spaces should be upgraded to be relevant for Serbian language classes in the younger grades. Considering the above-mentioned possibilities for organizing spatial units, we find that it is possible to establish a spatial unit for building activities in the first grade of primary school, in a classroom designated for technical education. This could develop pupils' motor skills as they create models of printed and later handwritten Cyrillic letters. From the information provided, it can be deduced that there is an integration with Maria Montessori's pedagogical concept. This concept is based on children's activities that involve learning with the help of various didactic materials and promote self-learning and self-discipline. This approach represents an educational goal and the role of pre-school and school teachers is to guide children in realizing this goal. In order to achieve the educational goals, three elements are of great importance: the provision of a suitable environment, sufficient stimulating didactic material for the children's self-activity and well-trained preschool or school teachers who can observe the independent activity of children. By observing the child, preschool and school teachers help the child to help himself and thus create the conditions for the child's free development.

In that context, it is possible to set up a sensory-spatial unit that not only aims to create graphomotor sequences, but also to work on these in the pre-literacy phase. This facility could focus on the development of bilateral coordination of movements. In the library, there is the possibility of setting up a literary spatial unit that contributes to the work of the literary department and aims to develop the reading habits of younger school-age children through a series of activities and projects. Considering the reading crisis and the concern for the development of a love of reading, we can conclude that it is necessary to reorganize the space in primary schools to facilitate the transition from preschool to first grade. Furthermore, the preschool space must be reorganized to allow the structuring of spatial units for the acquisition of rudimentary concepts necessary for the acquisition of knowledge in the first grade of primary school.

3. PROJECT PLANNING AS THE FOUNDATION FOR THE PRESCHOOL EDUCATION SYSTEM AND THE FIRST GRADE OF PRIMARY SCHOOL

The planning of activities, lessons, and learning is often based on theoretical frameworks derived from research on students' cognitive development. By focusing on Piaget's stages of development (Piaget, 1993), preschool and school teachers can adapt their teaching strategies to the specific cognitive abilities of students. Recognizing the sensorimotor, preoperational, concrete-operational and formal-operational stages forms the basis for adapting activities and the instruction process directed towards different age groups. When planning activities, it is essential to carefully consider the characteristics of each stage and to support a gradual transition from one stage to another. Piaget's insistence on interactive learning highlights the importance of activities that promote participatory

learning, experimentation and exploration. Preschool and school teachers should create an environment that supports active engagement and allows students to discover and construct knowledge on their own through play-based learning, especially in the first grade of primary school. “The concept of ‘play’ has taken on different meanings in different eras, and in current theoretical analyses the extremes in the understanding of play have been overcome. However, the question of its value is approached from different perspectives” (Mitranić, 2016). The concepts of assimilation and accommodation provide guidelines for adapting materials to help preschoolers and first graders integrate new information into their existing understanding. This involves adapting materials so that they assimilate new information into their current understanding and accommodate their understanding to accept new knowledge. Therefore, planning activities and lessons can include strategies that encourage group collaboration and learning, contributing to students’ social development.

Practical, concrete examples in lesson planning provide students with the opportunity to apply theoretical knowledge in a real-life context. This approach can strengthen their understanding and encourage long-term retention of information. Project planning, which involves collaborative learning and exploration by children and teachers through projects, has gained recognition in the professional community, particularly among practitioners. This recognition is a sign of the recognition of new programmatic concepts in pre-school education in Serbia, such as the “*Years of Ascent*”. On the other hand, project planning in primary school, which is based on Vygotsky’s concepts, emphasizes the importance of collaboration among students, fostering mutual support and the collective creation of knowledge. This approach also supports the idea that the planned activities should be adapted to the different developmental stages of the students. The integration of theoretical elements from Vygotsky’s learning theories into lesson planning in primary school emphasizes the need for support that facilitates learning at a social level. Through activities that encourage interaction, collaboration and joint exploration, project methods in the instruction process can effectively support the learning processes in line with the socio-cultural principles of Vygotsky’s theory. It is important to note that in the development of real programmes with preschool children, projects are not something entirely unfamiliar and new in our educational practice. In accordance with the theoretical principles of an open education system and developmentally appropriate practices, “project work” entered our educational practice through the international project “Step by Step” and is known in our country as “Preschool as a Family Center” (Hansen, Kaufmann & Welsh, 2001) and with Model A of General Fundamentals of the Preschool Curriculum of 2006 (Regulation on General Fundamentals of the Preschool Curriculum, 2006). However, it seems that it is only since the introduction of the new Fundamentals of the Preschool Curriculum – “*Years of Ascent*” in 2018 (Fundamentals of the Preschool Curriculum, 2018) that project work has gained popularity in our educational practice.

4. THE IMPORTANCE OF PRESCHOOL EDUCATION IN DEVELOPING THE FOUNDATIONS OF EARLY READING AND WRITING

Early Childhood Education has traditionally focused on the social, emotional and physical development of children, as well as basic language and math skills to prepare them for reading and math. This approach has left little room for children’s play and exploration

of the world around them (Worth, 2010). Due to concerns about navigating a rapidly changing world, adults believe that children need to be “educated” now more than ever, and they are in a hurry to impart what they perceive as necessary knowledge to children (Cabuk & Haktanir, 2010). However, research indicates that children need more than just mastery of content. The activities planned by preschool teachers, guided by a specific programme created by adults for children, are not always of interest to children and can create an unpleasant learning environment. Children not only need to be physically, emotionally and socially healthy, but also intellectually challenged, interested and engaged and supported in these aspects by close adults. Children learn through daily interaction with the physical and social environment, through what they do and experience, through actions and relationships they build with peers and adults while playing and exploring (Pavlović-Breneselović & Krnjaja, 2017; Pešić, 1985).

This leads us to consider the challenges of modern practises and the difficulties of acquiring literacy skills in the first grade of primary school. Children who come from a play-based environment may have difficulty adapting to an environment that imposes obligations on them, and the lack of work on graphomotor skills in preschool age can be noticed in the first grade of primary school. We believe that focusing on graphomotor sequences and the position of phonemes in words, based on encouragement from children or preschool teachers, could help bridge the gap between pre-literacy and literacy. “Separating the sound appearance of words from their meaning, breaking them down into phonemes as inseparable units, establishing their order, comparing words based on their sound structure and recognizing similarities and differences between them, as well as comparing differences in the meanings of words with different sound composition” (Eljkonjin, 1978; cited in Kamenov, 2006, p. 349).

The process of acquiring the position of phonemes in words can be supported by letters from the *Meshka and Friends* and *Učimo Slova* brands.

The *Alphabet* issued by *Meshka and Friends* brand, represents a significant contribution to the methodology of early reading and writing instruction. The goal of the alphabet is based on the foundations of Comenius teaching, which is based on the principles of the Montessori concept. It is about developing children's reading habits in conjunction with an innovative approach that provides a visual experience of letters in a practical and contemporary manner. In the search for ways to facilitate the process of recognizing and learning letters for younger school-age children, thus creating a foundation for the adoption of reading and writing skills, we came across a product that not only satisfies ecological aspects, but also addresses the practical application of the letters of the alphabet in a way that corresponds to the understanding and interests of modern children. “In the pre-school years, despite the introduction of some elements of school-based learning into the work with children, play and playful activities must not be eliminated and must not directly stand in the way of learning. The best effects are achieved by skilfully combining learning with didactic games, playful activities and others game procedures, taking care to make a difference between them. Children learn through play, and they learn to play in order to fulfil their essential needs” (Stojanović & Purić, 2017, p. 244).

On the other hand, the *Alphabet* of ‘*Učimo Slova*’ brand is based on research into concepts familiar to preschool children. Each letter of the alphabet is shaped according to a specific concept and contributes to learning the phonemes and their position in the words. In this way, the development of children’s linguistic and cognitive skills is encouraged on the basis of learning patterns directed towards understanding and memory. The process of

learning the alphabet begins with various levels of complexity, from different sounds to writing letters. Supporting cognitive development, according to cognitive psychology theories, involves strategies that take into account children's thinking and problem-solving skills.

More sensory stimuli, such as sound associations and visual stimuli, can be effective in creating cognitive connections and directing attention. The use of games as a form of interactive learning provides contextualized acquisition through tasks that have meaning for the student. Through ongoing exploration and the application of new methods, it is possible to focus on the best practices for successful acquisition of the letters of the alphabet in the early stages of education.

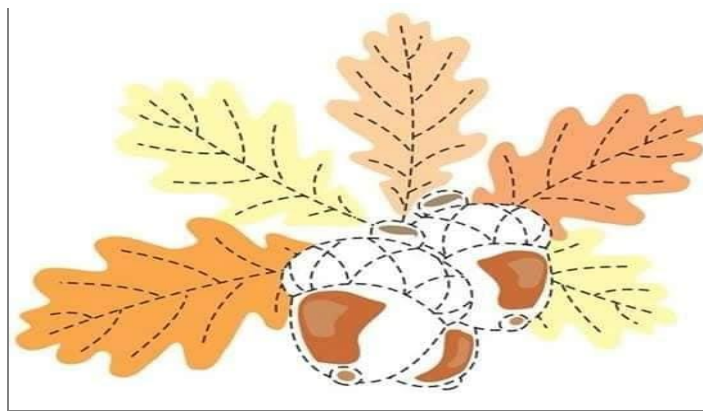
Both methods of letter acquisition were used in practical instruction in the first grade of primary school and represent a significant contribution to both practice and science. By adopting the printed letters of the alphabet, students acquire concepts related to a specific letter, which leads to a noticeable shift in the field of creative student activities. The products are an ideal example of combining playful preschool education with the curriculum centered on the acquisition of the printed letters of the alphabet.

The object of the research is to determine the conformity of a child's preparatory approach to teaching initial reading and writing within the annual programme and to determine students' ability to learn initial reading and writing in first grade.

Research Tasks:

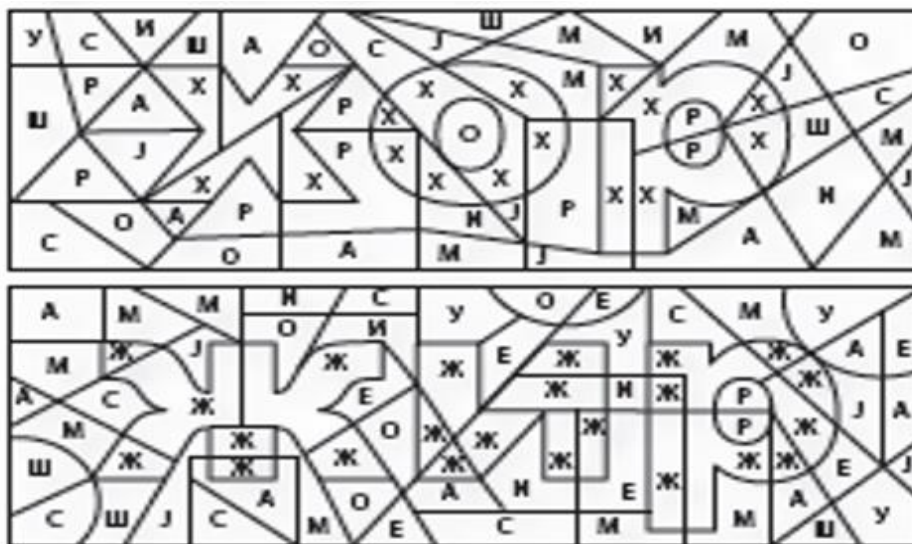
- to determine the conformity of the preparatory preschool period and the content of the randomness of initial reading and writing;
- to determine the disadvantages of the content of the preparatory preschool period and their reflections on the teaching of initial reading and writing;

In this context, we have presented conceptual solutions for conducting a lesson on the acquisition of the letters of the printed alphabet using the example of the letters A, X and Ж, with these letters forming the backbone of the consolidation lesson. The lesson conditions are outlined, which are based on adapted conditions similar to those in preschool facilities. They are implemented in such a manner that, on the one hand, the space must be adapted and, on the other hand, methodological instructions and performance standards for the pupils must be followed.



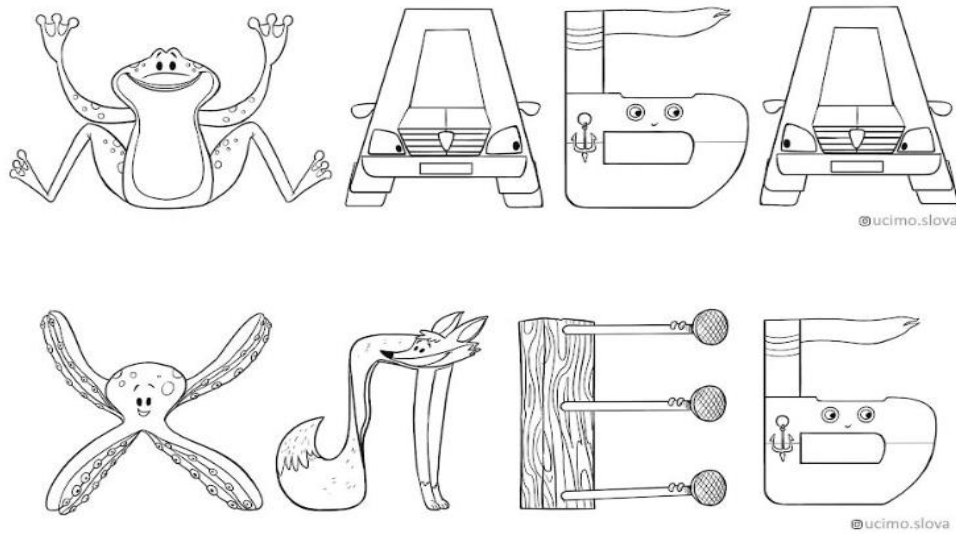
Drawing 1 Example of graphomotor skill development exercise

If we examine the instruction of early reading and writing from the perspective of modern concepts of the fundamentals of preschool curriculum, we will notice opportunities for the acquisition of printed letters of the alphabet that align with project-based planning in a way that motivates modern children to explore and seek solutions. “Activities for the development of phonological consciousness can be divided into those directed to: observation of rhyme, perception of syllables, perception of the first voice and perception of the individual voice” (Jovanović-Simić, Slavnić, & Dobrota-Davidović, 2008, p. 27).



Drawing 2 Examples of exercises for locating the printed letters 'x' and 'ж' and words in which these letters are in the initial position

The example given, which involves finding the position of phonemes in words where the phoneme is in initial position, is significant for the development of divergent thinking in first grade students. It is also important to develop students' ability to recognize letters based on given concepts at an early stage. „Considering that the development of phonological awareness ranges from awareness of larger units such as syllables and rhymes, to more developed sensitivity, which involves the existence of small units, i.e. phonemes in all positions within words“ (Šljivovac, 2023, p. 90) we can conclude that it is the conceptual solution being developed as a didactic tool represents an opportunity for the development of images based on a given letter placed in the initial position of words.



Drawing 3 Examples of exercises with printed letters x and ž and words where these letters are in the initial position (taken from: <https://www.instagram.com/ucimo.slova/>)

Considering that the initial reading and writing instruction is a complex psychophysical process realized through appropriate types and forms of written exercises in the first grade of primary school, starting from the simplest to more complex types and forms of students' oral and written expression. However, we believe that certain exercises for initial reading and writing could be implemented in the pre-school. One of the exercises could focus on examining the position of phonemes in words – initial, medial, and final positions. The illustrations that accompany each letter correspond to the respective concept, so that visual support in the form of a puzzle of three positions is possible. These concepts ensure the adoption of sound localization, which is consistent with exercises that can be conducted in the pre-literacy period to learn the position of letters in words.

Ако чујеш **А** на почетку речи - обоји **први** део слагалице.

ИНИЦИЈАЛНИ ПОЛОЖАЈ **А**

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5

Drawing 4 Example of speech exercises for the position of the phoneme 'a' in words where this letter is in the initial position

(taken from: <https://logopraktika.weebly.com/logove381banka-8203polo382aj-fonema-ure269ima.html>)

The acquisition of the letters of the alphabet requires appropriate, targeted and diverse preparation for pre-school children and students in the first year of primary school. They are influenced by various factors, such as the intellectual abilities of the students, their social status, the number of students in the class, their participation in pre-school education, the readiness of the school with appropriate technical and educational resources, etc. These preparations vary in their content and duration. "As a child could allocate the first or the last voice, it first perceives some voices in words, then signifies their position, recognizes the voice in a certain position, it stands out a certain voice where it retains it in memory" (Panić i Đorđević, 2015, p. 771). These consist of analytical-synthetic exercises on the correct pronunciation of sounds, writing letter elements, selecting writing tools, maintaining proper posture and holding writing tools. In this sense, it is important that children gain experience with the respective letter and concept in addition to the writing

tools during the initial reading and writing period in order to ensure the permanence of the acquired knowledge and habits.



Drawing 5 Example of printed alphabet letters where the letters are in the initial position, taken from: <https://meshkaandfriends.rs/>

The above leads to the conclusion that it is necessary to specify the preschool curriculum and focus it on the acquisition of specific concepts that are essential for the formation of knowledge in the first grade of primary school. The Years of Ascent period should continue in the first grade of primary school and be marked by intensive physical, cognitive and social development. Research dedicated to early childhood focuses on various aspects of development, including cognitive skills, language, social interaction, and adaptation to different aspects of education. In influencing areas of neurological development and cognitive function during the transition period from one system to another, it becomes clear how the child's brain forms synapses and eliminates unnecessary connections during this period. These processes have a significant impact on the development of cognitive capacities and future learning ability. Using the content analysis method, we found that there is no correspondence between the basis of the pre-school education programme and the teaching of initial reading and writing in the first grade of primary school, but also the teaching of other subjects learned in the younger grades of primary school.

The results show that there is a discrepancy between the goals of the programme, but also between all points of implementation of the programme of preschool education programme. Therefore, we conclude that the first grade students are not fully suitable for the teaching of initial reading and writing in the first grade of primary school.

5. THE POSSIBILITIES FOR IMPROVING PRESCHOOL AND PRIMARY SCHOOL EDUCATION

In the context of education, the first year of primary school represents a transition between the early years of development and formal learning. In particular, children learn basic academic skills such as reading, writing and arithmetic during this phase. The approach to learning and education during this period is often based on interactive and playful methods that are appropriate to the children's stage of development. A professional approach to this period involves research from a variety of fields focused on understanding different aspects of children's development and educational needs during these crucial stages. In the “*Years of Ascent*” programme adapted to preschool education and the Curriculum for the first grade of primary school, there seems to be a mismatch in the approaches to supporting and developing language skills in students. The guidelines that follow are formulated in accordance with scientific principles of pedagogy and psycholinguistics and aim to enhance the language development of children in the first grade of primary school.

1. *Development of Language Skills*: This objective would be oriented towards the comprehensive development of key language skills in students, including speaking, comprehension, reading, and writing. Activities will be carefully structured to encourage the expansion of vocabulary, correct articulation, as well as understanding complex linguistic concepts.
2. *Visual Support*: By using illustrations, charts, and other visual elements, the programme will provide additional support for understanding linguistic concepts. Incorporating stories, songs, and games aims to stimulate children's imagination and creativity through the visual aspect of learning.
3. *Interactive activities* should be organized with the aim of fostering communication among students. Games that develop language skills, such as word games or storytelling, will be incorporated to improve students' language competence.
4. *Connecting language learning with real-life situations*: The programme will integrate topics relevant to children's everyday life, such as family events and favorite activities. Discussions about personal experiences will aim to encourage authentic communication and language understanding.
5. *Adapting the level of lesson understanding* according to the individual abilities of each student will be of crucial importance. Additional support will be provided to students who may lag behind in language skills to ensure the achievement of common goals.
6. *Progress Assessment*: Developing an assessment system that systematically monitors the language development of students will be implemented. Regularly providing feedback to parents about the progress of their children will contribute to transparency and collaboration between the school and families.
7. *Collaboration with families* would take place in a way that parents are actively involved in the learning process through joint activities at home. Maintaining regular communication and providing advice to support home learning will further strengthen the collaboration between the school and families.

These guidelines are based on theoretical concepts from pedagogy and psycholinguistics, and their implementation will be accompanied by systematic evaluation to adapt to changes in children's development and the specifics of the learning context.

6. CONCLUSION

In pre-school education, children actively acquire motor skills through a variety of activities in a regulated environment. This process continues in the first grade of primary school, which focuses on abstract thinking and the formation of basic school habits. According to research, the continuation of these phases is crucial for the acquisition of important skills required for success in school.

However, there is a clear discrepancy between the preschool curriculum's foundations and the instruction of early reading and writing in the first grade of primary schools. In preschool education, children learn the basics of communication, expand their vocabulary and develop phonological and grammatical skills. This process continues in the first grade of primary school, with emphasis on the development of reading, writing and language skills. Empirical evidence suggests that quality language development in the early years of education has a major impact on later academic success. The development of basic skills and language during pre-school education and the first grade of elementary school is clearly necessary. Well-designed programmes and the continuity of these stages, have a substantial impact on children's long-term educational achievement and overall development.

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(NE)USKLAĐENOST OSNOVA PROGRAMA PREDŠKOLSKOG VASPITANJA I OBRAZOVANJA I NASTAVE POČETNOG ČITANJA I PISANJA U PRVOM RAZREDU OSNOVNE ŠKOLE

Apstrakt

Koncepcija Osnova programa predškolskog vaspitanja i obrazovanja – Godine uzleta podrazumeva niz obrazovnih kompetencija za celoživotno učenje, od kojih je jedna i komunikacija na maternjem jeziku. Prema navedenoj kompetenciji, rana pismenost se razvija kroz aktivnosti simboličkog beleženja, dok se pisana komunikacija ne odvija kroz odvojeno učenje čitanja i pisanja, već kao samostalna, spontana aktivnost. Vaspitaču je ostavljena mogućnost provokacija dece predškolskog uzrasta, orijentisana prema određenoj projektnoj aktivnosti koja je u vezi sa interesovanjima deteta. Primetno je da je priprema za nastavu početnog čitanja i pisanja, koja je u ranijem periodu bila orijentisana na usvajanje osnova početnog čitanja i pisanja, prema novim Osnovama programa izostala, jer dete u predškolskom period nije u dovoljnoj meri osposobljeno za usvajanje osnova početnog čitanja i pisanja na način koji zahteva razredna nastava. Rad ima za cilj da ukaže na ograničene mogućnosti ovako definisanog koncepta pripreme deteta za nastavu početnog čitanja i pisanja i na poteškoće i dileme sa kojima se susreću učitelji u prvom razredu osnovne škole. Metodom analize sadržaja utvrdili smo da ne postoji usklađenost između Osnova programa predškolskog vaspitanja i obrazovanja i nastave početnog čitanja i pisanja u prvom razredu osnovne škole, ali i nastave ostalih predmeta koji se izučavaju u mlađim razredima osnovne škole. Rezultati pokazuju da postoji nesklad između cilja Programa, ali i svih tačaka njegove realizacije. Stoga dolazimo do zaključka da u prvom razredu osnovne škole učenici nisu u potpunosti osposobljeni za nastavu početnog čitanja i pisanja.

Ključne reči: Godine uzleta, kompetecije, prvi razred, nastava početnog čitanja i pisanja



POSSIBILITIES OF USING PHRASEOLOGISMS IN THE LOWER GRADES OF PRIMARY SCHOOL – THE CASE OF SERBIA AND RUSSIA

UDC 811.163.41'373.7:811.161.1'373.7; 373.32

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Abstract. *Phraseologisms, i.e. grouped words that have a unique meaning, are very important for understanding a language, but also the culture of a nation. They are used in everyday language to express certain ideas, concepts or emotions in a way that is linguistically acceptable and understandable to a particular culture. They reflect the richness and depth of the language, contribute to the diversity of communication and add beauty to expression. Their importance for the successful communication of each individual and the need to study them in Serbian language teaching from the lower grades of primary school is undeniable. They have a positive effect on the understanding of the language, expand vocabulary and improve the comprehension of what has been read and learnt. They are deeply rooted in the cultural and historical context of the language. Different languages have their own unique phraseology that reflects the specificity of their culture and tradition. Studying this phraseology can therefore improve understanding of languages and cultures, especially those with similarities in vocabulary and grammar. When analysing the curricula for primary schools in Serbia and Russia, it is noticeable that the concept of phraseologism is already introduced in the lower grades of primary school. Using the example of the Tale of the Fisherman and the Little Fish by the Russian writer Alexander Sergejevich Pushkin as well as other suitable texts, the article shows possibilities for the use of phraseologisms in the lower grades of primary school in Serbia and Russia. Based on specific examples, recommendations for the use of playful activities at this age are developed, taking into account the language learning outcomes specified in the curriculum. The suggestions given can improve access to this content, change students' attitudes to the language, to their mother tongue as a whole, but also to a foreign language and contribute significantly to a better understanding of both and to better communication in everyday life.*

Keywords: *phraseology, Serbian language, Russian language, lower grades of primary school, teaching*

Received December 28, 2023/Accepted April 06, 2024

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1. INTRODUCTION

Language is a very complex phenomenon, not only for science, but above all for a pre-school or primary school student who is just getting to know it and discovering its rules and secret interpretations. Language, whether native or foreign, creates a unique picture of each individual's world. Apart from lexemes as carriers of meaning, phraseology is one of the important factors in any language. As students grow up in their environment, they listen to the speech of adults and may notice some words and expressions that they do not understand very well. In everyday communication, adults consciously or unconsciously use phraseology. With a literal perception of words, students of younger school age may not fully understand some phrases when listening to the speech of others. Therefore, it is extremely important to pay attention to the use of phraseology from the first days of school so that students can learn their mother tongue, as well as the foreign language they are learning as easily as possible. The importance of studying phraseology with primary school students is great, starting with enriching vocabulary, improving speaking skills, reading skills (in the scope of reading comprehension), but also developing thinking, bearing in mind that thinking precedes speaking. The best way to process them and train students to interpret them is to work on a literary text in the lower grades of primary school. In these grades, a skillful teacher will pay special attention to linguistic and stylistic analysis so that students first notice the phraseology and then understand it based on context. Over time, this will significantly contribute to helping them understand not only the language but also the culture of the people they belong to or whose language they are learning as foreigners.

2. DESCRIPTION OF THE TERM PHRASEOLOGISM

According to the Dictionary of Literary Terms, phraseology is "the science of phrases or idioms, i.e. the special proverbs of language" (Dictionary of Literary Terms, 1986, p. 211). Phraseology is "one of the most vivid and figurative language systems" (Питеркина, 2009, p. 129). It develops by keeping archaic words and a firm structure, but also by adding new words in order to actualize the archaic ones.

"The phraseological unit is lexically indivisible, stable in its composition and structure, complete in the meaning of a phrase reproduced in the form of a completed speech unit" (Гелия, 1996, Питеркина 2009, p. 129).

The totality of the phraseological units of any language constitutes its phraseology (Большая российская энциклопедия, 2017, pp. 527-528). In the Soviet encyclopedic dictionary, a phraseological unit is "a stable phrase that performs the function of a specific word and the meaning cannot be deduced from the meaning of its components" (Келигова, 2007, p. 107). The latest dictionary of foreign words and expressions states: "a stable combination of words whose meaning as a whole differs from the simple sum of the meanings of their parts" (Келигова, 2007, p. 107).

"Phraseologisms are characterized by a relatively constant lexical composition and a relatively constant grammatical form, as if most of them had an expressive and emotionally valuable meaning" (Емельянова, 2014, p. 719). They are reproduced in speech in a complete form that has vivid expressiveness, picturesqueness and emotionality (Питеркина, 2009, p. 129). By analyzing the works of numerous authors, we come to the conclusion that phraseologisms are established linguistic expressions that consist of two or more words and form a firm combination of words where their meaning is not completely

equal to the meaning of their members (Mršević-Radović, 1987; Fink-Arsovski, 2002; Burger, 2010; Стакић, 2020; Станојевић Веселиновић, 2022).

There are several divisions of phraseologisms. The one given by Emeljanov is interesting:

- *Phraseological fusions* – phraseologisms whose meanings absolutely cannot be derived from the meanings of their constituent components;
- *Phraseological units* – phraseologisms whose integral meaning is derived from the meaning of the constituent words, not directly, but through figurative representation.
- *Phraseological compounds* – a special structural-semantic type of phraseologisms whose meanings are derived from the meanings of their constituent components.
- *Phraseological expressions* – whose integral meaning consists of the free meanings of their components (Емельянова, 2014, p. 719-721).

Apart from the above-mentioned classification of phraseological units, Keligova points out that there are comparative phraseological units, which are one of the most interesting grades and have their own structural characteristics. They serve to express or give evaluative diversity, to deepen and increase the expressive-emotional effect of language. The presence of their analogues and equivalents in different languages is explained by the fact that they carry a certain generalization of people's life experience and are based on vivid, "characteristic" images (Келигова, 2007, p. 107).

Phraseologisms are of great importance for learning and understanding languages, as they connect the language and culture of a particular nation. Those who learn the language of a particular nation get a much better idea of the culture of the country whose language they are studying. Language and culture are two inseparable components of every nation, which intertwine and complement each other. Particularly characteristic of the language of a certain nation are shorter folk phrases such as proverbs, sayings and counters, which were created since the culture of that country began to develop (Станковић, 2022, p. 60).

3. PHRASEOLOGISMS IN THE DEVELOPMENT OF STUDENTS'S SPEECH

It is extremely important to study phraseologisms from the point of view of their importance for the speech development of preschool and especially primary school students. By timely drawing their attention to phraseologisms in speech and language, we contribute to enabling them to adopt the deeper meaning of the words of a language, but also to form a real picture of the diversity of the world and the richness of the linguistic culture of the nation to which they belong. Language teaching should enable students to interpret phraseologisms by describing the communicative situation. Some authors investigated the ways in which they were used in texts for preschool and school-age students in which they were identified (Станојевић Веселиновић, 2022, p. 179).

Phraseologisms in the mother tongue represent a specific content based on syntactic, semantic and pragmatic properties during acquisition. The development of phraseological competence includes a period from early childhood that continues into adulthood (Bajner, 2011; Станојевић Веселиновић, 2022). Conscientious and careful selection of phraseology is required when textbook authors choose language suitable for students and sometimes use modified phraseology to adapt them to students' stories (Станојевић Веселиновић, 2022, p. 188).

A preschool child or primary school student does not immediately understand the meaning of a phraseological unit. For a long time, they first understand it literally, and with the later understanding of figurative semantics, they make lexical substitutions into phraseological units, which makes the picture more vivid (Питеркина, 2009, p. 128). The existence of phraseological units in the language itself, i.e. a combination of words that have a holistic meaning, makes it difficult for a student to learn the language. Therefore, he/she does not immediately adopt the conceptual side of phraseological units. The phraseologism resembles a free combination of ordinary words in its form, and therefore there is a risk that it will be understood literally. Many adult expressions make students laugh because they are taken literally or amaze them with their illogicality (Питеркина, 2009, p. 130).

Students distinguish phraseologisms from adult speech and ask questions that require an explanation of their meaning (Питеркина, 2009, p. 130). They start using phraseological units in the middle of the second year. The use of phraseological units at an early age is influenced by the example of parents who use them frequently. Gradually, phraseological combinations begin to "enter" the student's speech spontaneously, which does not mean that the student understands their meaning. It is important to emphasize that when reproducing a phraseological unit, the student does not rely on its meaning, but on the speech situation (Питеркина, 2009, pp. 130-132).

Phraseological constructions are not limited to their literal, referential meaning, but are used to express the emotional and psychological aspects of the speaker. When it comes to a literary text, the writer uses them to ensure the possibility of considering a character (both positively and negatively) under different aspects, such as happy, sad, surprised, afraid, disappointed... In a fairy tale, for example, phraseological expressions are key to building characters that are rich in emotion. They provide the writer the ability to express complex relationships between characters, emotions, conflicts and resolutions in a way that appeals to even the youngest readers. For example, a phrase like "They lived happily ever after" in fairy tales does not only mean a happy ending. It often has a much deeper meaning, indicating the satisfaction, fulfillment and accomplishment of the character's dreams. Phraseological expressions not only contribute to the emotional depth of fairy tales, but also enrich the linguistic structure and style, attracting readers and making them more satisfied when they discover the true meaning while reading.

4. LITERARY TEXT AS A BASIS FOR ACQUIRING PHRASEOLOGISMS

The formation of the communicative competences of the individual is one of the important tasks of teaching when learning a language, whether a mother tongue or a foreign language. Therefore, it must be learned 'not only as a new code, a new way of expressing thoughts, but also as a source of information about the national culture of the people - the native speakers of the language being studied' (Гак et al, 1983, p. 3).

When teaching Serbian in literacy in the lower grades of primary school, the emphasis is on the gradual enrichment of vocabulary through the acquisition of new words and correct speech, getting to know literary and non-literary texts and, considering the age-related capabilities of the students, there is less opportunity to work on established language expressions (phraseologisms). The curriculum for second grade instructs the teacher to point out to students "the various possibilities in the choice of words and expressions and to encourage them to use them more meaningfully" (Правилник о програму наставе и

учења за други разред основног образовања и васпитања: 16/2018- 47, 3/2019-1, 5/2021-1, 13/2023-457). The curriculum for third grade emphasizes the need to vary language expression, which requires a "specific selection and combination of linguistic means... students should be shown the different ways of using words, phrases and sentences in formal/informal language situations, as well as to change their meanings depending on the context" (Правилник о програму наставе и учења за трећи разред основног образовања и васпитања: 5/2019-6, 1/2020-1, 6/2020-1, 7/2022-1, 13/2023- 457). From fourth grade onwards, however, it is emphasized that the student should "recognize the meaning of words and phrases used in everyday communication" (Правилник о програму наставе и учења за четврти разред основног образовања и васпитања: 11/2019-1, 6/2020- 20.7/2021-671, 1/2023-1, 13/2023-458). Students should also get familiar with different examples of the use of established language expressions so that they can better understand their meaning and use in real-life communication situations.

The Russian primary school curriculum also goes into more detail about learning phraseologisms and language expressions using specific methods and concrete activities. It is noticeable that in the first grade it is not planned to focus on more complex language expressions, nor on phraseologisms based on primary school literacy (Рабочая программа по русскому языку УМК "Перспективная начальная школа" (1-4 классы) ФГОС). In the second grade, the focus is on "identifying words whose meaning needs to be clarified" Determining the meaning of the words from the text and clarifying the meaning of the words with the help of a dictionary. (Рабочая программа по русскому языку УМК "Перспективная начальная школа" (1-4 классы). For the third grade, "finding the words in the text in the translated meaning" is suggested (Рабочая программа по русскому языку УМК "Перспективная начальная школа" (1-4 классы) ФГОС). The task also consists of comparing the literal and figurative meaning of words. In the fourth grade of primary school in the teaching of the Russian language, as well as in the curriculum for the same grade in Serbia, it is important to "notice the use of phraseological units in speech ... observations about the differences between words and phraseological units ... searching in texts" (Рабочая программа по русскому языку УМК "Перспективная начальная школа" (1-4 классы) ФГОС).

The problem that students initially do not understand the true meaning of phraseological units is their lack of experience, which is reflected in the language. If the phraseological unit has been heard several times, it does not mean that the student can make a conclusion about all the features of its use (Питеркина, 2009, p. 132). In addition to hearing examples of correct use, students should understand not only when it can be used, but also under what conditions. Phraseologisms in speech help the student to express their emotional attitude (Питеркина, 2009, p. 133), which makes it much easier for the teacher to understand the student's emotions.

By recognizing and understanding phraseologisms and learning them effectively through interactive activities and continuous practice, students acquire knowledge and skills in using them. The following suggestions for teaching in the lower grades of primary school provide a systematic approach to learning and understanding this linguistic phenomenon. In the first grade, as part of the Serbian language curriculum, students learn the text *Sunčev pevač (Sun Singer)* by Branko Ćopić (Јовановић, 2015, p. 73), in which we notice phraseologisms that we can bring closer to the students for a better understanding of the meaning of the text. The phraseologism that appears in the text, *srce mu je sišlo u pete (his heart went down to his heels)*, means a metaphorical way of emphasizing the

intensity of fear or excitement. It suggests that the person is so terrified that his heart seems to have been moved to his heels.

When working on the text *Vrabac i laste* (*The Sparrow and the Swallow*) by the Russian writer Leo Tolstoy in second grade, the phraseologism **obрати zelen bostan** (*pick green watermelons*) can be used, which expresses an extremely unusual or impossibly dangerous situation. At this age, when working on Jovan Jovanović Zmaj's song *Patak i žabe* (*A Duck and a Frog*), which is also in the second grade curriculum, we can use the last lines **...hulje lepo zbore, al' nitkovski rade** (... *scoundrels talk beautifully, but they act slyly*) to work on the concept of phraseology.

In the third grade, after analyzing the text *Priča o dečaku i Mesecu* (*The Story of a Boy and the Moon*) by Branko V. Radicević, we can introduce the phraseologism **na mucu se poznaju junaci** (*heroes are known through hardship*), which indicates true strength and courage, in this case the wisdom and persistence that people show when they have a hard time, get into a situation and try to solve it as best as they can in their favor. In addition, after analyzing the epic folk poem *Marko Kraljević i beg Kostadin* (*Marko Kraljević and Bey Kostadin*), we can introduce the phrase **nema dlake na jeziku** (*no hair on the tongue*) in third grade, which we use in Serbian for someone who speaks openly, honestly and without holding back. We can introduce third grade students to the phraseologism **probiti led** (*to break the ice*) after analyzing the dramatic text by Aleksandar Popović, *Led se topi* (*The Ice is Melting*). The text describes a situation in which one of the characters, the boy Bole, tries to show his sympathy to his friend, but he is still unskilled in the way his friend, the boy Božo, reacts and explains to him that in such situations we do not "break the ice", but "melt it".

A good way to introduce the phraseologism **mlati praznu slamu** (*threshing empty straw*), which is used when someone speaks nonsensical, meaningless words, in the fourth grade is to analyze the folk tale *Međed, svinja i lisica* (*The Bear, the Pig and the Fox*). The phraseologism **kao da je u zemlju propao** (*as if it had fallen into the ground*) refers to a rabbit that has disappeared and is nowhere to be found. We encounter it in the novel *Alisa u zemlji čuda* (*Alice in Wonderland*) by Lewis Carroll, which is required reading in fourth grade.

5. RECOMMENDATIONS FOR LEARNING PHRASEOLOGISMS

When it comes to the approach to phraseologisms, keeping in mind that it is a primary school age that still does not have enough experience to understand a figurative meaning, but also developed abstract thinking, the students need to be additionally mentally activated. In the stage of preparation for analyzing a text, the teacher himself should find phraseologisms and possible ways of guidance for understanding their meaning. For this purpose, a lexical and pragmatic analysis of words is necessary, as well as the creation of interesting activities for students, which we will show on the example of the *Fable about the Fisherman and the Little Fish*, by the Russian writer Alexander Sergejevich Pushkin, which is studied in the second grade of primary school (*Правилник о програму наставе и учења за други разред основног образовања и васпитања*: 16/2018-47, 3/2019-1, 5/2021-1, 13/2023-457). This fairy tale is suitable for the teaching of phraseologism **одржа му страшно слово** (*tell him terrible words*).

Through a more detailed analysis, we lead the students to conclude that: 1. *tell* – a verb that denotes the act of conveying a certain message, in this case criticism, warning; in the

context of the phrase, it indicates the action of transferring "terrible word" or a serious criticism; 2. *him* – an adverb that determines to whom the message or criticism is addressed; the message refers to a male person; 3. *terrible words* – a phrase consisting of two words that indicate serious criticism; the adjective *terrible* adds a stronger intensity to the message, while the *word* suggests that the message is sent verbally, by oral, angry addressing.

After the vocabulary, the teacher can use a pragmatic analysis to make the students think about when this expression is used in everyday communication. Through pragmatic analysis, we conclude that: 1. the expression indicates serious warnings, negative criticism; which we can use in situations where we want to highlight the importance of the message we are sending to others; in practice, the teacher can use this expression to warn the student to change his negative behavior; 2. influences the listener or reader to think about how the person feels, how he reacts to the message, i.e. is he/she scared, hurt by criticism, disappointed in this case; 3. it reflects cultural norms and values in a given society; it emphasizes the importance of direct and open, but also appropriately expressed criticism, or it may indicate the traditional norm of unconditional authority, without the possibility of defense.

In the phase of preparation for the lesson, the teacher simultaneously thinks about the questions that would successfully guide the students in noticing and understanding phraseologisms. Thus, when explaining and interpreting unknown words and expressions, before analysis, or even better during linguistic and stylistic analysis, the student is asked to:

1. **Identify phraseologisms.** After they had the task of underlining unknown words and expressions, they also need to notice those that do not have a literal meaning, i.e. the whole phrase that is unknown to them.
2. **Discuss the context in which the phrase appears.** It is necessary to talk with the students about the context in which the phraseologism appears. Questions like "Who said this?" or "What do we learn when someone uses this expression?" help to understand the situation in which the phraseologism is used.
3. **Study the meaning.** After observing the context, we consider the possible meanings of the phraseologism, which includes thinking about its metaphorical or figurative meaning. For example, by asking: "Have you ever heard something similar?" Do you know a phrase that have a similar meaning? Imagine Grandma saying this? How it looks? How does grandpa feel? we lead the students to a deeper analysis.
4. **Connect with reality.** We try to help students connect a phraseologism with real life situations by asking: "Could you imagine a situation in which this expression would be used?" If it is still difficult for them to understand, it is necessary to help them with an appropriate illustration that graphically describes the situation. Also, the teacher can act out the situation with better students so that the others understand the expression in the right way.

Learned phraseologism is further reviewed through interactive activities, which further help them integrate it into their vocabulary, understand how it is used, and then use it themselves. The curriculum provides for two classes of analyzing to work on this fairy tale and one class for review, which means that there is enough time in one of the classes to create activities with learned phraseologisms for the purpose of review, systematization and implementation.

The curriculum for the second grade in the Russian language suggests specific activities that teachers can implement:

- Working with pictures: explain the meaning of the word based on the picture and asking questions.
- Didactic game: Guess which word this is (during the game, words should be identified by their lexical meaning).
- Working in groups: observing the meaning of words in the text, determining the meaning of words based on the text.
- Working with notes on the board: finding errors in explaining the lexical meaning of words.
- Practical work: write down the meaning of five words from the dictionary that they did not know before.
- Work in pairs: one student reads the meaning of the word from the dictionary in the textbook, the other guesses the word, then the roles change.
- Creative task: make a crossword, explain some words with the help of pictures, and some words with the help of the lexical meaning of the word.
- Practical work: with the help of a dictionary, determine the lexical meaning of the written words. (*Рабочая программа по русскому языку УМК "Перспективная начальная школа" (1-4 классы) ФГОС*).

The following activities that teachers could organize with students are also interesting:

1. *Creation of a picture book*, with which we can encourage students to write a story in the form of a picture book using phraseologisms from a literary text. They should be divided into smaller groups to work together on creating a picture book. Each group should choose a certain number of phraseological units from the texts that have been learned. One group can think about the plot, characters and flow of the story, another about how to integrate the phraseologisms into the story, and the third illustrate each phraseologism on a separate page of the picture book. It would be good for each page to be dedicated to one phraseologism and contain an illustration that will indicate the meaning or situation associated with it.

Each group should come up with the title and text of the story, which will be based on the selected phraseology. The text can be in the form of dialogue or narrative text. After all the pages are illustrated and the text of the story is written, the groups put it together as a whole. Each group can present their picture book to the rest of the grade, explaining the phrases they used and how they integrated them into the story. This encourages student's creativity, cooperation and language development. Through illustrations and story writing, students will deepen their understanding of phraseological units in context and learn how to use them correctly.

2. Another activity is the *memory of phraseologisms*. You should make a set of cards with phraseologisms from analyzed literary works. By shuffling the cards and placing them face down, students should turn over the cards one by one, find pairs of phrases with the same meaning and match them. After they match the cards, we can organize a discussion about the meaning of each phraseologism and the possibilities of use, which contributes to their better understanding. If we introduce elements of the competitive spirit into the game with a time limit and assign points, we will further motivate the students. In this way, the recognition of phraseologisms is encouraged, their memory is practiced and their correct use is practiced. By

matching phraseologisms with their meaning, students develop the ability to quickly recognize speech, but also to understand the semantic connection.

These and similar suggestions allow teachers to adapt the analysis of phraseologisms at this age to the capabilities of each student. Through playful activities in working with phraseologisms, we provide students with the opportunity to acquire speaking skills and develop critical thinking, what helps them become active participants in the grade, developing their linguistic and cognitive abilities.

6. CONCLUSION

The concept of phraseologisms in language teaching should be actualized considering the fact that language is a living thing that is rapidly evolving and constantly changing, especially in modern times. Phraseologisms are of great importance for the language acquisition of preschool children, especially primary school age students. By informing them in time, we help them not only to enrich their vocabulary, but also their conceptual world by understanding established words and expressions in their own or a foreign language that are a feature of the culture of the people themselves. In order to understand the specific use of these expressions in communication, it is necessary to train students from pre-school and especially from primary school age to recognize phraseologisms and understand their true meaning, which would avoid many misunderstandings and contribute to better communication between members of a nation, but also internationally.

The possibilities described in this paper using selected texts represent some of the ways to improve the learning and understanding of this concept in the lower grades of primary school. Through identification in text or everyday speech, lexical-pragmatic analysis, and playful activities, we help students successfully understand their figurative meaning and the deeper message they carry.

In the face of rapid social change and technological development, which greatly impoverishes language and therefore students' thinking, it is necessary to provide students with additional training so that they acquire numerous skills, foremost among which is communication. Knowledge and understanding of phraseologisms starting from primary school age can be very important for successful communication to enable a meaningful and quality later life for everyone. The role of the teacher as a creator of teaching and teaching situations is very important in all of this, as are the good examples of valuable literary works we have talked about.

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MOGUĆNOSTI UPOTREBE FRAZEOLOGIZMA U NIŽIM RAZREDIMA OSNOVNE ŠKOLE – SLUČAJ SRBIJE I RUSIJE

Апстракт

Kao grupisane reči koje imaju jedinstveno značenje, frazeologizmi su veoma važni za razumevanje jezika, ali i kulture jednog naroda. Koriste se u svakodnevnom govoru kako bi se izrazile određene ideje, koncepti ili emocije na način koji je jezički prihvatljiv i razumljiv određenoj kulturi. Reflektuju bogatstvo i dubinu jezika, doprinoseći nijansiraju komunikacije i dodajući kolorit izražavanju. Nesporan je njihov značaj za uspešnu komunikaciju svakog pojedinca i potreba izučavanja u nastavi srpskog jezika, počev od razredne nastave. Pozitivno utiču na razumevanje jezika, bogaćenje rečnika, poboljšanje razumevanja pročitanoг i saznatog. Duboko su ukorenjeni u kulturnom i istorijskom kontekstu jezika. Različiti jezici imaju svoje jedinstvene frazeologizme, koji odražavaju specifičnost njihove kulture i tradicije, pa samim tim njihovo izučavanje može poboljšati razumevanje jezika i kultura, posebno onih koji imaju sličnosti u leksici i gramatici. Analizom nastavnih planova i programa za osnovnu školu Srbije i Rusije primetno je da se pojam frazeologizma uvodi već u početnoj nastavi jezika. Na primeru „Bajke o ribaru i ribici”, ruskog pisca Aleksandra Sergejeviča Puškina, ali i drugih pogodnih tekstova, pokazaćemo metodičke mogućnosti uvođenja ovog pojma kod učenika mlađeg školskog uzrasta. Upotrebom konkretnih primera razrađuju se metodičke preporuke za obradu primenom igrolikih aktivnosti na ovom uzrastu, imajući u obzir ishode učenja jezika navedene u programu. Dati predlozi mogu unaprediti pristup ovim sadržajima, promeniti odnos učenika prema jeziku, pre svega maternjem, ali i stranom, i značajno doprineti boljem razumevanju i jednog i drugog, kao i kvalitetnijoj svakodnevnoj komunikaciji.

Ključne reči: frazeologizmi, srpski jezik, ruski jezik, mlađi školski uzrast, nastava

GOOD TEACHER AND LEARNING PROCESSES;

QTL – STUDENTS AT THE HEART OF EDUCATION



THE ATTITUDES OF FUTURE PEDAGOGUES AND TEACHERS ON THE EDUCATIONAL PROCESS IN DIGITAL ENVIRONMENT

UDC 371.3:004; 316.644-057.87

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Abstract. Referring to relevant research, the authors ask how future pedagogues and teachers should plan, implement and evaluate the educational process in a digital environment. For the research, the scalar Attitudes of future pedagogues and teachers towards the educational process in the digital environment was constructed. The independent research variables are: (1) the educational process supported by information technologies, (2) information technologies as a threat to the educational process, (3) the hopelessness of school in the digital environment. They were addressed in relation to the years of study (I, II, III and IV), the study programs (Pedagogy, Teacher Studies) and student achievement. The population consisted of students of teaching faculties of the University of Banja Luka, and the sample included 113 students from the Faculty of Philosophy of this University. The research results show that students from different years of study: a) express different views on the extent to which the educational process is supported by information technologies, and b) differently assess the hopelessness of school in the digital environment. On the other hand, there are no differences among the' attitudes in their assessment of information technologies as a threat to the educational process. Their assessments range from undecided to partially agree. It was also found that there is no difference between the views of the students of the Teacher's Studies and the students of Pedagogy about the educational process in the digital environment. It was also found that students' achievement were not correlated with their assessments of the possibilities of using information technologies in the educational process. Finally, pedagogical implications were identified that could guide future activities in the educational process.

Keywords: student attitudes, educational process, digital environment

Received November 07, 2023/Accepted March 14, 2024

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1. THEORETICAL FOUNDATIONS OF RESEARCH

On a topic as broad as this, which rightly requires longitudinal research, the authors provide basic principles, an overview of educational practices, the possibilities and the limits of the digital environment. They also interpret the considerations of those who implement the educational process. The term "digital environment" encompasses the profound changes that have taken place in society (and consequently in education as a social category), while emphasizing the influence of environmental factors on the individual. The authors have previously written about education as a category dependent on social changes and therefore could not ignore the digital revolution (Kević-Zrnić, Stanković-Janković, & Jenjić, 2022). However, it is a fact that many were unprepared for this and that many things "caught us unprepared". University teaching at teacher and pedagogical faculties was not immediately prepared to educate students who would work in a digital environment. As Matijević (2011) explains, students were entering the 21st century, while faculties were preparing future teachers more for the past, a little for the present and insufficiently for the future. The situation was not much better worldwide, only the changes were happening faster. In a 2017 handbook, there is an important reminder for teachers not to forget to "refresh" copies of their USB or DVD materials and keep them in the school library (Regina & Ferrara, 2017). Today, we can observe that all these complicated and convoluted operations with digital devices are not a problem for our children. They can effortlessly share, tweet, like and so on, while older generations can barely remember all these terms that are part of everyday life for the youth.

Everything that the digital environment brings with it, people try to explain and partly theorize. One of the more popular theories is connectivism. This theoretical approach was developed by George Siemens, a lecturer at the University of Texas. He argued that learning cannot be explained without taking into account changes in the wider social context, and therefore explains that students learn better and faster when they form specific "networks", thereby connecting and sharing knowledge and experiences. The learning models Siemens deals with are related to technological advances and emphasize the learner's ability to make decisions, plan and apply different learning strategies, all in teamwork, involving peers and teachers. According to the American Society for Training and Development (ASTD), knowledge doubles every less than two years (Siemens, 2004). This means that the information we teach students is often outdated. This is why connectivist theorists advocate networked learning, i.e. the formation of specific groups that act as a community on specific platforms. By working together on specific projects and studying different topics, they arrive at independent knowledge that they can review and collectively accept or reject certain findings. Furthermore, the time when knowledge could be "stored" in individuals is over. Today, there are various digital forms for this. The task of teachers is to train students in the use of technology and to form so-called online communities. This is necessary knowledge if you want to navigate successfully through the 21st century. The role of parents is to monitor (to some extent) the exchange of information in online communities and to provide the necessary technical support for this learning process. Learning should and must be based on timely and up-to-date information, with little attention paid to "outdated" data (Gianni & Kuys, 2015). In the modern world, it is important to enable students to use information independently and to find out when, how and where they can find the information they need.

However, this does not mean that certain information should not be recorded and "stored" using efficient methods, creating a database that can be further expanded. This can be illustrated with a simple example: It is not enough for a surgeon to find a video of an operation on a YouTube channel and successfully perform the operation or treat the patient afterwards. Technology, no matter how advanced, is not omnipotent, and it can only lead to success when combined with human knowledge and skill. And as "powerful" as social networks may be, socialization and emotional maturity are still achieved through established human relationships and live interactions. "Social and emotional competencies are acquired through interaction with the environment" (Kević-Zrnić, Stanković-Janković, & Jenjić, 2022, p. 224). By environment, we mean other people, nature in the broadest sense and, of course, face-to-face conversation. Numerous studies point to the negative consequences of using digital technologies. One of them warns that life satisfaction declined sharply, "while young people spent less and less time with friends and more on their phones" (Tvengi, 2019, p. 120). Without underestimating the importance of media in the educational process, the question arises as to how those who work in the field of information and communication technologies, those whom Prensky (2006) calls digital natives, see it, those for whom the language of the digital environment is almost native and who are not afraid of any innovation, readily master it and quickly integrate it into their own arsenal of useful tools. The school is an institution that cannot always keep up with trends, but it should not ignore them either. It is the students who bring the trends to school and are often strongly influenced by them. It can be said that schools today support information technologies, but the question is, in what way and to what extent? One finding that is not at all encouraging for the use of digital media is that in South Korea, 12% of all students were addicted to the internet, with very severe and alarming symptoms (Spitzer, 2018). Although this finding dates back to 2010, if one observes the environment and events in society objectively, one gets the impression that the situation has not changed for the better today. The authors leave numerous questions open for future research. One of them is: Can digitalization satisfy the need for belonging and closeness?

It is true that children are interested in digital devices; they can spend hours engaging with the content on offer. If we ask questions only in the area of learning and motivation to learn, we will not find encouraging answers. Thank you to information technologies, we can find a lot of useful content, information is available and it seems like we have the world at our fingertips (on the screen). But we can ask ourselves what happens to all the information that is offered to us, how children process it, how adults use the abundant knowledge available and why most users end up choosing to follow entertainment content. It is easy to see that the mere availability of information does not mean being better informed, much less knowledgeable.

The authors recognize a particular trend emerging in modern schools and want to highlight it. It involves testing and the burden of results. When children start school, and sometimes even before, parents are concerned with their child's achievements. It often happens that they push to study for a grade, to study for a test, instead of learning to know, to master knowledge and to gradually develop a critical awareness and analytical attitude towards the world. In her work *Self-Regulation of Learning: Can We Learn to Learn*, author Sorić (2014) warns that in modern society, various forms of assessment and grading play a significant and increasingly important role, so that in this context the adaptive handling of such situations becomes crucial for academic achievement, as well as for maintaining overall psychological well-being of a person. Similar findings can also be

found in other literature, which leads us to ask where education is heading in the 21st century. The participants in this study identified deficits in the use of information technologies in the educational process, but also the inability of schools to cope with the challenges imposed on them. If this is the "civilization of testing" because an individual's success depends on success in a test or tests (Pekrun et al., 2004), then it is a logical consequence of tendencies to take in as much information as possible without thinking about and critically reflecting on the important question of how to deal with the "knowledge" acquired. Exams were passed and high grades (if you look at the average). Therefore, the evaluation of a person boils down to a number (score), while all other (most important) achievements are ignored. The learning recommended and emphasized by digitalization (connectivism theory) fits perfectly with the type of assessment in modern schools. The central component of the educational process can be seen as examination and achievement on various tests. Consequently, curricula are becoming narrower and narrower, and teaching is reduced to preparation (instruction) for tests. Teachers do not have the opportunity to be creative and free in their work, students are less engaged, they "slack off" in their learning, and they do not perceive school in terms of their values (Ryan & Brown, 2005). The participants in this study may have realized exactly what role they would play in testing and preparing students for numerous assessments. The teacher and educator, who primarily participates and works in the education of the student's personality, falls by the wayside, and in this our participants did not recognize themselves. Preparation for exams can be done very successfully using digital devices. But life, love, friendship, empathy and much more cannot be learned through a screen. You have to live in interaction with other people, animals and nature!

2. METHOD

The study aims to investigate the attitudes of Pedagogy and Teacher Education students towards the educational process in a digital environment. Three hypotheses were set: (1) a statistically significant difference in attitudes towards the use of information technologies in the educational process is expected among students of different ages; (2) it is assumed that there is a difference between students of Teacher Education and Pedagogy in attitudes towards the use of information technologies in the educational process in the aspect of education supported by information and communication technologies, the hopelessness of school in the digital environment; (3) a statistically significant correlation among the research variables is expected (year of study and study program- pedagogy or teacher studies).

The research applied a descriptive method, and the research technique used was scaling. In this regard, the research instrument, a scale, was applied, consisting of 24 items divided into 3 subtests. Each of the subtests follows one of the research tasks. The instrument is in the form of a Likert-type scale, where respondents express their agreement with statements on a scale from 1 to 5. The meaning of the responses is as follows: 1) strongly disagree; 2) disagree; 3) undecided; 4) partially agree; and 5) strongly agree. The reliability of the instrument was calculated by Cronbach's Alpha coefficient and has a value of $\alpha = 0.77$. The research sample consists of students of pedagogy (57 students) and teacher education (56 students) study programs at the Faculty of Philosophy, University of Banja Luka,

totaling 113 respondents. The participants in the study voluntarily completed the questionnaire at different years of study.

3. RESULTS OF THE RESEARCH AND THEIR INTERPRETATION

The attitudes of future educators and teachers towards the educational process in a digital environment are divided into three categories. The first category analyzes the respondents' attitudes towards the contemporary educational process, which is more or less supported by information technologies (IT). Specifically, students' attitudes about whether schools should support the use of information technologies in teaching were examined. The second category investigated whether students perceive information technologies as a threat to the educational process, and the third category examined to what extent students perceive the school in a digital environment as hopeless. The obtained results can be considered relevant also due to the fact that the respondents were recently students in schools, so after a short period of time they can have clear attitudes about the researched issue. In Table 1, the research results related to the attitudes of the respondents about digital technologies in the contemporary school environment are presented. Below is an analysis of the findings on the basis of which the first hypothesis can be partially confirmed.

Table 1 Participants' Attitudes towards Digital Technologies in the School Environment

		N	M	Std. D	Std. Error	95% Confidence Interval for Mean		F	Sig.
						Upper Bound			
Educational process supported by IT	I	24	3.90	.521	.106	3.68	4.12	3.248	0.025
	II	31	3.86	.454	.081	3.69	4.03		
	III	32	4.17	.452	.080	4.01	4.34		
	IV	26	4.06	.292	.057	3.94	4.18		
	Total	113	4.00	.451	.042	3.92	4.09		
Information technologies as a threat to the educational process	I	24	3.88	.543	.111	3.65	4.11	1.764	0.158
	II	31	4.12	.620	.111	3.89	4.35		
	III	32	3.83	.460	.081	3.67	4.00		
	IV	26	3.98	.452	.088	3.79	4.16		
	Total	113	3.95	.530	.049	3.85	4.05		
Hopelessness of school in a digital environment	I	24	2.29	.633	.129	2.02	2.55	2.764	0.045
	II	31	2.47	.811	.145	2.18	2.77		
	III	32	1.96	.664	.117	1.72	2.20		
	IV	26	2.34	.781	.153	2.03	2.66		
	Total	113	2.26	.746	.070	2.12	2.40		

The research results indicate that, at the whole sample level, students partially agree that schools should support and implement information technologies in their work, meaning that the educational process in schools should be supported by the use of

information technologies ($M = 4.00$). However, there are statistically significant differences determined by the year of study ($F = 3.248$ statistically significant at the .025 level). The obtained mean values range from $M = 3.86$ to $M = 4.17$. Higher mean values can be observed for the responses/attitudes of third and fourth-year students compared to first and second-year students. One possible reason is that older students have a more comprehensive insight into the entire educational system, both from the perspective of students and practitioners. Through experiences gained in practice, they could see the advantages and possibilities of using information and communication technologies to enhance the overall educational process.

On the other hand, it was found that students of all years of study think similarly when it comes to perceiving information technologies as a threat to the educational process. There is no statistically significant difference by age. The mean of responses from all respondents is $M = 3.95$, which is closer to the level of partial agreement than being undecided.

The indicators of these two subscales indicate ambivalence in the students' determination. In other words, students see information technologies as both a support and a threat to the educational process. However, looking at the mean values for the different age groups, it is noticeable that students in the later years are the least likely to think that the school should support the use of information technologies in the classroom and the most likely to see information technologies as a threat to the educational process compared to students in the other years. In contrast, third-year students are more likely than any other generation to believe that schools should support the use of information technologies in the classroom and are least likely to see information technologies as a threat to the educational process. Future education professionals are expected to use technology appropriately in the educational process in accordance with learning outcomes and content (Baltynova, et al. 2023).

Young people, especially high school-age students and university students, spend a lot of time on social media, often not realizing their shortcomings. They do not perceive their presence on social media as a threat. According to the results of the Duhanaj study, "students state that they use digital devices to search the internet for entertainment during extracurricular activities (about 67%), while a smaller percentage do so for practical information (about 30%)" (Duhanaj, 2021, p. 163). In any case, information technologies are used for both entertainment and learning. In this context, we can also talk about attitudes related to the variable we labeled hopelessness of school in a digital environment. Table 1 shows differences among students by age ($F = 2.764$, which is statistically significant at the 0.045 level). However, regardless of the significant differences among students of different generations, it is clear that all students ($M = 2.26$) believe that schools cannot fully cope with some negative trends in the digital environment. Students partially agree with the idea that school is hopeless in a digital environment. Therefore, it is necessary to familiarize them with different ways to use information technologies to innovate the teaching process.

This study also investigated the differences in attitudes between students of Teacher Education and Pedagogy. It can be observed that there is no significant difference in attitudes between students of Teacher Education and students of Pedagogy (Table 2), which means that the second hypothesis was not confirmed.

Table 2 Attitudes of Students from Study Programs about the Educational Process in a Digital Environment

	Study program	N	Mean	Std. Deviation	Std. Error Mean	t	sig.
Educational process supported by IT	Teacher Education Program	56	3.99	.475	.063		
	Pedagogy	57	4.02	.430	.057	-.292	.771
Information technologies as a threat to the educational process	Teacher Education Program	56	3.97	.603	.080		
	Pedagogy	57	3.94	.452	.059	.346	.730
Hopelessness of school in a digital environment	Teacher Education Program	56	2.37	.809	.108		
	Pedagogy	57	2.15	.667	.088	1.577	.118

The mean values indicate consistent attitudes among students of the Teacher Education Program and students of Pedagogy regarding: the educational process supported by information technologies, information technologies as threats to the educational process, and the hopelessness of schools in a digital environment. Given that these are students of an educational faculty, future educators, the similarity in attitudes is not surprising. Especially considering that these students study at the same faculty. It would be useful in future research to examine students from other educational faculties and make comparisons. This is particularly relevant when it comes to students preparing to become teachers of different subjects. Indeed, an earlier study has shown that the use of digital tools significantly varies depending on the nature of the subject matter itself (Záhorec, Nagyová & Hašková, 2019).

In further interpretation of the research results, correlations between the treated variables are presented. Pearson's correlation coefficient was used, and the obtained values are shown in Table 3. Based on the findings, the third hypothesis can be partially confirmed.

Table 3 Correlations of Research Variables

		Average grade	Educational process supported by IT	Information technologies as a threat to the educational process
Educational process supported by IT	Pearson Correlation	.170		
	Sig. (2-tailed)	.072		
	N	113		
IT as a threat to the educational process	Pearson Correlation	-.108	-.238*	
	Sig. (2-tailed)	.254	.011	
	N	113	113	
Hopelessness of school in a digital environment	Pearson Correlation	-.099	-.145	.221*
	Sig. (2-tailed)	.296	.126	.019
	N	113	113	113

* Statistically significant correlations at the .05 level

In Table 3, it can be observed that there are no statistically significant correlations between the average grade achieved by participants during their studies in both study programs and other variables. However, significant correlations were noted among some variables. Specifically, there is a negative correlation between the variable "educational process supported by information technologies" and "information technologies as a threat to the educational process" ($p = -.238$ at the level of statistical significance .011). This research finding indicates that the more students believe the educational process should be supported by information technologies, the less they perceive information technologies as a threat to the educational process. Another significant correlation was found between "information technologies as a threat to the educational process" and "hopelessness of schools in a digital environment" ($p = .221$ which is statistically significant at the .019 level). It can be said that students who perceive shortcomings in the application of digital technologies in schools simultaneously believe that schools are not able to cope with the challenges of digital environment. However, we could agree with the statement of Haleema and associates (Haleema et al., 2022) that one of the tools for improving the quality of education for everyone can be the application of digital technologies (Haleema, et al. 2022). Their results imply the importance of educating students about the significance and possibilities of using digital technologies, ensuring that the quality of education is not compromised. On the contrary, the application of digital technologies in education makes sense only if it contributes to enhancing the quality of upbringing and education.

4. CONCLUSION

The effective implementation of digital technologies, which has become even more important during and after the COVID-19 pandemic, has significant implications for a paradigm shift in the education system. However, this use only makes sense if it ensures inclusive and equal education for all, imparts knowledge and at the same time gives students the opportunity to actively create, consult and evaluate information. In addition, digital technologies can make students' lives easier by enabling the use of different software

and tools to create presentations and projects, replacing traditional means such as pen and paper. Furthermore, flipping through an e-book can be easier and more engaging than handling a heavy printed book. Furthermore, digital technologies can increase motivation for research and learning (Haleema, et al. 2022). Students are aware that education is a socially conditioned process that is susceptible to change. From the results of this study, we can therefore infer their willingness to embrace the use of digital technologies and modern teaching models. A finding that could initially be interpreted as unsatisfactory is actually a very good indicator when it comes to the orientations of young educators and teachers. It concerns the confrontation with information technologies as a potential danger in the education system. Our respondents recognized potential obstacles and pitfalls that form a realistic framework if technology is not used carefully and moderately in education. Another important finding is that there are no significant differences among pedagogy and teacher education students regarding the use of information technology in the education system. This indicates coherence and promises concerted steps for the future of education workers. The changes in the digital environment represent a kind of global reform of the educational process. Today, we learn foreign languages through online courses and complete various educations without ever being physically present in a traditional classroom. Many children and young people from different parts of the world have access to the same education. Competencies that are crucial today are very different from those of twenty or thirty years ago. Mastery of the English language and the basics of digital literacy are considered indispensable. Teaching without blackboard, chalk and teacher, which was unimaginable until recently, is now a reality. Reform is all around us, some of us just were not prepared for it. There are two strategies for dealing with what the digital revolution brings: We can reject it, criticize it and adopt a nihilistic attitude and wait for time to pass us by, or we can observe the changes with an open mind, get involved and take a critical approach to the introduction of new technologies. In this way, we can help children and young people to enter the world of digital technology with as few negative consequences and dangers as possible. Education that provides functional knowledge, the usability of which is beyond question, can significantly influence the development of various competencies. A competent and educated person can strive for self-realization. However, regardless of the use of digital technologies in the classroom, it is unlikely that teaching will contribute to self-actualization and competence development if the teaching process is not motivating and does not support the interests of the students.

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STAVOVI BUDUĆIH PEDAGOGA I NASTAVNIKA O OBRAZOVNOM PROCESU U DIGITALNOM OKRUŽENJU

Apstrakt

Pozivajući se na relevantna istraživanja, autori postavljaju pitanje kako će budući pedagozi i nastavnici planirati, realizovati i vrednovati obrazovni proces u digitalnom okruženju. Za potrebe istraživanja konstruisan je skaler Stavovi budućih pedagoga i nastavnika prema obrazovnom procesu u digitalnom okruženju. Nezavisne istraživačke varijable bile su: (1) obrazovni proces podržan informacionim tehnologijama, (2) informacione tehnologije kao pretnja obrazovnom procesu, (3) beznađe škole u digitalnom okruženju. Tretirani su u odnosu na: godine studija (I, II, III i IV), studijske programe (Pedagogija, Učiteljske studije) i postignuća studenata. Populaciju su činili studenti nastavnih fakulteta Univerziteta u Banjoj Luci, a uzorak je obuhvatio 113 studenata Filozofskog fakulteta ovog univerziteta. Nalazi istraživanja pokazuju da studenti različitih godina studija: a) izražavaju različite stavove prema tome koliko je obrazovni proces podržan informacionim tehnologijama i b) različito procenjuju beznađe škole u digitalnom okruženju. S druge strane, ne postoje razlike u stavovima studenata u proceni informacionih tehnologija kao pretnje obrazovnom procesu. Njihove ocene se kreću od neodlučnih do delimično saglasnih. Nadalje, pokazalo se da nema razlike između stavova studenata Učiteljskog i Pedagoškog departmana prema obrazovnom procesu u digitalnom okruženju. Takođe, utvrđeno je da postignuća studenata nisu u korelaciji sa njihovim procenama o mogućnosti primene informacionih tehnologija u obrazovnom procesu. U odnosu na dobijene rezultate, u radu je ukazano na pedagoške implikacije koje bi mogle da usmere buduće aktivnosti u obrazovnom procesu..

Ključne reči: *stavovi studenata, obrazovni proces, digitalno okruženje*



STUDENTS' DISCOMFORT: WHAT DID ITALIAN TEACHERS SEE DURING THE PANDEMIC EMERGENCY?

UDC 37.018.43:004(450); 616.98:578.834; 371.13

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Abstract. *Educational poverty is a non-correspondence between needs and answers, and it concerns both the individual and the context. The manifestations of educational poverty encountered by teachers in their daily work during the pandemic emergency (2020-22) were explored. A semi-structured on-line questionnaire was administered to all secondary schools' teachers in Varese (Italy). Several areas were investigated: student discomfort; frailty of families; local context opportunities; teachers' self-efficacy; teachers' training needs. The data collected (n = 365) highlight widespread and heterogeneous manifestations of discomfort which affected class management negatively; and this despite the fact that many teachers stated that they "did not see" them. The teachers do not feel fully prepared to face these situations and therefore demand further training in this area. They also know little about the educational opportunities in the local context; consequently, (this is our hypothesis) they do not perceive them as allies in educational poverty prevention. Student discomfort behaviour often hinders profitable performance of teaching activities and, in turn, generates discomfort in teachers; these behaviours have been interpreted in their semiotic meaning, that is, as messages of "not being well". In this perspective, adults must **be able?** to listen to students' voices in order to grasp the meaning of their behaviours even before looking for strategies to solve them. Furthermore, the educational challenge cannot be faced individually; it must be tackled collectively, empowering community networks inside and outside school.*

Keywords: *educational poverty, educational research, teachers training, teacher discomfort, educating communities*

1. INTRODUCTION

The pandemic emergency triggered a plurality of negative effects far beyond the health level; some of these impacts were immediately manifest, others will only be assessable in the medium to long term. There has certainly been a real shock to the school system: in a

Received October 17, 2023/Accepted March 14, 2024

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moment, millions of children and young people all over the world saw their everyday life disrupted by closed school doors. Apart from the organisational implications for parents, dependent on the age of their children, the possibility young people had to interact with their peers gradually shrank, almost disappearing; suddenly the house, a room, sometimes shared with other family members, became the centre of their lives. At the school level, this had multiple effects: some more directly related to the quality of learning, others more to the quality of social life, and others still to the quality of the range of cultural stimuli. Last but not least, those who were already in a difficult situation paid an even higher price; as research has shown both nationally and internationally, a real vicious circle was set in motion that is difficult to break.

The negative intertwining of the various aspects, exacerbated by the pandemic, is well rendered by the expression educational poverty used to indicate a situation of severe deprivation.

Faced with these circumstances, teachers had to hurriedly think of, sometimes improvise, new teaching methods, also dealing with multiple technical and technological issues. Nevertheless, especially at the most critical times, teachers were often the only adults who – apart from family members – still had the opportunity to interact, even if only for few hours, with their pupils/students.

In such a fragile context, teachers were urged to put aside 'the agenda' to give space to their pupils/students, to prompt them to talk, to help them to escape isolation. Everyone acted with the tools at their disposal, and, at least in the majority of situations, goodwill and initiative made it possible to stem, or at least contain, some particularly negative drifts. In some respects, the educational dimension, constitutive of the teaching profession, was strongly solicited; teachers found themselves having to exercise a pedagogical function that, in the ordinary course of things, risks sometimes being submerged, obscured by the dimension more related to the acquisition of knowledge and content. In some respects, teachers therefore had the burden (and the honour) of rediscovering themselves as educators.

2. EDUCATIONAL POVERTY AND STUDENT DISCOMFORT IN ITALY

The concept of educational poverty was introduced in the Italian debate at the end of the 1990s when it became evident that the condition of poverty could no longer be traced back to exclusively economic factors (De Vivo & Fasano, 2020) since the latter intertwine, according to non-linear trajectories, with deprivations of a cultural, familial and social nature (Matutini, 2020).

Over time, educational poverty has been recognised as a multidimensional and complex construct (Bruzzzone & Finetti, 2020). According to the definition given by Save the Children Italy, the deprivation from which educational poverty originates consists of four dimensions. The first deprivation, related to *understanding*, concerns a lack in terms of the competences needed to live in today's world. The second, relating to *being*, refers to aspects such as motivation, self-esteem and self-respect, aspirations for the future and the ability to control one's feelings, also in stressful and difficult situations. The third deprivation, related to *living together*, concerns the lack of competences in social and interpersonal relationships, cooperation, communication, empathy, negotiation and all those competences essential for human beings as social individuals. The last dimension - relating

to *knowing the world* – refers instead to all the conditions and possibilities of life that can be functional to individual growth and education (Save the Children Italy, 2018). It goes without saying that there is a strong intertwining between the dimensions considered, which can feed into each other along non-linear trajectories.

In this framework dominated by complexity, it is undeniable that schools must and can play a strategic role in preventing and combating situations of educational poverty because of their institutional mandate and as a public asset. The quality of the school offer depends on a multiplicity of variables, but research (Stanzione & Calenda, 2020; Checchi & Chiosso, 2019; Becker et al., 2014) converges in considering the teacher as central to fostering an educational environment that generates well-being in both adults and children. A teacher's ability to welcome students, to listen to them, to decode their signals, to stimulate their curiosity is an essential pillar to prevent situations of uneasiness and intercept any critical signals to which timely responses can be found (Scierra, Bartolucci, & Batini, 2018). The territory can become a strategic ally to better guide the development of students, and act as a support in overcoming any difficulties: places where the educational offer is rich and accessible, where it is possible to carry out cultural, recreational and sporting activities allow students and their families, even those in disadvantaged conditions, to find the support and stimuli needed to develop resilience and restart paths (Save the Children, 2016). However, this presupposes that the opportunities, in terms of occasions, spaces and services, where they actually exist, be known and familiar, so that teachers can establish relationships but also direct and orient students and families by building an educational alliance with the various bodies operating in the area.

Teachers have at their disposal a privileged observatory to detect signs of uneasiness, since it frequently happens that situations of educational poverty experienced by students also outside school walls find manifestation at school in dysfunctional behaviour (Mancini & Gabrielli, 1998; Petruccelli, 2005; Nicolodi, 2008; Biagioli, Baldini, & Proli, 2022), even if this is not related with psychopathological disorders. In this perspective, it therefore becomes essential to intercept the alarm bells in a timely manner, and to grasp the message conveyed in order to put in place interventions capable not only of containing the symptoms but also of acting on the triggering factors by interrupting the vicious spiral.

3. THE ITALIAN SCHOOL SYSTEM

To better contextualise the survey carried out, it is useful to briefly present the structure of the Italian school system. Compulsory until the age of sixteen, it provides a single pathway for all students up to the age of fourteen. After finishing lower secondary school, on the other hand, young people can choose between different types of upper secondary school divided into three main macro-categories: high schools, technical schools, vocational schools and vocational training. All five-year training pathways allow access to university and technical higher education, while the three- and four-year pathways offer a direct outlet into the world of work (Fig. 1).

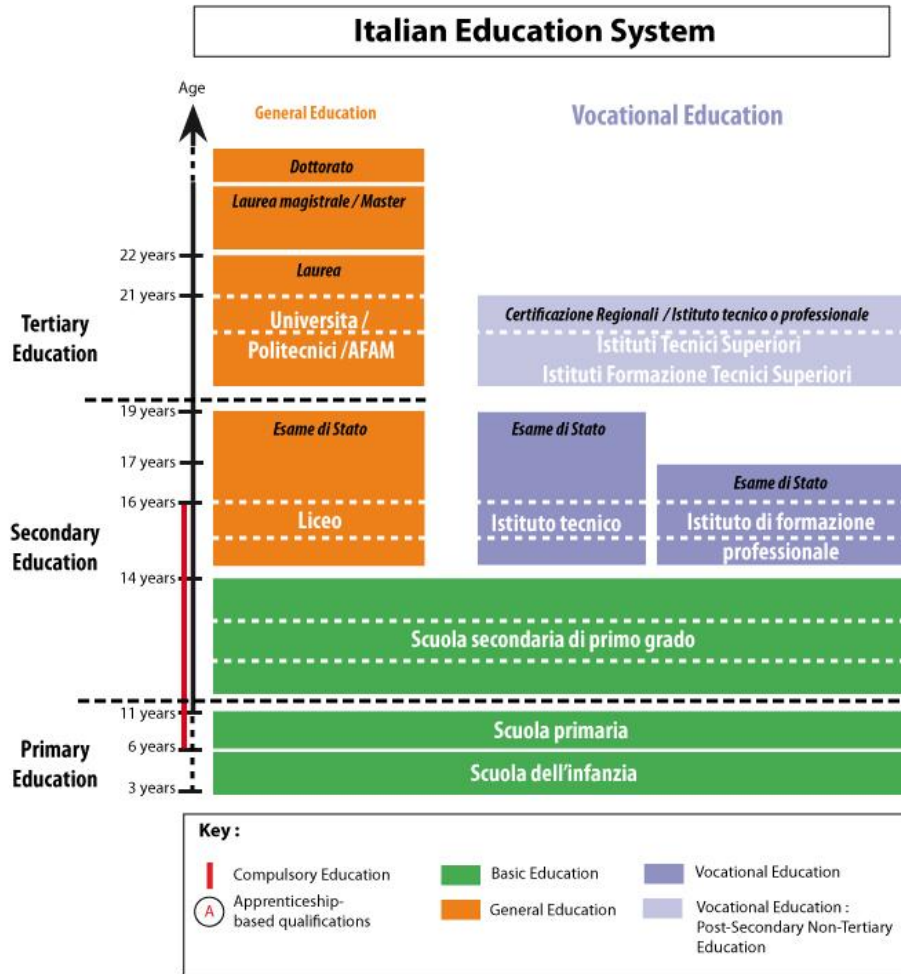


Fig. 1 Italian school system

4. THE SURVEY

In 2021/22, the first year of regained normality after the pandemic emergency, a collaborative research project was planned as a result of the agreement between the Study and Research Centre on Education Policies of Università Cattolica del Sacro Cuore in Milan² and the Varese³ Territorial School Office. Many studies (Vicari & Di Vara, 2021; Hussong et al., 2021; Marone & Spina, 2022; Loades et al., 2020) have highlighted the negative effects of the pandemic on young people: lack of acquisition of competences,

² Milan is the regional capital of Lombardy, one of the main regions in northern Italy.

³ The province of Varese is one of the 11 provinces of Lombardy.

explicit and implicit dropout, and lack of socialisation, depression and suicide attempts. It was therefore decided to explore the changes detected when students and teachers gradually returned to the classroom.

4.1 Aim

The aim was to investigate the manifestations of educational poverty visible at school (Alivernini, Manganelli, & Lucidi, 2017). Since all students in compulsory education go through school, this is a privileged context for observing the situation of young people. The survey considered the schools attended by adolescents, the category most affected by the negative effects of the pandemic emergency.

Based on the centrality of the teacher's role, it was decided to take on their point of view in order to investigate the various forms of uneasiness which, in various ways and with different forms of severity, can undermine "feeling well at school" and, as a result, make learning difficult. It was consequently chosen to investigate the manifestations of educational poverty detected by teachers in the two-year period affected by the pandemic emergency (2019/20 and 2020/21).

Given the choice to consider educational poverty as the failure to match a need with a resource made available to respond to it, the main manifestations of needs expressed by students and their families were first taken into account; then the resources available to teachers to meet these needs were investigated, i.e. their specific competences, the various services available in the area.

Since the survey was conducted in the school context, special attention was paid to the behaviours that are most likely to be intercepted by teachers, and language that could be understood by teachers was used. For this reason, the various manifestations of distress were divided into two macro-categories: one (*school distress*) includes all the behaviours directly related to the school experience (Panagouli et al., 2021); the other (*adolescent distress*) brings together the additional manifestations of distress that can occur in this age group (Ellis, Dumas, & Forbes, 2020; Federico et al., 2022; Loades et al., 2020; Oosterhoff et al., 2020). Given the crucial role of the family and the possible effect generated by its various issues on students' well-being and learning, it was decided to also pay attention to the *family frailties* perceived or detected by teachers (Patrick et al., 2020; Giannotti et al. 2022).

Moreover, the school cannot take on the educational needs of young people on its own: the integrated intervention of the various actors in the area is essential. Teachers were therefore asked how they rated the youth-oriented services (recreational, cultural and educational) in the area.

4.2 Instrument

A semi-structured questionnaire was prepared to be administered online. The following is the breakdown:

1. Area – Profile of respondents: age; gender; teaching experience; coordination roles; school level.
2. Area – Intercepting educational poverty
 - 2.1. *Adolescent distress*: relationship difficulties; anxiety disorders; depression, apathy; self-harm; substance addiction; internet addiction; gaming addiction; bullying, cyberbullying; violent behaviour;

- 2.2. *School distress*: demotivation; difficulty in concentrating; non-attendance at classes in presence; non-attendance at remote learning (*DAD*) classes; learning difficulties; drop in performance;
- 2.3. *Frailty of families*: economic difficulties; family conflict; poor confrontation with school; isolation.
- 3. Area – Territory Services and Supply
 - 3.1. *Adequacy of educational services*;
 - 3.2. *Adequacy of cultural offer*;
 - 3.3. *Adequacy of recreational and sports offer*;
 - 3.4. *Municipal socio-educational services' support* ;
 - 3.5. *Adequacy of territorial response to educational poverty*.

4.3. Population and sample

The population is made up of all teachers in service in first and second grade secondary schools (11-19 years) in the province of Varese, Italy. To encourage completion, the questionnaire was sent directly by the Varese Territorial School Office.

406 teachers took part in the survey; after the necessary data cleaning procedures⁴, 365 questionnaires from more than 50% of the schools in Varese were considered valid. In line with the general characteristics of the Italian teaching staff (MIUR, 2022), respondents are mostly women (77.0%) between the age of 51 and 60 (38.6%) with a rather heterogeneous teaching experience of between 2 and 35 years.

The questionnaire was primarily aimed at teachers performing coordination roles in the school: accordingly, most respondents were class coordinators (51.5%) and contact persons who deal with discomfort and inclusion in the school (12.1%). In the remaining cases, they were class teachers with no further roles in the school.

Therefore, the point of view of those teachers prevails who had the opportunity to observe and learn about the problems and weaknesses of all students at school, not just those in their classes.

5. DATA PRESENTATION

Below are the data from the questionnaire, broken down according to the relevant subject section. To make reading easier, the data are presented through a series of graphs showing the response percentages. All questions in the questionnaire were compulsory, so all percentages were calculated on the total number of respondents (365).

5.1. Adolescent distress

Adolescent distress is extremely widespread in Italian classrooms (Fig. 2). According to teachers, internet addiction is one of the most common behaviours, observed by 79.7% of teachers. Most teachers noticed student behaviour attributable to relational difficulties (75.1%), anxiety disorders (71.5%), depression and apathy (70.4%). These behaviours, which can have very different levels of severity, are extremely widespread in classrooms and strongly affect the school experience of students who suffer directly from

⁴41 questionnaires completed by primary school teachers or school managers were excluded.

them, and, at the same time, contribute to a classroom climate that is more difficult for teachers to manage.

Other types of violent behaviour towards oneself or others were observed less frequently. Bullying and cyberbullying are a common problem for 27.7% of teachers while other forms of violence are for 19.7%, and self-harm is for 17.8%. Even less widespread, but not to be underestimated given their seriousness, are signs of addiction to gambling (19.2%) and drugs or alcohol (9.0%).

In addition to what teachers saw, it is useful to dwell on what teachers claim to 'not know'. While it is reasonable to assume that some behaviours, even very serious ones, are enacted outside the school, it is very difficult to imagine that they do not also have obvious repercussions in the classroom. The fact that non-trivial percentages of teachers state that they cannot express themselves is something to be taken into account.

These behaviours (Fig. 3) did not create any particular management problems for most teachers, although 28.3% of them stated that such situations triggered many difficulties at school. Teachers are split down the middle between those who feel they have the competence to deal with these issues at school (46.4%) and those who feel they have little competence (53.6%). In any case, most of them (72.7%) feel the need to receive more training in these aspects.

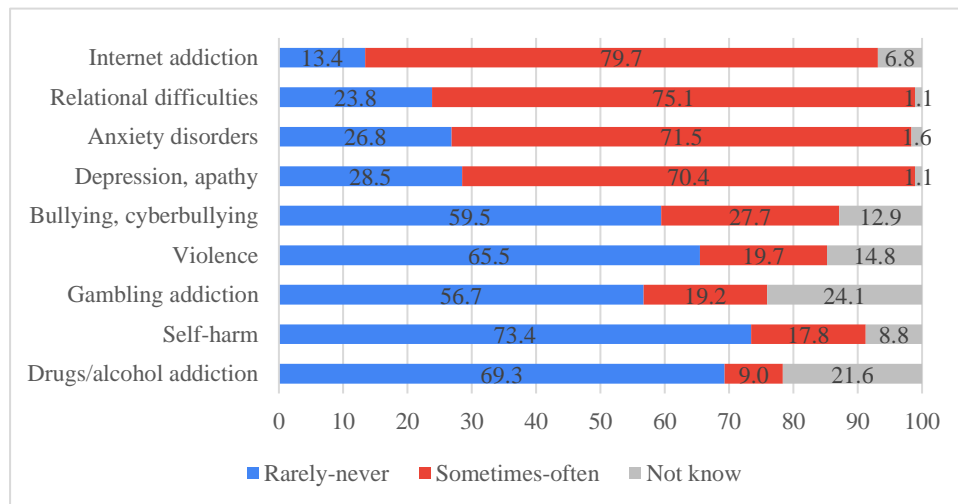


Fig. 2 Adolescent distress

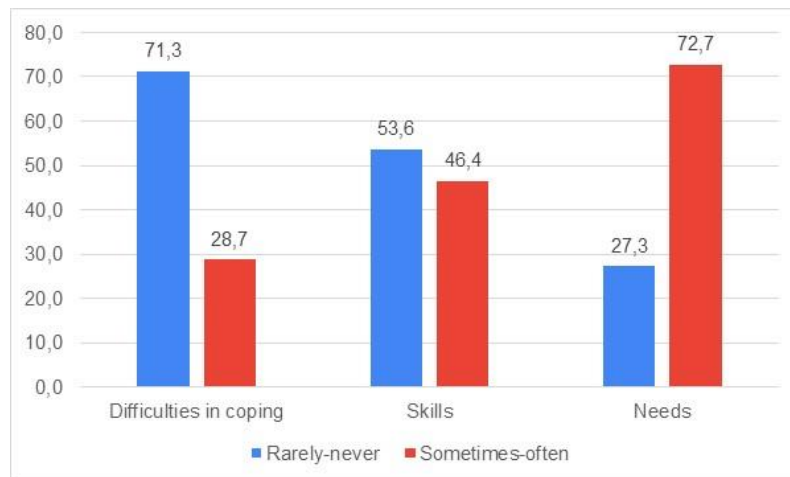


Fig. 3 Adolescent distress: teachers' difficulties in coping, skills, needs

5.3. Student distress

Signs of distress most directly related to the school experience were observed by almost all teachers (Fig. 4). Difficulty in concentration, in particular, pervades the classes (93.2%) along with demotivation (86.8%), learning difficulties (80.3%) and declining performance (79.5%). Non-attendance at school activities, both in distance learning (52.9%) – provided during lockdown and in periods of major health emergencies⁵ – and in presence (41.9%) was observed by about half the teachers. Given the seriousness of this behaviour and the negative effects it can have on school success, this figure should also be regarded as very worrying.

In this case, only a very limited number of teachers state that they are unable to comment because the dimensions in question are directly and exclusively related to what happens at school. Teachers therefore are more attentive to these behaviours; half of them feel competent (50.2%) and, despite the complexity of the situation, feel they have sufficient tools to deal with it (48.8%). The remaining half, however, does not feel that they were competent enough to deal with such a complex situation (49.8%), and consequently found themselves in difficulty (51.2%). Again, most teachers would like to have more training in these aspects (Fig. 5).

⁵ In Italy, schools were closed from March 2020 to June 2020. In the 2020/21 school year, there was a combination of in-presence and distance learning.

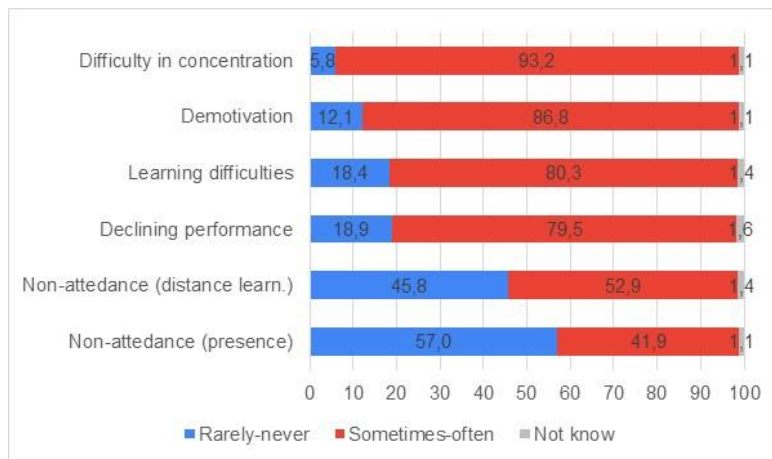


Fig. 4 School distress

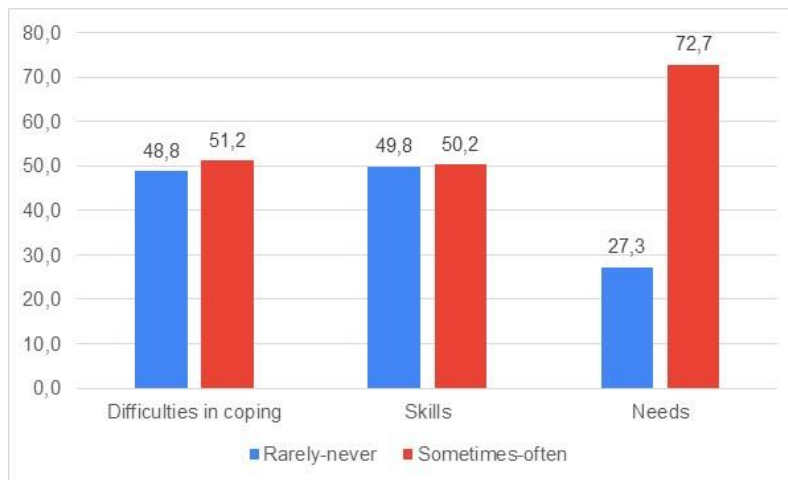


Fig. 5 School distress: teachers' difficulties in coping, skills, needs

5.4. Family frailty

Even if parents do not enter the classroom, family frailties can have a negative impact on students, their behaviour and their learning. Teachers were able to gather clues to these fragile situations (Fig. 6) only when meeting and talking to families or through students. Despite these opportunities being not frequent, over half of all teachers believe that their students' families had problems of an economic nature (54.8%), family conflict (52.9%) or isolation (52.9%), although just under 15.0% state that they have no evidence to express their opinion. The percentage of teachers who observed parents' unwillingness to engage with the school was slightly lower (45.5%), and only few were unable to comment on this aspect that affects them more directly (3.8%).

Teachers feel they are particularly non equipped (57.9%) to face these types of difficulties which, since they affect parents rather than students, had less impact on the management of school activities (26.3%). Consequently, the perception of need for training with regard to these aspects, although very much present (62.7%), is less pronounced than with regard to distress that affects students more directly (Fig. 7).

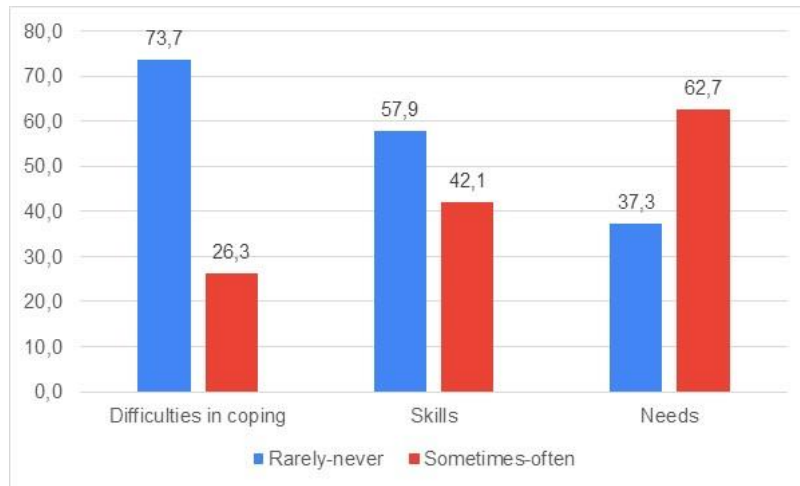


Fig. 6 Family frailty

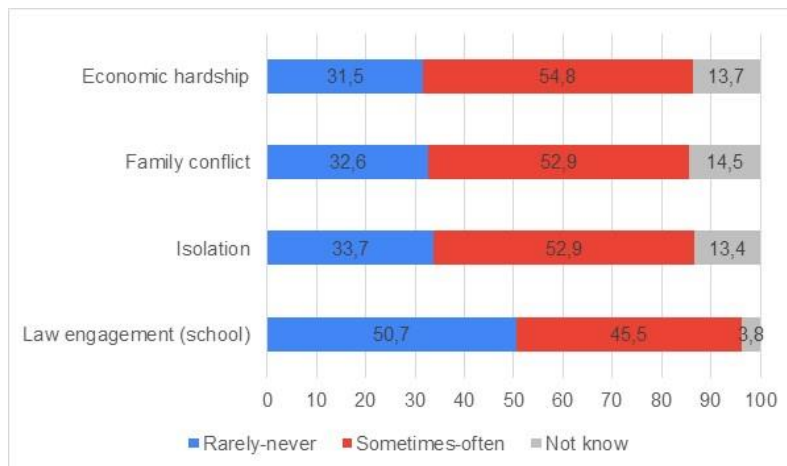


Fig. 7 Family frailty: teachers' management difficulties, skills, needs

5.5. Territorial support

According to the teachers, the recreational and sporting offer in the area is on the whole adequate (53.3%), while specific cultural offers for adolescents (34.5%) and educational services (31.9%) are less so (Fig. 8). Again, many teachers, however, state that they are

unable to express themselves, especially with reference to educational services (29.9%), which could instead be strategic partners.

The perception of support from the educational services in the area is rather limited (Fig. 9): only a small proportion of teachers believe that good support was provided to families (17.3%), to students (20.5%) and to themselves (13.4%); very many, however, have no basis on which to express their opinion. These elements, rather than providing information on the adequacy or inadequacy of these services, highlight the probable isolation of teachers who, lacking in-depth knowledge of the resources available in the context, find themselves alone in facing a post-SARS Covid-19 scenario that is particularly onerous and complex to manage.

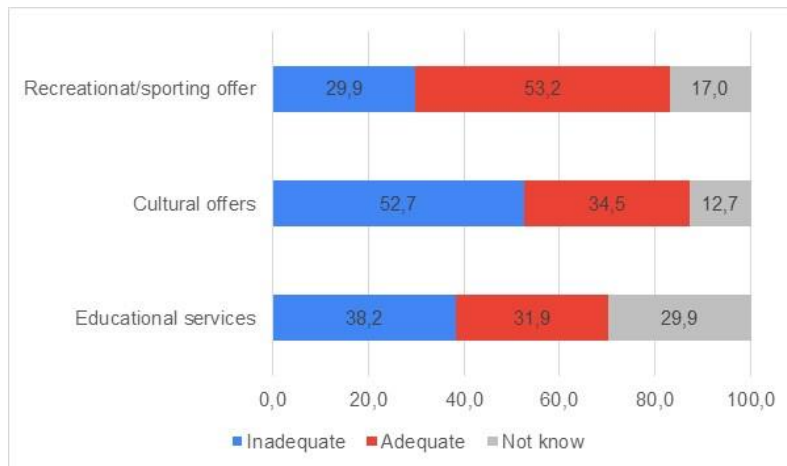


Fig. 8 Territorial offer

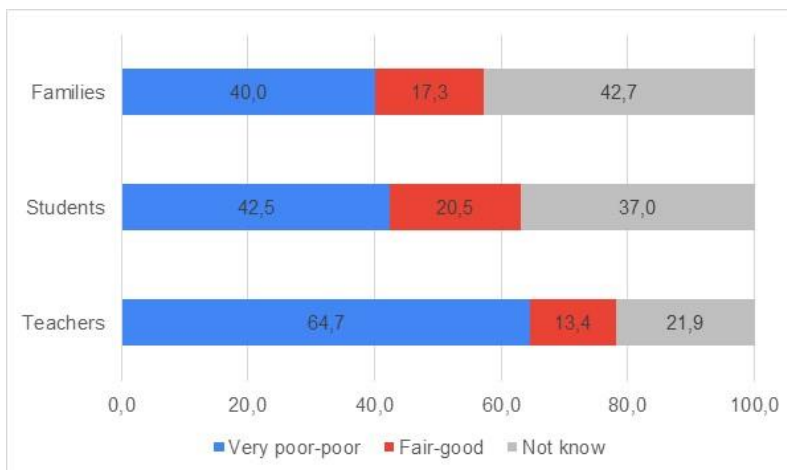


Fig. 9 Support from local educational services

6. DISCUSSION OF RESULTS

Adolescent and student distress is extremely widespread in Italian classrooms. Teachers recognise the signs of discomfort directly connected with the school learning experience more manifestly, while, in many cases, they state that they "did not see" other types of signs, in particular those relating to the psychological and emotional distress of their students and their families. Observational ability is a fundamental skill for teaching, but a significant number of teachers express difficulties in managing this task, which could suggest that this skill is not sufficiently developed in the sampled teachers. This interpretation is further validated by the fact that teachers demand further training on these aspects (identification and management of the different forms of adolescent and school distress).

The perception of support provided by educational services in the local area is rather limited among teachers; also in this case do we notice that many teachers would not express themselves. Teachers are probably isolated and alone due to their lack of knowledge of the resources available in the context.

7. CONCLUDING REMARKS: TRAINING TEACHERS TO SUPPORT STUDENTS

Having quality teachers is a fundamental resource for ensuring a quality school both in terms of the level of cultural content and teaching processes offered, and in terms of the well-being experienced at school by students and teachers themselves.

One of the strategic elements in raising the quality of teaching is undoubtedly training. A solid initial training that provides integrated disciplinary knowledge, teaching and educational competences is an important prerequisite. In Italy, however, the training of secondary school teachers has not yet found its definitive form: in the last two decades there have been continuous attempts, more or less structured and always partial, to innovate, which have made the formation of a well-prepared teaching class difficult. In-service training assumes, in this scenario, even greater importance because it can provide an opportunity to acquire or consolidate knowledge and competences, especially of a relational and pedagogical nature, which are indispensable for being able to work to the best of one's ability in the school. The latter training is particularly effective if not dropped from above, but rather when it responds to the real needs of teachers and schools by accompanying them on research-training paths useful for acquiring and experimenting with new knowledge and ways of working.

The teachers who took part in the survey express a strong need for training especially in the pedagogical area; in particular, they need observational skills to pick up on the signs of distress among students, and to identify the most appropriate strategies to tackle them. Of course, it is not the job of teachers or schools to deal directly with all the different forms of frailty affecting students and families; yet, given their privileged point of view, they can intercept such situations and identify strategic allies to face them, together, in the best possible way. The situation of isolation that seems to emerge from the survey has certainly made teachers' work very burdensome: in extremely critical circumstances, such as the pandemic and post-pandemic times, teachers often found themselves alone in having to manage a highly complex scenario, both from a didactic point of view, given the need to invent new ways of "doing school", and from a relational and educational point of view, given the very strong emergence of multiple signs of unease among their students.

Although the pandemic was an exceptional situation, it clearly highlighted what is now well established in the pedagogical field: it is only through collaboration and integration of resources and competences that the challenges of contemporary society can be met, combating educational poverty and promoting the full development of every child and young person. Consequently, teacher training should always include, alongside solid cultural, didactic and educational training, knowledge of educational and social-health systems and services that can be a fundamental reference point to work in a synergic and integrated manner, respecting competences and roles. The university, in this process, can play a fundamental role by closely accompanying the training processes and facilitating the encounter and collaboration between the various actors in the area.

Acknowledgement: *The paper is part of research within the project 'La dispersione scolastica in provincia di Varese: i ragazzi, la scuola, il territorio'. The authors would like to thank the Ufficio Scolastico Regionale per la Lombardia - Ambito Territoriale di Varese, in particular Dr. Giuseppe Carcano and Dr. Laura Caruso.*

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NELAGODA UČENIKA: ŠTA SU VIDELI ITALIJANSKI NASTAVNICI TOKOM VANREDNOG STANJA U PANDEMIJI?

Apstrakt

Obrazovno siromaštvo predstavlja neusklađenost između potreba i odgovora, a tiče se i pojedinca i konteksta. U radu su istražene manifestacije obrazovnog siromaštva sa kojima su se susretali nastavnici u svakodnevnom radu tokom vanrednog stanja u pandemiji (2020–2022). Kao instrument korišćen je polustrukturirani onlajn-upitnik koji su popunjavali svi nastavnici srednjih škola u Varezeu (Italija). Istraženo je nekoliko oblasti: nelagodnost učenika; krhkost porodica; kontekst lokalnih mogućnosti; samoefikasnost nastavnika; potreba za obukom nastavnika. Dobijeni rezultati (n = 365) ukazuju na široko rasprostranjene i heterogene manifestacije nelagodnosti, koje su negativno uticale na upravljanje razredom, i to uprkos činjenici da su mnogi nastavnici izjavili da ih „nisu uočili“. Rezultati ukazuju i na to da se nastavnici ne osećaju u potpunosti spremno da se suoče sa ovim situacijama, te zahtevaju dalju obuku u ovoj oblasti. Ne znaju dovoljno o mogućnostima obrazovanja u lokalnom kontekstu, pa ih, shodno tome, ne doživljavaju kao saveznike u prevenciji obrazovnog siromaštva (ovo je naša hipoteza). Nelagodnost učenika često ometa profitabilno obavljanje nastavnih aktivnosti i, zauzvrat, stvara nelagodu kod nastavnika; ova ponašanja su tumačena u njihovom semiotičkom značenju, odnosno kao poruke da „nije dobro“. U ovoj perspektivi, odrasli moraju biti sposobni da slušaju glasove učenika kako bi shvatili značenje njihovog ponašanja, čak i pre nego što istraže strategije za njihovo rešavanje. Štaviše, obrazovni izazov se ne može uočiti pojedinačno, mora se rešavati kolektivno, osnažujući mreže zajednice unutar i van škole.

Ključne reči: obrazovno siromaštvo, istraživanja u obrazovanju, obuka nastavnika, nelagodnost nastavnika, obrazovne zajednice



BARRIERS TO LEARNING TURKISH IN TERMS OF INTEREST, PERSISTENCE AND MOTIVATION OF TURKISH DESCENDANTS LIVING IN EUROPE

UDC 811.512.161; 159.947.5-057.874

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Abstract. *The aim of this study is to investigate the barriers to learning Turkish in terms of interest, continuity and motivation of people of Turkish origin living in Europe based on a number of variables. The sample of the study consists of 220 children and adolescents of Turkish origin aged 9-20 years born in Germany, Austria, France, Italy and Turkey and studying in a European country in the 2022-2023 school year. The study was conducted using the descriptive survey model. The survey data was collected using the "Turkish Learning Barriers Scale". In analyzing the data, descriptive statistics were used to determine the opinions of children of Turkish origin about the barriers to learning Turkish; means and standard deviations were examined. The Mann-Whitney U test was applied to determine the opinions of the children of Turkish origin about the obstacles to learning Turkish according to the gender variable; the Kruskal-Wallis H test was used to examine the variables according to the variables of age, country of study, educational status and Turkish course attendance. It was found that children of Turkish descent have the highest mean score in the continuity sub-dimension (2.41) and the lowest mean score in the motivation sub-dimension (1.91) and face serious obstacles in terms of apathy, continuity and motivation according to the general mean (2.10). The opinions of children and adolescents of Turkish origin about the obstacles to learning Turkish do not differ according to gender. The Indifference dimension differs in terms of age, motivation, place of birth, educational status and participation in Turkish classes. According to these results, it is necessary to focus on studies to eliminate the apathy of children and adolescents of Turkish descent towards Turkish as a heritage language, to ensure the continuity of learning processes and to increase the motivation of students.*

Keywords: *Individuals of Turkish descent living in Europe, obstacles to learning Turkish, interest, continuity, motivation*

Received November 25, 2023/Accepted March 29, 2024

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1. INTRODUCTION

The development of technology in the world, globalization and people's desire for a more comfortable life have led to mass migration. Since the 1960s, labor migration has begun, especially to Europe. Adıgüzel (2016) stated that in 1961, a labor agreement was made with the Federal Republic of Germany through the State Planning Organization (SPO) and millions of people were sent to work in European countries. Germany, which developed its industry rapidly after the Second World War, faced a shortage of labor. As a result, an influx of immigrants to Germany began and Turks also joined this migration. Labor migration, which was initially temporary, became settled over time as families moved in, and this wave of migration began to spread to Europe. Since economic returns were the main focus of labor migration, families did not give due importance to their children's education, which resulted in education being put on the back burner (Perşembe, 2010). This situation has led to problems in relation to the mother tongue of Turkish children. Mother tongue education in Europe is very important for Turkish children to learn and use their language properly and to embrace Turkish culture. However, an examination of the literature shows that Turkish children face various problems.

Since the first generation Turkish immigrants came from rural areas, it was a little more difficult for them to adapt to society. Since the majority of the first generation led a life between home and work, their communication needs were limited and their only goal was to earn money and return to their home country after some time (Tezcan, 1994). Children from families who did not show the necessary interest in their children's education had problems with both the mother tongue and the second language and school success. Kalenderoğlu and Zorluoğlu (2018) also stated that the relative indifference, reluctance or lack of importance that Turkish families abroad develop towards Turkish education, as well as the administrative and legal practices that cause difficulties, lead to problems.

Kaptan (2020) stated in her study, in which she examined the difficulties of Turks living in the Netherlands, that Turkish is a standard language as the mother tongue of Turks who came to European countries as laborers because they mostly migrated from rural areas and cannot follow the development of Turkish spoken in Türkiye. She explained that each person reflects the general characteristic structure of the region they come from. In a study conducted in the Netherlands, Demirel (2019) examined the relationship between the mother tongue and second language of 116 bilingual Turkish children living in the Netherlands. The study found that there was a high correlation between Turkish and Dutch language proficiency. It was found that a good command of the mother tongue also supports mastery of the second language.

Education has always been a major problem for Turkish children living in Europe. The mother-tongue education of Turkish working-class children has not been systematic for years. Thus, Arslan (2006) stated that since almost every state in Germany has the initiative in determining education policy, each state follows its own model in educating foreign children. France, from the beginning, and the Netherlands with a process, have shown with their policy of gradual assimilation that they are closed to multiculturalism and multiculturalism. In these two countries, "a single language" and even "a single culture" are to be imposed on minority and immigrant groups with different origins and cultures (Canatan, 2007). Not content with these measures, Western European countries are also taking the necessary precautions to prevent the younger generations living in their countries from forgetting their mother tongues. Denmark, the Netherlands and Norway have

removed mother-tongue teaching from schools. In some states in Germany, Turkish children are prohibited from speaking Turkish in schools and gardens (Yağmur, 2010). As the policies pursued by the Länder show, mother-tongue education for Turkish children in Europe has a complex structure.

Turkish classes in Germany are generally taught in two ways: mother tongue classes and foreign language classes. Courses can only be opened if a certain number of parents submit an application. If the number of students in the school is not sufficient, students can take lessons at another school nearby (Şengül, 2020). Parents who participated in the research by Rengi and Polat (2019) also pointed out that lessons are not held in normal classrooms and the school's facilities are not used as much as in other courses, and that this situation could have a negative impact on teachers' work. It is clear that there is no regular system for opening and continuing Turkish and Turkish culture courses in European countries. Attending Turkish and Turkish culture classes is very important for children to learn and accept their own language and culture and pass it on to the next generation. People who develop cultural awareness become aware of respecting other cultures, working with people from other cultures and living together as part of a whole.

The need to train qualified teachers and have qualified materials available is one of the problems of mother tongue teaching. For students attending Turkish and Turkish culture courses outside their country, teachers who are instructive, guiding and motivating, in short, experts in their field, are needed. For this reason, the teachers who will work in this field must be trained as foreign language teachers. They should also have a basic knowledge of the language. Teachers should know that they represent Türkiye and Turkish culture and act with this awareness. In their study, in which they determined the needs of the Turkish language and Turkish culture course, Karadağ and Baş (2019) found that the teachers were not sufficiently trained about the education system of the respective country, the possibilities of integration into the education system, how to meet personal needs and how to deal with their own family needs. A parent who participated in the research by Rengi and Polat (2019) stated that the teachers want to help the children with their school problems, but that they have difficulty expressing themselves because they do not speak German and therefore sometimes show hesitant behavior in using the school facilities.

Another point that is as important for the efficiency of Turkish and Turkish culture classes as the teacher is the choice of materials. The fact that the courses are not organized according to a specific curriculum and the books used in the courses are determined by the teachers makes it difficult to fully assimilate the program content (Orhan, 2019). Another problem is that "the materials developed for teaching Turkish to bilinguals are sometimes not prepared for the right purposes, and sometimes they are not structured and graded according to the target audience without considering the needs in the regions (Karadağ and Baş, 2019). The fact that textbooks, which are one of the most important materials in language teaching, are not prepared for the target audience means that they are not preferred by teachers and are no longer used in class after a certain period of time. For this reason, when preparing books or updating them, it is necessary to seek the opinion of teachers and decide in accordance with their opinion.

The literature also points out that children have difficulties with writing skills. The results of Şen's (2016) study, which was conducted to determine what kind of errors Turkish children living in Belgium make in their written expressions in their mother tongue, include errors caused by the reflection of spoken language/dialect features into written language, there are five headings: Errors caused by the influence of the second

language, punctuation errors, spelling errors, errors about sounds and sound harmony. As a result, the mother tongue that children acquire in the family should be supported by experts at school with elements such as vocabulary, fluency, spelling and punctuation. Aydın (2013) examined the Turkish written expressions of college students from Germany and as a result of his evaluations, he found a high error rate in spelling and punctuation, phonology, morphology, semantics and syntax in the students' Turkish written expressions.

The desired situation for bilingual Turkish children living in Europe is to be proficient in both languages and cultures and to be able to live in another culture while maintaining their own identity. Bezciöglu-Göktolga and Yağmur (2018), in their study examining the home language use of second-generation Turks living in the Netherlands, found that most families associate their mother tongue with their ethnic identity; the reason for speaking Turkish at home is to protect Turkish identity; it was found that families agreed that children should learn Turkish before learning Dutch. Social solidarity among Turks in Western Europe is very strong. As Turkish groups are in constant contact with each other, Turkish is used extensively in many areas. This shows that the use of Turkish is not limited to the home (Yağmur, 2010). In Belet's (2009) study conducted in Norway, it was found that students stated that they wanted to learn Turkish for reasons such as communicating well with their families and Turkish friends, using Turkish effectively and succeeding in class. As can be seen from the studies, families and children are open to learning Turkish, speaking Turkish and improving themselves and their motivation in this regard is high. However, if families do not provide children with the necessary motivation, students may consider learning Turkish as a waste of time.

The results of the literature review show that children of Turkish origin face problems in learning the language such as assimilation, indifference of families, the environment in which classes are held, qualified materials and qualified teachers, systematic teaching, writing skills and motivation. The aim of this study is to identify the barriers that hinder children of Turkish origin from learning Turkish, to recognize the problems in this regard before it is too late and to help take action.

The aim of this study is to investigate the obstacles to Turkish language learning in terms of interest, continuity and motivation of people of Turkish descent living in Europe based on a number of variables. To this end, answers were sought to the following sub-questions:

1. What do people of Turkish descent think about the barriers to learning Turkish?
2. Do people of Turkish descent living in Europe have barriers to learning Turkish that differ in terms of gender?
3. Are there any age-related barriers to learning Turkish among people of Turkish descent living in Europe?
4. Do the barriers to learning Turkish among people of Turkish descent living in Europe differ according to their place of birth?
5. Do people of Turkish origin living in Europe have different barriers to learning Turkish depending on their educational status?
6. Do people of Turkish origin living in Europe have different barriers to learning Turkish depending on their educational status?

2. METHOD

2.1. Model of Research

This study, which aims to investigate the barriers to Turkish language learning among people of Turkish descent living in Europe with regard to some variables, was designed according to the descriptive survey model. The research model is defined as a plan deliberately created by the researcher to answer the researcher's questions or to test the researcher's hypotheses (Büyüköztürk, Kılıç Çakmak, Akgün, Karadeniz ve Demirel, 2013). According to Karasar (1998), the descriptive model is an approach that defines the object of research as it is, with its current conditions.

2.2. Sample

The sample of the study consists of 220 children and adolescents of Turkish origin aged 9-20 years who were born in Germany, Austria, France, Italy and Turkey and are studying in a European country in the 2022-2023 school year. The simple random sampling method was used for the sample. In the simple random sampling method, each sample selection has the same probability of selection. In this sampling method, all units in the population have an equal and independent chance of being selected for the sample (Büyüköztürk et al. 2010).

The following table contains information on the demographic characteristics of the people of Turkish origin who took part in the survey.

Table 1 Information on Demographic Characteristics of Individuals of Turkish Origin

	Variables	N	%
Gender	Women	127	57.7
	Men	93	42.3
Age	9-12 years old	28	12.7
	13-16 years old	101	45.9
	17-20 years old	91	41.4
Place of birth	Germany	18	8.2
	Austria	144	65.5
	France	33	15.0
	Italy	8	3.6
	Türkiye	17	7.7
Educational Status	Primary school	13	5.9
	Middle school	74	33.6
	High School - Vocational High School	109	49.5
	University	24	10.9
Taking Turkish Lessons Status	Those who took Turkish lessons	95	43.2
	Taking Turkish Lessons	22	10.0
	Not taking Turkish lessons	103	46.8
	Total	220	100.0

Table 1 shows that 127 of the people of Turkish origin who took part in the study are women (57.7%) and 93 are men (42.3%). 28 of them are between 9 and 12 years old (12.7%), 101 between 13 and 16 years old (45.9%) and 91 between 17 and 20 years old (41.4%). Of the people of Turkish origin who took part in the survey, 18 were born in

Germany (8.2%), 144 in Austria (65.5%), 33 in France (15%), 8 in Italy (3.6%) and 17 in Turkey (7.7%). It can be seen that 13 of the people of Turkish origin who took part in the survey were primary school students (5.9%), 74 were secondary school students (33.6%), 109 were grammar school and vocational school students (49.5%) and 24 were college students (10.9%). It goes without saying that 95 of the people of Turkish origin who took part in the survey had taken Turkish lessons (43.2%), 22 of them had taken Turkish lessons (10%) and 103 of them had not taken Turkish lessons (46.8%).

2.3. Data Collection Tools

The scale used in the study was developed by Ekşi and Okan (2021) to identify the barriers to learning Turkish for children of Turkish origin whose families have migrated abroad. The Turkish Learning Barriers Scale (TÖBÖ) consists of three dimensions and 21 items. The apathy factor consists of 10 items, the continuity factor consists of 6 items and the motivation factor consists of 5 items. The scale, which was created as a 5-point Likert-type, has two reversed items.

2.4. Analysis of Data

The data obtained during the study were analyzed using the statistics program. The tests for skewness and kurtosis were applied to determine whether the data were suitable for analysis and whether they had normal distribution characteristics. Skewness is used to measure the degree of symmetry of the data distribution. Kurtosis is used to measure the spread of the data. If most of the values are to the left of the mean, the skewness is interpreted as positive, and if most of the values are to the right of the mean, the skewness is interpreted as negative.

When looking at the kurtosis, it was determined that the distribution indicator of the statistical data is symmetrical. In addition, the distribution may not show normal results. In this case, there may be a clustering of more or less samples. A curve with a normal distribution is referred to as a mean curve (mesokurtic). In this case, the kurtosis value to be determined is "0". If there are many samples in the middle of the distribution, this is an example of a narrow curve and the value is interpreted as positive. If there are only a few samples in the middle of the distribution, this is an example of a flat curve and the value is interpreted as negative. To check the suitability of skewness and kurtosis tests for data analysis, the statistical value obtained as a result of the test must be divided by the standard deviation error. If the test result is in the range of $+2/-2$, it is interpreted that the data is suitable for analysis (Karagöz, 2010).

The table below shows the skewness and kurtosis test analysis results.

Table 2 Skewness and Kurtosis Test Analysis Results

	N	Skewness		Kurtosis	
		Statistic	Std. Error	Statistic	Std. Error
Indifference	220	.625	.164	.297	.327
Continuity	220	.645	.164	.822	.327
Motivation	220	.952	.164	1.894	.327

In order to analyze the skewness results and check their suitability, it is necessary to divide the statistical value by the standard deviation error.

Kolmogorov-Smirnov and Shapiro-Wilk normality tests were applied to ensure suitability for analysis of the study.

Table 3 Kolmogorov-Smirnov and Shapiro-Wilk Normality Tests Analysis

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	p	Statistic	df	p
Indifference	.084	220	.001	.962	220	.000
Continuity	.112	220	.000	.967	220	.000
Motivation	.130	220	.000	.937	220	.000

Büyüköztürk (2011) suggests that we should take Shapiro-Wilks into consideration when testing normality when the number of participants is below 50. In cases where the number of participants is 50 or more, it is necessary to look at the Kolmogorov-Smirnov normality result.

When Table 3 is examined, it is seen that the Kolmogorov-Smirnov normality test for each heading has a value below 0.50. In this case, it is necessary to use nonparametric tests to analyze the data of the study since they do not show a normal distribution. Since they did not show a normal distribution, Mann Whitney-U Test and Kruskal Wallis-H Test, which are non-parametric tests, were applied.

3. FINDINGS

In this section, the quantitative findings obtained for the sub-objectives of the research and the results related to these findings are presented.

3.1. Findings Regarding the First Sub-Purpose

The table below contains the arithmetic mean and standard deviation values of the students' opinions regarding the items in the Turkish learning barriers scale.

When we look at the distribution of the Turkish learning barriers scale according to the items, the item with the lowest score range ($\bar{X} = 1.60$) among all the items is “I will forget Turkish because I will be working here in the future.”

When we look at the distribution of the scale items, the one with the highest value for the apathy items is “I find our teachers teaching Turkish insufficient.” It is the article with ($\bar{X} = 2.40$) value. In the continuity articles, “I speak Turkish well.” ($\bar{X} = 3.81$) article stands out. In the motivation items, “Not having a Turkish teacher negatively affects my learning Turkish”. It can be seen that the item ($\bar{X} = 2.18$) is ranked first.

When the barriers to learning Turkish preferred by the students who contributed to the study were examined, the students preferred “Continuity” most. It is seen that they agree with the dimension at a high level ($\bar{X} = 2.41$). Secondly, students’ “Indifference” They preferred the size ($\bar{X} = 1.98$). Last but not least “Motivation” They preferred the size ($\bar{X} = 1.90$).

According to the general average ($\bar{X} = 2.10$), it was determined that they faced serious obstacles in terms of apathy, continuity and motivation.

Table 4 Distribution and arithmetic mean and standard deviation values of the items in the Turkish learning barriers scale according to the apathy, continuity and motivation sub-dimensions

Item Number	Items	\bar{X}	SD
	Indifference	1.98	.67
1	I love learning Turkish.	2.10	1.08
2	I'm bored of learning Turkish.	2.13	1.13
3	I don't see any reason to learn Turkish.	2.18	1.28
4	I don't care about learning Turkish.	2.04	1.23
5	Learning Turkish is a waste of time for me.	1.82	1.07
6	Since I am planning my future in the country I live in, I do not see the need to learn Turkish.	2.15	1.21
7	I fail at school when I learn Turkish.	1.71	1.00
8	No matter how hard I try, I cannot learn Turkish.	1.71	.99
9	I find our teachers teaching Turkish insufficient.	2.40	1.19
10	Since I will be working here in the future, I will forget Turkish.	1.60	.94
	Continuity	2.41	.58
11	I speak Turkish fluently.	3.81	1.03
12	I quickly forget the words I learned in Turkish.	1.93	.94
13	I confuse many words and sentences in Turkish.	2.20	1.14
14	I can speak Turkish understandably and fluently.	1.95	1.03
15	No matter how hard I try, I have difficulty learning Turkish.	1.79	.94
16	No matter how hard I try, I cannot use Turkish words properly like those who live in Turkey.	2.74	1.28
	Motivation	1.90	.60
17	My parents did not teach me sufficient Turkish.	1.77	.95
18	Not having a Turkish teacher negatively affects my learning Turkish.	2.18	1.02
19	Learning Turkish is of no use to me.	1.78	.82
20	Knowing Turkish is not important in achieving my personal goals.	2.11	1.02
21	I can't understand why I need to learn Turkish.	1.66	.87

3.2. Findings Regarding the Second Sub-Purpose

As the study data did not show a normal distribution, the Mann Whitney U test, one of the non-parametric tests, was used. The following table contains a gender-specific analysis of the Turkish learning barriers of people of Turkish descent living in Europe.

Table 5 Analysis of Turkish learning disabilities of individuals of Turkish descent living in Europe in terms of gender

	Gender	N	Rank Average	Total of Ranks	Mann-Whitney-U	p
Indifference	Women	127	106.99	13588.00	5460.000	.339
	Men	93	115.29	10772.00		
Continuity	Women	127	110.19	13993.50	5865.500	.931
	Men	93	110.93	10316.50		
Motivation	Women	127	109.77	13940.50	5812.500	.841
	Men	93	111.50	10369.50		

The table above contains an examination of the Turkish learning barriers of people of Turkish descent who participated in the study in terms of gender. When we look at the table, we can see no significant differences between genders in terms of students' "apathy" ($p = .339$), "continuity" ($p = .931$) and "motivation" ($p = .841$) scores ($p > 0.05$). This shows that the barriers faced by people of Turkish descent in learning Turkish do not differ according to their gender.

3.3. Findings Regarding the Third Sub-Purpose

Since the data did not show a normal distribution, the Kruskal Wallis-H test, one of the non-parametric tests, was used.

Table 6 Analysis of Turkish learning barriers of individuals of Turkish descent living in Europe in terms of age

	Age	N	Rank Average	Kruskal Wallis-H	p
Indifference	9-12 age range	28	115.14	22.718	.000
	13-16 age range	101	130.50		
	17-20 age range	91	86.88		
Continuity	9-12 age range	28	118.04	.455	.797
	13-16 age range	101	109.28		
	17-20 age range	91	109.53		
Motivation	9-12 age range	28	109.07	4.914	.086
	13-16 age range	101	120.29		
	17-20 age range	91	100.07		

The table contains an analysis of the Turkish learning barriers of people of Turkish descent who participated in the study in relation to age. When we look at the table in this context, no significant differences were found according to the age variable in terms of the students' "continuity" ($p = .797$) and "motivation" ($p = .086$) scores ($p > 0.05$). However, there was a significant difference in the values for "indifference" depending on the age variable ($p < 0.05$). With regard to the age range of the students, it was found that the apathy scores of students aged 13-16 years ($M = 130.50$) scored higher than those of students in the other age group.

3.4. Findings Regarding the Fourth Sub-Purpose

Since the data did not show a normal distribution, the Kruskal Wallis-H test, one of the non-parametric tests, was used.

Table 7 Analysis of Turkish learning barriers of individuals of Turkish descent living in Europe in terms of place of birth

	Place of birth	N	Rank Average	Kruskal Wallis-H	p
Indifference	Germany	18	56.47	12.796	.005
	Austria	144	107.42		
	France	33	99.15		
	Italy	8	118.69		
Continuity	Germany	18	117.64	5.216	.157
	Austria	144	96.15		
	France	33	113.45		
	Italy	8	124.81		
Motivation	Germany	18	76.58	4.555	.207
	Austria	144	102.60		
	France	33	109.38		
	Italy	8	117.94		

The table contains an analysis of the Turkish learning barriers of people of Turkish descent who participated in the study in relation to their place of birth. When we look at the table in this context, no significant differences were found in relation to the variable of place of birth on the students' "continuity" ($p = .157$) and "motivation" ($p = .207$) scores ($p > 0.05$). There was a significant difference in the values for "indifference" depending on the variable place of birth ($p < 0.05$). When examining the students' apathy dimension according to their place of birth, it was found that students born in Italy ($M = 118.69$) scored higher than students born in other countries.

3.5. Findings Regarding the Fifth Sub-Purpose

Since the data did not show a normal distribution, the Kruskal Wallis-H test, one of the non-parametric tests, was used.

Table 8 Analysis of Turkish learning barriers of individuals of Turkish descent living in Europe in terms of their educational status

	Educational Status	N	Rank Average	Kruskal Wallis-H	p
Indifference	Primary school	13	99.04	22.921	.000
	Middle school	74	137.86		
	High School –	109	100.27		
	Vocational High School				
	University	24	78.83		
Continuity	Primary school	13	71.50	6.262	.100
	Middle school	74	118.64		
	High School –	109	110.58		
	Vocational High School				
	University	24	106.17		

	Educational Status	N	Rank Average	Kruskal Wallis-H	p
Motivation	Primary school	13	68.19	14.198	.003
	Middle school	74	129.80		
	High School –	109	104.35		
	Vocational High School				
	University	24	101.85		

The table contains an analysis of the Turkish barriers to learning of people of Turkish descent who participated in the study in relation to their educational status. When we look at the table in this context, no significant differences were found according to the educational status variable in relation to the students' scores for "continuity" ($p = .100$) ($p > 0.05$). However, a significant difference was found according to the educational status variable in relation to the values for "apathy" ($p = .000$) and "motivation" ($p = .003$) ($p < 0.05$). The evaluation of the table shows that secondary school students ($M = 137.86$) have higher apathy scores than students at other levels. When examining the motivation dimension, which showed a significant difference, it was found that secondary school students ($M = 129.80$) have more motivational obstacles than students at the other levels.

3.6. Findings Regarding the Sixth Sub-Purpose

Since the data did not show a normal distribution, the Kruskal Wallis-H test, one of the non-parametric tests, was used.

Table 9 Analysis of Turkish learning barriers of individuals of Turkish descent living in Europe in terms of their status in taking Turkish lessons

	Status of Taking Turkish Lessons	N	Rank Average	Kruskal Wallis-H	p
Indifference	Those who took Turkish lessons	95	95.29	12.788	.002
	Taking Turkish Lessons	22	100.02		
	Not taking Turkish lessons	103	126.77		
Continuity	Those who took Turkish lessons	95	100.62	4.841	.089
	Taking Turkish Lessons	22	128.80		
	Not taking Turkish lessons	103	115.70		
Motivation	Those who took Turkish lessons	95	98.35	6.230	.044
	Taking Turkish Lessons	22	116.82		
	Not taking Turkish lessons	103	120.35		

The table contains an analysis of the Turkish learning barriers of the people of Turkish origin who participated in the study in relation to their status in participating in Turkish classes. When we look at the table in this context, we could not find any significant differences in the "continuity" ($p = .089$) and "motivation" ($p = .044$) scores of the students depending on whether they took Turkish classes ($p > 0.05$). However, there was a significant difference in the values for "indifference" ($p = .002$) depending on the status of participation in Turkish lessons ($p < 0.05$).

4. DISCUSSION AND CONCLUSION

Although the first language a child learns is their mother tongue, people who do not live in their own country due to their circumstances have to learn more than one language. For bilingual people in this situation, learning their mother tongue in a different geography is associated with various obstacles. According to Akalın (2004), there are problems in teaching Turkish as a mother tongue in the European Union countries due to both the practices of the member countries of the Union and the families concerned. For this reason, it is important for the future of the Turkish language to recognize the obstacles that prevent people of Turkish origin living abroad from learning Turkish at an early stage and to offer solutions. To this end, the study measured the obstacles encountered by people of Turkish origin living in Europe in learning Turkish in general and with the sub-dimensions of apathy, continuity and motivation, and examined whether they differ in terms of gender, age, place of birth, educational status and participation in Turkish language classes. In this context, the results arising from the findings of the study are discussed and presented.

It was found that children of Turkish descent have the highest average score in the continuity sub-dimension (2.41) and the lowest average score in the motivation sub-dimension (1.91). In line with the general average (2.10), they face serious obstacles in terms of apathy, continuity and motivation. The fact that students have various difficulties in language learning is consistent with the results of many studies in the literature. Belet (2009), in his study in which he examined the problems of bilingual Turkish children in Norway in learning Turkish, found that students mainly have problems with expressive skills such as writing and speaking and that they forget what they have learned because they do not use it and their vocabulary is insufficient. Şengül and Köseoğlu (2021) describe the problems of bilingual Turkish children living in France in learning and using Turkish as follows: They have few environments in which they can practice Turkish, they have problems forming sentences in Turkish, they have difficulties in understanding, they make friends with Turkish children whose Turkish is poor, they have translation problems, they are unable to express themselves, they lack self-confidence, they are reserved and they have discipline problems in Turkish classes.

In addition, in the study conducted by Şengül and Yokuş (2021), it was found that the problems of Turkish children living in Sweden in learning their mother tongue are mainly related to inadequacies in vocabulary and grammar. Yıldız (2012) explains the problems faced by Turkish children living in Germany when learning Turkish. The following issues were identified: short lesson times, lack of textbooks, families who do not attach importance to Turkish lessons, families who use Turkish incorrectly, students who do not pay attention to lessons and lack of information exchange between colleagues. Chang and Kalenderoğlu (2017) identified the problems encountered in teaching Turkish as a foreign language in Taiwan as problems arising from the structure of Chinese, students, teachers, teaching materials and the educational environment. In accordance with the results of the studies, we can say that people of Turkish descent living in Europe face serious problems in learning their mother tongue and that precautions should be taken to address these problems so that people of Turkish descent can learn their mother tongue systematically.

According to the results obtained for the second sub-objective of the study, it was found that there were no significant differences in terms of the scores in the sub-dimensions, apathy, continuity and motivation ($p > 0.05$). According to this result, it can

be interpreted that the gender variable does not have a positive or negative influence on the barriers to learning Turkish among people of Turkish origin living in Europe.

According to the analysis results for the third sub-objective of the study, it was found that there were no significant differences between the age of the individuals of Turkish origin and their barriers to learning Turkish in terms of continuity and motivation scores. However, there was a significant difference in terms of apathy scores depending on the age variable. Thus, there is a significant correlation between the students' lack of interest in learning Turkish and their age. Based on this result, it can be said that it would be useful to conduct a study with a separate sample group in order to better understand the effects of the age variable on the obstacles to learning Turkish. In the study conducted by Yıldız (2012) with people of Turkish origin in Germany, as a result of the analysis conducted to determine whether the responses given in the "Thoughts about Turkish Language and Turkish Language Teaching" survey were dependent on the age variable, it was found that the dependence between 21 variables and the age variable was statistically significant.

According to the analysis results for the fourth sub-objective of the study, no significant differences were found between the places of birth of the individuals of Turkish descent and their barriers in learning Turkish in terms of continuity and motivation scores. There was a significant difference in terms of apathy scores according to the birthplace variable ($p < 0.05$). In a similar study, Yıldız (2012) conducted a study with people of Turkish origin in Germany and found that there was a significant difference between 6 variables and the place of birth variable in the survey responses. In European countries such as Germany and Sweden, a certain number of parents are required to apply for Turkish classes. If the required number is not reached, students can take classes in other schools in the neighborhood. In regions where the population is small, Turkish citizens have problems (Şengül, 2020; Şengül & Yokuş 2021). Solving the problem of taking lessons is generally the responsibility of parents. However, parents' inability to take care of educational problems because they do not fully master the language of the country they live in and their workload may contribute to children's decreasing interest in taking Turkish classes.

According to the findings obtained for the fifth sub-objective of the study, no significant differences were found between the educational status of individuals of Turkish descent and the continuity scores of Turkish barriers to learning. However, it was found that there were significant differences in terms of apathy and motivation scores. It was found that secondary school students had more apathy and motivation barriers than students at other levels.

In line with the results on the sixth sub-objective of the study, no significant relationship was found between the status of individuals of Turkish origin in participating in Turkish language classes and the levels of Turkish learning barriers in the continuity ($p = .089$) and motivation ($p = .044$) sub-dimensions ($p > 0.05$). However, there was a significant difference in the values for "indifference" ($p = .002$) depending on the status of participation in Turkish classes ($p < 0.05$). It was found that the apathy scores of the students who did not take Turkish classes ($M = 126.77$) were higher than those of the other students. From this result, it can be inferred that participation in Turkish classes directly affects students' interest in the course.

It was found that the views of the children of Turkish origin about the obstacles in learning Turkish had the highest mean in the continuity sub-dimension (2.41) and the lowest mean in the motivation sub-dimension (1.91), and according to the general mean (2.10), they faced serious obstacles in terms of apathy, continuity and motivation.

According to these results, it is necessary to focus on eliminating the apathy of children and adolescents of Turkish origin towards Turkish as a heritage language, bringing continuity to the learning process and increasing students' motivation.

This study is limited to some variables such as gender, age, place of birth, educational status and participation in Turkish language courses among children and adolescents of Turkish origin living in Europe and European countries such as Germany, Austria, France and Italy. New studies can be conducted by increasing and differentiating the number of variables and countries.

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BARIJERE ZA UČENJE TURSKOG JEZIKA U POGLEDU INTERESA, KONTINUITETA I MOTIVACIJE TURSKIH POTOMAKA KOJI ŽIVE U EVROPI

Apstrakt

Cilj studije je da ispita prepreke za učenje turskog jezika u smislu interesovanja, kontinuiteta i motivacije pojedinaca turskog porekla koji žive u Evropi. Uzorak istraživanja činilo je 220 dece i mladih turskog porekla, uzrasta 9-20 godina, koji su rođeni u Nemačkoj, Austriji, Francuskoj, Italiji i Turskoj, i koji su se školovali u jednoj od ovih evropskih zemalja u školskoj 2022/2023. godini. Podaci u istraživanju prikupljeni su putem Turske skale barijera u učenju, pri čemu je korišćena deskriptivna metoda. Za utvrđivanje mišljenja dece turskog porekla o preprekama za učenje turskog jezika korišćena je deskriptivna statistika, pri čemu su ispitivane srednje vrednosti i standardne devijacije. Korišćeni su Mann-Whitney U test za ispitivanje mišljenja dece turskog porekla u vezi sa preprekama za učenje turskog jezika prema varijabli pola i Kruskal-Vallis H test za ispitivanje varijabli u odnosu na starost, zemlju studiranja, obrazovni status i kurs turskog jezika. Na osnovu dobijenih rezultata utvrđeno je da su deca turskog porekla ostvarila najveći prosečan rezultat u odnosu na kontinuitet (2,41), najniži prosečni rezultat u odnosu na motivaciju (1,91), a s obzirom na opšti prosek (2,10), zaključeno je da se suočavaju sa ozbiljnim preprekama u pogledu apatije, kontinuiteta i motivacije. Mišljenja dece i mladih turskog porekla o preprekama za učenje turskog jezika se ne razlikuju po polu. Utvrđena je razlika u dimenziji „Indiferentnost” u odnosu na godine starosti, motivaciju, mesto rođenja, obrazovni status i pohađanje časova turskog jezika. S obzirom na dobijene rezultate, potrebno je fokusirati se na školovanje kako bi se eliminisala apatija dece i mladih turskog porekla prema turskom jeziku, koji predstavlja njihov jezik nasleđa, obezbedio kontinuitet u procesima učenja i povećala njihova motivacija za učenje jezika.

Ključne reči: pojedinci turskog porekla koji žive u Evropi, prepreke za učenje turskog jezika, interesovanje, kontinuitet, motivacija



THE PEDAGOGY OF MEMORIALS AND OF MEMORY IN EDUCATION IN THE DIGITAL AGE

UDC 371.3::93/94:004; 930.85(497);
394(497)(=411.16) "1939/1945"

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Abstract. *The focus of the research is the pedagogy of memorial sites and memorials. Within this framework, the analysis centres on the Holocaust, along with efforts facilitating and promoting an understanding of what led to that event, including the significant activities of Centropa, among others. The presentation seeks answers to the following main questions: How does Centropa contribute to learning about Jewish history and the Holocaust? What digital databases does the organisation have at its disposal? What role does it play in relation to the renewal of learning and teaching practices? What advantages do these new learning practices have? On the one hand, the presentation is based on a brief presentation of Centropa's collection of digital source materials and their possible applications in secondary-level education; on the other hand, it also provides a theoretical framework and practical examples for such applications, based on modern pedagogical methods using ICT resources. The topic presented in the lecture is of great importance, as we know that when analysing historically important sources and visiting important sites of history, the acquisition of knowledge and the desire to learn can only be truly effective if students' interest and activity can be stimulated. Centropa contributes to all of this by providing experiences, giving first-hand experience, encouraging independent thinking and opinion-forming, and critical thinking, and by making a real contribution to learning. In addition to learning about the past, it also helps to gain a more nuanced understanding of others' perspectives and personal destinies, which can be an important step towards mutual acceptance and ultimately towards the development of global competences, as set out by the OECD, which already play an important role in the PISA assessments.*

Keywords: *Teaching history, Centropa, Holocaust education, digital history resources, ICT in education*

Received December 28, 2023/Accepted February 24, 2024

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1. INTRODUCTION

The broader research topic of the presentation is to examine how the characteristics and "message" of memorial sites can be grasped from an educational point of view, and how this can be used in secondary school teaching. The focus of the research is thus on the pedagogy of memorial sites and memory, with the analysis concentrating on efforts to promote and encourage the learning of the Holocaust and the path leading to it, and on the globally influential work of Centropa. (The organisation's website: <https://www.centropa.org/en>; Hungarian site: <https://www.centropa.org/hu/home>).

The chosen research topic is of great importance, as we know that when analysing historically important sources and visiting key sites, the acquisition of knowledge and the desire to learn can only be truly effective if students' interest and activity can be stimulated. Only by providing experiences, personal experience, and independent, opinion-forming, critical thinking can learning make a truly effective contribution – that goes beyond learning about the past – to a more nuanced understanding of the perspectives and personal fates of others, which can be an important step towards mutual acceptance and ultimately towards the development of global competences, as set out by the OECD, which already play an important role in the PISA assessments, and towards the achievement of peace and justice, which are among the UN's Sustainable Development Goals.

Today, at all school levels and in all cultural settings, students' learning habits have changed and are constantly changing, as evidenced by a range of educational and psychological research. There is an unprecedented focus on experiential, interesting, varied and interactive learning based on personal experience. This rapid change requires a new attitude and a constantly renewed, modern methodological repertoire from teachers, museum professionals and public collections staff. The focus is increasingly on a person-centred form of learning and knowledge acquisition based on personal experiences and activity. In recent years, the number of digital learning materials and digitised resources has grown by leaps and bounds, but it is also becoming increasingly clear that the young generation, which is at home in the virtual world, has a great need to get to know authentic places and to have "real" conversations with their peers, but also with their parents and teachers. This is supported, among other studies, by a study conducted by Helga Veigl and Balázs Zábó with students in higher education more than a decade ago, in 2010. In their work, the authors sought to find out what the students thought the near future would bring and how their lives would change by 2025. Among many other important questions, they asked, for example, where education will take place, and what the channels for learning and communicating knowledge will look like in the next decade. For example, on-site education (where education takes place at the place where the events took place, where information about the material taught can be found and accessed more easily) was considered by students at the time, without discussion, as something that will be present a decade and a half after the discussions with them (Veigl & Zábó, 2010, pp. 523-534), and they were absolutely right.

Drawing on the new findings of historiography, psychology and educational science, and in constant dialogue with these disciplines, it is possible to imagine an effort, expressed and reinforced at the state level in Hungary, to continually refine the "desirable expressions" of remembrance in the school setting (Zarándy, 2009) and to promote the processing of the traumas of the past, including the Holocaust, by keeping memories alive.

There are already many good examples and forward-looking efforts to this end, drawn from national and international practices.

2. LITERATURE REVIEW

The broad theoretical framework for this research is the study of memory, which has a long history in sociology. Durkheim, Simmel and Weber already dealt with this topic, and Assmann elaborated in detail the specificities of communicative and cultural memory. Building on the works of these authors, this important and multifaceted topic has recently become a focus of interest in several disciplines (Kovács, 2012).

Memory research has attracted the interest of representatives of many disciplines and is also becoming increasingly focussed from the point of view of education and pedagogy. It is of particular interest in terms of the ability to distinguish between (historical) memory and history, either directly or indirectly. According to a study by Viñao Frago, a well-known international historian of education, written well over a decade ago in 2010, it is evident and not surprising that cultural heritage/historical memory (which, beyond the level of individuals, is of significance for different small or large groups, communities, a whole state or nation) varies in its content and construction from one era to another, and that the interpretation of history and memory are also strongly influenced by politics and society (Viñao, 2010).

In 2000, more than two decades after the Euroclio survey on historical memory and the pedagogy of memory was carried out in more than thirty European countries, the first such survey was conducted in the field of memory and the pedagogy of memory. The data clearly show that these topics and forms of historical commemoration are an important part of social discourse everywhere (Zarándy, 2009). The pedagogy of memory (in German: *Gedenkstättenpädagogik*) and the pedagogy of memorial sites are now a field of research in their own right, and hundreds of lectures and scientific publications have been produced in this field in recent years. The following summary, which also forms an important basis for my research, can be found on the website of the National Heritage Institute. “Historical memorial sites are important places in terms of memory, which are of outstanding significance from a national, denominational, regional or ethnic perspective. Although they are often important architectural works, they are significant not primarily from a monumental point of view, but rather because of their crucial historical role. They provide an opportunity for visitors to experience the turning points, tragedies and glorious moments of Hungarian history.” (National Heritage Institute, n.d.).

The pedagogy of memorial sites, as the focus of the broader research upon which the presentation is based, is also of particular interest from the point of view of learning and teaching methodology. In 2019, Aletta Ágnes Forrás-Bíró defended her doctoral thesis at the Doctoral School of Educational Sciences of ELTE PPK, entitled *Methodology of Learning and Learning Support in Public Education*, which is an important cornerstone for our research (Forrás-Bíró, 2019). In 2015, she prepared a case study for the Budapest Institute for Educational Research and Development on the preparation of situation analysis and training development related to Holocaust education, based on the analysis of interviews with teachers (Forrás-Bíró, 2015), and working on this basis, she edited a book of studies entitled *The Holocaust, the school and the teacher* (Forrás-Bíró, 2016). These works are an important inspiration and starting point for this research.

3. AIMS, MAIN QUESTIONS AND METHODS OF THE STUDY

The aim of this study is to promote methodological innovation in secondary schools and to strengthen and enrich the pedagogy of memory and memorial sites. From the point of view of educational science and history didactics, we considered the summary of a study by Csaba Jancsák and his colleagues, published in 2018, which takes methodological innovations into account, as an important starting point (Jancsák et al., 2018). As members of the Szeged research group supported by the Hungarian Academy of Sciences, they formulated the following: “Our research group is trying to bring the Holocaust topic closer to the ‘screenager’ generation of today by applying research based on digital educational materials and history teaching methods developed for them” (Jancsák et al., 2018).

Focusing on the presentation of Centropa's digital materials and some innovative methodological initiatives and learning opportunities, this study contributes to a more accessible, interactive and resource-based secondary school treatment of the Holocaust for students. We are convinced that the results of this work can help us to plan how to make the presentation of the Holocaust more nuanced, and better incorporate student-activated learning, and more broadly, the sources and places of historical memory, in today's secondary schools. This (as an ultimate goal) can contribute to the development and strengthening of students' global competences.

The study seeks answers to the following main questions: How does the Centropa organisation contribute to the understanding of Jewish history and the Holocaust? What digital databases does the organisation have? What role does it play in the renewal of learning and teaching methodologies? How does it prepare teachers for innovative methods? What are the benefits of these new forms of learning?

The study briefly presents Centropa's digital resource collection and its potential for use in secondary education, and provides a theoretical framework and practical examples of its use in modern pedagogical methods and ICT tools.

4. INTRODUCTION AND BRIEF HISTORY OF CENTROPA

Centropa is, by its own definition, an interactive database of Jewish memory. For more than two decades, since 2001, it has been carrying out social history research on the history of the Jewish population in Central and Eastern Europe from the turn of the 19th and 20th centuries to the present day. It does this through primary sources: photographs, interviews and personal life stories. The organisation's network of contacts brings together a community of thousands of teachers from three continents, including 15 countries in Europe, the United States and Israel, to further the UN's global goals and competencies.

In addition to preserving and making accessible the historical heritage of Judaism, Centropa's main goal is to develop educational solutions and methods that facilitate the integration and use of the latest technologies in today's education system.

Through its individual methodology, Centropa develops innovative educational materials and aids that can be used in both public and informal education, and contribute to shaping and moulding the attitude of the growing generations towards the past and to teaching the acceptance of differences in societies. It uses modern methods to promote and facilitate the acceptance and further expansion of formal and informal forms of education based on the competences defined in various educational documents. Its activities are wide-ranging, offering educational programmes and cooperation opportunities for both public

and Jewish religious schools. They organise teacher training seminars abroad and at home, as well as a summer academy, student competitions, cross-border projects, exhibitions and a Café Centropa for students to meet survivors. The recent pandemic has also accelerated the growth of online offerings for these efforts. While a significant number of programmes have now been made available online, it is still the face-to-face sessions, training and opportunities for collective encounters that are most dominant.

Centropa's seminars and webinars are organised for teachers, with the aim of enabling teachers to learn about and contextualise educational materials, learn from interviews with Holocaust survivors and collaborate in creating lesson plans for their students. By joining the seminars, teachers can discover new pedagogical methods and bring history back into the classroom, using the source materials and teaching aids, back to their own schools.

Each year, around 80 teachers from all over the world experience the benefits of the Summer Academy as a unique training format. It is a unique combination of on-site teaching, lectures, small group sessions and museum education. Each summer the location is in a different country, but what they have in common is the discovery, understanding and processing of the history of Central and Eastern European Jewry, both individually and in groups. The programme for the summer of 2022 occurred in Berlin, after a two-year hiatus due to the pandemic. By placing the period from the time of the German Empire, through the Weimar Republic and Nazi Germany, to the Cold War in its historical context, the teachers studied and processed the period.

School projects are student projects that inspire teachers and students alike. From the winners of Centropa competitions to creative cross-cultural and cross-border projects, student activities are carried out that are important examples of methodological innovation. Some of them are so successful year after year that they can be used in the classroom.

5. CENTROPA'S DIGITAL RESOURCES AND DATABASES

Centropa's educational materials, aids and resources provide a unique resource for teaching the history of 20th century Central and Eastern European Jewry and the Holocaust. The organisation does not train teachers on how to use the curricula and syllabuses. Rather, it sees them as partners in providing a new kind of teaching and learning experience for both teachers and students. The lesson plans produced can be searched, downloaded and adapted to the needs of students from the website.

The most compelling life stories of Holocaust survivors have been filmed by Centropa experts. These films, each no more than 30 minutes long, are perfect for classroom use or creative homework assignments. These films cover many themes familiar to students of today (sibling rivalries, love stories, school experiences, first jobs), but also topics such as how to survive the war and how to rebuild life after the Holocaust. These are important and true stories that bring history closer to students.

In addition to the above, Centropa also offers travelling exhibitions, which can be used by teachers in Europe and Israel, offering a unique learning experience for their students. They can build projects where students can educate their own fellow students, their parents and members of their local community.

The organisation also helps and accelerates the preparation of lessons by offering thematic websites with specialised content and ready-made content. These websites include interviews, films, spatial and temporal orientation materials and other educational content

all in one place (e.g. Kindertransports, Novemberpogrom/Kristallnacht, Sephardic Jewry in the Balkans, etc.).

Their database contains 1 230 personal stories and 25 000 family photographs taken in 15 European countries. Every few weeks they also publish a podcast of stories on a particular theme using these data. In addition to the above, Centropa's holdings are enriched by freely downloadable books and publications.

6. DIDACTICAL POSSIBILITIES FOR RENEWING TEACHING IN SECONDARY SCHOOLS WITH CENTROPA

In terms of methodology, Centropa builds on all the possibilities that are now considered essential in the 21st century to better engage students in learning, taking advantage of the opportunities offered by modern ICT tools and interactivity. These include, among others, using the guidelines of constructivist pedagogy, emphasising oral history, and incorporating peer education and on-site teaching into the learning process, while maintaining and reinforcing the traditionally good forms of education. This is particularly important in the case of secondary school students, since, as Kinga Horváth and Péter Tóth write in their work on didactics about adolescent students, “this is the age when critical thinking is formed, when (the student) shows a well-developed critical faculty, which has an impact on the development of thinking, since he or she argues, formulates views and often opposes the views of others” (Tóth & Horváth, 2021, p. 99).

7. INTERVIEWS – ORAL HISTORY

Over the last two or three decades, in historiography and, as a result, in research on the history of education, for example, the quest for knowledge of the oral past has become increasingly important, aided by modern technical-informatics tools. The French historian Jacques Le Goff, among others, argued several years ago that one of the main areas of renewal in historical research is to broaden the scope of sources, and that it is important that “the study of sources should go beyond texts” (Goff, 2001).

According to Anikó Vargáné Nagy's definition, oral history is in fact a method, a form of historical research “in which the oral recollections of the interviewees are recorded and analysed” (Vargáné Nagy, n.d.).

To quote the East Midlands Oral History Archive's definition, “Oral history is the recording, preservation and interpretation of historical information based on the personal experiences and opinions of the speaker. It can take the form of eyewitness testimony about the past, but can also include folk customs, myths, songs and stories passed down through oral tradition over the years.” (What is Oral History? n.d.).

Oral history can be used and exploited in the teaching of history and educational history as well as in research. We can see a number of these results in academic publications in Hungary, for example by László Kojanitz (Kojanitz, 2019) or Norberta Sági and Norbert Rigó (Sági & Rigó, 2011, pp. 243-256).

Centropa's interviews bring to life the stories of Central and Eastern European Jewry in the last century. Thanks to this method, not only do personal stories, life stories and related historical events come to life, but the absence of the camera allows the interviewees to tell more freely the events that happened to them and their families, the events they lived

through. The recorded interviews are also available in text form on the Centropa website, together with the related Centropa films made from them. Visuality is of paramount importance in the lives of today's generations. Centropa has recognised this and, thanks to its unique and versatile educational methods and approach, its audiovisual content is now very popular in the United States, Israel and many countries in Europe. Csaba Jancsák, a member of the MTA-SZTE Research Group on Narrative History and History Teaching, confirms the legitimacy of this method (J.S.A.C.S.). "... Based on surveys of students and teachers, it can be seen that – in part due to the ICT skills of the young generation (professional user relationship) and in part to the world that the new 'screenager' generation lives in – it is necessary to pay a great deal of attention to integrating digital content (in relation to some topics, the video interviews with the eyewitnesses as freely available online content) more strongly into the educational process. This is also an important methodological opportunity for the development of historical thinking in schools and the preservation of historical events and milestones in collective memory, as well as the intergenerational preservation of the social values they represent." (The role of video interviews in teaching history, 2018).

8. PEER EDUCATION

In order to understand the meaning of peer education and its benefits in terms of learning methodology, we have used several summary works in this research. One of these is a 2020 study in the Hungarian journal *Magyar Tudomány*, in which Feith and his co-authors in the context of health promotion explained the meaning of the term in a very nuanced way, referring to a range of national and international literature, pointing out that the meaning of the term, which can be traced back historically to antiquity and later, among others, to Bandura's socio-cognitive learning theory, and which is traditionally translated as "contemporary education", is considerably broader (Feith et al., 2020, pp. 79-89). Citing foreign researchers, they summarise the essence of the term in this way: "In the Hungarian literature, it is also difficult, or even misleading, to interpret the term 'peer' education in Hungarian, because its common translation, i.e. 'contemporary' education, is too simplistic (age-restrictive), and thus does not follow the broader meaning of the original English term 'peer', which refers to the identity with something or someone (for example, belonging to the same gender, social status, ethnicity or some social group or subculture)." (Feith et al., 2020, p. 82). In discussing the utility of 'peer education', the authors summarise their research findings as follows, "In the case of those participating in educational programmes built on peer relationships and emotional engagement, and thus in the course of peer education as well, social and emotional abilities improve, and their attitudes towards themselves and their peers change in a positive direction. These positive effects are also reflected in the students' opinions." (Feith et al., 2020, p. 79).

Centropa also uses this method for the presentation of its own exhibitions and for the guided tours that accompany them. Among the most popular is the "Stories from a family album". According to the description on the organisation's website, it "presents a picture of Jewish life in the last century, based on eight themes, using archival images and personal interviews. It is about everyday people who could be our neighbours: bakers, factory workers, teachers, nurses. There are compelling stories of childhood, school years, love, marriage, childbearing, and how some people managed to survive the horrors of the

Holocaust and start their lives anew. Flicking through the huge family photo album, the exhibition reveals stories that may make you smile or sadden you, heartwarming or gut-wrenching." ("Stories from a family album," n.d.).

As with all Centropa exhibits, the texts accompanying the material on display are in the national language – here in both English and Hungarian – to help students develop their language skills. The methodology of the exhibition's guides' training is Centropa's own: in consultation with the host educational institution, the organisation's trainers arrive at the school and prepare the students who volunteer for the training in a one-day or, if there is more time, two-day course, to learn the content and the method of contemporary guiding. One comment that captures the essence of the experience is: "...it is a great experience when they become guides: they do not simply view the exhibition, but take their classmates through it, highlighting the stories and curiosities that are important to them, and in the process they learn about an important part of 20th century history and develop their presentation skills." ("Stories from a family album," n.d.).

Volunteering is also a key element in this training. It is important that the students want to participate because of their personal interest in the training and are happy to learn the content, thus increasing the effectiveness not only of the training, but also of peer leadership.

9. ON-SITE LEARNING

According to Veigl and Zábó, on-site instruction is defined as "when instruction is provided at a location where information about the material being taught is located and more easily accessible, perhaps (fortunately) even tangible." (Veigl & Zábó, 2010, pp. 523-534). On-site education is therefore conducted at the locations where the historical events took place. This form of learning is therefore nothing more than a classroom without walls, learning without borders. An example of this is Centropa's annual summer academy, where a programme spanning historical periods and taking full advantage of on-site education is offered year after year to participating teachers. The 2022 programme in Berlin, for example, focused on the following activities and objectives: Exploring Berlin's historic sights with guides; discussing the city's turbulent history with scholars; meeting politicians, journalists and activists; building knowledge and technological skills; collecting primary and secondary sources for teachers to use in lesson plans written in separate sessions; building cross-border networks and partnerships of teachers (Veigl & Zábó, 2010, p. 529).

A special type of on-site training is the city walk. This form of education, which has become very popular over the last decade, has several types. There is a wide variety of walks that present the architecture, history, curiosities or other major events of a given municipality. There are both paid and free guided tours, led by teachers, museums and other professionals. What they all have in common, however, is that they are on-site, i.e. at the site of a particular historical event, for students and for educational purposes. In this paper, we want to address the historical aspects of on-site education and present Centropa's related walks. Adapting to the learning needs of 21st century students, the organisation offers on-site educational content related to the 20th century history of the Jews of Central and Eastern Europe, using the aforementioned method of peer education. As in the Berlin Summer Academy, mentioned above, the participants, working as teachers, were able to

learn content related to the historical sites through a series of site walks, in order to use their experience and knowledge in the school setting when they returned home. Mobile phone applications were also used to accompany each walk.

The first application presented here is "Places of Remembrance", a mobile phone application developed by a Centropa trainee in the Bavarian district of Schöneberg (Bayerisches Viertel) in Berlin. It is interesting that scientists such as Albert Einstein and Hannah Arendt once lived here. It is one of Berlin's special places, with 80 double-sided plaques scattered around the quarter on lampposts. On one side of the plaques are always details of discriminatory laws passed during the Nazi regime from 1933 to 1945, and on the other side is a picture of the discriminatory law. The combination of text and visuals, and a modern form that is well suited to the content and also appeals to students' curiosity, ensures the effectiveness and success of this unique tour of an important part of Berlin's history. Unique in Europe, this unusual monument draws the attention of passers-by to an almost forgotten chapter of Germany's past. They are a reminder of an era when the law was turned into a tool of disenfranchisement and humiliation, leading to deportations and mass murders.

The second app, briefly presented here, is the "Centropa Jewish Berlin Tour", an app called IZI.TRAVEL, which supports a walk in the Jewish quarter of Berlin. It is online content created in cooperation between Centropa and the Jewish Heritage Network to help users learn about the history of the district, important details of its past, places of remembrance and prominent historical figures. The 20-station walk is a 50-minute walk of about 3.5 km. During the walk, participants can also learn about the history of Moses Mendelssohn, considered the father of the Jewish Enlightenment, the father of *haskalah*, or Regina Jonas, the world's first female rabbi. The quarter also offers a variety of unusual forms of commemoration, monuments and customs. The so-called stumbling stones, stones placed in place of flowers of remembrance, the missing house and the concept of memorials based on the perception of the absence of people, all draw on modern methods that take into account the latest trends in education and are essential for the education of today's students. This is perfectly supported by an app that facilitates the walk, offering topography of the site as well as visual and audio content.

10. CONCLUSION

Our study can be seen in the context of our research to renew the teaching of history in secondary schools, with the aim of providing a more nuanced understanding of the history of the Holocaust and of the Jews. The topic discussed briefly summarised the pedagogical efforts of Centropa's organisation to renew the teaching and learning methodology of the Jewish community in secondary schools, employing digital resources that are also of excellent use for (history) teaching. In this paper, we outlined the literary and historiographical foundations, as well as the didactical and methodological theoretical framework of this subject area.

Our research so far – which will be extended in the near future with the analysis of interviews and questionnaires with secondary school teachers, curricula and textbooks – already shows that ICT tools and digital resource materials that are close to today's young generations, experiential and experiential learning methods, based on student activity, cooperation, peer learning, on-site learning, based on their own experiences and

experiences, offer excellent opportunities to stimulate and sustain the motivation to learn. Beyond the Holocaust and Jewish history, Centropa thus contributes to strengthening interdisciplinary links and multidisciplinary approaches, and to expanding opportunities for personal interaction between teachers and students: in the classroom, in the classroom and in school, as well as internationally, across national borders.

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PEDAGOGIJA MEMORIJALA I SEĆANJA U OBRAZOVANJU U DIGITALNOM DOBU

Apstrakt

Oslanjajući se na pedagogiju memorijala, u radu je izvršena analiza centara Holokausta, uz napore da se promoviše i razume šta je dovelo do događaja koji su se tada desili, imajući u vidu, između ostalog, značajne aktivnosti Centrope. U skladu sa tim, potraženi su odgovori na sledeća pitanja: Kako Centropa doprinosi učenju o jevrejskoj istoriji i Holokaustu? Kojim digitalnim bazama podataka organizacija raspolaže? Kakvu ulogu ima u odnosu na obnavljanje prakse učenja i podučavanja? Koje prednosti imaju ove nove prakse učenja? U radu je prikazana kratka prezentacija Centropine kolekcije digitalnih izvornih materijala i njihove moguće primene u srednjem obrazovanju, s jedne strane, kao i teorijski okvir i odgovarajući praktični primeri zasnovani na savremenim pedagoškim metodama koje koriste IKT resurse, s druge strane. Značaj teme ogleda se u tome da se, prilikom analize istorijski značajnih izvora i obilaska značajnih istorijskih mesta, omogućava sticanje znanja i buđenje želja za učenjem, koje može biti istinski delotvorno samo ako podstiče interesovanje i aktivnost učenika. Centropa doprinosi svemu tome pružajući iskustva iz prve ruke, podstičući samostalno i kritičko razmišljanje, kao i formiranje mišljenja kod učenika, i na taj način daje pravi doprinos učenju. Pored učenja o prošlosti, pomaže da se stekne nijansiranije razumevanje tuđih perspektiva i ličnih sudbina, što može biti važan korak ka međusobnom prihvatanju i, na kraju, ka razvoju globalnih kompetencija (kako je odredio OECD), koje već igraju važnu ulogu u PISA ocenama.

Ključne reči: *nastava istorije, Centropa, obrazovanje o Holokaustu, digitalni istorijski resursi, IKT u obrazovanju*



A REVIEW OF PHONOLOGICAL AWARENESS DEVELOPMENT IN CHILDREN WITH HEARING IMPAIRMENTS: CURRENT RESEARCH AND INSIGHTS

UDC 371.3::372.45-056.263; 371.3::372.41-056.263

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Abstract. *The development of phonological awareness in children with hearing impairment presents a complex and challenging process. It involves the ability to detect, understand, and manipulate sounds in speech, which is key for the development of reading and writing skills. In children with normal hearing, the development of phonological awareness usually occurs naturally through play with words, rhymes, songs, and stories. However, for children with hearing impairment, the development of phonological awareness can be significantly hindered. Without proper intervention and support, these children may face major difficulties in learning to read and write. An increasing body of research shows that with adequate interventions and strategies, phonological awareness can be improved even in children with hearing impairment. These interventions typically involve the use of visual and tactile signs to aid in understanding sounds, the use of amplification devices to enhance hearing, and special educational approaches that emphasize reading, writing, and phonological awareness. Furthermore, the support of parents and families also plays an important role in this process. Involving parents in interventions and strategies for the development of phonological awareness can have a positive impact on a child's progress. In short, the development of phonological awareness in children with hearing impairment can be challenging, but with the right interventions and support, these children can make significant progress in their reading and writing skills. This review paper provides an overview of research conducted in the area of hearing impairment, particularly focusing on the initial stages of reading and writing acquisition in students with hearing loss. The research review incorporates both recent and pertinent literature from the domains of speech therapy, education, and psychology, specifically pertaining to the learning of reading and writing skills among students with hearing impairments. In addition to the literature review, the paper also provides implications for future research and offers practical guidelines for implementation. Such conclusions are intended to further enhance understanding in this field and to promote effective strategies in practice.*

Received December 23, 2023/Accepted March 20, 2024

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Keywords: *phonological awareness, hearing impairment, reading skills, writing skills, educational interventions*

1. INTRODUCTION

This paper explores the complex themes of language and speech development, as well as the literacy processes in children with hearing impairments. Hearing impairment, being one of the most common congenital disabilities, poses significant challenges in the educational context, impacting the key aspects of a child's speech and language development. Herein, an insight into various types of hearing impairments and their causes is provided, highlighting the importance of early diagnosis and intervention. Special focus is given to the approaches and strategies used in educating students with hearing impairments, investigating how language skills can be effectively developed through tailored teaching methods and support. The paper examines the impact of hearing impairment on the development of pre-literacy skills in reading and writing, and the ways to enhance language comprehension and literacy in this population. Given the multidimensional challenges presented by hearing impairment, the paper emphasizes the need for an interdisciplinary approach that encompasses pedagogy, speech therapy, audiology, psychology, and linguistics. It provides a comprehensive overview of the challenges, opportunities, and strategies that are essential for fostering successful language and educational development in children with hearing impairments and underscores the importance of inclusive education that supports their specific needs and rights.

2. THE NATURE AND CAUSES OF HEARING IMPAIRMENTS

Hearing impairment represents a partial or total loss of the ability to hear, caused by various factors, and can be congenital or acquired throughout life. Congenital impairment often arises from genetic factors or issues during pregnancy, while acquired impairment can result from ear infections, exposure to noise, head traumas, or aging (Bradarić-Jončić & Mohr, 2010). Depending on the mechanism of onset, hearing impairments are differentiated into conductive, sensorineural, and mixed types. Conductive impairment is associated with problems in the outer or middle ear, sensorineural with the inner ear or auditory nerve, while mixed impairment combines both types. The severity of impairment varies from mild to very severe, affecting the ability to hear soft sounds, conversations, or completely depriving hearing. Preverbal hearing impairment, occurring before the development of speech in a child, and postverbal, emerging after the development of speech, differently affect linguistic and speech development (Pribanić, 2015).

It is globally accepted that only through comprehensive newborn screening for hearing impairment can congenital hearing impairment be timely detected, an impairment counted among the most common congenital disabilities, with 1 to 3 cases per 1000 live births (Marn, 2005). Later in early childhood, diagnosis is established through audiological assessments such as tonal audiometry, and treatment and support vary from using hearing aids to visual aids for communication, like sign language and subtitles, facilitating access to information and communication for people with hearing impairments.

Hearing impairment adversely affects the development of speech and cognitive processes, and in adulthood, it can significantly impact work and social adaptation.

Therefore, deafness and hearing loss represent a significant public health issue, occurring in a large part of the general population.

The prevalence of congenital hearing impairment, as well as the fact that intervention before 6 months of age significantly improves the adaptation of persons with impaired hearing, encourages us to approach the diagnosis of these disorders earlier and more thoroughly. Prior to the introduction of newborn screening for hearing impairment, the average time of diagnosis was typically 14-30 months, which is very late if good habilitation of hearing impairment is to be achieved (Barišić et al., 2004).

According to global statistics, permanent hearing impairment that occurs either during pregnancy or due to events during and after childbirth occurs in 1 to 2 children per 1000 newborns, making it more common than many other congenital impairments (White, 2014). In neuro-at-risk children, the impairment is up to ten times more frequent, and it is believed that about 50% of all impairments are genetic. In about 80% of genetic impairments, inheritance is recessive, so these children most often have hearing parents and relatives. Genetic impairments can be non-syndromal or, less frequently, syndromal. In about 70% of genetically caused deafness and hearing loss, hearing impairment is the only symptom, making the impairment long undetectable (Marn, 2012).

Sensory and motor characteristics and environmental influences are placed under a common subtitle for brevity, although it is clear that these are separate domains. Senses and perception are the first level of cognition, and for linguistic-speech development, hearing and auditory perception are particularly important. The diagnosis of hearing is a well-developed activity, which includes mandatory neonatal screening for hearing impairment (Marn et al., 2008). More complex problems are presented by hyper- or hyposensitivity and atypicalities in sensory processing as the diagnosis and treatments are insufficiently established. These difficulties are accompanying symptomatology in disorders of social communication, such as those seen in children with autism spectrum disorders and are not directly related to communication and linguistic-speech development (Ljubešić & Ceganec, 2012, p 40).

By educating children with special needs in regular schools, we show that all children are valuable as human beings, that everyone can benefit from such education, that all are capable of a successful life, and that they have equal rights to achieve it. At the centre of inclusion is the child with special needs, in our case, a child with hearing impairment. Hearing impairment also brings impairments in speech-language communication. Including children with hearing impairment in regular schools, we must ask ourselves how the child will feel in a classroom where other children sing and communicate verbally, and it cannot. It speaks in its own unique way depending on the degree of hearing impairment, age of onset of the impairment, attendance in hearing and speech rehabilitation, along with a series of other interwoven factors that greatly influence the success of inclusive education for a student with hearing impairment (Imširagić, 2012).

3. LANGUAGE AND SPEECH DEVELOPMENT IN CHILDREN WITH HEARING IMPAIRMENTS

When discussing language acquisition in children with hearing impairments, we encounter unique challenges and opportunities. These children typically require specific teaching methods and support to acquire language in a way that suits their individual needs.

In the early stages of life, language development in children with hearing impairments can significantly lag behind their hearing peers. If the hearing loss is identified early and the child immediately receives appropriate support, such as hearing aids or cochlear implants, the opportunities for language skill development are considerably greater (Mayberry, 2002).

Approaches to language acquisition in this population may include bimodal communication, i.e., the simultaneous use of spoken and sign languages, as well as complete immersion in sign language as the primary form of communication (Marschark et al., 2001). The decision on the mode of communication often depends on the degree of hearing loss, the availability of resources, and the preferences of the child and family.

Understanding language development in children with hearing impairments requires an interdisciplinary approach, involving knowledge from speech therapy, audiology, education, psychology, and linguistics. This multidisciplinary field is constantly evolving to find the most effective methods for promoting language development and communication skills in these children (Spencer & Marschark, 2010).

Vocabulary and hearing impairments are closely linked, as hearing impairment can significantly limit access to the natural language environment, leading to delays in vocabulary development. Children with hearing impairments may face challenges in learning new words and understanding deeper meanings, which can affect their reading and text comprehension. Therefore, it is crucial to provide adapted educational resources and interventions to encourage vocabulary development in children with hearing impairments, including the use of visual aids and techniques such as sign language.

A weaker vocabulary in students with hearing impairments, in terms of size and depth of semantic knowledge, can limit their reading comprehension. Studies have shown that children with hearing impairments have a smaller vocabulary and shallower word knowledge, and research exploring qualitative differences in deep word knowledge among students with hearing impairments is rare (Copens et al., 2010, p 464).

McEvoy, Marschark, and Nelson (1999) examined the structure and application of taxonomic knowledge in deaf students, focusing on superordinate-subordinate relationships through word association tasks and the application of taxonomic knowledge through analogy tasks. The authors studied single word associations by deaf students and compared them to responses from hearing students, using word association norms from the University of South Florida (USF) (Nelson, McEvoy, & Schreiber, 1998).

This research aimed to study how deaf students use and organize their mental lexicon compared to hearing students, which is crucial for understanding how the structure and application of taxonomic knowledge differ among these groups.

The results showed that the conceptual knowledge of deaf students is less coherent and consistent than that of hearing students, but they used only the norms for hearing children and did not explore how different levels of word knowledge relate to each other in children with and without hearing impairments.

4. PHONOLOGICAL AWARENESS AND THE DEVELOPMENT OF PRE-LITERACY SKILLS IN READING AND WRITING

Phonological awareness refers to the ability to recognize and manipulate the sound elements of speech, such as rhymes, syllables, and phonemes. It develops gradually and plays a key role in learning to read and write, enabling children to understand how words can be divided into smaller sound units and reassembled. A high degree of phonological awareness is associated with better reading and writing skills, while a lack of this ability can lead to difficulties in acquiring literacy. It is generally accepted that learning to read depends on phonological skills, and consequently, children with phonological difficulties are at risk of reading problems (Carroll et al., 2003). A group of children that draws significant attention from researchers are those with dyslexia; in these children, issues with phonological awareness, verbal short-term memory, and rapid automatized naming are particularly prominent (Carroll et al., 2003; Carroll & Snowling, 2004). Another group of children vulnerable to reading difficulties are those with expressive phonology problems. These children exhibit phonological difficulties in speech expression processes. It is not yet fully understood to what extent their reading problems can be attributed to deficits in phonological skills, as opposed to broader language impairments that often accompany these difficulties.

Previous correlational and experimental studies have shown a positive correlation between phonological awareness and reading skills (Larkin & Snowling, 2008). Blaiklock (2004) notes that many studies have neglected to control for external variables such as abilities, phonological memory, prior reading skills, and letter knowledge. Children show awareness of rhymes before they start reading but cannot perform phoneme deletion tasks until they have developed word reading skills. The correlation between phonological awareness and later reading remains significant even after adjusting for verbal ability or phonological memory (Blaiklock, 2004, p 36).

Phonological awareness is crucial for learning to read as it enables children to recognize sounds within words, which is critical for understanding written words. Understanding the connection of sounds in words helps children in proper writing and spelling. Skills associated with phonological awareness often predict later academic success, especially in literacy (Kolić-Vehovec, 2003, p 28). Early identification and interventions can help children with difficulties in developing phonological awareness to overcome challenges in reading and writing.

5. LITERACY DEVELOPMENT IN STUDENTS WITH HEARING IMPAIRMENT

The preschool period is marked by the acquisition of pre-literacy skills in reading and writing, as children encounter written symbols from an early age. With the start of school, formal education and formal learning of reading and writing begin, which requires certain pre-literacy skills acquired before starting school. If students have difficulties that affect the adoption of reading and writing, this can impact their mastery of tasks and final academic success, which later reflects on daily life.

When discussing the reading process, two important parts are highlighted: decoding and understanding (Kelić, 2015). Decoding refers to the identification and recognition of words, while linguistic understanding is connected to meaning and relates to the semantic linguistic component, with meaning always depending on the context. Difficulties can arise

due to issues in decoding or understanding, or a combination of these two areas (Wauters et al., 2006).

Phonology is a linguistic component that deals with the smallest meaning-carrying parts of words, known as phonemes. Well-developed phonological awareness is the foundation for successful reading development. Phonological awareness encompasses awareness of syllables, rhymes, phonemic awareness, and is considered one of the most important predictors of reading (Catts et al., 2001). Children with well-developed phonological awareness are more likely to adopt reading, and with increasing age, the differences in reading skill deepen: good readers become better, while poor readers get worse (Kelić, 2019). This fact is important as it indicates the need to work on pre-literacy skills and early literacy. Additionally, lexical development and vocabulary knowledge are important for reading. Lexical richness is a predictor of reading development, and reading itself influences the acquisition of vocabulary and the expansion of vocabulary, which also applies to the acquisition of the mother tongue and language learning in school (Manihuruk, 2020).

Understanding read text and linguistic understanding in children with hearing impairment are complex areas that are researched to improve their education and social integration. Children with hearing impairment can encounter difficulties in understanding read text due to limited language exposure and fewer opportunities for vocabulary and language structure development (Marschark & Wauters, 2008).

Given that linguistic understanding is the basis for reading comprehension, it is important for children with hearing impairment to develop strong foundations in their first language, whether it is sign or spoken language. Using sign language can provide a strong basis for developing language skills that are prerequisites for reading (Chamberlain & Mayberry, 2008). Musselman (2000) and Pribanić (2007) emphasize that the acquisition of reading skills in children with hearing impairment will be difficult and slow if they do not have age-appropriate linguistic-speech skills, as learning to read and write then becomes simultaneous language learning.

Educational strategies used in working with children with hearing impairment often include visual aids, concrete experiential activities, and technology to improve understanding and reading skills.

Authors Easterbrooks and Beal-Alvarez (2013) in their work discuss strategies that are key to promoting reading comprehension in students, especially those with hearing impairment. These strategies are divided into three main phases: Pre-reading: This phase includes activities before the student begins reading the text. The goal is to activate prior knowledge or previous experience of the student related to the topic of the text. This may include discussions about the title, images, or key concepts in the text. Activating prior knowledge helps students establish connections between new information and what they already know, which facilitates understanding. During-reading: This phase occurs while the student reads the text. In this phase, students are directed to monitor their understanding of the material, using various strategies such as asking questions, summarizing, or predicting. The goal is to enable students to be actively engaged while reading and to independently identify and resolve any understanding issues. Post-reading: After reading, students participate in activities that help them synthesize and integrate information from the text. This can include discussion of the text, writing summaries, or applying newly acquired knowledge to new situations. These activities help students to think more deeply about what they have read and solidify their understanding.

These strategies are particularly important for students with hearing impairment, as they can help overcome specific challenges they may encounter during the reading process, such as limited vocabulary and experience with written language. By implementing these strategies, teachers can provide structured support that enables students to develop the skills necessary for successful reading and understanding of the text.

For children with hearing impairment, it is important to ensure early and continuous exposure to language through various modalities, including reading aloud, bilingual education, and the use of technology that encourages interactive learning to maximize understanding and academic success (Paul & Whitelaw, 2011).

According to Hrastinski, Pribanić, and Degač (2014), students with hearing impairment do not fully possess the skills required to solve reading comprehension tasks typical for their chronological age. Comparing younger and older students, no significant differences were found - neither in the time taken to solve the tasks nor in the success of solving them. However, significant differences were confirmed in task resolution when considering the type of school – regular or special. The significant advantage in the results of students from regular schools indicates the importance of the conditions and atmosphere for learning, which are different in special schools for children with hearing impairment than in regular schools – probably less demanding.

Language acquisition in individuals with hearing impairment represents a multidimensional challenge shaped by numerous factors, including the choice between spoken and sign language. The hearing status of parents plays a significant role in a child's linguistic development, as it directly affects the language environment in which the child is situated. According to Pribanić (2007), only 4 to 10 percent of children with hearing impairment have parents who also have hearing impairment, meaning most deaf children grow up in environments where their parents can hear.

Hearing parents often use a combination of spoken and sign language in communication with their child, and the child's language experience depends on many factors, including the parents' preferences, their language systems, attitudes, and beliefs. Sign language, which does not follow the grammar of spoken language and differs in its structure, represents a unique communication system that requires a special approach in education.

Early diagnosis and timely rehabilitation, as stated by the American Speech-Language-Hearing Association (ASHA, 2001), are crucial for achieving linguistic competence. Additionally, the socioeconomic status and education of parents are factors that can contribute to successful support for the child. An effective approach that is encouraged in contemporary practice is the bilingual and bicultural approach, which promotes early inclusion in communication through sign language and the adoption of sign language as the mother tongue. Plaza-Pust (2016) points out that children who started communicating in sign language early and who were involved in bilingual education show better language skills at the end of schooling.

These findings lead to the conclusion that the linguistic development of children with hearing impairment requires a holistic approach that respects individual and cultural aspects and provides the foundations for building a strong linguistic identity that is crucial for the child's overall development.

6. READING AND WRITING DIFFICULTIES IN STUDENTS WITH HEARING IMPAIRMENTS

Reading and writing difficulties in students with hearing impairments stem from their limited ability to auditorily process language, which can affect the development of language skills necessary for literacy acquisition. These difficulties are complex and varied, often differing from individual to individual, depending on the degree of hearing loss, the type and timing of the impairment, and the availability and quality of early intervention (Paul, 1998).

Students with hearing impairments often face delays in the development of vocabulary and grammatical structures, which can affect text comprehension and the ability to form coherent written expression. Additionally, the lack of auditory information can limit their ability to develop phonological awareness, a key prerequisite for mastering decoding in early reading (Perfetti & Sandak, 2000).

Literacy difficulties may also arise from socio-emotional factors, such as low expectations from educational professionals and isolation from peers with normal hearing, which can negatively impact the students' motivation and self-confidence (Marschark & Spencer, 2003).

Strategies used to overcome these challenges include tailored learning approaches, such as visual aids and assisted listening technology, and specific teaching methods focused on enhancing language understanding and expanding vocabulary. Furthermore, whole-body approaches that integrate kinesthetic and visual learning can assist students in developing the fine motor skills necessary for writing (Trezek & Wang, 2006).

Given all these challenges, it is important to emphasize that students with hearing impairments can achieve a high level of literacy with adequate support and tailored educational strategies. Interdisciplinary collaboration between speech therapists, teachers, and families, along with the application of proven methods and technologies, is crucial for the successful education of these students.

7. EDUCATION OF STUDENTS WITH HEARING IMPAIRMENTS

The education of students with hearing impairments is a global issue encompassing a wide range of educational practices and philosophies. Given the diverse approaches to education, students with hearing impairments face unique challenges that require specialized learning strategies and adaptations.

Globally, educational approaches for deaf and hard-of-hearing students range from integration into regular schools to specialized schools for the deaf. Integrative education often promotes inclusion and social integration, while specialized schools can provide specific support through tailored curricula and specialized staff (Marschark, Lang, & Albertini, 2001).

The challenges in educating students with hearing impairments include not only access to information but also the development of language and communication skills. In many countries, the education of these students involves a bilingual approach combining sign and written/spoken language. This approach supports the development of language competence in sign language as the first language and in the local spoken language as a second language (Swanwick et al., 2007).

Technological advancement also plays a key role in the education of students with hearing impairments. Hearing aids, such as hearing devices and cochlear implants, provide

better sound access for those students who can benefit from them. Additionally, technologies like subtitles, FM systems, and various applications and software tools support learning and communication (Spencer & Marschark, 2010).

However, the education of students with hearing impairments does not end with access to information alone. Social-emotional development is also crucial, and community inclusion, identity building, and self-confidence are aspects that must be considered in the educational process (Young, Newton & Valley, 2006).

Furthermore, the professional development of teachers working with this population is of vital importance. Teachers need to be trained not only in specific teaching strategies and communication techniques but also in understanding the cultural and individual needs of deaf and hard-of-hearing students (Antia, Stinson & Gaustad, 2002).

Finally, educational policies and practices need to be flexible and inclusive, recognizing the rights of students with hearing impairments, to ensure that each student can achieve their full potential.

8. CONCLUSION

This review paper has discussed a range of key aspects related to the linguistic and speech development, as well as the literacy processes in children with hearing impairments. The paper has provided insights into various types of hearing impairments, their causes, and their impact on speech and language development. Moreover, it emphasizes the importance of early diagnosis and intervention, and the effectiveness of tailored educational strategies and methods in enhancing language skills and literacy.

It is important to highlight the recognition of the complexity of language development in children with hearing impairments, requiring approaches that are adapted to their individual needs. This work underscores the importance of integrating various disciplines, including speech therapy, audiology, and pedagogy, to develop an effective multidisciplinary approach.

Regarding implications for future research, there is a need for further study into the effectiveness of various educational practices and methods in fostering language development and literacy in children with hearing impairments. Additionally, future research should explore how sociocultural factors and the environment impact educational outcomes, and how access and resources for inclusive education can be improved.

This paper contributes to the academic field by providing a comprehensive overview of the challenges and strategies in the education of children with hearing impairments. As a professional work, it lays a foundation for further research and development in this area. Furthermore, it highlights the importance of continuous development and adaptation of educational practices to ensure that every child with hearing impairment has the opportunity to achieve their full potential.

In conclusion, while significant advancements have been made in understanding and supporting the linguistic development of children with hearing impairments, there is still a need for ongoing research and improvement of practices to ensure that all children, regardless of their challenges, have access to quality education that enables them to reach the highest academic success they can achieve.

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PREGLED RAZVOJA FONOLOŠKE SVESNOSTI KOD DECE OŠTEĆENOG SLUHA: TRENUTNA ISTRAŽIVANJA I UVIDI

Apstrakt

Razvoj fonološke svesnosti kod dece sa oštećenjem sluha predstavlja složen i izazovan proces. On obuhvata sposobnost otkrivanja, razumevanja i manipulisanja zvucima u govoru, što je ključno za razvoj veština čitanja i pisanja. Kod dece sa normalnim sluhom, razvoj fonološke svesnosti prirodno se odvija kroz igru rečima, rimama, pesmama i pričama. Međutim, kod dece sa oštećenjem sluha, ovaj razvoj može biti znatno otežan. Bez adekvatne intervencije i podrške, ova deca mogu se suočiti sa značajnim poteškoćama u učenju čitanja i pisanja. Brojna istraživanja pokazuju da se, uz odgovarajuće intervencije i strategije, fonološka svesnost može unaprediti čak i kod dece sa oštećenjem sluha. Ove intervencije tipično uključuju upotrebu vizuelnih i taktilnih znakova za pomoć u razumevanju zvukova, korišćenje uređaja za pojačavanje sluha, kao i posebne obrazovne pristupe koji naglašavaju čitanje, pisanje i fonološku svesnost. Podrška roditelja i porodice igra važnu ulogu u ovom procesu. Uključivanje roditelja u intervencije i strategije za razvoj fonološke svesnosti može pozitivno uticati na napredak deteta. Ukratko, iako je razvoj fonološke svesnosti kod dece sa oštećenjem sluha izazovan, pravilnim intervencijama i podrškom ova deca mogu postići značajan napredak u veštinama čitanja i pisanja. Ovaj pregledni rad pruža uvid u istraživanja sprovedena u

oblasti oštećenja sluha, posebno fokusirajući se na početne faze usvajanja veština čitanja i pisanja kod učenika sa oštećenjem sluha. Pregled obuhvata i najnovija i relevantna istraživanja iz oblasti logopedije, obrazovanja i psihologije, koja se odnose na učenje veština čitanja i pisanja kod dece sa oštećenjem sluha. Osim pregleda literature, rad takođe predlaže implikacije za buduća istraživanja i nudi praktične smernice za njihovu implementaciju. Zaključci imaju cilj da dodatno prodube razumevanje u ovoj oblasti i promovišu efikasne strategije u praksi.

Ključne reči: fonološka svesnost, oštećenje sluha, veštine čitanja, veštine pisanja, terapijske procedure



TURKISH BILINGUAL TURKISH CHILDREN'S TURKISH LEARNING STATUS IN SWITZERLAND ACCORDING TO PARENTS' VIEWS

UDC 371.3::811.512.161(494)

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Abstract. *One of the main problems faced by Turkish children living abroad is their disadvantages in learning Turkish. These children who try to learn their mother tongue are exposed to the language of the society they live in. The fact that Turkish children living abroad grow up learning both their own language and the language of the country they live in brings about many differences in their mother tongue compared to children living in Turkey. This study aimed to reveal the learning status of bilingual Turkish children living in Switzerland based on the views of their parents. Qualitative research method was used for this purpose. After the semi-structured interview questions were answered by the parents, descriptive data analysis was carried out and the findings were presented by citing examples from the opinions of the participants under the tables the frequency distributions. As a result of the research, it was determined that the families living in Switzerland are conscious about teaching Turkish to their children, are willing for their children to participate in Turkish-oriented activities and take some initiatives for this purpose. However, it was concluded that their expectations in terms of Turkish and Turkish Culture lessons are weak and studies should be carried out to raise their awareness at this point.*

Keywords: *Bilingual Turkish children, mother tongue, teaching Turkish, learning Turkish, Switzerland*

1. INTRODUCTION

When man touched the past in the prehistoric period, he was curious, heard that he had to explore it, and constantly questioned this wonder that separated him from other beings. “How was language born? Answering this question is one of the most powerful questions.” (Kerimoğlu, 2019, p. 45). After asking questions about how language is born, you will get different results when you think about what language is. “A language is a set of sentences

Received November 25, 2023/Accepted March 20, 2024

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(finite or infinite), each of finite length and set in a finite set of members” (Chomsky, 1957, p. 13).

Over time, people have generally organized themselves and become aware that they live socially; the more diverse societies become, the louder and more differentiated they become. “Although it is difficult to determine the exact number of languages spoken in the world, research has revealed that there are more than 6800-6900 languages spoken in approximately 200 countries” (Aslan, 2018, p.5). This process gave rise to the concept of the "mother tongue". “The language that is connected to the family and lineage in which the mother tongue was born and raised, is learned within the society, descends in the name of consciousness, and arises from the strongest bond in the relations between people and society” (Korkmaz, 1992, p. 8).

The mother tongue of the individual, which he acquires first from his family and then from his environment, is the most fundamental element of the individual's relationship with society and the transmission of culture to the individual. Therefore, mother tongue education is very important from the perspective of the individual. With the Republic, language studies gained in importance. Systematic studies continue to grow to this day.

The mother tongue is defined as the first language that every person who comes into the world learns. However, for various reasons, people have to live outside their home country for different lengths of time, which leads them to learn and speak more than one language. The term used for such people is “bilingual”; the term used for these situations is not protected as "bilingualism" (Demir, 2010, p. 916). As a measure of bilingualism, Bloomfield states that both languages can be used well; Haugen explains that bilingualism can determine the ability to express meaningful expressions in the other language (cited in: Rezzagil, 2010, p. 22). Bilingualism is the ability of a person to continue their linguistic development harmoniously in two different languages and to use both languages effectively. The fact that a person is bilingual shows that they are proficient in both languages. A bilingual individual must have laid the linguistic foundations in both languages, have the vocabulary appropriate to the developmental stage and use both languages without difficulty in the countries (Şengül, 2020, pp. 503-504). As can be seen, bilingualism is a concept with different definitions in different dimensions. When bilingualism becomes the basis, social mobility such as migration comes to the fore.

"Labor migration from Turkey, which was shaped by individual initiatives and private intermediaries since the second half of the 1950s, took the form of "increased labor export" organized by the state based on bilateral agreements in the 1960s. In other words, with the planning activities carried out by the state, Turkey was now acquainted with the large-scale migration movements that would increase rapidly in the 1960s. The bilateral agreement signed between Turkey and the Federal Republic of Germany was based on this initial basis” (İçduygu, Erder, & Gençkaya, 2014, p. 184).

The migration process of Turks to Switzerland shows some differences. Switzerland, where small groups of students on state scholarships, engineers and professionals from other fields went in the late 1950s to get educated, exchange experiences and expand their knowledge and skills, is now a country where approximately 45,000 Turks with dual citizenship and a total of 120,000 people of Turkish origin live (Aygül, 2014, p. 29). As in other European countries, problems have also arisen in Switzerland in many areas such as mother tongue, education and social status. The problems that have existed with the generations since the beginning of migration vary.

“As in other countries, the language spoken in the family of Turkish children living in Switzerland is different from the language spoken at school. While Turkish is mostly spoken in the family, the language spoken at school may vary from canton to canton and may be German, French or Italian” (Damar & Ömeroğlu, 2010, p. 77). Children who start school have difficulties with the language because they are not familiar with the language of society. This makes them unsuccessful and unhappy both in class and in social life.

Turkish language and Turkish culture courses are prepared within the framework of a program that aims to supplement the deficiencies of bilingual Turkish children living abroad in learning Turkish language and Turkish culture. Studies (Karadağ & Baş, 2019; Sarıbaş & Demir, 2020) have shown that the Turkish language and culture course, which is taught as an elective subject in Switzerland, is taught in mixed classes for different age and language levels at the same time. This situation puts pressure on both teachers and students and does not create a healthy educational environment. In addition, in the study conducted by Aygül (2014), in line with the opinions of Turkish and Turkish-speaking culture teachers, it was concluded that the factors leading to this situation where class participation is low should be eliminated. For example, Arıcı and Kırkkılıç (2017) concluded in their study that Turkish and Turkish culture courses are outside the school program, are mostly held in the afternoons, are an elective subject and are not graded, which reduces students' interest in the course (p. 494).

Parents are undoubtedly an important part of education. The socio-economic status, worldview, cultural background and, above all, the awareness of the mother tongue of parents living abroad are directly reflected in the educational life of their children. For example, Güler Arı (2015) concluded in his study that students' opinions about Turkish and Turkish culture courses are highly influenced by their parents' views and that the perspectives of students who are under the influence of their families are more positive towards Turkish than the perspectives of students who are under the influence of their surroundings. Based on this situation, it can be said that the parents of children living abroad have a very important place in the acquisition of their mother tongue and culture.

The aim of this research is to investigate the problems of bilingual Turkish children in Switzerland with regard to mother-tongue education based on the opinions of their parents. To this end, answers were sought to the following questions.

1. What do you think of your children's Turkish learning goals?
2. What activities do you do to help your children learn Turkish?
3. To what extent do your children use Turkish in everyday life?
4. What difficulties do your children encounter when learning Turkish and using it in everyday life?
5. What are your reasons for your children attending or not attending Turkish classes and lessons about Turkish culture?
6. How often do your children read books in Turkish?
7. What do you do for your children to embrace Turkish culture?

2. METHOD

2.1. Model of the Research

In this study, a qualitative research design in a descriptive model was used to determine the learning status of bilingual Turkish children living in Switzerland in line with their parents' views. "Qualitative research is an approach that prioritizes researching and understanding social phenomena within their environment, with an understanding based on theory creation" (Yıldırım, 1999, p. 10).

2.2. Research group

The study group consisted of 28 parents of bilingual Turkish children living in different cities in Switzerland. Frequency and percentage data on gender, age, place of birth and graduation information are given in the following table.

Table 1 Information on Demographic Characteristics of Individuals Participating in the Study

	Variables	N	%
Gender	Woman	27	96.4
	Man	1	3.6
Age	20-30 years old	4	14.3
	31-40 years old	16	57.1
	41-50 years old	7	25.0
	Over 51 years old	1	3.6
Place of Birth	Türkiye	21	75.0
	Switzerland	2	17.9
	Other	5	7.1
Educational Status	Primary School	1	3.6
	Middle School	-	-
	High School – Vocational High School	4	14.3
	University	23	82.1
Total		28	100.0

2.3. Collection of Data

The semi-structured interview questions to determine the mother tongue problems of bilingual Turkish children living in Switzerland were created based on the opinions of the parents and aligned with the opinions of experts in the field. Since it was a Covid-19 epidemic, it was sent to the parents via Google forms and the necessary feedback was given. Parents were asked questions such as "How often do your children read Turkish books? What do you do for your children to embrace Turkish culture?" and the answers to these questions were requested.

2.4. Analysis of Data

The data in the interview questionnaires completed by the parents of bilingual Turkish children living in Switzerland were coded using the MAXQDA program, which is used in particular for the analysis of qualitative and mixed data in the social sciences. The frequency values of the coding and their tables were created in the MAXQDA program and the results were evaluated in the findings and comments section.

3. FINDINGS AND COMMENTS

Below you will find the answers and results to the questions parents were asked about the problems faced by bilingual Turkish children living in Switzerland and learning their mother tongue:

Table 2 Parents' Views on the Goals of Bilingual Turkish Children Living in Switzerland for Learning Turkish

Parents' Views on the Goals	<i>f</i>	%
Turkish being the mother tongue	13	28.26
Ability to maintain communication with family and relatives	12	26.09
Learning other languages more easily	8	17.39
Not breaking away from Turkish culture	7	15.22
Development of the world of thought	3	6.52
Being able to follow Turkish literature	1	2.17
Hesitancy to assimilate	1	2.17
There is a possibility of returning to Turkey	1	2.17
Total	46	100.00

Table 2 shows that 13 of the participants (28.26%) believe that their children should learn Turkish so that it becomes their mother tongue. As can be seen from the responses of the participants, the parents of Turkish children living in Switzerland are aware of their mother tongue. Their desire to teach their children dedication to their mother tongue is important to keep our mother tongue alive in a foreign country.

According to (26.09%), the purpose of their children learning Turkish is to be able to communicate with their family and relatives. This shows that Turkish is spoken within the family in Switzerland. This statement shows that they do not want to stop communicating not only within the family but also with their relatives.

8 of the participants (17.39%) justified their children's desire to learn Turkish by saying that people who speak their mother tongue can learn other languages more easily. Research on this topic has shown that people who speak their mother tongue learn other languages more easily. Based on this situation, it can be said that the participants have an awareness of their mother tongue and an awareness of the relationship between their mother tongue and other languages.

Seven of the participants (15.22%) stated that their children should learn Turkish so that they do not lose contact with Turkish culture. It is well known that there is a close relationship between culture and language. Those who master their mother tongue will also master their culture. At this point, we can say that the participants are aware that it is

important for their children to master their mother tongue in order to maintain their cultural ties.

Looking at Table 2, 3 of the participants (15.22%) want their children to learn their mother tongue in order to develop their minds. Since the influence of language on people's minds is through words, the participants' thoughts on this issue can be considered quite logical.

From Table 2, it is seen that 1 of the participants (2.17%) wants his child to learn his mother tongue so that he can follow Turkish literature.

Table 2 shows that one of the participants (2.17%) wants his children to learn their mother tongue because he does not want them to be assimilated by the influence of the culture of the society they live in. The participants know how great the influence of language is and that it plays an important role in the assimilation of the individual, and we can see that they are very keen for their children to master their mother tongue.

As can be seen in Table 2, 1 of the participants (2.17%) stated that their children's goal of learning their mother tongue is to be able to return to Turkey. This situation can be interpreted to mean that there are not many Turks living in Switzerland who are considering returning to Turkey.

Table 3 Studies carried out by Parents to Enable Bilingual Turkish Children Living in Switzerland to Learn Turkish

Possibilities for learning Turkish	f	%
Speaking Turkish at home	22	40.00
Reading Turkish books	16	29.09
Listening to Turkish music	4	7.27
Watching movies dubbed in Turkish	3	5.45
Playing Turkish games	2	3.64
Encouraging students to write and read Turkish	1	1.82
Turkish memorization	1	1.82
Watching Turkish cartoons	1	1.82
Using Turkish social media tools	1	1.82
Following Turkish TV channels	1	1.82
Attending online Turkish lessons	1	1.82
Communicating with Turkish friends	1	1.82
Spending holidays in Turkey and communicating	1	1.82
Total	55	100.00

When examining Table 3, 22 of the participants (40%) stated that they speak Turkish at home to help their children learn Turkish. The fact that the majority of participants speak Turkish at home is very important for familiarizing children with the language and creating an environment in which they can consolidate what they have learned.

When Table 3 was examined, 16 of the participants (29.09%) stated that they read or let their children read Turkish books to help them learn Turkish. In addition to the spoken language, exposure to Turkish books contributes to mastering the language in various aspects and expanding Turkish vocabulary. Since it is hardly possible to compare the Turkish spoken at home with the environment, it can be compared with the Turkish in books at the same time, which can contribute to the correct acquisition of the language-.

When Table 3 was examined, 4 of the participants (7.27%) stated that they listened to Turkish music and made their children listen to Turkish music to learn Turkish. Considering that music has many arguments as a cultural element, the contribution of music to language learning in terms of language enrichment and as a reinforcer is considerable.

When Table 3 was examined, 3 of the participants (5.45%) felt that they benefited from Turkish dubbed movies to help their children learn Turkish. Even though it can be said that it contributes to the language esthetically, it should not be forgotten that one should be careful in choosing the movies so as not to create confusion in the minds of children who already have a limited environment in terms of language as they sometimes contain elements of the national language.

When Table 3 was examined, 2 of the participants (3.64%) thought that their children benefited from Turkish games so that they could learn Turkish. It is a very nice organization that provides the opportunity to learn through games. The place that the language occupies in the memory in this way will be permanent and the children can learn the language in a more enjoyable way thanks to the games in this period when they learn the fastest.

Table 4 Parents' Views on the Use of Turkish in Daily Life by Bilingual Turkish Children Living in Switzerland

Parents' Views on the Use of Turkish in Daily Life	<i>f</i>	%
Only at home	8	28.57
Continually	7	25.00
Generally	5	17.86
Very little	4	14.29
It may vary depending on the language of the mother and father	3	10.71
Outside of school	1	3.57
Total	28	100.00

When Table 4 was examined, 8 of the participants (57%) agreed that their children use Turkish in daily life only at home. Limiting Turkish to domestic use can be seen as a barrier to full language acquisition.

In the study of Table 4, 7 of the participants (25%) thought that their children always speak Turkish in daily life. This situation is very positive for the development of the Turkish language. It can be said that the children are in contact with Turkish citizens in their social environment. There is no doubt that this will have a significant impact on the development of the mother tongue.

When Table 4 was examined, 5 of the participants (17.86%) thought that their children generally speak Turkish in daily life. As can be seen from the previous comments, the participants stated that their children had to move away from Turkish from time to time. Both the society they live in and their school situation then inevitably lead them to other languages.

When Table 4 was examined, 4 of the participants (14.29%) thought that their children spoke very little Turkish in everyday life. Three of the participants (10.71%) felt that the situation regarding their children speaking Turkish in everyday life varies depending on which languages the parents speak. Children who grow up in a family where only one parent speaks Turkish take longer to master the Turkish language than children whose parents speak the same language, and the child may experience more confusion at this point. There will undoubtedly be more problems that parents will pay attention to in this

regard. When we look at the table, 1 of the participants (3.57%) stated that their children prefer to speak Turkish in daily life outside school.

Table 5 Parents' Opinions about the Reasons Why Bilingual Turkish Children Living in Switzerland Do Not Use Turkish in Daily Life

Why Children Do Not Use Turkish in Daily Life	f	%
Not having anyone around to speak Turkish	8	29.63
There is no problem in speaking Turkish	7	25.93
The language of the school is different	6	22.22
Having difficulty with word pronunciation	2	7.41
It is easier to express yourself in other languages	2	7.41
Dominance of other languages	1	3.70
Different language preferences of people at home	1	3.70
Total	27	100.00

When examining Table 5, 8 of the participants (29.63%) stated that the reason why their children do not use Turkish in their daily life is because there is no one around them who speaks Turkish. The fact that a person is a social being always requires a social environment. So even if Turkish is spoken at home, as soon as the child enters society, they will be exposed to the language of the society in which they live and will inevitably be influenced by this language. This will also decrease the children's interest in their mother tongue Turkish and the frequency with which they speak it.

We can also note that 7 of the participants (25.93%) stated that they have no problem with the reasons why their children do not use Turkish in daily life and that their children use Turkish. Although this seems to be a positive situation, it could give the impression that the children have not yet been exposed to a social environment or that they only socialize with Turkish citizens.

Examining Table 5, we see that 6 of the participants (22.22%) think that the reason why the children do not use Turkish in everyday life is because the school language is different. School is a very important process for the individual during childhood. In this process, most children come into contact with a foreign language for the first time, and the beginning of the problems is often school. Bilingual Turkish children are not only important for those who live in Switzerland, but perhaps for all children in other countries. It can be said that it applies to the situation.

Table 6 Parents' Opinions about the Difficulties Experienced by Bilingual Turkish Children Living in Switzerland While Learning and Using Turkish in Daily Life

Parents' Opinions about the Difficulties	<i>f</i>	%
There was no problem	8	33.33
There is no one around them to reinforce their language.	4	16.67
Difficulty in word pronunciation	3	12.50
Vocabulary is limited	3	12.50
Difficulty with grammar	2	8.33
Language education provided at school is insufficient	1	4.17
Turkish idioms and proverbs make language learning difficult	1	4.17
(S)he only heard Turkish at home	1	4.17
Lack of awareness about language	1	4.17
Total	24	100.00

An examination of Table 6 shows that 8 of the participants (33.33%) tend to believe that their children have no difficulties in learning and using Turkish. Bilingual Turkish children who have problems with their mother tongue will face more problems than other children in the societies they live in. This situation will be the cause of many problems in their future. Looking at the opinions, the high percentage of parents who have no problems can be interpreted as a very positive situation.

When Table 6 was examined, 4 of the participants (16.67%) stated that their children have problems in learning Turkish because there are no people around them to encourage them in their language. As in many situations, the language needs repetition and new words to improve. This is generally possible through the social environment.

In the study of Table 6, 3 of the participants (12.50%) stated that their children had difficulties in pronouncing words while learning and using Turkish. As they become more familiar with the language of the society they live in, it is inevitable that they will have difficulty pronouncing some of the Turkish words when they encounter them. Each language has its own form of expression.

When Table 6 was examined, 3 of the participants ($n = 3$, 12.50%) felt that their children's low vocabulary had a negative impact on them when learning and using Turkish. In order for the children to develop their vocabulary, they need to hear more words and encounter more Turkish words. Especially when they are taught in schools with a foreign language, they are quite helpless in this respect.

Table 7 Parents' Opinions about the Reasons Why They Want Bilingual Turkish Children Living in Switzerland to Attend Turkish and Turkish Culture Classes

Why parents want children attend Turkish and Turkish culture classes	<i>f</i>	%
To get to know their culture	8	50.00
To learn your native language	4	25.00
To learn about the historical past	3	18.75
To make Turkish friends	1	6.25
Total	16	100.00

When Table 7 was examined, 8 of the participants (50%) stated that the reason for their children's participation in the Turkish language and culture course was to learn about their culture. When we look at the program content of the Turkish Language and Turkish Culture

Course for Bilingual Turkish Children Abroad and the content of the books prepared, we can say that the contribution of the classes to the children will be quite high at this point.

In the research of Table 7, 4 of the participants (25%) stated that the reason for their children to attend Turkish and Turkish culture classes is to learn their mother tongue. Mother tongue education is the basic framework of the Turkish and Turkish culture course and the other services are worked in accordance with this framework. Therefore, we can say that the participants are aware of the achievements of the Turkish and Turkish culture course in terms of mother tongue education in their opinions on this issue.

When Table 7 was examined, 3 of the participants (18.75%) stated that the reason for their children's participation in the Turkish and Turkish Culture course was to obtain information about the historical past. Again, 1 of the participants (6.25%) stated that the reason for their children's participation in the Turkish and Turkish Culture course was so that they could make Turkish friends.

Table 8 Parents' Opinions about the Reasons Why They Do Not Want Bilingual Turkish Children Living in Switzerland to Attend Turkish and Turkish Culture Classes

Why parents do not want children attend Turkish and Turkish culture classes	<i>f</i>	<i>%</i>
Desire to provide education within the family	4	36.36
Time and transportation shortage	2	18.18
Insufficient educators and institutions	2	18.18
Believing that he is not contributing	1	9.09
The current education system is intense	1	9.09
Believing that they will be confused	1	9.09
Total	11	100.00

When Table 8 was examined, 4 of the participants (36.36%) stated that their children's education takes place within the family, which relates to their reluctance to participate in Turkish and Turkish culture classes. The importance of education within the family is an undeniable fact, but it should be explained to families in the right way that the education children receive with their peers in the social environment offers them much more than education outside the family, that the subjects they see in class and the activities they do reinforce the foundations they have received in the family.

In the study of Table 8, 2 of the participants (18.18%) stated that they do not want their children to participate in Turkish language and culture classes because they have difficulties with time and transportation. Overcoming this problem, especially in large settlements, and establishing schools closer to the places where children can access Turkish and Turkish culture lessons will change parents' views.

Table 9 Parents' Opinions on How Often Bilingual Turkish Children Living in Switzerland Read Turkish Books

How often children read Turkish books	<i>f</i>	%
Every day	11	42.31
Rarely	6	23.08
Once or twice a week	3	11.54
They don't read	2	7.69
Occasionally	2	7.69
Once or twice a week	1	3.85
Once a year	1	3.85
Total	26	100.00

When examining Table 9, 11 of the participants (42.3%) indicated that they read books every day when it comes to how often their children read books. If we look at the ratio, this situation can be considered quite positive. It is inevitable that children who read Turkish books every day improve their mother tongue. Families who support and encourage their children in this regard also increase their motivation to read Turkish books.

In the research of Table 9, 6 of the participants (23.08%) stated that they read very rarely when it comes to how often their children read books. The linguistic progress of children who do not read Turkish books decreases, the scope of the language decreases and so does the motivation and interest in the language. The fact that there are only a few Turkish-speaking people in their social environment, and for some children almost none, increases the need for books. If this opportunity is not taken, the benefit of books for the acquisition of the mother tongue and education remains incomplete.

3. DISCUSSION AND CONCLUSION

The mother tongue enables the individual to connect with the society to which he belongs, protects him, contributes to his development and is the cause of many other results that we cannot count. People begin to form and use the linguistic means of communication they find with their innate talent, first in the family and then in the relationships they establish with their playmates, schoolmates and teachers on the street (Şuatman, 2013). Just as the mother tongue is important for people living at home, it is even more important for people living abroad. Learning a mother tongue in a different society, preserving it and keeping it alive is quite a difficult situation.

Turkish citizens live in many European countries. One of these countries is Switzerland. The history of many Turks living in Switzerland goes back to the labor migration that began in the 1960s. In Switzerland, as in many other European countries, the Ministry of Education implements its plans, especially the Turkish and Turkish Culture course, for bilingual Turkish children through the Education Counseling Center affiliated with the Embassy of Bern. This two-hour elective course is offered in various schools in 22 cantons (Bern Education Counseling Center, 2021).

The survey shows that, according to the parents of bilingual Turkish children living in Switzerland, the mother tongue is of great importance to them and their children. The fact that most parents want their children to learn Turkish because Turkish is their mother tongue is an indication that they value Turkish as a mother tongue. Another reason is the

avoidance of lack of communication with family and relatives, which indicates that many families living abroad still have contact with their relatives in Turkey. The majority of parents believe that learning their children's mother tongue contributes significantly to learning a second language. The study by Baştuğ & Kara (2018) also came to similar conclusions, stating that learning the mother tongue has a positive effect on learning a second language. Based on their opinions, we can say that the majority of parents are aware of the relationship between language and culture.

During the research, it was found that the parents stated that they mainly speak Turkish at home so that their children can learn Turkish. We can say that speaking Turkish at home is a way of life that protects children from the dominance of another language in a foreign society and helps them learn the language better. The audiolingual method mentioned by Dođru (2010) in his study also shows that speaking effectively promotes language acquisition. Parents who believe that speaking only Turkish at home is not enough encourage their children to read Turkish books and even read books with them. Many parents stated that Turkish books are read at home every day. Although speaking Turkish at home contributes to the development of Turkish language, adding new words to their vocabulary by reading books is very important for language development. Belet's (2009) study of parents of Turkish children living abroad shows similar results.

The research found that the majority of parents believe that their children only speak Turkish at home and another opinion is that they speak Turkish all the time. It is seen that similar results were obtained in the studies (Baştuğ & Kara, 2018; Belet, 2009; Uludüz & Günbayı, 2018). Although this is very important for the consolidation of the language, it is inevitable that the fact that the language is only spoken at home affects the children's contact with the language of the society they live in, which in turn affects their attitude towards their mother tongue. The fact that children can effectively use both their mother tongue and the language of the society in which they live increases the importance of Turkish language education and Turkish culture.

The research shows that most of the reasons for not using Turkish are that there is no one around them who speaks Turkish and that the language of schooling is different. This situation causes the children to gradually move away from their mother tongue, but at the same time they cannot fully learn the language of society. As Şen (2016 p. 518) mentions in his study, children do not want to break off communication with their families and relatives, but at the same time they try to be part of society and be accepted by it. As a result of this situation, a problem of belonging arises and the children feel incomplete in many places. However, bilingualism has many advantages. Bilingual children can be more successful both academically and socially.

Although most of the study participants stated that their children have no problems with difficulties in speaking Turkish, there were also negative opinions, such as not having anyone around to reinforce the language, limited vocabulary and difficulties in pronouncing words. Studies show that children do not use their mother tongue at the desired level (Karadağ & Bař, 2019; Göçmenler, 2019; Demirdöven, 2016).

In the study, the majority of participants want their children to attend Turkish and Turkish culture classes to learn their mother tongue and culture. A strong language structure will create a strong cultural unity and the entire flow of data between generations will come to life thanks to the language. At the same time, the cultural activities that influence the social life of people who speak the same language, even if they are in different countries, remain the same thanks to the concrete and abstract data in the language.

In the study, participants stated that they found solutions within their families as the reason for not sending their children to Turkish and Turkish culture classes, while some of them stated that they could not attend due to reasons such as time and transportation difficulties. The curriculum for Turkish and Turkish culture classes was prepared taking into account the needs of Turkish children living abroad, their teachers and their parents. (Ministry of National Education of the Republic of Turkey, 2018) Therefore, without individual data, it is difficult to determine the points where the children have deficits in terms of language and culture. Many language and cultural skills are acquired in the classroom with peers. It seems that parents are not very aware of this issue. Similar results were obtained in the study by Arıcı & Kırkkılıç (2017). Some of the parents expressed the opinion that transportation and time constraints make it difficult for them to participate in Turkish classes and Turkish culture. In the study conducted by Sarıbaş & Demir (2020), similar results were obtained regarding the inability to participate in Turkish and Turkish culture classes due to transportation difficulties.

In the research, when asked how often their children read books, the majority of the participants answered "every day". This situation is quite encouraging. Although the answers in the research were "they do not read" or "very rarely", it shows that parents and their children have a great interest in reading books. At this point, the guidance provided by the Turkish and Turkish culture course teachers and the selection of books from qualified works of children's literature that support their language development will contribute to efficiency. In this way, even children who do not want to read or read very little will be interested in Turkish books. Quilichini (2020, p. 16) states in his study that works of children's literature, in addition to the esthetic language they contain, reflect a certain historical period, a certain culture and a certain life in the minds of readers, and with this aspect, Turkish children abroad can learn and internalize Turkey and its culture from a distance. He mentions that this provides an opportunity to preserve their national identity.

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STATUS UČENJA TURSKOG JEZIKA TURSKE DVOJEZIČNE DECE U ŠVAJCARSKOJ – STAVOVI RODITELJA

Apstrakt

Jedan od glavnih problema sa kojima se suočavaju turska deca koja žive u inostranstvu su njihovi nedostaci u učenju turskog jezika. Činjenica da turska deca koja žive u inostranstvu odrastaju učeći i svoj jezik i jezik zemlje u kojoj žive utiče na to da različito usvajaju maternji jezik u odnosu na decu koja žive u Turskoj. Cilj ove studije bio je da se otkrije status učenja dvojezične turske dece koja žive u Švajcarskoj na osnovu stavova njihovih roditelja. U tu svrhu korišćena je kvalitativna metoda, a kao instrument polustrukturirani intervjui sa roditeljima ove dece. Na osnovu deskriptivne analize za izdvojene kategorije, koje su se odnosile na mišljenje roditelja ove dece, izračunate su odgovarajuće frkvencije i procenti. Dobijeni rezultati ukazuju na to da su porodice koje žive u Švajcarskoj svesne da je potrebno da svoju decu podučavaju turskom jeziku, da su voljne da njihova deca učestvuju u turski orijentisanim aktivnostima, kao i da preduzmu odgovarajuće korake u tu svrhu. Takođe, zaključeno je da imaju slaba očekivanja kada je u pitanju učenje turskog jezika na časovima turskog

jezika i kulture, pa je, s tim u vezi, potrebno sprovesti dodatne studije za podizanje njihove svesti o značaju izučavanja maternjeg jezika kada su u pitanju deca koja žive u inostranstvu.

Ključne reči: dvojezična turska deca, maternji jezik, učenje turskog jezika, podučavanje turskog jezika, Švajcarska



WRITING QUALITY FROM THE PERSPECTIVE OF CRITICAL LITERACY: AN EXAMPLE FROM THE CONTEXT OF GREEK

UDC 371.3::003(495)

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Abstract: *This paper analyzes how critical literacy can help us rethink ill-defined notions such as that of “writing quality” that serve as a starting point for assessing students’ textual literacy. While important work has been done on critical literacy that suggests that texts should be viewed as social practices, that is, as units of social action that emphasize certain social meanings over others, less research has been done on the pedagogical implications of this premise. What does this premise mean in terms of analyzing writing and assessing students’ textual literacy? To answer this research question, an intervention on immigration in a 6th grade Greek elementary classroom was designed using the tools of critical research and specifically Bakhtin-based work. The data consists of topic-specific stories that were selected and discussed, as well as the narrative texts produced by the students. The analysis of the 1st and 2nd versions of students’ texts illustrates the ways in which students construct and negotiate their attitudes towards immigration through their narratives. The 2nd version texts are characterized by the richness of social meanings constructed in and through the structural components used and the linguistic choices made. It is evident that the students attempt to negotiate the topic, i.e. to engage through the discourses on racism circulating in society through their texts and to take a position by creating a story that promotes social justice. The pedagogical implications of the findings for school practice are addressed.*

Keywords: *critical literacy, narrative competencies, social meanings, immigration, students’ narrative texts, quality texts.*

1. INTRODUCTION

This paper analyzes how critical literacy as a specific pedagogical approach to literacy can help rethink fuzzy notions such as writing quality that serve as a starting point for assessing students’ developing textual literacy. Specifically, this paper focuses on the ways

Received November 29, 2023/Accepted April 01, 2024

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in which critical literacy (Janks, 2010) and the approach we advocate, which we refer to as the “dialogical, Bakhtinian-based strand” (Bakhtin, 1981; Ball & Warshauer Freedman, 2004), can provide teachers and researchers with important tools with which to read their students’ texts, i.e., to analyze their effectiveness and rethink the kinds of instructional practices that should be developed to promote students’ textual literacy. Ultimately, it is about helping teachers to develop reflexivity, i.e. to acquire tools with which to think about students’ texts as social practices, and to help them use language to textually construct and project their stance on social issues of concern to society (Englebretson, 2007).

This argument is outlined as follows. The basic concept under investigation, such as that of *writing quality*, is introduced and discussed in comparison with other concepts (such as that of *textual complexity*) with which it is usually associated. The proposals developed in the literature to clarify its nature and relationships are discussed and the limitations of the relevant analyzes are pointed out. We suggest that the quality of writing needs to be reconsidered through constructs drawn from critical approaches to meaning-making. From this perspective, a number of new questions emerge, such as the following: What factors are considered important to the quality of writing by critical literary studies? How can these factors be used by teachers to enable them to read the diversity of student writing? These questions are addressed through an intervention that was developed and implemented in a 6th grade Greek elementary school class. The insights that this proposal provides in relation to the role of teachers in shaping student texts are explained. Finally, attention is drawn to the pedagogical implications of the proposed perspective and its potential to rethink classroom processes in a way that facilitates students’ access to the tools they need to construct social meanings and negotiate competing attitudes towards them.

1.1. On writing quality: From linguistic choices to ideological meanings

While text production is one of the fundamental goals of reading and writing research and various pedagogical suggestions have been made to help students appropriate the genres used in school and society (Cope & Kalantzis, 1993; Rose & Martin, 2012), the notion of *writing quality* remains ill-defined. Apart from the explicit focus of earlier text linguistic work proposing associations between text quality and cohesion and coherence (Witte & Faigley, 1981; Witte, 1983), later research seems to turn away from text quality and operate through the construct of text complexity proposed as a goal to be achieved. Various elements are cited in the literature as constitutive of this concept. Building on research on the differences between speech and writing (Biber, 1986), relevant research initially focused on the lexical and syntactic structures used in written language that are assumed to lead to text complexity (Jisa, 2004; Myhill, 2009; Perera, 1984; Scott, 2004). Even later work that takes an explicitly functional perspective (see Christie & Derewianka, 2008), in which texts are seen as the result of authors’ attempts to implement various meta-functions (such as the representational, interpersonal and textual meta-functions) (Martin & Rose, 2008), tends to focus on specific structures and meta-functions; students’ textual competence is usually analyzed in terms of the linguistic choices that fulfill the textual meta-function (leading to a coherent and cohesive text) and the interpersonal function (revealing the relationships between speaker and addressee). Less attention has been paid to the representational meta-function, which refers to the content of a text and in particular to the means by which it reconstructs reality.

Parallel research on genres has emphasized the role of structural units as an indicator of students' developing textual skills associated with the production of more structurally complex texts. In relation to narratives, Labov & Waletzky's (1967) suggestion of the units that make up narratives about personal experiences has been central and has served as a starting point for all subsequent work. Complex narratives are considered as those that go beyond the simple enumeration of events and include structural units such as orientation, complicated plot with episodes leading to resolution, and coda. The notion of evaluation (internal and external) is an important element in this account. While evaluation was originally a separate structural unit in which the narrator evaluated both the characters and the events of the plot line, later extensions of this proposal suggest that forms of evaluation may be distributed throughout the narrative, their use being crucial to answering the important question: what is the point of the story?

Interestingly, the work of Martin & White (2005) has shown that evaluative forms, as documented in various text types, should be seen as indicative of social values. This suggestion is worth considering in more detail, as it is the first step in relating linguistic choices in texts to social issues. Taking it as a starting point for analyzing student texts raises important questions: if evaluative forms index social values, then it may not be sufficient to instruct students to use evaluative forms (such as adjectives or adverbials) without examining the underlying values being negotiated in their texts. If this is the case, then attention should be focused on helping students to develop a deeper understanding of the social values with which a society operates. How can this be achieved? What kinds of practices should be developed?

The socio-critical perspective could provide a useful starting point for answering these questions and ultimately for developing new tools for assessing text quality. CDA (Fairclough, 1995, 2003; Wodak, 2001), which distinguishes between 'discourses' and 'texts' (Gee, 2011), has outlined the tools for conceptualizing the relationships between textual choices and the social world. As already indicated, texts cannot be analyzed in isolation from the social reality they help to shape. Alternatively, the content of a text is not seen as neutral, but as ideologically shaped by the discourses used. A discourse is defined as an ideological perspective on a topic that is constructed in and through linguistic forms and textual selections. Accordingly, lexical and syntactic forms (from action verbs to verbs denoting mental states, behavioral processes or adjectives, from the use of active versus passive syntax to over-lexicalization, etc.) (Janks, 2010) are used as indices. (Janks, 2010) are seen as indicators that signal one's position on the social discourses circulating in society on a particular topic. Texts are thus considered as instruments of opinion formation (Kostouli & Stylianou, 2017), i.e. the ways in which people talk about and express their stance on issues of social importance and with important implications for society (such as immigration, pollution, human rights, climate change, discrimination in the workplace, etc.). Indeed, work on adult narratives has aptly shown that narratives emerge from the narrator's selection of particular events, i.e., those that help to construct particular identities and reshape one's experiences (De Fina, 2003; De Fina, Schiffrin, & Bamberg, 2006). Through this process, narratives become the tools used by the narrator to reflect on themselves and negotiate their position vis-à-vis competing social issues.

Once these propositions are accepted, important questions arise, both of theoretical and pedagogical significance, such as these: How do these premises affect the notion of students' textual literacy? How can they be used by researchers in their attempt to define the quality of narratives? If narratives project ideological positions onto the topic under

discussion, then it is worth asking whether narrative quality refers not to the use of specific linguistic forms, but rather to the depth of the constructed story world created by the variety of social meanings projected and negotiated through the choice of particular characters and the kinds of their actions. This theme is taken up and analyzed in this article.

2. THIS STUDY: DATA AND METHODOLOGY

To illustrate how the socio-critical approach helps to reframe teaching with genre-specific tools, we conducted an intervention in a Greek 6th grade classroom. This is part of a broader, ethnographically oriented research project that aims to investigate how dialogic critical education can be implemented in classrooms and what problems arise in the process.

Students' appropriation of genres in the Greek context is based on highly controlling textbooks that leave little scope for teachers to address the challenges they might face in any classroom. Genres are taught as a series of structural units but are not presented in a developmentally appropriate way. To overcome these limitations, in the designed intervention, teachers and students work together to construct thematic units (or reconstruct those suggested by the textbook) and use genres to explore topics that interest them rather than implementing top-down instruction. Genres are seen as the literary tools that participants use to understand and negotiate meanings in their social world. Alternatively, teachers and students are seen as agentive beings who use linguistic and genre-specific patterns as resources for creating texts, reinscribing values and negotiating their attitudes towards them. In this case, the textbook-based thematic unit entitled "Life in Other Places" was written by the teacher (the second author) and her (12) students in a 6th grade Greek class community: "The Life of Immigrant and Refugee Children". The focus is on the production of narrative texts. The aim is to help students move from listing events (the predominant pattern) to creating stories, i.e. narratives that make a socially important point.

The school where this intervention took place is located in a small town outside Thessaloniki and has a mixed population. Most of the students come from homes with secondary school and/or college degrees. The data collected includes all classroom interactions during a 2-month period, the discussions between the teacher and the critical friend (the first author), as well as the various types of written texts produced by the students during the project. After the project was completed, it was presented to the rest of the school and the students' parents. This paper focuses on a subset of the narrative texts produced, i.e. 4 stories of the first version and 4 stories of the second version, created by the students in 4 mixed groups. Each group – formed for this project - consists of students with very good to moderate text production skills.

The research questions are as follows:

- How can we develop students' understandings of narratives as social practices?
- What are the social meanings students constructed their texts?
- What are the choices made to this effect?

The hypothesis is that students' shift to high quality texts is related to the negotiation of competing viewpoints on immigration expressed through characters, their actions and interactions, moving from a simpler to a richer story world. The hypothesis is that from the 1st to the 2nd version, students gradually move towards writing stories in which they can negotiate and express their stance on current discourses on immigration in a rich and deep way.

3. DATA ANALYSIS

3.1. On the interactive contexts created: an overview of the collaborative activities

In order to reconstruct the thematic unit to be studied, teachers and students worked together, suggesting topics that interested them and selecting appropriate authentic texts. Important literary and social strategies were acquired as part of this process. Students used different reading strategies (skimming, predicting, focused reading, etc.) in groups and as a whole class to evaluate texts. They had to define certain criteria (such as “text relevant to the topic”, “important perspective on the topic that is new to us”, “thematically irrelevant text”, etc.) on which they based their text selection. As a result of the collaboration between teachers and students, 4 stories on the topic of immigration were finally selected to be brought into the classroom. In this post, for reasons of space, we will focus on one particular story entitled “My Name is Baabur” and explain how it was analyzed.

This story is about a family that immigrated from Afghanistan to a Greek island. It describes the challenges the family members faced during their journey and how they were treated by the local island community. The story is populated by many different main and secondary characters and the narrator evaluates them by depicting their interactions that reveal a variety of contrasts. These are: (i) between the immigrants and the native population, (ii) between certain men, i.e. between Vangelis, a native fisherman, and Azar, the father of the immigrant family, (iii) between the old and the young generation, i.e. between children and adults, (iv.) between men and women. These contrasts represent different attitudes, namely pro-immigration, anti-immigration and neutral positions.

The groups created in the story world are not homogeneous, as shifts and changes in the characters’ attitudes and identities are documented in the course of the story. It is interesting to note that the character who ultimately leads to the resolution of the story is a young boy, Dimitris, the child of Vangelis, the local fisherman. Dimitris defies his father’s instructions and persistently befriends Baabur, the son of the immigrant family, which causes his father’s attitude towards the immigrants to crack.

These manifold contradictions as well as the constructed changes and shifts were worked out and their social implications analyzed in detail. The discussions and activities carried out in class helped to sharpen the students’ understanding of the way this story is positioned on the issue of immigration and to facilitate their identification of the means used by the narrator to signal the various points of view. Specifically, this means: Teachers and students identified linguistic choices that create ideological meanings about immigration and identified the genre-typical devices (such as episodes, climaxes, etc.) used by the narrator to constitute these meanings. The students’ understanding of the genre-specific elements was thus shaped by the interaction. Building on Bakhtin’s notion of ‘polyvocality’, students worked through a series of group activities to identify the resources the narrator uses to describe the characters and ascribe certain attitudes (racist, anti-racist and neutral) to them. They examined lexicogrammatical choices (i.e. evaluative forms) and descriptive forms and analyzed the scenes created by the narrator as a means of constructing the characters. By foregrounding certain actions and referencing certain information (e.g., the impoverished area where the immigrant family lived, the Christmas candy Dimitris brought them), students were able to recognize how certain pro- or anti-immigrant discourses were introduced into the text.

3.2. On students' written narratives

After discussing the story, the students produced various texts, including the narrative texts examined in this paper. In these narratives, they were asked to describe Baabur's first day at school. In doing so, students had to essentially build on the original story, but expand it by introducing new characters and/or drawing on earlier characters and their actions.

It was expected that the original story would provide the students with a framework with which to create their own texts. This proved to be the case. The students' texts were analyzed with regard to the following criteria:

(i) whether the texts are contextualized or decontextualized

(ii) whether the students produced a simple story world, consisting of a series of events linked with paratactic connectives without evaluation, or a rich story world, i.e. texts in which the story world is constructed through textual schemata such as the distinction between US and THEM. The identities (contrastive or non-contrastive) are analyzed through the descriptions and evaluations signaled by verbs (describing positive and negative actions, inner states, mental activities, etc.), adjectives and dialogs.

On criterion (i): A basic task for all children was to construct a decontextualized text, i.e., a text that can stand on its own without referring to the original story and/or taking some information (such as the characters) as given or known to the reader (Chafe, 1987).

While 3 (of the 4) groups produced decontextualized texts, even from their 1st version, it was only one group (consisting of students with modest text composition skills) that produced a text in which not all characters were clearly introduced. Excerpts (1) and (2) illustrate the challenges faced by this group of students. Note that in the first version of their text [excerpt [1]], although Baabur is introduced with information clear enough for readers to identify him (see italicized utterances), other characters, such as the Greek's parents and the immigrant family (see underlined expressions), are not properly introduced.

(1) *Baabur is a child who lives on a small island. As we can understand the name Baabur is not Greek. In his country, Afghanistan, it means joy, but in Greece he is not very happy. His family has to face many difficulties. They live in a cold warehouse waiting for a plate of food from the residents, they have no job.*

Vangelis offered to help the family and so he gave them a small wooden house that was suitable for Azar and his family to live in. Baabur was so happy that he started jumping back and forth. Delbar told Baabur to calm down because tomorrow was his first day of school. (1st version)

However, in reformulating their text (see the underlined sentences in [2]), the students took into account the suggestions made in a conference with the whole class and made the right decisions, providing much-needed clarity by indicating the relationships between the characters.

(2) *Baabur is a child who lives on a small island. As we can understand the name Baabur is not Greek. In his country, Afghanistan, it means joy, but in Greece he is not very happy. His family has to face many difficulties. They live in a cold warehouse waiting for a plate of food from the residents, they have no job.*

Vangelis, a family friend, offered to help the family and so he gave them a small wooden house that was suitable for his family to live in. Baabur was so happy that he started jumping back and forth. Delbar, his mother, told Baabur to calm down because tomorrow was his first day at school, in Greece (2nd version).

Interestingly, in extract (3) the introduction of the character is done in a way that adds structural complexity to the text. This group of students introduced Baabur in both the 1st and 2nd versions as a piece of information known to the reader, but immediately took a step back and referred to the character's previous life through a rhetorical question (see underlined utterances), which helped readers gain a deeper understanding of him.

- (3) Today Baabur, as he is getting ready for school, feels very confused deep inside. On one hand he is happy, but on the other hand he starts thinking of all the bad things that could happen to him. But who is Baabur? Baabur is a refugee child from Afghanistan. After many obstacles, he and his family managed to reach a Greek island, to find a job and build a house, but what they didn't manage to do is to be accepted by the residents of the island.

Baabur tells his thoughts to his mother in order to reassure him. After a long discussion with his mum he went to school. (1st version text).

Criterion (ii): The students' texts were analyzed with regard to the type of story world they created. This was done in two steps, the first being to describe the structural elements identified in the texts. These are, following Labov & Waletzky's (1967) scheme, as follows:

Orientation: reference is made here to Baabur's preparation prior to attending school. Two types of orientation were identified in the analysis, namely thin vs. rich orientation, which contains limited information about the featured character(s), the place and time of the plot, etc., vs. texts that contain information that helps the reader understand who the characters are and gain insight into their background (e.g., by depicting the immigrant family from their country of origin to their journey to their arrival on the island and the difficulties they face along the way).

Complicating Action: refers to Baabur's experiences at school. This has been found to consist of smaller units that signal the following:

The Initiating event: describing the problem Baabur faces, the emergence of hostility and racist attitudes by the other school children.

Reactions: Delineating the reaction of the main character and the role of the others

The resolution: represents the step that leads to Baabur's acceptance by all.

The coda: contains the end of the story.

Second, attention is drawn to the richness and variety of social meanings that students bring and project through these structural elements. However, it has been shown that the richness of the story world cannot be represented simply by the number of structural units such as the initiating event, reactions, etc. Therefore, new, lower-level constructs have been introduced that allow us to capture the representation of the characters, the interactions between them, and the social meanings and identities that these interactions project. To this end, we use the term 'scene' in relation to sub-units created by linguistic forms (see below) that work in a constellation to construct a particular type of relationship between the characters involved. Among the options considered are the following:

- (i) The distinction between US and THEM,
- (ii) Using verbs that indicate emotional states (blush, sweat, etc.),
- (iii) Use of evaluative forms (adjectives, adverbs) that illustrate the identity of the characters and their attitude to various challenges,
- (iv) Dialogs as a window into one's own attitude towards the world and towards each other,
- (v) Stylized dialogs as a means of identifying racist and anti-racist attitudes.

- (vi) The distinction between US and THEM emerged as the overarching pattern that students used to construct different kinds of social meanings in the orientation, intricate plot, and coda. In the scenes created in these units, we see how the characters relate to each other and to their identities, e.g. as close friends, as racist students making fun of Baabur, as caring teachers concerned or indifferent to the students' needs, as parents concerned about the children's adjustment to school, as wise grandparents giving advice to the children. Interestingly, the number of scenes in the students' texts from the 1st version was quite high. 9, 7, 10 and 14 scenes, respectively, were identified in the texts of each group, both in the 1st and 2nd versions. The change from the 1st to the 2nd version involved the development of some scenes, mainly through the use of dialog. In the 2nd version texts, dialog was the most frequently used device to describe the characters' interactions and clarify their points of view. Examples of the students' choices in their texts are given and discussed.

On Orientation. Interestingly, we have found that all the texts contain a rich orientation, i.e. one consisting of scenes. In these scenes, the characters were not only introduced by their names, but also described in such a way that their original identity became clear. Note (4): Through a variety of mental and emotional verbs (see the bolded sentences), we not only get a description of Baabur's feelings at the very beginning of the orientation, but we are confronted with a scene that shows his initial identity. The students describe how Baabur, as a shy boy, approaches an important phase in his life by referring to the feelings he experiences upon entering school in a new country and in a different language.

(4) *Orientation*

Scene 1: Today Baabur, as he is getting ready for school, **he feels deep inside very confused. On one hand he is happy, but on the other hand he starts thinking of all the bad things that could happen to him.** *Backward information* But who is Baabur? Baabur is a refugee child from Afghanistan. After many obstacles, he and his family managed to reach a Greek island, to find a job and build a house, but what they didn't manage to do is to be accepted by the residents of the island.

Orientation (cont.)

Scene 2: Baabur tells his thoughts to his mother **in order to reassure him.** Just before he left for school, his mom told him a story. "I understand how you feel, scared and afraid of being made fun of... but you keep your head up and don't let other people's opinions affect you. When I was about at your age, I had missed a few years of school. Once I went back to school, all my friends were in a different class. Some of them made fun of me, but I tried not to listen to them. Unfortunately I didn't succeed; I don't want the same thing to happen to you. Be yourself, that's the only way you'll make it!"

– Thanks, Mom! I'll try to succeed. I'll be friends with all the kids! (2nd version text).

Furthermore, the use of dialog not only adds to the complexity and richness of the orientation, but also creates a scene that illuminates the relationship between the characters involved. Compare (1) with (4), which was produced by the same group of students. In the 1st version (see [1]), the role of the mother is implied with the phrase "after a long discussion". However, in (4), by mentioning the details of the conversation, the students have created a scene that transforms the mother from her initial inactive role to a new one, that of a caring person. By drawing Baabur's attention to her personal story, a story of failure and defeats, Baabur's mother presents it as a story that leads to empowerment. In

this way, the students illustrate how the mother helps Baabur to read the situation in a different way, teaching him qualities (such as persistence) that he – like the readers – must acquire in order to respond appropriately to the various obstacles that may arise in his path. Baabur's reaction demonstrates to the reader the leap of faith he has been given.

On the *Complicating Action*: In creating the Complicating Action, all student groups relied on the textual schema provided by the original text, the distinction between the US and them (van Dijk, 1987), but reworked it creatively in the many scenes they created to sketch different contrasts.

We found that 3 groups of students created a story in which Baabur and his friend Dimitris are confronted with the hostility of the local school children. The main and secondary characters were presented in scenes where they were asked to act in positive and negative ways, register different types of reactions and experience a range of emotions and feelings. The scenes depicted the relationships between Baabur and the other school children, Baabur's reaction to his exclusion, Dimitris' support, Baabur's arrival after school, the next school day, etc.

Note (5), in which the distinction between US (including Dimitris and Baabur) and THEM (schoolchildren) is aptly negotiated. The friendship between the two boys is described through decisions that produce a variety of scenes. In (5), we see how Dimitris supports Baabur in his new stage of life with the help of action verbs (Baabur is introduced), which acquire new shades of meaning when read in contrast to other contrasting choices [see the italicized choices] that aptly project the hostility of the others. While placing Baabur in this context, the students as authors also provide us with clear descriptions of his feelings and emotions, excellently drawn and through choices that indicate the gradual escalation of his emotions. These forms combine to create two distinct scenes with detailed descriptions and rich social meanings

(5) **Scene 1: Together with Dimitris**, the next morning they set off to school. When they arrived, Dimitris introduced Baabur to his friends. Dimitris' friends *glared at him, but pretended to like him*. Then the bell rang. Baabur **got so nervous** that his hands **sweated** and followed Dimitris hastily into the classroom.

Scene 2: As soon as they entered, Baabur **jibbed** because he didn't know what to do. Fortunately, Mrs. Despina took him by the hand and introduced him to all the children in the class. The children welcomed him, *but it was obvious from the children's expression that they would not get along very well with him*.

Scene 3: The lesson started. Baabur watched the children writing and he did nothing until the teacher gave him to draw the letters of the alphabet. Baabur talked to his teacher in signs so that they could agree on how to draw the letters. Baabur made a mistake, but his teacher did not tell him off. Unlike the teacher, *the children began to make fun of him*. Then tears **began to flow** from Baabur's eyes and he **blushed**. Then **he went straight out** of the classroom, but Dimitris followed him into the courtyard.

One device that helps to describe the identities of the characters is the stylized dialog. Through its use in (6), we see how the students – representing THEY – make fun of Baabur's accent; in this way, the bullying scenes are clearly formulated.

(6) Gregory and Panagiota didn't like Baabur and made fun of him. Dimitris realized that Baabur needed help so he informed Mrs. Victoria.

Baabur: Hillo! Whati is your niemi; [what is your name]}

Gregory: My nieimi [my name]

Panagiota: Never mind!

Baabur: Ok, I just askit. [Ok, I just asked]

The 4th group of students used the US versus THEN pattern to construct the distinction between native school children and their teacher and differentiate them on their attitude towards Baabur. Excerpt (7) illustrates a meaningful episode that this group of students created to ascribe an embracing identity to the schoolchildren (who wanted to organize a welcome event for Baabur), while their teacher is portrayed as indifferent due to her unwillingness to respond to the children's suggestions. In this way, the students criticized the teacher's resistance to transforming the school from a place of knowledge transmission into an inclusive world, while foregrounding the influence of the students who reshaped the teacher's identity as one that finally becomes receptive to the needs of a new student.

(7) **Scene 1:** The bell rang and the children went to meet Baabur with body language, with drawings and easy words in Greek. But again, Baabur would not let the children approach him. Then the children thought of making a celebration to welcome him. After some discussion, the children told the teacher that they wanted to organize a party and asked for her help.

Teacher: I don't think it is so important to have a celebration for Baabur.

Children: But Mrs, he is a young child who has come from another country and we consider it as an act of love that he will like.....

Scene 2: In the afternoon the children met at school to make the feast, but they did not have all the necessary stuff. However, they had too many colored balloons and so they thought they would decorate the classroom with the few things they had. They even decided to write his name on the balloons.

Meanwhile, Baabur at home sat for hours thinking about what he did wrong and they don't want him in their group.

Scene 3: The next day the children started looking at each other with a sly smile. As soon as they entered the classroom they called out to him: "Welcome Baabur!". Baabur started jumping for joy. Then all his negative thoughts flew away into the sky as if by magic.

The teacher who was initially very upset with them, went to the children and apologized to them. She realized that the children were right, because that was how they made Baabur happy.

On the story coda: Interesting insights emerge from the choices students made to conclude their stories. While the ending of a story typically addresses the theme of "happily ever after", "the students projected important social meanings into the happy ending by giving readers glimpses into Baabur's life after graduation. Note excerpt (8):

(8) All the years at school passed smoothly. He learned Greek very well. When he grew up, he went to Athens to study and became a great teacher thanks to his own teacher and because he wanted to help refugee children like him to learn Greek very well and face any other difficulties a refugee child or even his family might have to confront. What Baabur always said to children and adults was: "Don't give up!"

4. CONCLUSION

The central question of this article is as follows: What are the characteristics of a quality narrative? What are the factors that lead to the production of quality texts?

We have proposed to view students' texts as the result of choices shaped by many factors, including the pedagogical approaches used. Pedagogical approaches form the broader context that surrounds and shapes the decisions made in classrooms on the ground, especially as they suggest certain ideas about the end state to be achieved against which students' competencies are assessed. The main pedagogical proposals for literacy seem to take two different paths: on the one hand, the acquisition of genre-specific tools as a goal (genre pedagogy) and, on the other, the negotiation of social meanings (critical literacy). Interestingly, less research has been done on how these two strands can be interwoven. This was the task that this paper set itself. We have suggested that it is worth asking about the tools that critical literacy proposes to define students' narrative skills and track their pathways to acquiring these skills.

To illustrate this integration and to evaluate its effectiveness to rethink students' narrative skills, an intervention was designed and implemented in a Greek 6th grade class. In this paper, part of this intervention is presented together with (some) narrative texts produced by the students. This was done with the aim of helping students to move from their predominant pattern, i.e. making lists of events, to a new pattern by creating ideological narrative worlds.

To accomplish this change, changes were introduced in the structure of the textbook used, the texts used (from text excerpts to whole texts) and the analysis performed (focusing on both social meanings and structural units). Text production was reconsidered. We started from the premise that stories must be seen as the textual means by which social issues of importance to a particular society are narrated. Linguistic choices and textual patterns emerge from students' need to negotiate social issues that present them with dilemmas and moral conflicts, and to take a stand on them.

Interestingly, the stories collected proved to be quite rich, full of social meanings that are relevant both to the students' own world and to the wider social context. The choice of the topic of immigrant and refugee children, which the students had made together with their teacher, seemed to play an important role in the production of these texts; the topic proved to be one with which the Year 6 children studied could relate. As the analyses show, the students addressed and negotiated many different issues in their texts, dealing with the way children and parents interact, how majority groups and also adults relate to another Other, how parents set a bad example to children, how teachers (should) respond to cases of social exclusion and how children can fight against prejudice. In fact, the students managed to negotiate these issues and create complex stories. They created a rich story world in which, through a variety of scenes, they constructed the characters' identities, negotiated issues of social justice and advocated for a world characterized by acceptance and understanding.

On a theoretical level, this process helped to define the quality of narratives as texts that contain more than just the story-typical structural units. As the data have shown, attention needs to be paid to the constructed story world, the social meanings with which it is imbued and the social implications that the texts project. The students have managed to produce texts that make the reader think about important social issues.

This work has described one part of a complex process that addresses the ways in which genres can be taken up as social practices. Further theoretical and pedagogical work needs to be undertaken. Particular attention needs to be paid to the interactive contexts that emerge in classrooms with different groups of students and the ways in which teachers and students negotiate texts. Other important work needs to address how to describe other types of genres, how to assess students' competences in relation to different genres, and what practices need to be developed in classrooms across a range of thematic units so that teachers can respond appropriately to students' different knowledge of genre learning and show them appropriate ways to do so.

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KVALITET PISANJA IZ PERSPEKTIVE KRITIČKE PISMENOSTI: PRIMER IZ GRČKOG KONTEKSTA

Apstrakt

Ovaj rad ima cilj da analizira način na koji nam kritička pismenost može pomoći da se vratimo na loše definisane pojmove, kao što je onaj o „kvalitetu pisanja“, koji se koristi kao stanovište za procenu tekstualnih kompetencija učenika. Iako je obavljen značajan rad na kritičkoj pismenosti, što sugeriše da tekstove treba posmatrati kao deo društvene prakse, odnosno kao jedinice društvene akcije koje predlažu specifična društvena značenja u odnosu na druge, manje je istraživanja sprovedeno o pedagoškim implikacijama ove premise. Šta ova premisa podrazumeva u pogledu analize pisanja i ocenjivanja tekstualnih kompetencija učenika? Da bi se odgovorilo na ovo istraživačko pitanje, osmišljena je intervencija na temu imigracije u grčkoj učionici 6. razreda osnovne škole, koristeći alate kritičkog istraživanja, i posebno one iz Bahtinijevog rada. Podaci se sastoje od odabranih priča o specifičnim temama o kojima se diskutovalo, kao i od narativnih tekstova koje su izradili učenici. Analiza 1. i 2. verzije studentskih tekstova ilustruje načine na koje su studenti konstruisali i zagovarali svoje stavove prema imigraciji kroz svoje narative. Tekstove 2. verzije karakteriše bogatstvo društvenih značenja konstruisanih u strukturnim komponentama koje su korišćenje i kroz njih, na osnovu čega su napravljeni jezički izbori. Smatra se da oni nastaju kao rezultat pokušaja učenika da pregovaraju o temi, odnosno da se kroz svoje tekstove suoče sa diskursima o rasizmu, koji kruže u društvu, i zauzmu svoj stav stvarajući priču koja promovise socijalnu pravdu. Navedene su i obrazovne implikacije nalaza u školskoj praksi.

Ključne reči: kritička pismenost, narativne kompetencije, društvena značenja, imigracija, narativni tekstovi učenika, kvalitetni tekstovi

**MODERN TECHNOLOGIES IN THE FUNCTION OF
IMPROVING QTL**



THE VIEWS OF THE KINDERGARTEN TEACHERS ON THE DISTANCE LEARNING CONDITION IN A PEER GROUP MENTORING PROGRAM

UDC 37.018.43

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Abstract. *Due to the COVID-19 pandemic, distance education has rapidly become an integral part of teachers' lives and has become an effective method for their training and professional development. This paper explores the perspectives of 15 kindergarten teachers who participated in an e-Peer Group Mentoring (PGM) program to enhance their professional development (PD) in a remote setting. During the e-PGM program, the team participated in discussions regarding the experiences and practices that each kindergarten teacher implemented in their classrooms, with the mentor/researcher providing coordination, support, and feedback throughout the entire process. The assessment of the remote condition's effectiveness was based on three perspectives: a) the mentoring relationship, b) the degree of satisfaction, and c) the effectiveness of the remote process for PD. Both qualitative and quantitative data were collected and are currently being analyzed. The preliminary analysis of the qualitative data shows that all team members were satisfied with the remote process (15/15) and found that it contributed significantly to their PD. In addition, 14/15 participants were highly satisfied with the means and tools used. However, the remote condition was described as creating a friendly and pleasant atmosphere, but lacking the warmth of face-to-face meetings, as reported by 13/15 participants who preferred a mixed program under normal conditions. In summary, team members were content with the remote condition and expressed a preference for it, even under normal circumstances due to the benefits of workload and time savings. However, they recognized the friendlier atmosphere that face-to-face meetings provide. The results of this research will contribute to further studies in the field of e-PGM programs for teacher PD in a distance learning environment.*

Keywords: *distance education, peer group mentoring, digital tools, teacher professional development*

Received October 29, 2023/Accepted April 06, 2024

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1. INTRODUCTION

The COVID-19 pandemic disrupted our daily lives on many levels, including the educational environment (Georgiadou, Misirlis, & Kakana, 2023). The impacts of the pandemic on education and, specifically, on the professional development (PD) of teachers were profound and multidimensional. Teachers faced both synchronous and asynchronous distance learning, technological adaptation to new conditions (Duraku & Hoxha, 2020) and challenges related to the education of students from vulnerable backgrounds (students with special needs, refugees, immigrants and Roma) (Rothe, et al., 2021; Zagos, Kamarianos, & Fotopoulos, 2022).

As a result, the PD of teachers evolved within a new framework to address the aforementioned changes and challenges that significantly impacted the modern educational environment and the teachers' PD (Hartshorne et al., 2020). Given the scale and speed at which education and PD have moved online as a result of the COVID-19 pandemic, catching many governments and their educational institutions unprepared (Nikiforos, Tzanavaris, & Kermanidis, 2020; Pellerone, 2021), there arose a need for PD for teachers that is effective and grounded in practical elements, now more than ever. Furthermore, an understanding of the design elements of effective PD programs is equally important, so that those responsible for designing, constructing and delivering PD programs for teachers in the face of recent pandemics and future crises can be effective and prepared.

Also, it is important to note that the COVID-19 pandemic exacerbated and imposed changes and challenges on modern education, which are associated with the introduction of new technologies, the need for more active student participation and the multicultural stratification of classes (Powell & Bodur, 2019). All of these require teachers to be constantly updated and prepared, with PD playing a vital role in improving the educational process, adapting to changes and ensuring continuous professional upgrading.

2. THEORETICAL REVIEWS

Under these circumstances, the need for new approaches to the PD of teachers is highlighted, which take into account individual needs, are flexible and provide measurable and sustainable results. In this content, peer group mentoring and universities play an important role in organizing these activities, providing support and guidance. PGM represents a contemporary approach to PD, involving the mutual collaboration and support of teachers (Heikkinen, Jokinen, & Tynjälä, 2012). It refers to the mentoring process in which a group of equal members, usually at the same educational or professional level, collaborates for mutual development, support, and learning. Typically, these small groups convene once a month after regular school hours with their mentor, come together to share and reflect on their experiences, discuss the issues and challenges they encounter in their work, actively listen, provide encouragement and support to one another, and, most importantly, engage in collective learning. (Geeraerts, Tynjälä, Heikkinen et al., 2015; Heikkinen, et al., 2012). In contrast to the traditional mentoring model where one individual (the mentor) provides guidance and advice to another individual (the mentee) as Kemmis, Heikkinen, Fransson, Aspfors and Edwards-Groves (2014) refer PGM focuses on mutual collaboration and the exchange of knowledge among participants, offering a dynamic environment for the development of academic and professional skills of teachers (Korhonen et al., 2017).

According to Finnish researchers and authors (Heikkinen et al., 2012; Geeraerts et al., 2015), the theoretical framework of the PGM model is based on the theoretical principles of the critical theory, which aims to deconstruct, question and challenge existing knowledge, ideas and beliefs and reconstruct a more conscious perception of social structures and relationships. Through critical thinking, sensitivity and discussion, an effort is made to emancipate concepts and values. Another principle stems from constructivist theory, according to which knowledge is actively constructed by drawing from previous knowledge, experiences, and social interactions and the last ideas relate to the concept of integrated pedagogy, which incorporates forms of formal, informal, and non-formal learning for the PD of teachers. In this context, the PGM model was implemented in Finland and has emerged as one of the most established mentoring methods, particularly for the professional development of novice teachers in recent years. Even though the education system, the professional identity and the culture of teachers in Greece present significant differences from the corresponding Finnish one, a PGM program was implemented, which includes the basic characteristics of PGM, taking into account the special characteristics and conditions in Greece (Kapachtsi, 2020).

Our program was developed by considering prior research in this field, while also establishing new parameters that had not been extensively investigated before. For instance, some of these parameters involve implementing the program among kindergarten teachers who are in various career stages (middle-last) and are employed in either the same school or neighboring school units. The members of our e-PGM program actively participated in the discussion and activities with the goal of enhancing their PD. Furthermore, another difference from previous PGM programs is that it was implemented through a remote process due to the COVID-19 pandemic and the health protocols applied in Greece.

As Mullen and Klimaitis (2021) refer, the use of technology and electronic communication means to conduct the mentoring process between mentors and mentees. Also, the evolution of technology has influenced the way people interact and share information (Truzoli, Pirola, & Conte, 2021) and mentoring is no exception. Research shows that through the use of electronic tools, electronic mentoring offers various opportunities to facilitate communication, knowledge exchange, and support for the educational and PD paths of mentees (De Janasz & Godshalk, 2013; Kasprisin, Single & Muller, 2003). The electronic media used for electronic mentoring include teleconferencing, email, social networks, collaboration platforms, and real-time educational tools. Therefore, Kasprisin et al., (2003) found out that these technological choices allow mentors and mentees to interact independently of their geographic location and exchange knowledge and experiences. But some researchers refer to a lack of intimacy and warm atmosphere (Bierema & Merriam, 2002; Butler, Whiteman & Crow, 2013). Overall, e-mentoring represents a dynamic approach to mentoring that leverages technology to combine knowledge, experience, interaction and support in a digital world (Searby, 2014) and is based on social learning theory which creates a multidimensional educational experience using technology (Higgins & Kram, 2001). The framework of social learning theory, such as learning through observation and imitation, aligns with the concept of e-peer mentoring, which involves the use of digital platforms to facilitate mentoring among educators (Mullen & Klimaitis, 2021). Also, Bierema and Merriam (2002) refer that virtual peer groups provide opportunities for teachers to share experiences, offer advice and seek guidance from colleagues, overcoming physical limitations. This

interaction and dialogue between mentors and members in an electronic environment enhance the learning process through social interaction (Higgins & Kram, 2001).

Furthermore, according to Dabner (2011) another concept related to the principles of social learning is the community of practice among teachers in relation to e-peer coaching, which represents a dynamic and collaborative learning network that leverages the principles of social learning, shared expertise, sharing a common field of interest, participating in regular interactions, collectively aiming to deepen knowledge and improve their practices in this area and mutual support.

Consequently, taking into consideration PGM's and e-mentoring's principles, we designed and implemented an e-PGM program during the school year of 2021-22. The team participated in discussions regarding the experiences and practices implemented by each kindergarten teacher in their classrooms, with the mentor/researcher providing coordination, support, and feedback throughout the entire process. In this context, the aim of this research was to explore the perspectives of 15 kindergarten teachers who participated in e-PGM to enhance their professional development PD in a remote setting. Therefore, the evaluation of the effectiveness of the distance learning condition was addressed through the following research questions (RQ):

1. What are the characteristics of the mentoring relationship that emerged during the program?
2. What is the degree of satisfaction of kindergarten teachers from their participation in the e-PGM program?
3. To what extent was the e-PGM program effective for kindergarten teachers' PD?

3. METHODOLOGY

3.1. Participants

The study's sample comprised 15 kindergarten teachers, with a gender distribution of 14 females and 1 male. In terms of age and years of service, the sample showed a balanced distribution. More precisely, 8 participants fell within the 35-45 age brackets, boasting professional experience ranging from 11 to 18 years. Meanwhile, 7 individuals belonged to the 46-55 age range, with professional experience spanning from 19 to 25 years.

3.2. Instruments

The research tools utilized for collecting qualitative data during the research program were: The Final Individual Semi-Structured Interview of the teacher contributed to data collection, perspectives, and thoughts concerning the program's implementation and the degree of satisfaction of the participants with their participation in the program (Altrichter, Posch, & Somekh, 2001); For the collection of quantitative data, the Meeting Evaluation Questionnaire was created. This questionnaire was filled out after each meeting with the aim of evaluating the quality, content, the role of the mentor, members, and the level of satisfaction from the meeting.

3.3. Procedure

The program was conducted through online meetings (Cisco Webex). The group held online meetings once a month, discussing, reflecting and redesigning their actions. The researcher took on the role of the mentor in the e-PGM program, where goals related to the issues that emerged during the group meetings. Simultaneously, an asynchronous platform (e-class through the Pan-Hellenic School Network) was used, where material related to the chosen topic/issue that the group decided to focus on was made available. Both qualitative and quantitative data were collected and are currently being analyzed.

3.4. Data analysis

The analysis of the quantitative data was conducted using the statistical software SPSS. Regarding the satisfaction and effectiveness of kindergarten teachers, the average was investigated in relation to the parameters in table 2 (2nd and 3rd RQ), while in tables 3 and 4, respectively, satisfaction was associated with positive and negative emotions (2nd and 3rd RQ), while at the same time, they are linked to parameters that demonstrate the level of the mentoring relationship (1st RQ).

The qualitative data were analyzed using the thematic analysis method (Braun & Clarke, 2012; Katsarou, 2016; Tsiolis, 2017). Under this framework, the data were analyzed according to the five stages of thematic analysis: a) Transcription, b) Text reading, c) Coding, d) Themes and e) Reporting of findings. Therefore, the codes and subsequently the themes formed from each code emerged from each kindergarten teacher's statements in the interview, as no specific statements or rubrics were given to guide responses. So, for example, in two topics of the same code, we can see that there is a declaration of the same participant. Furthermore, given the extent of the data, not all statements can be listed in their entirety, due to the specific range of this paper. From the analysis of the data of the final interviews regarding the mentoring relationship (1st RQ), the level of member satisfaction (2nd RQ) of the e-PGM program and the effectiveness of the remote condition (3rd RQ) the kindergarten teachers' views on the mentor's role were examined.

4. RESULTS

4.1. Quantitative results

The quantitative results from the Meeting Evaluation Questionnaire, in which the outcomes are linked to all RQ, will be presented here.

Specifically, in Table 1, the results of the analysis of quantitative data and the average satisfaction and effectiveness level in the 9 meetings show that in almost all satisfaction parameters, there is a gradual increase with a slight decrease in the 7th meeting. The "Other" option follows a fluctuating trend from the 1st to the 7th meeting and then experiences a significant decline. In general, satisfaction is high at all stages.

Table 1 Medium Levels of Satisfaction and the Mentorship Relationship in the 9 Meetings

Parameters	1 ⁿ	2 ⁿ	3 ⁿ	4 ⁿ	5 ⁿ	6 ⁿ	7 ⁿ	8 ⁿ	9 ⁿ
Teaching Methods	4.17	4.00	4.43	4.54	4.83	4.79	4.31	4.87	4.87
Interactivity	4.08	4.20	4.43	4.77	5.00	4.86	4.38	4.93	4.87
Meeting Organization	4.42	4.67	4.86	4.77	5.00	4.93	4.77	5.00	4.87
Objective Setting	4.25	4.40	4.71	4.77	4.92	4.93	4.54	5.00	4.87
Subject Knowledge	4.33	4.53	4.64	4.69	4.92	4.93	4.77	5.00	4.87
Critical Thinking	4.17	4.33	4.64	4.69	4.92	5.00	4.46	4.93	4.87
Development									
Meeting Content	4.00	4.33	4.57	4.85	4.83	5.00	4.46	4.87	4.87
Attractiveness									
Effective Time Management	4.42	4.40	4.50	4.77	4.92	4.93	4.85	5.00	4.87
Interest Mobilization	4.25	4.13	4.71	4.85	4.92	4.93	4.54	5.00	4.80
Active Listening	4.50	4.53	4.71	4.69	5.00	5.00	4.77	5.00	4.87
Speaking Style	4.50	4.53	4.64	4.69	5.00	4.79	4.69	5.00	4.87
Encouraging Member	4.50	4.53	4.64	4.92	5.00	5.00	4.85	5.00	4.87
Expression									
Adequate Time Allocation	4.42	4.60	4.64	4.92	5.00	4.93	4.77	5.00	4.87
Support	4.42	4.53	4.71	4.92	5.00	5.00	4.85	5.00	4.87
Humor	4.33	4.20	4.29	4.54	4.92	4.79	4.38	4.93	4.87
Effective Team Management	4.33	4.40	4.57	4.69	5.00	4.93	4.77	5.00	4.87
Development of Collaborative Methods	4.17	4.47	4.14	4.69	4.92	4.71	4.46	5.00	4.87
Boundaries on Undesirable Behaviors	4.08	4.60	4.57	4.69	5.00	4.93	4.85	4.93	4.87
Other	2.75	2.33	2.29	2.85	2.00	3.00	3.23	1.27	1.00

4.1.1. Positive Emotions

Therefore, Table 2 presents the average levels of positive emotions in the 9 meetings. The data resulting from the evaluation of positive emotions indicate the characteristics of the mentoring relationship, the satisfaction level with the e-PGM and the effectiveness of the distance learning process. There is an upward trend in all positive emotions with a slight dip in the 7th meeting.

Table 2 Average Levels of Positive Emotions in the 9 Meetings

Emotion	1 ⁿ	2 ⁿ	3 ⁿ	4 ⁿ	5 ⁿ	6 ⁿ	7 ⁿ	8 ⁿ	9 ⁿ
Friendliness	4.25	4.13	4.50	4.85	4.92	4.93	4.46	4.93	4.80
Safety	4.17	3.60	4.21	4.62	4.83	4.86	4.46	4.87	4.67
Relaxation	3.50	2.93	3.21	4.00	4.17	3.86	3.62	4.80	4.53
Respect	4.25	4.47	4.57	4.77	4.83	4.86	4.54	4.93	4.93
Understanding	4.42	4.33	4.57	4.77	4.92	4.86	4.62	4.93	4.93
Recognition	4.17	4.33	4.36	4.69	4.92	4.86	4.46	5.00	4.93
Reciprocity	4.33	4.40	4.43	4.69	5.00	4.86	4.62	5.00	4.93
Equality	4.42	4.53	4.43	4.77	5.00	4.86	4.62	5.00	4.93
Equity	4.42	4.53	4.43	4.85	5.00	4.86	4.62	5.00	4.93
Freedom	4.42	4.53	4.64	4.69	5.00	4.86	4.54	5.00	5.00

All positive emotions are rated high, except for relaxation, which is moderate to high.

4.1.2. Negative Emotions

Table 3 presents the average levels of negative emotions in the 9 meetings. Negative emotions are generally rated low and follow a declining trend during the meetings, with the exception of perhaps meetings 2 and 7.

Table 3 Average Levels of Negative Emotions in the 9 Meetings

Emotion	1 ⁿ	2 ⁿ	3 ⁿ	4 ⁿ	5 ⁿ	6 ⁿ	7 ⁿ	8 ⁿ	9 ⁿ
Stress	1.50	1.87	1.21	1.08	1.08	1.07	1.46	1.07	1.07
Fear	1.33	1.27	1.07	1.08	1.08	1.07	1.08	1.07	1.07
Insecurity	1.50	2.00	1.50	1.15	1.08	1.00	1.46	1.07	1.07
Anxiety	1.75	1.53	1.36	1.00	1.08	1.07	1.31	1.07	1.27

Linking the quantitative data to the research questions, we observe that members' satisfaction levels with the mentoring relationship were consistently high throughout the meetings across most parameters. Specifically, on average, in the conducted meetings, members reported being highly satisfied with aspects such as encouraging member expression, support, meeting organization, appropriate time allocation, and effective time management, active listening, speaking style, subject knowledge, critical thinking development, meeting content attractiveness, and interactivity. Satisfaction levels saw an increase as the meetings progressed, especially concerning satisfaction with teaching methods, interactivity, meeting organization, goal setting, subject knowledge, critical thinking development, meeting content attractiveness, effective time management, active listening, speaking style, humor, efficient team management, collaborative method development, and enforcing boundaries for unwanted and harmful behaviors. Furthermore, team members experienced positive emotions throughout the meetings and did not experience any negative emotions.

4.2. Qualitative results

The qualitative results will be presented here and in Tables 4, 5, and 6 show coding and frequency of statements (column 1), themes (column 2), and some statements (column 3).

Specifically, for the role of e-PGM in PD according to Table 4, it was found that all kindergarten teachers mentioned the contribution of e-PGM in PD in a practical way and that e-PGM contributes to the field of collaboration. The majority of participants argue that the program contributes to the work sector through exchange and interaction and more than half of the participants focused on the contribution of e-PGM through feedback and reflection. Most of the participants claimed that the program had a positive effect on their psychological domain and also said that they would use the information they learned in the program in the future. Regarding the difficulties in implementing the program, some teachers answered that they faced difficulties, which were however successfully treated in most cases.

Table 4 Teachers' opinions on e-PGM in PD

Codes & Frequency of Statements	Themes	Statements
1.1.1. Contribution to practical issues (15)	1.1. PD Fields through e-PGM	"I had PD in my mind otherwise until now...an organized framework, master's degree, seminars...what we did was PD!" (P12)
1.1.2. Contribution to the field of cooperation (6)		"Improving cooperation with my colleagues" (P13)
1.1.3. Contribute through sharing and interaction (12)		"..taking some knowledge and experiences from other colleagues and I shared them with the colleague" (P1)
1.1.4. Contribution through feedback and reflection (9)		"As I said definitely in reflecting systematically. Also to share my experiences and to listen" (P7).
1.1.5. Contribution to the psychological /emotional domain (10)		"Not to be afraid to try new things... self-confidence" (P5)
1.1.6. Use of program information (14)		"Very interesting, there was intense interaction" (P3).
1.1.7. Difficulties in implementation (5)		
1.2.1. Positive experience from the e-PGM program (15)	1.2. Teachers' views on the e- PGM program	"Usual technical problems..."(P2)
1.2.2. Relationships between team members (15)		"Unprecedented and very interesting" (P13)
1.2.3. Strengths of the program (15)		"Healthy, collegial and friendly" (P8)
1.2.4. Weaknesses of the program (11)		"The group, the sharing of experiences, the safe context and the development" (P14)
1.2.5. Understanding the term e-PGM (15)		"It's more time-consuming, all this, but it works" (P13)
1.3.1. Positive emotions during meetings (15)	1.3. Emotions during meetings	"a method... involves a stable group that meets frequently... discuss, exchange... a mentor, who coordinates, guides and helps the group" (P11)
1.3.2. Negative emotions during meetings (5)		"I achieved, optimism, because through the training we saw the dynamics of colleagues. Love to my colleagues" (P7)
1.4.1. Sharing experience with colleagues who did not participate in the program (15)	1.4. Actions after the end of the program	"Maybe the uncertainty at the beginning, but otherwise it wouldn't be cooperative" (P15)
1.4.2. Intention to continue the program (8)		"I also acted as a mentor from very early on for my colleague who was not following the program" (P1)
1.4.3. Intention to participate in a similar program (15)		"I would like to be in a similar group and meet and exchange experiences" (P5)
1.4.4. Future utilization of program methodology-tools (12)		"I'm now interested in it being something contemporary and similar to this program" (P1).
		"This whole process, it gets me out of the quagmire I was feeling... it's a goal for me, because I have years of work" (P8).

According to the results given in Table 5, most of the participants want their mentor, in addition to all other characteristics, to have a supportive, helpful role, others would like to be organizational, guiding and transmitting the new knowledge successfully and some to be fair, equal and not have the role of authority and relationships to be friendly and cooperative.

The majority stated that the mentor's role in the program they participated in was supportive and that the relationship developed with the mentor was one of safety, trust and respect. Some reported that she was guiding, supportive, mediating and organizing. Relatively with the mentor-group relationships that developed, some described them as fair and equal. Others stated that they were friendly and in a positive mood. Some reported clear boundaries and that a relationship of trust and respect had been developed between the mentor and the team. Many participants characterized as collaborative and supportive and one focused on the mediating role.

Table 5 Teachers’ opinions for the characteristics of a mentor and relationships of e-PGM

Codes & Frequency of Statements	Themes	Statements
2.1.1. Supportive (10) 2.1.2. Organizational guiding (9) 2.1.3. Fair and equal (6)	2.1. Desirable characteristics of a mentor	"I felt that he supports me, listens to me, encourages me" (P5) "very organized and helpful" (P14)
2.2.1 Support relationship (9) 2.2.2. Guidance relationship (9) 2.2.3. Friendly-safety-trust-respect relationship (3) 2.2.4. Organizational-mediating role of the mentor (4)	2.2. Mentor-educator relationship	"she didn't play it with authority" (P11) "Support, help..." (P10) "Organizational, clear context" (P2) "Excellent, friendly and comfortable atmosphere" (P13) "Organized, methodical, listened to colleagues" (P6)
2.3.1. Fair-equal (5) 2.3.2. Friendly-positive (6) 2.3.3. Delimited (4) 2.3.4. Collaborative-supportive-meditational (6) 2.3.5. Relationships of trust and respect (4)	2.3. Mentor-team relationships	"set boundaries when necessary"(P8) "she had something positive to say about them all" (P1) "despite the relaxed atmosphere, it was a structured meeting" (P9) "everyone in the team was supportive and helpful" (P4) "there was an atmosphere of trust"(P13)

In table 6 are the views of the participants on remote conditions. It appears that most stated that they prefer distance learning due to many obligations and lack of time, while some stated that they would prefer face-to-face teaching if circumstances allowed. Almost all the participants stated that remote working is convenient for them due to saving time and just one mentioned economic reasons. On the positive side, the communication using technology was mentioned, while on the negative side, it was characterized by a lack of

immediacy and a warm atmosphere between the team members. Someone also mentioned that it hinders the experiential way of working, and someone else mentioned the technical problems that arise. Most stated that they would choose a mixed mode involving both in-person and remote, with most leaning toward remote, while some would prefer in-person due to greater immediacy and intimacy, while some others do it remotely due to personal circumstances. Finally, almost all participants stated that the program was well organized and planned, there were no technical problems, and that the mentor had a lot of knowledge and used appropriate tools to make the distance program efficient and interesting.

Table 6 Teachers' opinions for the effectiveness of the remote condition

Codes & Frequency of Statements	Themes	Statements
5.1.1. Distance preference (11) 5.1.2. Life preference (5)	5.1. Preference for teaching in health conditions	"I loved it too much; otherwise, I wouldn't be able to continue it. Due to obligations" (P10) "It's more human!"(P4)
5.2.1. Saving time (13) 5.2.2. Financial relief due to not moving (1) 5.2.3. Good organization-technology input (3)	5.2. Positives of remote communication	"Time, if it were life I would stop" (P15) "with the gas increase, I save money"(P10) "we did not face any serious technical problems" (P 12)
5.3.1. Coldness and lack of immediacy (15) 5.3.2. Absence of experiential learning (1) 5.3.3. Technical problems (2)	5.3. Remote negatives	"The immediacy and warmth, perhaps, have nothing to do with the friendly atmosphere. Direct contact is another" (P1) "That we could perhaps work experientially" (P2)
5.4.1. Combination of procedures (2) 5.4.2. Life preference (9) 5.4.3. Remote preferred (5)	5.4. Process selection in normal condition	"Mainly from a distance, due to obligations, but I would also like one or two for life" (P11) "In ideal conditions, without obligations, life support would be better" (P3) "Definitely remotely due to personal circumstances" (P13)
5.5.1. Evaluation of methods (13) 5.5.2. Evaluation of tools (15)	5.5. Evaluation of methods and tools in the modern and asynchronous condition	"Our mentor had excellent knowledge of this method, also webex and more" (P2)

5. DISCUSSION AND CONCLUSION

From the analysis of the data, it is evident that the e-PGM program for the PD of kindergarten teachers was effective and all participants were satisfied with their participation in the program. Specifically, through the e-PGM, it is observed that teachers, while recognizing the importance of distance learning during crisis periods, preferred face-to-face interaction under normal conditions, due to the lack of contact, intimacy, and warm atmosphere, as also found in the literature review (Bierema & Merriam, 2002; Butler, Whiteman, & Crow, 2013). So that, most of the participants suggested a mixed-type program that includes more distance learning sessions and fewer in-person ones. These results align with the literature (Kasprisin et al., 2003), which recognizes time-saving and flexibility in managing personal and family matters as positive aspects of distance learning. One participant also mentioned cost savings, as fuel prices have recently increased, and choosing between "distance" and "in-person" is a significant factor.

Furthermore, kindergarten teachers refer to characteristics of mentorship in the e-PGM, such as equality, friendliness, positivity, setting boundaries, collaboration, support, trust, mediation, and respect, all of which are mentioned in the PGM programs' literature (Geeraerts et al., 2015; Heikkinen et al., 2012).

Therefore, it appears that through their experience with the program, teachers experienced and developed positive emotions such as joy, satisfaction, self-confidence, anticipation, enthusiasm, optimism, solidarity, pleasure, self-esteem, sharing, security, friendliness, and trust, all of which are related to the characteristics of a PGM program, as also mentioned in the literature (Geeraerts et al., 2015; Heikkinen et al., 2012).

Even in the distance learning condition, when an e-mentoring program is implemented in small groups to allow time for everyone to participate, the mentor has time and means to develop the group, creating a positive and welcoming atmosphere for participants, as Bierema and Merriam (2002) refer to and argue with our data. However, implementing a PGM program requires more time (Geeraerts et al., 2015; Heikkinen et al., 2012), and also in our program, some participants mentioned the long duration and numerous meetings as disadvantages of the program.

The mentoring relationship in an e-PGM program, with the characteristics that emerged from the data analysis, can lead to the cultivation of mutual respect and trust among the involved parties. On the one hand, group members will have defined their goals, and on the other hand, the mentor, being approachable, friendly, and familiar, will contribute to their achievement, creating the conditions for the group, along with the mentor, to design and organize the appropriate framework and showing positive results for kindergarten teachers' PD.

This study integrated the concepts of PGM and e-mentoring, introducing a novel framework for advancing research in this domain. However, we also encountered some limitations related to a) the lack of a similar application of the model under remote conditions, b) our own transition to remote conditions was compulsory due to the restrictive measures in place during the pandemic, and c) the implementation of the model was carried out on a small sample. Despite all the limitations, however, our preliminary small-scale investigation indicates favorable outcomes associated with the implementation of e-PGM programs aimed at enhancing the professional development of kindergarten teachers. We perceive this as a dynamic area warranting deeper exploration by researchers, especially

examining the impact of the remote condition. Additionally, continued research in this realm has the potential to foster the evolution of more collaborative methodologies and approaches within an online setting.

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STAVOVI VASPITAČA O USLOVIMA UČENJA NA DALJINU U OKVIRU MENTORSKOG PROGRAMA VRŠNJAČKIH GRUPA

Apstrakt

Zbog pandemije kovid 19, obrazovanje na daljinu je brzo postalo sastavni deo života nastavnika i postalo je efikasan metod za njihovu obuku i profesionalni razvoj. Ovaj rad istražuje perspektive 15 vaspitača u vrtićima koji su učestvovali u e-vršnjačkom grupnom mentorskom programu (PGM), u cilju unapređivanja njihovog profesionalnog razvoja (PD) u okviru programa na daljinu. Tokom e-PGM programa, tim je učestvovao u diskusijama u vezi sa iskustvima i praksama koje svaki vaspitač sprovodi u svojim učionicama, pri čemu je mentor-istraživač vršio koordinaciju, pružao im podršku i davao povratne informacije tokom celog procesa. Procena efikasnosti programa na daljinu bazirala se na tri perspektive: a) mentorskog odnosa, b) stepena zadovoljstva i c) efikasnosti programa na daljinu za profesionalni razvoj nastavnika. Prikupljeni su i analizirani i kvalitativni i kvantitativni podaci. Preliminarna kvalitativna analiza podataka pokazala je da su svih 15 članova tima izrazili zadovoljstvo programa na daljinu i utvrdili da značajno doprinosi njihovom profesionalnom razvoju. Pored toga, 14 učesnika je bilo veoma zadovoljno upotrebljenim sredstvima i alatima. Takođe, program na daljinu je opisan kao stvaranje prijateljske i ugodne atmosfere, ali bez topline sastanaka licem u lice, kao što je izvestilo 13 učesnika, koji su dali prednost mešovitom programu u normalnim uslovima. U zaključku, članovi tima su izrazili zadovoljstvo programom na daljinu i dali su mu prednost u odnosu na implementaciju programa pod normalnim okolnostima, zbog manjeg opterećenja i uštede vremena koju on obezbeđuje. S druge strane, oni su priznali da, za razliku od programa na daljinu, sastanci licem u lice pružaju prijateljsku atmosferu. Nalazi ovog istraživanja će doprineti daljim studijama u oblasti e-PGM programa za profesionalni razvoj nastavnika u okviru učenja na daljinu.

Ključne reči: učenje na daljinu, mentorski programi vršnjačkih grupa, digitalni alati, profesionalni razvoj vaspitača



THE USE OF DIGITAL DEVICES IN UNIVERSITY TEACHING AND LEISURE TIME AS PREDICTORS OF DIGITAL COMPETENCIES OF STUDENTS – FUTURE TEACHERS AND PRESCHOOL TEACHERS

UDC 378.147:004; 379.82-057.87

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Abstract. *Considering the general acceptance and applicability of the theoretical model of digital competencies for citizens, the so-called Dig Comp 2.0, and the needs of contemporary initial teacher education in the digital era, the aim of this research was to examine whether and to what extent the digital competencies of students, future teachers and preschool teachers can be predicted by their use of digital devices in university teaching and leisure time. The research included 220 students from the Faculty of Education in Užice between the ages of 19 and 23. Two instruments were constructed for the purposes of this research: The DigCom 2.0 digital competency scale with 23 items for self-assessment of the development of digital competencies on a three-point scale (1 – I don't know how to do that, 3 – I can easily do that) and a questionnaire on the use of digital devices, which, in addition to demographic and educational characteristics of the respondents, also contains 10 statements on self-assessment of the frequency of use of digital devices in different areas on a four-point scale. The correlation analysis shows that the use of digital devices in university teaching and in leisure time is positively correlated with the development of students' digital competencies. The tested regression model with two predictor variables accounts for 49% of the variance in the self-assessment of students' digital competencies development ($R^2 = 0.494$, $F(2) = 29.129$, $p < .001$). In accordance with the results obtained, it is necessary to focus on the relevant predictors and correlates of digital competency so that students could acquire all the necessary knowledge and key competencies for educational work with primary and preschool children and everyday life in the digital age.*

Keywords: *teaching, leisure time, digital devices, digital competencies, faculties of education*

1. INTRODUCTION

Questions regarding the digital competences of future teachers and preschool teachers have become especially relevant in recent decades, both at national and international level. Supporting the development of digital competences of future teachers and preschool teachers during their professional development is one of the strategic goals of the education system in Serbia (Strategy for the Development of Education in Serbia by 2030, 2021). Significant support for the theoretical and practical elaboration of this issue is provided by various international models of digital competences (e.g. TPACK (Mishra & Koehler, 2007), DigCompEdu (Redecker, 2017)), as well as national digital competence frameworks for teachers (Digital Competence Framework – Teacher for a New Age 2019, 2019) and preschool teachers (Digital Competence Framework for Preschool Teachers, 2022) which are aimed at improving professional practice, innovate the educational process, as well as the teaching and learning process in line with the needs of modern society and digitalization. In the context of modern education in Serbia, the Digital Competence Framework – Teacher for a New Age 2019 document was developed, representing the basis for the assessment and further development of digital competences among teachers and other education professionals.

Digital competences are defined as “a body of integrated knowledge, skills and values applicable across various situations and contexts, and multifunctional in order to achieve multiple goals, solve various problems and perform different tasks” (*Digital Competence Framework for Preschool Teachers, 2022, p. 5*). This practically means that future teachers and preschool teachers are expected to use modern digital technologies in the field of education in a creative, critical, and self-reflective way. Observed from a long-term perspective, pedagogically designed, and ethically applied, they are primarily generated in the education system of each country, and the level of development of digital competences of future generations depends on and is defined by the level of development of digital competences among teachers and preschool teachers. Well-developed digital competences enable future generations to improve their learning process, adapt to the demands of the labor market in the future, and communicate effectively both in academic and everyday life (Cabezas-González, Casillas-Martín, & García-Valcárcel Muñoz-Repiso, 2023). The dynamic development of ICT and its close correlation with pedagogical, psychological, didactic, methodological, and subject-specific competences is the reason why digital competences of teachers are viewed as a dynamic and complex phenomenon (Ristić, 2018). In this process, it should be noted that the model for developing digital competences of preschool teachers and future teachers is phased, i.e., carried out in gradual stages, starting with basic training for the use of ICT, through training for the use of ICT at higher education institutions, and finally, through a system of professional development throughout their teaching careers. There are also opinions that during initial preschool teacher education, the question of teachers’ competences for using ICT often comes down to the issue of their training for the teaching profession or lack thereof, which is far from their competence to use it in preschool education (Pavlović Breneselović, 2014). Since digital devices and resources have become an integral part of the teaching practice in the present and the future, the education and training of future teachers in the field of digital competences is particularly relevant due to the fact that well-developed digital competences should be integrated in the teaching practice in the future (Gutiérrez-Ángel et al., 2022a).

Starting from the needs of modern initial teacher education in the era of omnipresent digitalization, wide applicability and acceptance of the model, as well as the possibility of comparison with the findings of foreign studies, the Digital Competence Framework for Citizens, or Dig Comp 2.0 (Vuorikari et al., 2016), and its updated versions 2.1 and 2.2 (Carretero et al., 2017; Vuorikari et al., 2022) were taken as the reference framework. The framework includes five areas: a) information and data literacy; b) communication and collaboration; c) digital content creation; d) problem solving; and e) safety (Figure 1).

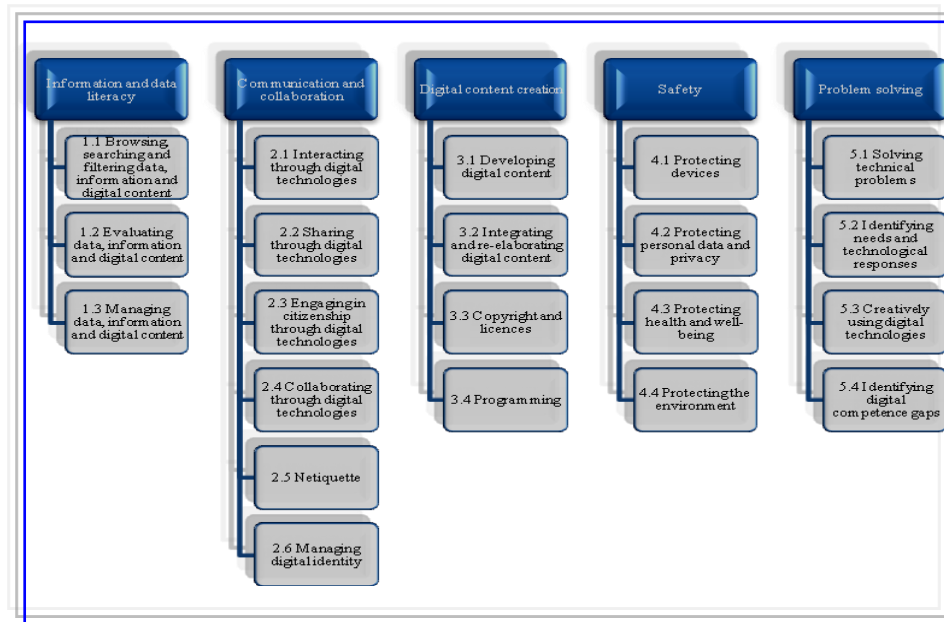


Fig. 1 DigComp 2.0 – Digital Competence Model

The first area involves an integrated body of knowledge, skills and attitudes, i.e., students’ competences to first identify, search, organize, analyze and store digital information and content, and to critically evaluate their credibility and reliability. The second area comprises students’ competences that allow them to communicate and establish collaboration with others in digital environments using digital tools, to share digital information, data and content using online tools, communicate and interact on online communities and networks, engage in participatory citizenship through digital technologies, to be aware of cultural and generational differences in the digital environment (netiquette) and manage their digital identity. The third area includes students’ competences to first develop, create and edit digital content in different formats (text processing, image, and video processing), and then to integrate it into existing knowledge and content, and finally, to understand how copyright and licenses apply to data, information, and digital content. The fourth area involves students’ competences to protect their digital devices, personal data and privacy, health, and well-being, as well as the environment. The fifth area comprises competences to solve technical problems when

operating devices, identify digital needs and resources (e.g., make choices and decisions about which digital tools are most suitable with regard to certain personal needs), use technology creatively, and improve both their own, and the digital competences of others.

Regarding the determinants and predictors of the level of students' digital competences, research have directed their scientific efforts and attention to various personal and contextual factors (Lucas et al., 2021; as cited in: Cabero-Almenara et al., 2023). Special attention was paid to the impact of intensity and manner of using ICT devices (Ben Youssef, Dahmani & Ragni, 2022; Eger et al., 2020; Mayor, García Pérez & Rebollo Catalán, 2019; Semiz & Čutović, 2022a, 2022b), attitude toward technology (Mayor, García Pérez & Rebollo Catalán, 2019). The results of these studies are not consistent. Previous research supports the idea of a positive correlation between the intensity and use of ICT in learning and the development of students' digital skills (Mayor, García Pérez, & Rebollo Catalán, 2019), i.e., their digital competences (Semiz & Čutović, 2022a, 2022b), but also between the number of digital devices used and the level of digital competences of students (Cabero-Almenara et al., 2023) and teachers (Ghomi & Redecker, 2019). Eger et al. (Eger et al., 2020) established that there are large variations in the ICT competences of students and their use of digital devices (primarily smartphones) between leisure activities and learning. More frequent use of smartphones in teaching and in one's leisure time positively impacts one's digital competences. Semiz and Čutović (2022a) identified significant differences in the self-assessment of students' digital competences with regard to the frequency of use of smartphones in teaching and in leisure activities, in favor of students who use smartphones more frequently. Intensive use of ICT for educational purposes (e.g., to participate in forums, search for bibliographic references, or use translation software) contributes to the development of students' digital skills (Ben Youssef, Dahmani & Ragni, 2022). On a sample of 300 students - training teachers in Seville (Spain), Mayor, García Pérez and Rebollo Catalán (2019) discovered that the use of social media is a moderate predictor of the intensity of one's digital competence. On a sample of 595 pre-adolescents, Hernandez-Martin, Martín-del-Pozo and Iglesias-Rodríguez (2021) identified significant differences in digital competences in relation to the intensity of social media use between students who use social media more than three times a week and those who use them daily. The results of a recent correlational research on a sample of 183 students from 22 Serbian faculties (Semiz and Čutović, 2022b) show that there is a statistically significant positive correlation between the frequency of use of digital devices in teaching and two areas of digital competences: information and data literacy, and digital content creation. In addition, a positive, low-intensity correlation between the frequency of use of digital devices in one's leisure time and one's information and data literacy, as well as digital content creation, was identified.

Similar results were obtained on a sample of 335 teachers by Ghomi and Redecker (Ghomi & Redecker, 2019). They determined that with the increase in the number of digital devices used, the level of teachers' digital competences increases as well, i.e., that teachers who use between 5 and 9 digital devices have better developed digital competences than those who only used 4 digital devices. The number of digital devices that teachers use in their practice, as suggested by previous research (Lucas et al., 2021; as cited in: Cabero-Almenara et al., 2023) is the strongest predictor of the development of their digital competences, whereas other studies we found argue that one's attitude toward technology is a significant predictor of digital competence in the use of social media (Mayor, García Pérez & Rebollo Catalán, 2019). In contrast, other studies, especially those conducted on

student samples (from 12 to 14 years old), suggest that possessing more digital devices and using them more frequently is not a guarantee for a higher level of digital competence related to problem solving (Cabezas-González, Casillas-Martín & García-Valcárcel Muñoz-Repiso, 2023).

Regarding personal variables (socio-demographic), the impact of gender and age on digital competences has been particularly carefully examined. Numerous studies indicate that gender and age are factors closely associated with students' digital competences, despite not always being consistent. On the one hand, various studies have identified the existence of gender-based differences, primarily that men are more competent (Çebi & Reisoğlu, 2020; Gnambs, 2021; Wild & Heuling, 2020), while other studies have not found any significant gender-based differences (Guillén Gámez & Perrino Peña, 2020; Napal Fraile, Peñalva-Vélez & Mendióroz Lacambra, 2018). Considering the age of respondents, previous research indicates that older teachers or future teachers have better developed digital competences (Wild & Heuling, 2020). Other studies did not identify any significant impact of age on one's level of digital competences (Napal Fraile, Peñalva-Vélez & Mendióroz Lacambra, 2018; Semiz & Čutović, 2022a; Vega-Gea, Calmaestra & Ortega-Ruiz, 2021). Taking into account the results of previous research, as well as the great heterogeneity of the studies analyzed, we can conclude that the use of digital devices and tools in the teaching process and in one's leisure time can be considered as factors of potential importance for students' level of digital competence.

2. METHOD

More frequent use of digital devices in different contexts (teaching at university level, leisure activities, work, etc.) enhances the students' sense of competence to use ICT devices in a creative, critical and safe way for communication and collaboration, information search and problem solving, thereby indirectly increasing overall level of digital competence in the general population. Studies that assess the impact of variables related to the use of digital devices to the development of students' digital competences are very rare (Cabezas-González, Casillas-Martín & García-Valcárcel Muñoz-Repiso, 2023; Semiz and Čutović, 2022a, 2022b). There are even fewer studies that support the thesis about a significant contribution of personal variables to the development of digital competences of students who are preparing for the teaching profession, which motivated the authors to examine this problem more closely. The aim of this research derives from the previous findings concerning the impact and predictive significance of the frequency and manner of use of ICT devices on the development of digital competences at different levels: pre-adolescents (Hernandez-Martin et al., 2021), university students (Cabero-Almenara et al., 2023; Eger et al., 2020; Semiz & Čutović, 2022a, 2022b), teachers (Ghomi & Redecker, 2019), and future teachers (Çebi & Reisoğlu, 2020; Mayor, García Pérez & Rebollo Catalán, 2019).

The aim of the research is to examine if and to what extent the development of digital competences of students-future teachers and preschool teachers can be predicted based on their use of digital devices in university teaching and in leisure time. A *general hypothesis* was formulated based on the adopted theoretical starting point (Carretero et al., 2017; Vuorikari et al., 2016; Vuorikari et al., 2022) and previous research: The level of development of digital competences of future teachers and preschool teachers can be

predicted with statistic significance in regard to their use of digital devices in teaching and leisure activities.

Specific hypotheses of this research are the following:

- a) there is a statistically significant correlation between the use of digital devices in teaching and the perceived level of digital competence, as well as between the use of digital devices in one's leisure activities and the perceived level of digital competence; and
- b) both dimensions of digital device use are significant predictors of the level of digital competence of students, future teachers, and preschool teachers.

Research sample. Two hundred twenty students, aged between 19 and 23 ($M = 20.40$; $SD = 1.17$) from the Faculty of Education in Užice. Regarding the study program, 27.27% of the respondents are students from the study program Primary School Teacher, while 72.73% are from the Preschool Teacher program. When it comes to the year of study, the largest percentage of the respondents are students of the 1st year (29.55%), followed by students of the 2nd (25.91%), 4th (24.09%) and 3rd (20.45%) year of study.

Instruments. Instruments used in the research include: a) *Questionnaire on the Use of Digital Devices*; and b) *DigComp 2.0 Digital Competence Scale*. In addition to socio-demographic and pedagogical characteristics of the respondents, the Questionnaire also includes 10 items related to the frequency and manners of using digital devices with a four-point assessment scale. The frequency and manner of using digital devices was assessed on a four-point scale (1 – Never; 2 – Monthly; 3 – Weekly; 4 – Daily). The assessment scale comprises 23 items for self-assessment of the respondent's development of digital competences on a three-point scale (1 – I'm completely incompetent for it, 3 – I'm proficient at it) in five areas: information and data literacy, digital content creation, communication and collaboration, safety, and problem solving.

Data processing and analysis. Descriptive statistics (arithmetic mean, standard deviation, percentages, frequencies, skewness and kurtosis indicators) and inferential statistics (Pearson's correlation coefficient, standard multiple regression) were used for data processing and analysis. Standard multiple regression was used to investigate the relationships between variables in a model with a single dependent (continuous) variable (in our case, total score on the digital competence scale) and multiple independent variables (two predictors). It enables not only the examination of relationships between a set of variables, but also provides the possibility of evaluating the predictive power of the model as a whole, and the impact of individual variables.

2. RESULTS AND DISCUSSION

The results obtained by descriptive statistics (Table 1) indicate that students-future teachers and preschool teachers assess their digital competences as moderately high ($M = 62.43$; $SD = 5.29$), which is in agreement with previous studies (Bradić-Martinović, Pavlović i Zdravković, 2019; Kuzminska et al., 2018; Semiz & Čutović, 2022a, 2022b), which used self-assessment measures to examine the development of digital competences. Future teachers and preschool teachers agree in the assessment that they possess well-developed skills, abilities, and knowledge in the field of information and data literacy, communication and collaboration in a digital environment, digital content creation, safety and problem solving. Descriptive indicators given in Table 1 further indicate a moderate

level of digital device use in university-level teaching and leisure activities. These results correspond with the results of similar studies (Smith, Salaway & Caruso, 2009; Vishnu et al., 2022; Semiz and Čutović, 2022b). Similar to the results of this research, Cabero-Almenara et al. (2023) established that the digital devices are not widely used for educational purposes among Chilean students, unlike in their free time.

Table 1 Descriptive statistics for predictor variables and criterion variable

	Theoretical scale range	Mean	Std. Deviation	N	Skewness	Kurtosis
Digital competences – total	23-69	62.43	5.29	220	-.556	-.384
Use of digital devices in university – level teaching	5-20	16.70	.580	220	-.221	.580
Use of digital devices in leisure activities	5-20	16.95	.590	220	-.365	-.688

The most immediate insight into the correlation between the use of digital devices in university-level teaching and leisure activities with results on the digital competence scale is provided by the Pearson correlation. Table 2 shows the intercorrelation matrix between variables in the model. According to the data in Table 2, there is a statistically significant correlation between the variables from the predictor set of this model. The use of digital devices in teaching is in a statistically significant, positive correlation of high intensity with the use of digital devices in leisure activities ($r = .62, p < .001$). The table shows that both measures of the use of digital devices are in positive correlation with the total score on the digital competence assessment scale. We also identified a correlation between the use of digital devices in university-level teaching and the development of one's digital competence ($r = .21, p < .001$), as well as between the use of digital devices in leisure activities and the development of one's digital competence ($r = .48, p < .001$). As digital competence belongs to transversal competences of the 21st century, and due to the possibility of transferring the outcomes of using digital devices across different contexts, it is expected that greater use of digital devices in university-level teaching and leisure activities should lead to higher level of digital competences among students.

Table 2 Correlations between predictor variables and criterion variable

	Digital competences – total	Use of digital devices in teaching	Use of digital devices in leisure activities
Digital competences – total			
Use of digital devices in teaching	.21**		
Use of digital devices in leisure activities	.48**	.62**	

** Correlation is significant at the 0.01 level

Since it was determined that the assumptions of normality, linearity, multicollinearity, and homogeneity of variance have been met, a standard regression analysis was conducted (Table 3). Based on the value of the coefficient of determination, it was concluded that the proposed model (with a total of 2 predictor variables) explains 49% of the variance in students' self-assessment on the digital competence scale ($R^2 = 0.494$, $F(2) = 29.129$, $p < .001$). Values and directions of partial contributions of the predictor variables indicate that the only statistically significant predictor of the level of digital competence among future teachers and preschool teachers is the use of digital devices in leisure activities ($\beta = .568$; $t = 6.892$; $p < 0.01$).

Table 3 Regression analysis of predictors of the level of digital competence among future teachers and preschool teachers

Use of digital devices	Digital competence level ($R^2 = .49$ $F(2) = 29.129$, $p = .000$)		
	Standardized Coefficients(β)	t	Sig.
Use of digital devices in university teaching (β)	.139	1.682	.094
Use of digital devices in leisure activities (β)	.568	6.892	.000**

Note: R^2 – adjusted coefficient of determination

Contrary to the specific hypothesis of the study on the predictive impact of both measures digital device use (in teaching and leisure time), the obtained results can be interpreted by the fact that the educational use of digital devices is far less represented and value that their use for recreational purposes, both in the student population (Cabero-Almenara et al., 2023), and in the adolescent population (Gutiérrez Ángel et al., 2022b). In addition to the above, the results of similar studies (Semiz and Čutovič, 2022b) suggest that there is a positive, if low-intensity, correlation between the use of digital devices in teaching and leisure activities only with certain areas of digital competence, namely: information and data literacy and digital content creation. The third interpretation highlights the socializing character of digital devices for meeting people, communication, social interaction and maintaining friendships (Gutiérrez Ángel et al., 2022b). In order for the use of digital devices in teaching to be a significant predictor of the development of students' digital competences, continuous and intensive use of ICT for educational purposes is needed (Ben Youssef, Dahmani & Ragni, 2022). The results further imply the need to study and critically examine ways in which digital infrastructure is used in higher education, and what importance is given to it in the implementation of the teaching and learning process.

3. CONCLUSION AND PEDAGOGICAL IMPLICATIONS

Examining the values and directions of the contributions of digital device application in teaching and leisure activities to the development of digital competences of future teachers and preschool teachers deserves special attention in scientific discourse. Around the world, the transformation of higher education toward a model aimed at active learning through use of modern digital technologies is taking place as we speak (Gkrimpizi, Peristeras & Magnisalis, 2023), which is why the ways and frequency of digital device usage are gaining in importance. Specifically, knowledge about the predictive values of the

use of digital devices on the level of digital competences of future teachers and preschool teachers can help improve higher education institutions, and indirectly, the quality of education for the future generations of students.

Results of this study conducted with the aim of predicting the level of digital competences of future teachers and educators based on their use of digital devices in teaching and leisure activities show the following:

- a) The development of digital competence of future teachers and educators can be predicted in a statistically significant way based on the frequency and manner of usage of digital devices in teaching and leisure activities.
- b) There is a statistically significant correlation between the use of digital devices in teaching and the perceived level of digital competence, as well as between the use of digital devices in leisure activities and the perceived level of digital competence of future teachers and preschool teachers; and
- c) The use of digital devices in leisure activities is a significant predictor of the level of development of digital competences of future teachers and preschool teachers.

In agreement with the defined research hypotheses, we can conclude that the general hypothesis is accepted, while specific hypotheses are partially confirmed.

Implications for further research. The findings of this study imply that the following issues should be considered in future research, primarily ways in which future teachers and preschool teachers are trained in the use of modern digital technologies in teaching practice. The results of similar studies (Cabero-Almenara et al., 2023) indicate that students' digital competences and the number of digital resources used in learning and teaching are significant predictors, as well as the level of education of students' parents. Therefore, we see the need to examine the predictive value of these variables on the development of digital competence of future teachers and preschool teachers. There is a need for triangulation of research methods and procedures, i.e., subjective, and objective measures for examining students' digital competence, and for the application of quantitative and qualitative analysis of study programs for teacher and preschool teacher education in terms of acquisition and development of digital competences.

Pedagogical implications. First, it is necessary to take into consideration different practices regarding the use of digital devices among the student population, as well as their digital infrastructure to a greater extent. Second, in order to train and prepare current students for future challenges of the teaching profession, the innovation of study programs and teaching at education faculties is needed, as well as more intensive application of digital devices for educational purposes, especially those that students prefer in their private life as well.

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UPOTREBA DIGITALNIH UREĐAJA U FAKULTETSKOJ NASTAVI I SLOBODNOM VREMENU KAO PREDIKTOR NIVOA RAZVIJENOSTI DIGITALNE KOMPETENCIJE STUDENATA – BUDUĆIH UČITELJA I VASPITAČA

Apstrakt

S obzirom na opštu prihvaćenost i primenljivost teorijskog modela digitalnih kompetencija za građane, tzv. Dig Comp 2.0, i potrebu savremenog inicijalnog obrazovanja učitelja i vaspitača u eri sveopšte digitalizacije, cilj ovog istraživanja bio je ispitati da li se i u kojoj meri nivo razvijenosti digitalnih kompetencija studenata, budućih učitelja i vaspitača, može predvideti na osnovu upotrebe digitalnih uređaja u fakultetskoj nastavi i slobodnom vremenu. U istraživanju je učestvovalo 220 studenata Pedagoškog fakulteta u Užicu, uzrasta od 19 do 23 godine. Za potrebe istraživanja konstruisana su i primenjena dva instrumenta: Skala digitalnih kompetencija DigComp 2.0 sa 23 stavke za samoprocenu nivoa razvijenosti digitalnih kompetencija na trostepenoj skali (1 – Uopšte ne znam da uradim, 3 – U potpunosti znam da uradim) i Upitnik o upotrebi digitalnih uređaja, koji pored socio-demografskih i pedagoških karakteristika ispitanika sadrži 10 tvrdnji za samoprocenu učestalosti i načina upotrebe digitalnih uređaja u različitim oblastima sa četvorostepenom skalom. Korelacijska analiza je pokazala da upotreba digitalnih uređaja u fakultetskoj nastavi i slobodnom

vremenu pozitivno korelira sa nivoom razvijenosti digitalnih kompetencija studenata. Testirani regresioni model sa dve prediktorske varijable objašnjava ukupno 49% varijanse u samoproceni nivoa razvijenosti digitalnih kompetencija studenata ($R^2 = 0.494$, $F(2) = 29.129$, $p < .001$). Saglasno dobijenim rezultatima, potrebno je usmeriti fokus ka relevantnim prediktorima i korelatima digitalne kompetencije, kako bi studenti stekli potrebna znanja i ključne kompetencije za vaspitnoobrazovni rad sa decom predškolskog i školskog uzrasta u digitalnoj eri i svakodnevnom životu.

Ključne reči: nastava, slobodno vreme, digitalni uređaji, digitalna kompetencija, pedagoški fakultet



ARTIFICIAL INTELLIGENCE AND PROFESSIONAL DEVELOPMENT OF TEACHERS. CHALLENGES AND PERSPECTIVES

UDC 371.13:377.8; 371.3:004.8

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Abstract. *Educational research focuses on the topic of artificial intelligence (AI) as a disruptive technology for education, capable of rethinking teaching and learning processes, supporting activities of personalization, democratic access to resources and the creation of immersive, inclusive and adaptive environments. Studies show how AI in Education (AIEd-Artificial Intelligence in Education) can offer teachers new opportunities for designing and managing lessons, but also new challenges related to the need to acquire specific skills, to face the ethical and social issues associated with the use of AI and to maintain an active and critical role in the educational process. A narrative review is used to explore a broad and complex topic such as AI in education, adopting a plural and transdisciplinary perspective was adopted to understand which studies have so far investigated the impact of AI in the educational context in relation to teaching practice and teachers' skills. Fifteen studies were included in the qualitative synthesis and analysed for major themes and subthemes, namely AI to support teachers' instructional design, self-regulation and feedback, AI to support teachers' curriculum development, and teachers' confidence in AI in teaching. The paper provides a summary that highlights the use of AI technologies in teacher training and professional development. Some future directions are explored to deepen the topic and promote greater awareness and competence of educational stakeholders in relation to the ethical and pedagogical use of AI, with a possible application of generative AI in the induction of new teachers.*

Keywords: *educational research, artificial intelligence, teaching, professional development of teachers*

Received December 28, 2024/Accepted March 14, 2024

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The contribution is the result of the collective work of the authors. For the purposes of scientific evaluation, introduction, paragraphs 1 and 2 can be attributed to Stefania Nirchi; paragraph 3 to Conny De Vincenzo; paragraph 4 and subparagraphs to Giuseppina Rita Jose Mangione, paragraph 5 to Maria Chiara Pettenati.

I. INTRODUCTION

The relentless development of artificial intelligence has generated the now widespread belief that it has a profound influence on many fields, including education. Evidence of this “common thinking” can be found in various international papers, which analyse the topic of artificial intelligence (AI) from different perspectives: the development of artificial intelligence in relation to the general transformation of education (Villani, 2018), the relationship between AI and learning (Tuomi, 2018), the transformation of education and the development of technology (Nedelkoska & Quintini, 2018).

Studies show how AI in education (AIEd-Artificial Intelligence in Education) can offer teachers new possibilities for designing and managing teaching, but also new challenges related to the need to acquire specific skills, to address ethical and social issues related to the use of AI, and to maintain an active and critical role in the educational process (Ahmed & Ganapathy, 2021; Baker & Smith, 2019; Hinojo-Lucena et al., 2019; Kuleto et al., 2021; Liu et al., 2022; Luckin et al., 2016; Mijwil et al., 2022; Pedró et al., 2019; Razia et al., 2022).

If we accept the idea that artificial intelligence is an important element in tomorrow’s landscape, we should then also ask ourselves what impact AI has on the professionalism of teachers and what skills they should have in order to be able to perform their role to the best of their ability. To address this, through a narrative review (Dixon-Woods et al., 2006; Popay et al., 2007) the research presented aims to explore a broad and complex topic such as AI in education, adopting a plural and transdisciplinary perspective in order to understand which studies have reasoned in terms of the impact of AI in the educational context, with reference to teaching practices and teachers’ skills (Al-Zyoud, 2020; Celik et al., 2022; EU, 2023).

The work returns a sum up orienting the use of AI technologies in the training and professional development of teachers, suggesting some future directions to deepen the topic and to foster a greater awareness and competence of educational actors on the ethical and pedagogical use of AI.

2. THEORETICAL FRAMEWORK OF REFERENCE: ARTIFICIAL INTELLIGENCE EMERGING FIELD OF EDUCATION

New algorithm technologies are pervading every aspect of everyday life. While it is true that AI may offer great opportunities, it is equally crucial not to underestimate the profound changes that will affect society as a whole and in particular how AI intervenes in education. In this regard, a more specific analysis of the scientific literature on AI and Education requires the definition of specific lines of educational research and raises a number of questions: how do these two fields compare? What do education and AI have in common?

It is necessary to read AI through the identification of a pedagogical perspective that allows us to understand the characteristics of our time and build new directions, through the contamination of interdisciplinary fields of study. Technological developments in recent years confirm the growth of “data” as a representative element of society, defined for this very reason, society of the code (Accoto, 2017; 2019). Once, “data” was perceived as a passive entity at the researcher’s disposal, without which the data could serve no purpose; today, it seems that data instead has an active nature that guides the researcher’s

intentions. Precisely on the basis of this role of the code, Lev Manovich (2001) proposes that Media Studies should be considered outdated and suggests that today we should speak more appropriately of Software Studies.

To explore the relationship between AI and education, we need to go beyond tools and talk about a new pedagogical approach, oriented towards the training of educational professionals on artificial intelligence topics and methods, as well as the development of inclusive, ethical and transparent quality systems in the collection, use and dissemination of data (Pedró et al., 2019). Artificial Intelligence can rethink teaching and learning processes, support personalization, democratic access to resources, and the creation of immersive, inclusive and adaptive environments. It can offer teachers new possibilities for designing and managing teaching, acquiring specific skills, addressing ethical and social questions about the use of artificial intelligence and maintaining an active and critical role in the educational process (Panciroli & Macaуда, 2021; Panciroli & Rivoltella, 2023).

AI has emerged as a significant and dynamic field within education, particularly in educational technology (Baker & Smith, 2019; Hinojo-Lucena et al., 2019; Luckin et al., 2016; Pedró et al., 2019), so much so that it is the subject of an interdisciplinary debate involving contributions from different fields of knowledge: education, psychology, neuroscience, linguistics, sociology and anthropology. The main aim is to be able to develop adaptive learning environments and flexible, inclusive, personalized, engaging and effective AI tools, exploring their pedagogical potential (Educause, 2019; Zawacki-Richter et al., 2019). Some main areas of AI that relate to the educational dimension are: Machine Learning (ML), Deep Learning e Generative Learning.

The term Machine Learning refers to mathematical algorithms that allow machines to learn so that they can perform and complete a required task without having programmed them for this purpose beforehand. The necessary information to complete the task is learned directly from the data, correcting errors and performing the required task autonomously (Popenici & Kerr, 2017; Russell & Norvig, 2010). In this way, the machine adaptively increases its functionality by processing huge amounts of data. From this perspective, the algorithms can be classified into three main learning models: 1. supervised learning: the machine identifies a rule that allows it to link the input data with the output data (e.g. voice recognition, handwriting identification); 2. unsupervised learning: the machine only receives input data and must identify a logical structure in it; 3. reinforcement learning: through a mechanism of rewards and punishments, an attempt is made to improve the machine's performance according to the results achieved previously. In education, ML is applied to predict, for example, the risk of drop-out in both school and university settings (Del Bonifro et al., 2020; Viberg, et al., 2018; Zawacki-Richter et al., 2019) and one of its specific fields of application is Learning Analytics (LA) based on the creation of intelligent and personalized learning environments, which enable the collection, analysis and presentation of data on students and their interactions in online activities, to increase motivation and satisfaction (Ferguson, 2014).

Deep Learning, on the other hand, is a field of research that is based on the creation of multilevel learning models, mainly related to the learning of verbal and visual data. The model resembles a pyramid: higher concepts are learned from lower levels. An example of this is the facial recognition system in which data, consisting of pixels, enable the identification of the edges of a face, individual physiognomic features and finally the image of the face (Ismail Fawaz et al., 2019; Zhang, Wang, & Liu, 2018).

Unlike Machine Learning and Deep Learning, Generative Learning refers instead to the class of AI models capable of producing new and original content, such as text (as GPT Open AI) (Brown et. al., 2020), images and music, from a set of input data.

However, while artificial intelligence can open up numerous possibilities, there are still several critical issues in education:

- inapplicability of the AI system to multiple contexts;
- lack of technological knowledge about the use of artificial intelligence;
- absence of interest in artificial intelligence, because teachers are often afraid of disrupting their way of doing school.

Starting from this framework, the research presented in this essay sought to investigate the impact of artificial intelligence in the educational context with reference to teaching practices and teachers' competences.

For teachers' competences, we took the UNESCO model. UNESCO hosted a ministerial roundtable on generative AI and education, in which more than 40 Ministries of Education shared their insights and concerns about the growing influence of generative artificial intelligence in education.

This meeting reiterated the need for proactive engagement on the new horizons for education that generative AI can offer starting from a Competency Framework for Teachers (AI CFT) characterized by 18 competencies (Fig. 1), distributed over 6 dimensions (Human-centred Mindset, Ethics of AI, Foundation AI knowledge, AI skills, AI pedagogy, Professional development) along levels of progression (Understand, Apply and Create).

Aspects	Progression		
	Understand	Apply	Create
Human-centred Mindset	Critical Views of AI	Contextual adoption strategies	Steering long-term impact
Ethics of AI	Human agency	Human-centred use	AI society skills
Foundation AI knowledge	"Algorithm and data literacy" or AI literacy	Use AI analytics	Coding and data models
AI skills	Test and use	Infusing uses	Integrating AI tools
AI pedagogy	AI for teaching	AI to deepen learning	AI for co-creation
Professional development	AI to assist administrative tasks	AI for curriculum design and delivery	AI empowering teachers

Fig. 1 UNESCO - AI Competency Framework for Teachers⁶

However, today the absence of institutional policies or formal guidelines on the use of generative AI applications calls for action on the skills required of teachers in order to build support and development pathways that cannot exacerbate systemic inequalities and give

⁶ <https://www.unesco.org/en/digital-education/ai-future-learning/competency-frameworks>

rise to new forms of discrimination and unfairness in educational provision with a focus on the most fragile and remote territories.

3. RESEARCH QUESTIONS AND METHODOLOGY

The research aims to answer the question: What is the impact of AI in the educational context with regard to teaching practices and teachers' competences?

The methodology employed is a narrative review. This research method identifies relevant research in relation to particular issues and topics posed in the form of precise research questions. The analysis of the scientific literature on a topic takes place by applying criteria that delimit the identified sources.

By means of multiplied and systematic methods, what can be considered reliable of these studies and thus produce valid and reliable results is brought to light. The main features of a systematic review are:

- the definition of a research question that directs the analysis precisely and explicitly;
- the inclusion of a replicable search strategy;
- the definition of inclusion and exclusion criteria for the selection of articles or data sources that will be used for the analysis (McKibbin, 2006);
- use of a transparent and rigorous methodology to identify, evaluate, and summarise the results of individual studies.

The main steps to conduct a systematic review are:

- choice of topic and definition of the research question;
- identification of potential studies or data sources;
- selection of studies according to inclusion and exclusion criteria that define which articles are to be included in the analysis. Searching for articles may be done through keywords on databases or through hand searching on specific journal titles;
- searching, screening and describing studies;
- redefining the purpose/objective;
- collecting data;
- analysing and combining data;
- presenting results.

4. COLLECTION AND REPRESENTATION OF THE INCLUDED STUDIES

The study's search strategy involved querying primary electronic databases, specifically Scopus and Web of Science. Initially, the keywords "artificial intelligence" and "teacher professional development" were employed. As the search progressed, additional keywords, namely "deep learning", "machine learning", "generative learning" and "teacher professional learning" were incorporated to ensure a comprehensive exploration of the topic.

Inclusion criteria were defined to encompass papers written in English, open access publications, and articles published since 2010. The identified references were imported into Excel, and a process of duplicate elimination was undertaken.

Subsequently, abstracts were closely evaluated for relevance, adhering to predefined inclusion/exclusion criteria.

The search yielded 93 results. After removing 24 duplicates, screening titles and abstracts identified 69 studies potentially eligible for inclusion.

Forty-nine studies were excluded as they were either irrelevant to the research questions or not in open access; an additional 5 studies were unavailable.

The full texts of 15 studies were thoroughly reviewed and included in the qualitative synthesis (see Fig. 2).

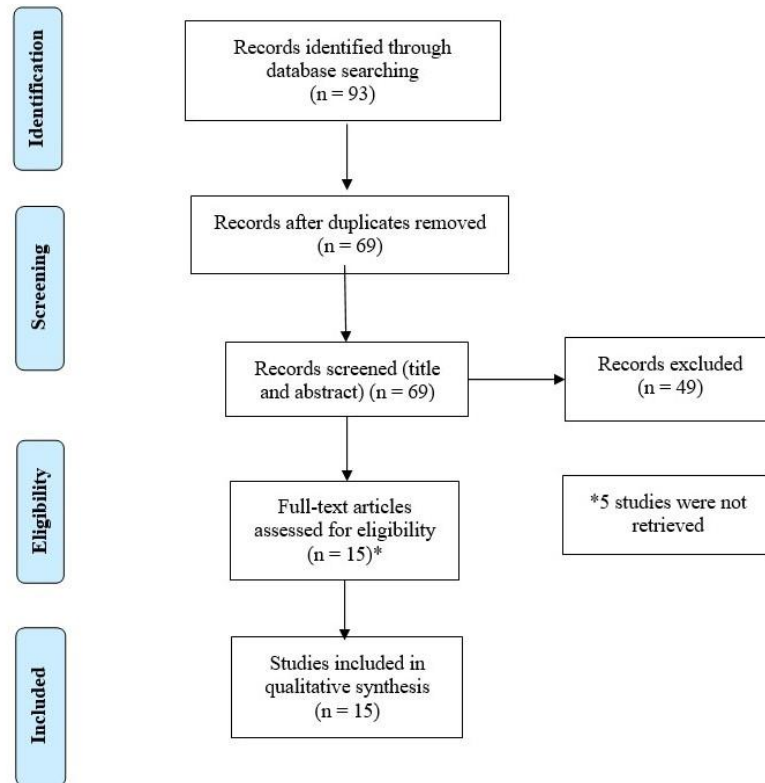


Fig. 2 Studies selection

The 15 studies included in the synthesis are detailed in Table 1. Notably, the majority of these studies were published in 2022, as depicted in Fig. 3. Specifically, 8 studies were published in 2022, 4 in 2023, and 3 in 2020.

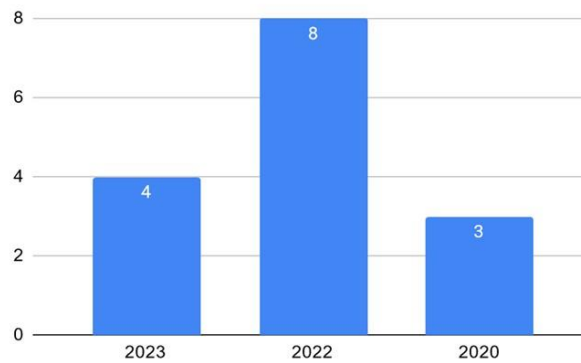


Fig. 3 Year of publication of the studies

Table 1 Studies included

Title	Authors/year
1. The Role of Self-Improving Tutoring Systems in Fostering Pre-Service Teacher Self-Regulated Learning	Huang et al. (2022)
2. Co-designing Artificial Intelligence Curriculum for Secondary Schools: A Grounded Theory of Teachers' Experience	Yau et al. (2022)
3. Analysis and strategies of the professional development of information technology teachers under the vision of artificial intelligence	Wei et al. (2020)
4. The Promises and Challenges of Artificial Intelligence for Teachers: a Systematic Review of Research	Celik et al. (2022)
5. A phenomenographic approach on teacher conceptions of teaching Artificial Intelligence (AI) in K-12 schools	Yau et al. (2023))
6. Teachers' trust in AI-powered educational technology and a professional development program to improve it	Nazaretsky (2022)
7. The role of artificial intelligence in teacher professional development	Al-Zyoud (2020)
8. An Instrument for Measuring Teachers' Trust in AI-Based Educational Technology	Nazaretsky (2022)
9. A meta-review of literature on educational approaches for teaching AI at the K-12 levels in the Asia-Pacific region	Su et al. (2022)
10. Teachers' Perceptions of Teaching Sustainable Artificial Intelligence: A Design Frame Perspective	Lin et al. (2022)
11. Can Automated Feedback Improve Teachers' Uptake of Student Ideas? Evidence From a Randomized Controlled Trial in a Large-Scale Online Course	Demszkyet al. (2023)
12. A systematic review of teaching and learning machine learning in K-12 education	Sanusi, et al. (2023)
13. Promoting the AI teaching competency of K-12 computer science teachers: A TPACK-based professional development approach	Sun et al. (2023)
14. Challenges and Design Opportunities in Data Analysis for ML-Empowered Scientific Inquiry - Insights from a Teacher Professional Development Study	Zhou et al. (2022)
15. New critical imaginaries and reflections on robots and artificial intelligence: how teachers' programming knowledge could affect future educational technology	Ekström et al. (2020)

Within this selection, 10 studies were published as journal articles, while 5 were included in conference proceedings. The distribution across countries of publication reveals a diverse landscape, with 6 studies conducted in the Chinese context, and 2 studies each originating from Israel, Finland, and the United States. Additionally, 1 study each was conducted in the Arab Emirates, Canada, and Sweden (refer to Table 2).

Table 2 Country distribution

Country	Number of article
China	6
Israel	2
Finland	2
United States	2
Arab Emirates	1
Canada	1
Sweden	1

5. RESULTS AND DISCUSSION

The information contained in each of the bibliographical references identified was summarized and interpreted. In this phase, a table was created with each row corresponding to a bibliographic reference and each column containing the following information: complete reference, methodology, participants, country in which the work was conducted, research problems, theoretical and main themes and concepts results. The analysis of the contributions led to their mapping by recurring themes and sub-themes of investigation as shown in Table 3.

Table 3 Distribution of scientific contributions: themes and sub-themes of investigation

Works	Themes	Sub-themes
7	AI to support teachers in instructional design, self-regulation and feedback	<p>Research and development of network-based tutoring system to support teacher instructional planning and technology integration.</p> <p>Set of intelligent applications as well as areas of artificial intelligence that can serve the professional development of teachers.</p> <p>AI applications and machine learning methods to analyse teachers' data.</p> <p>Automated tool based on natural language processing, to give teachers feedback on their uptake of student contributions</p> <p>Training models to support teachers' skills in AI-TPACK experimentation</p> <p>Set of implications for innovative pedagogical designs in terms of educational standards, curriculum designs, formal/informal education, student learning outcomes, teacher professional development and learning progressions to recommend how governments, researchers and educators could build a widely-accepted and age-appropriate AI curriculum for all K-12 learners.</p> <p>Development of programming courses for K-12 teachers were therefore invited to give their vision of a future classroom.</p> <p>ML to interpret the behavioural patterns of novice teachers facing specific methodologies (in the specific case STEM pathways)</p>

Works	Themes	Sub-themes
4	AI to support teachers in curriculum development and pedagogical innovation	Co- design an innovative AI curriculum AI applications on the professional development of Information Technology teachers in primary and secondary schools, Use Machine learning to support curriculum development, technology development, pedagogical development, and teacher training/professional development. AI curricula can develop students' AI knowledge and skills, learning attitudes, and interests. Effective designs to support AI instruction.
4	Trust and perception of teachers of AI in teaching	Teachers' conceptions of teaching AI Instrument to measure teachers' trust in AI-based EdTech Teacher professional development program (PDP) to increase

The works, divided into major themes, were subsequently reread through two lenses: the reference research paradigms (Figure 4; Table 4) and the research methodologies used to respond to the initial need or question (Table 5).



Fig. 4 Research paradigms (from Mortari ad Ghirrotto, 2019)

The analysis starting from the pedagogical approaches, with reference to the recent works of Mortari and Ghirrotto (2019), perhaps also due to the epistemic education context strongly characterized by the need for equity, emancipation and social justice, returns a positioning of the works strongly oriented towards a transformative paradigm and social constructivism (Table 4).

Table 4 Classification of contributions (research paradigms)

CTRB	Themes	Post-positivism	Social constructivism	Transformative	Pragmatic
7	AI to support teachers in instructional design, self-regulation and feedback	2	1	2	2
4	AI to support teachers in curriculum development and pedagogical innovation		1	3	
4	Trust and perception of teachers of AI in teaching	1	3		

It is not surprising that from the in-depth analysis of investigation methodologies (Fargas-Malet & Bagley, 2022), also due to the novelty that the topic of AI can represent in the context of schools e teacher professional development there is a prevalence of empirical studies, qualitative approaches and quantitative, with a lower representation of works based on the construction of scenarios or on the development of reviews oriented towards operational recommendations.

Table 5 Themed and methodologies (from Fargas-Malet & Bagley, 2022)

Themes	CTRB		
	Review	Empirical	Tot
	Context analysis, literature review, scenarios and recommendations	Which, how many, mixed	
AI to support teachers in instructional design, self-regulation and feedback	3	4	7
AI to support teachers in curriculum development and pedagogical innovation	3	1	4
Trust and perception of teachers of AI in teaching		4	4

Below, some sub-themes that emerged and are representative of the major themes identified by the scoping review will be explored in greater detail, making the existing research paths and intervention prospects better understood.

5.1. AI to support teachers in instructional design, self-regulation and feedback

The majority of the contributions analysed (n.7) can be represented by the theme “AI to support teachers in instructional design, self-regulation and feedback”. The central objective is in fact to study possible applications of AI in the field of teaching with the main aim of providing the teacher with support in the planning and teaching process capable of improving the quality of the training offer. A recent overview of research on teachers’ use of artificial intelligence (AI) (Celik et al., 2022) focuses on applications and machine learning methods to analyse teachers’ data showing that AI offers teachers several opportunities for improved planning (e.g., by defining students’ needs and familiarizing

teachers with such needs), implementation (e.g., through immediate feedback and teacher intervention), and assessment (e.g., through automated essay scoring) of their teaching. The study found that teachers have various roles in the development of AI technology acting as models for training AI algorithms and participating in AI development by checking the accuracy of AI automated assessment systems.

Further studies have evaluated the importance of automatic feedback to improve the teaching process (Demszky et al., 2023) presenting tools such as M-Powering Teachers, an automated tool based on natural language processing to give teachers feedback on their uptake of student contributions, a high-leverage dialogic teaching practice that makes students feel heard, or even the value of machine learning for scientific inquiry activities and to provide teachers with some patterns to analyse and synthesize (Zhou et al., 2022). The increasing attention to Machine Learning (ML) has led scholars to focus on some aspects that could benefit from a reasoned use of machine learning in schools (Sanusi et al., 2023) (curriculum development, technology development, pedagogical development, and teacher training/professional development) with attention to the development of network-based tutoring systems (Huang et al., 2022). In fact, the research promotes in-depth studies of applications of Network based tutors as they are considered valid self-improving systems that continually adjust instructional decision making based on the collective behaviours of communities of learners.

5.2. AI to support teachers in curriculum development and pedagogical innovation

The theme of “AI and professional development of teachers” today represents a fervent sector of study that questions the potential linked to curricular innovation thanks to AI. The works surveyed (n.4) propose both a critical reflection that focuses on the one hand on the enrichment of the curricular proposals and on the development of innovative paths managed by teachers. Already the work of Muslim al-Zyoud (2020) uses an analytical approach based on a theoretical survey of previous literature to define a set of intelligent applications as well as areas of artificial intelligence that can serve the professional development of teachers. Wei and colleagues (2022) subsequently broaden the reflection and in their study analyses the connotation and status of the application of Artificial Intelligence technology in the field of education and Artificial Intelligence Education in primary and secondary schools, the impact of artificial intelligence education applications on the professional development of Information Technology teachers in primary and secondary schools, the connection between Artificial Intelligence Education and the development of Information Technology teachers in primary and secondary schools. Then, based on the above analysis, strategies for the professional development of Information Technology teachers in primary and secondary schools are proposed, which mainly include internal strategies for teachers themselves and external strategies for national policies, local policies, local education bureaus, schools, and corporate institutions.

With reference to AI-enhanced school curricula, the meta review proposed by Jiahong Su et al. (2022) on 14 research papers on AI curricula for K-12 classrooms in the Asia-Pacific region from 2018 to 2021 indicates that AI curricula can develop students’ AI knowledge and skills, learning attitudes, and interests and derive a set of implications for innovative pedagogical designs in terms of educational standards, curriculum designs, formal/informal education, student learning outcomes, teacher professional development

and learning progressions in order to build a widely-accepted and age-appropriate AI curriculum for all K-12 learners. The work of Yao et al., (2022) also investigated the experience of teachers in co-designing the curriculum although in secondary schools and using the grounded theory approach, the teachers' perspectives and experiences during the co-design processes were unpacked: the teachers were motivated by the perceived need of students to join in the co-design of such AI curriculum; the teachers appreciated the professor-led knowledge input that addresses their gaps in technical knowledge, at the end the teachers contributed their pedagogical knowledge and classroom experiences to guide the design of the curriculum so that it may be contextualized to the school environment and students' needs. The outcomes of the co-design were a usable curriculum and teachers' growth, which was translated to students' AI literacy and confidence in learning about AI.

5.3. Trust and perception of teachers of AI in teaching

Evidence from various domains underlines the key role that human factors, and especially, trust, play in the adoption of technology by practitioners. In the case of Artificial Intelligence (AI) the issue is even more complex due to practitioners' AI-specific misconceptions, myths, and fears (i.e., mass unemployment and ethical concerns). The review conducted returns some contributions (n.4) relating to the topic "Trust and perception of teachers of AI in teaching". In recent years, AI has been incorporated increasingly into K-12 education and research works has been conducted on the trust and attitudes of K-12 teachers towards the use and adoption of AI-powered Educational Technology (AI-EdTech). In Yau et al, (2023) phenomenography is an empirical research method that was widely used to understand teacher's interpretive understanding of new phenomenon, in this study, the teaching of AI in secondary school. The six categories of teacher conceptions identified – (1) technology bridging, (2) knowledge delivery, (3) interest stimulation, (4) ethics establishment, (5) capability cultivation, and (6) intellectual development – have contributed to redefining specific learning paths for cultivating technical and non-technical teachers for teaching AI. These learning paths provide insights for teacher educators and policymakers to enhance teachers' competence in teaching AI and promote general AI education for K-12 students. With attention to the dimension of trust, the studies of (Nazaretsky et al., 2022a) sheds light on teachers' trust in AI-EdTech and presents effective professional development strategies to increase teachers' trust and willingness to apply AI-EdTech in their classrooms. The use of an AI-powered assessment tool (termed AI-Grader) allowed us to hypothesize a teacher professional development program (PDP) aiming to improve teachers' trust in AI-EdTech. Always referring to artificial intelligence into K-12 education, the study of (Nazaretsky et al., 2022b), introduces a new instrument to measure teachers' trust in AI-based EdTech, provides evidence of its internal structural validity, and uses it to portray secondary-level school teachers' attitudes toward AI. Using Exploratory Factor Analysis authors analyse the results from 132 teachers' input, revealing eight factors influencing teachers' trust in adopting AI-based EdTech: Perceived Benefits of AI-based EdTech, AI-based EdTech's Lack of Human Characteristics, AI-based EdTech's Perceived Lack of Transparency, Anxieties Related to Using AI-based EdTech, Self-efficacy in Using AI-based EdTech, Required Shift in Pedagogy to Adopt AI-based EdTech, Preferred Means to Increase Trust in AI-based EdTech, and AI-based EdTech vs Human Advice/Recommendation. This instrument supports the investigation about the role of teachers' trust in AI-based EdTech and the

factors influencing it and can guide creators of teacher professional development courses and policymakers on improving teachers' trust in, and in turn their willingness to adopt, AI-based EdTech in K-12 education.

Finally the study of Lin et al. (2023) examined teachers' perceptions of teaching AI detailed how teachers understand the pedagogical challenges of teaching AI and the emerging pedagogical solutions from their perspectives. Results reveal that effective AI instructional design should encompass five important components: (1) obstacles to and facilitators of participation in teaching AI, (2) interactive design thinking processes, (3) teachers' knowledge of teaching AI, (4) orienteering AI knowledge for social good, and (5) the holistic understanding of teaching AI.

6. CONCLUSION: AI-ENHANCED TEACHERS TRAINING DURING THE INDUCTION PHASE

The results obtained regarding the distribution of scientific contributions and the themes and sub-themes of investigation allow us not only to identify the three main trajectories of AI development in the field of Teacher Professional Development: 1) AI to support teachers in instructional design, self-regulation, and feedback, 2) AI to support teachers in curriculum development and pedagogical innovation, and 3) Trust and perception of teachers of AI in teaching. However, the research prompts reflection on how the acceleration towards generalist empirical work has sidelined the need to focus on specific training scenarios and to better understand which opportunities may be linked to AI and which approaches are applicable to various professional stages of teacher training.

In effect, the diversity of training models and approaches applicable to various professional stages of teachers training, from initial training (ITE) to continuous professional development (CPD), the entry into service lends itself to being analysed as an example for reflecting on the application of AI, given its level of structuring and the type of activities carried out in this phase, which are recurrent in many international educational systems. The transition from initial teacher education (ITE) to professional life is a crucial phase both for teachers and education systems, impacting further professional commitment and development. In 2020, the Council's conclusions on European teachers and trainers for the future reiterated that novice teachers should receive 'additional guidance and mentoring, to facilitate their career start and help them cope with the specific needs they are facing' (Council Conclusion, 2020).

Induction for newly-qualified teachers is a phase of structured support lasting at least several months in almost all European countries (Eurydice, 2021), incorporating important formative and supportive components. It typically involves additional training along with personalized assistance and advice.

Structured induction may vary in organization. While compulsory induction for novice teachers is widely regulated across Europe, its design and content can differ. According to the Eurydice report "Teachers in Europe" (ibid.) mentoring support is one of the most commonly regulated elements of induction (Fig. 5). Mentoring serves as the mainstay of the induction program, providing professional guidance to teachers from more experienced colleagues. Often, mentors are teachers within the same school, not necessarily holding a higher hierarchical position, though they typically possess more experience within the specific school or job. Sometimes, mentors undergo specific training for this role.

Mentors utilize various approaches to assist, guide, and oversee new teachers within the educational environment and their professional journey. The interaction between new teachers and mentors varies, ranging from basic guidance to comprehensive daily supervision and assistance. This collaboration might involve joint lesson planning, reciprocal classroom observations, and consistent feedback and guidance. Additionally, mentors typically participate in evaluating novice teachers at the conclusion of their initial training, where applicable in certain countries.

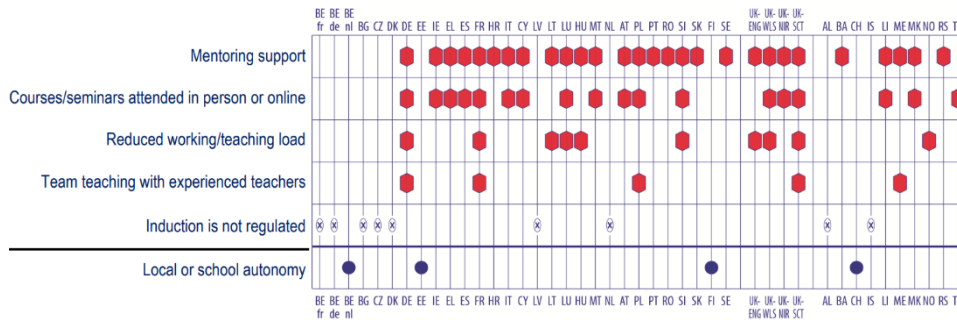


Fig. 5 Compulsory elements of induction for teachers in lower secondary education, 2019/20 (from Euridyce, 202)

Another common element in induction models across Europe is the participation (in person or online) in professional development activities such as courses and seminars.

Although team teaching has been recognized as a powerful form of peer collaboration, only a few countries include it in induction activities.

In some educational systems, certain activities, aside from those described in Fig. 5, are mandatory during induction: class and/or lesson observation is a compulsory part of induction in several countries, for instance in Italy reciprocal observation is conducted using an observation grid provided by the Ministry of Education (Ministry Decree 226/22, Attachment A).

Moreover, in some countries, beginning teachers are required to maintain a diary/journal or to document their induction activities within an online teacher portfolio as it is the case for Italian induction model (Mangione et al., 2016; Di Stasio et al, 2021).

6.1 Possible application of Generative AI in induction

The three main elements highlighted as common in numerous international models of induction (mentoring, participation in courses and lessons, team teaching) as well as other recurring activities during this phase (use of a diary or portfolio) can benefit from a conscious and planned use of Generative AI Italy Induction Training Path. Let's analyse the opportunities for each of the activities mentioned above in possible application scenarios.

Mentoring / reciprocal observation

Although the human aspect of mentoring-empathy, emotional support, and personalized guidance-remains essential and cannot be replaced by technology, the use of Generative AI can support mentoring activities in several aspects such as:

- **Simulated Classroom Scenarios:** AI-powered simulations can create virtual classroom environments where new teachers can practice teaching techniques, classroom management, and engagement strategies. These simulations could help teachers gain confidence and experience before being observed by a more experienced teacher.
- **Feedback Generation and Analysis:** since providing effective feedback is one of the most difficult tasks of the mentoring activity, especially after the classroom observation, AI models could assist mentors in providing detailed and constructive feedback to new teachers. By analysing classroom observations, AI could also generate feedback reports, highlighting areas for improvement and offering suggestions for enhancement based on predefined criteria or mentor's input.
- **Data Analytics for Progress Tracking:** AI-powered analytics can track and analyse the progress of new teachers based on various metrics, helping mentors identify patterns, trends, and areas where additional support may be required. This could especially be useful when the same expert teacher acts as a mentor for several new teachers in the same years or over time within the same school.

Participation in courses and lessons

- **Customized professional development plans:** one of the most obvious applications of AI in this area is to assist mentors in creating personalized professional development plans for new teachers. By analysing the teacher's strengths, weaknesses, and goals, as registered by observation records, AI could suggest targeted training sessions, workshops, or learning modules to support their growth.

Team teaching

- **Lesson plan generation:** AI could assist new teachers and teachers teams in generating diverse and innovative lesson plans tailored to specific teaching contexts and student needs. By analysing various teaching materials, curriculum requirements, and educational objectives, AI models can propose lesson plans or suggest creative teaching strategies that can be discussed and implemented by teachers and can be followed by debriefing sessions as well as lesson plan redesign.

Teacher portfolio or diary

By leveraging Generative AI within a teacher portfolio environment, educators could benefit from more structured, personalized, and insightful experiences that aid in their professional growth and adherence to professional standards. Generative AI can significantly enhance an online teacher portfolio environment designed for documenting professional experiences and self-assessment against professional standards. It could be applied, for instance, for the following functions:

- **Automated reflection support:** AI can assist in reflection activities by offering prompts, questions, or guiding frameworks to aid teachers in reflecting on their teaching practices, pedagogical approaches, and classroom experiences. AI could also suggest prompts or templates for different sections of the portfolio, such as for the documentation of lesson plan, reflection prompts for different kind of professional experiences (e.g. visiting experiences in innovation schools, job shadowing, etc.)

- Personalized self-assessment: AI can facilitate self-assessment against professional standards by providing personalized support. Based on the entered information and standards, AI can generate examples that a teacher could use to identify evidence of a certain mastery level of a given competence.
- Portfolio organization and summarization / views generation / growth tracking: generative AI can assist in organizing and summarizing the portfolio content. It could generate summaries, highlights, or visual representations and views based on the data entered, making it easier for teachers to showcase their achievements and growth over time and against previously set goals or standards.
- Recommendation and guidance: based on the portfolio content and self-assessment data, AI could recommend professional development opportunities or resources that align with the teacher's identified areas for improvement or interests.
- Language Enhancement and Feedback: of course, AI-powered language tools can help refine the language used within the portfolio, ensuring clarity and professionalism. Additionally, AI can provide constructive feedback on the content structure, completeness, or areas that need elaboration.

The opportunities emerging from an initial applicative scenario of AI to the induction training scenario in Italy compel the research group to conduct a massive investigation aimed at understanding, drawing from Lin et al.'s studies (2023), the teachers' perceptions of teaching AI. This entails examining how newly appointed teacher comprehend the pedagogical challenges of teaching AI and the emerging pedagogical solutions from their perspectives.

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VEŠTAČKA INTELIGENCIJA I PROFESIONALNI RAZVOJ NASTAVNIKA. IZAZOVI I PERSPEKTIVE

Apstrakt

Obrazovna istraživanja fokusiraju se na temu veštačke inteligencije (AI) kao disruptivne obrazovne tehnologije, sposobne da preispita procese nastave i učenja, koja podržava aktivnosti personalizacije, demokratski pristup resursima, stvaranje imerzivnog, inkluzivnog i adaptivnog okruženja. Studije pokazuju da AI u obrazovanju (AIEd – Veštačka inteligencija u obrazovanju) može ponuditi nastavnicima nove mogućnosti u planiranju i upravljanju nastavom, nova saznanja vezana za potrebu sticanja specifičnih veština, suočavanje sa etičkim i društvenim pitanjima koja se odnose na primenu AI, kao i uspostavljanje aktivne i kritičke uloge nastavnika u obrazovnom procesu. Cilj rada je da, imajući u vidu pluralnu i transdisciplinarnu perspektivu, kroz narativni pregled istraži široku i složenu temu kao što je AI u obrazovanju, u smislu razumevanja studija koje su se bavile istraživanjem uticaja AI u obrazovnom kontekstu sa naglaskom na nastavne prakse i veštine nastavnika. U kvalitativnu sintezu uključeno je 15 studija koje su analizirane u odnosu na glavnu i odgovarajuće podteme, i to: AI za podršku nastavnicima u dizajniranju lekcija, samoregulaciji i davanju povratnih informacija, AI za podršku nastavnicima u razvoju nastavnog plana i programa i poverenja nastavnika u AI u nastavi. Rad pruža sažetak koji usmerava korišćenje AI tehnologija za obuku nastavnika i profesionalni razvoj, a dati su i neki budući pravci za bolje razumevanje i promovisanje veće svesti i kompetentnosti obrazovnih aktera o etičkoj i pedagoškoj upotrebi AI, uz moguću primenu generativne AI prilikom uvođenja novih nastavnika u svet AI.

Ključne reči: istraživanja u obrazovanju, veštačka inteligencija, nastava, profesionalni razvoj nastavnika



BARRIERS OF USING EDTECH IN CONTEMPORARY TEACHING

UDC 004:007; 37.02:004

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Abstract. *Modern educational technology focuses on improving traditional teaching methods, teaching skills and competencies. It apostrophizes the rational application of technological tools in order to facilitate learning, optimize the teaching process and thus improve the quality of education and teaching. However, despite the great achievements in the field of educational technology, that affect the improvement, accessibility and quality of education at all levels, teachers still face various hindering factors and barriers to the efficient and effective use of this technology. As might be expected, there is also a noticeable generational gap in terms of adapting to the digital age. Numerous scholarly sources in recent years have drawn particular attention to the obvious reasons for the feasibility of a systematic, structured method of implementing modern technology to enhance educational output. This literature review examines the different barriers to the integration of EdTech into the teaching process that originate with teachers themselves. Based on a theoretical and analytical approach, the aim is to gain an insight into the current barriers to the use of EdTech in teaching and, more importantly, to arrive at certain relevant conclusions from which implications can be drawn for future action and the improvement of the quality of teaching and learning.*

Keywords: *barriers, educational technology, teachers, teaching, quality*

1. INTRODUCTION

In classic, traditional education, the emphasis is on the cognitive learning objective, i.e., acquiring knowledge to the greatest extent possible, regardless of whether a large number of students will retain such knowledge at the level of reproduction rather than acquiring problem-solving, research abilities, and skills related to independent data analysis. In this approach, the teacher takes on all roles – from independent planning (not together with the students), through implementation (students are engaged only in listening

Received January 05, 2024/Accepted March 14, 2024

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to the teacher's lectures), to evaluation (the teacher is most often the assessor) and practical application (most students use teacher-provided examples because they are not sufficiently trained to independently find other types of examples or series of tasks). Creative potentials remain limited by the traditional organization of teaching and hierarchical relationships in the knowledge acquisition process. In such conditions, knowledge is acquired in a reproductive manner because predominantly verbal methods are used. Interdisciplinary approaches and polyvalent methodological procedures enriched with innovative and interactive technologies are neglected in education.

Contemporary approaches in teaching and education highlight the need to shift from teacher-centered instruction to student-centered learning, utilizing all available resources and methods (both instructional and educational) to create a favorable learning climate where the student is at the centre, not the teacher. The focus is on the teaching process that enables students to learn in an intellectually stimulating environment with materials that best suit their needs, tailored to their interests and aligned with real-life situations, fostering a learning environment free of pressure and uninteresting assignments. With the sole application of traditional teaching technologies, this cannot be fully achieved in terms of intensity and extent, as they cannot effectively deliver content that adequately reflects how the contemporary world functions. When entering the adult world, the workforce expects young individuals to produce products, solve problems, and utilize multiple skills. They are expected to successfully apply what they have learned and continue learning through the work process, possessing functional knowledge and skills. This can be initially achieved through competency-focused education. For these reasons, student-centered learning is here to stay and become sustainable.

The solution lies precisely in the teachers themselves as agents of change. It seems to be a quite challenging task to change teachers and redirect their already formed personalities that have their own philosophy of teaching and learning, along with an implicit theory of how the teaching process should unfold. Additionally, an important question is how to motivate students to become creative thinkers, proactive analysts, and to develop a love for learning. The answer could be found in the approach of teachers and everything they do to make the content more accessible to students. This includes not only their personalities but also their knowledge and skills in methodological teaching models and the implementation of modern technology in the teaching process. Considering that contemporary education and preparing students for future family and professional roles require a modern didactic, psychological, and methodological orientation, it is necessary to transform teaching practices and improve them with modern learning tools and resources. Teacher leaders, as visionaries, aim not only to change the quality of instruction but also the quality of the learning process and the quality of life for their students. They strive to modify education to provide students with tools for life. Clearly, teachers cannot give them ready-made templates, recipes, and patterns for solving every problem they will encounter in life. However, the significance of their work lies in providing cognitive tools, introducing them to problem-solving phases, and developing higher-order cognitive levels that can be significant support in facing problems in everyday life. It is important to note that this does not mean completely eliminating the traditional education process but improving it and combining it with modern methodological approaches and techniques, providing support through modern technology. In this regard, interactive instruction comes to the forefront as a method of instruction in which teachers initiate and encourage student participation in the learning process through interaction between teacher-student, student-

student, student-learning content, implementation of audio-visual materials, multimedia content, and practical examples. Students are constantly given support and encouraged to participate. In the process of modern education and instruction, interaction between key participants in the learning process is crucial. From a pedagogical perspective, interaction should not be viewed only as a contemporary trend but as a fundamental principle and postulate of modern instruction. Regardless of the subject matter, the success and quality of instruction and learning will directly depend on the quality of the established interaction between the factors that make up the instruction process - students, teachers, and learning content.

Therefore, in today's environment prone to changes and uncertainty, there is a pronounced shift from traditional to modern paradigms. In an education context, this would imply a gradual transition from traditional instruction and learning methods to a much more student-centered approach, aiming to develop skills necessary for functioning in the 21st century. Of course, such a shift cannot happen overnight, and teachers are faced with a series of significant demands, especially in terms of being equipped with innovative teaching skills that would enable students to actively participate in the learning process. In this regard, it seems accurate that the quality of educational services provided by teachers to their users largely depends on their competencies, manifested in theoretical and practical knowledge, pedagogical, didactic, and psychological skills, as well as skills related to the adequate application of modern educational technology. With the rapid advancement of technology, integrating it into educational settings has become crucial for enhancing learning experiences. However, despite the top achievements in the field of educational technology that affect the improvement, accessibility, and quality of education at all levels, teachers still face various hindering factors and barriers in its efficient and effective application.

2. TECHNOLOGY IN EDUCATION – EDTECH

Today's education asks for the development of students equipped with digital skills, while simultaneously requiring teachers to possess technological skills and the ability to learn how to use technology as an innovation to support the teaching and learning process, thus maximizing optimization, rationalization, and facilitation. Integrating technology into teaching and learning not only involves the productive use of computers and software but also the use of the internet and computer networks for teaching and learning purposes. Technology brings dynamics to teaching and learning, placing students in control of their own learning and enabling progress in developing independence and autonomy. In the 21st century, technology is deeply integrated into every profession, and in education, it is equally important for both teachers and students. When a teacher skillfully uses modern technology, they can independently implement pedagogical tools in teaching, introducing innovations into the educational process and improving the quality of teaching.

Finding and selecting teaching methods tailored to the objectives and competencies that need to be achieved is one of the best ways to activate students and engage them in the teaching and learning process. Undoubtedly, the quality of teaching and learning is established through the interaction and communication between the teacher and students. Technology should be treated as a didactic innovation where creative interaction in the teaching and learning process leads the student towards differentiated learning, involving

them in both group learning activities and explorative and creative activities. One of the most widely used definitions of educational technology focuses on the application of technological tools and media that assist in the communication of knowledge, its development, and exchange. Their application helps improve the quality of instruction while creating interesting lessons that stimulate intellectual mobility and student engagement. Designing various teaching materials through educational technology facilitates the learning process, making the mastery of content from challenging subjects more dynamic and exciting compared to traditional lectures. Essentially, such definitions of educational technology are primarily focused on the theory and practice of using modern technology for the development and implementation of innovative educational approaches to learning and student achievements. In contrast to traditionally oriented instruction, which focused on the teacher, contemporary education is centered on students and their engagement, which can be achieved precisely through the application of educational technology.

In that sense, benefits for students are numerous such as expanded opportunities for personalized learning, more collaborative classrooms, and new strategies such as so-called “flipped learning,” in which students are introduced to the subject material outside the classroom (often online), with classroom time then being used to deepen understanding through discussion and problem-solving activities with peers. Ahmad and Nisa (2016) define educational technology as a process in which modern technology is used in an organized and systematic way for improvement, betterments, and enhancements of the quality of the education. In other words, technology means systematic, organized application of scientific, or others organized knowledge to practical work. It is considered opinion that the quality of instruction can be improved if educational technology principle, techniques and practice are applied. The quality of teaching and learning in schools can be attained. Educational technology acts as catalyst for quality teaching and learning is effective only when used to enable learning with richer content, pedagogy, valid assessments, and links between in and out-of-classroom learning. Therefore, educational technology depends on theatrical knowledge from different disciplines (communication, psychology, sociology, philosophy, artificial intelligence, computer science etc.) Plus, experiential knowledge from educational practice. In the relevant literature, educational technology is also seen as a field of study that investigates the process of analyzing, designing, developing, implementing, and evaluating the instructional environment and learning materials in order to improve teaching and learning. It is important to keep in mind that the purpose of educational technology is to improve education. Firstly, goals and needs of education must be defined and then teachers use all their knowledge, including technology, to design the most effective learning environment for students.

However, there are opposing views in the literature regarding the simplification of learning through technology. For example, author Prensky (2001) argues that technology in the education process supports students' thinking processes, improves their focus on learning, enhances the process of understanding and connecting content, and facilitates its transfer to long-term memory. Furthermore, he claims that the widespread use of information and communication technologies encourages changes that extend to all areas of human life, not just education. However, there are authors who sharply criticize his views, considering that he overly simplifies the presentation of digital technologies in the education context. They also dispute his assertion that teachers simply must change their

pedagogical approaches to adapt to young people, the "digital natives," thereby directly ignoring essential elements of the nature of learning.

However, Cabero and colleagues (Cabero et al., 1990) could be classified as supporters of Prensky's views, as they provided their arguments years earlier by synthesizing the characteristics of innovative technologies. These characteristics include interaction, driving force, innovation, high parameters of image and sound quality, digitization, and its impact more on processes than on products, automation, interdependence, and diversity. All these features contribute to the success of learning. The ability of teachers to maintain students' interest and intellectual alertness while effectively managing the classroom climate and the teaching process turns a lesson into an art. The use of technology in education has indeed transcended the boundaries of communication between students and teachers, enhancing the learning experience. These authors also add that the effective implementation of techniques, methods, and strategies in teaching improves effective learning, particularly supporting four key components of learning: active participation, teamwork, frequent interaction/feedback, and a real connection between the classroom organization process and the classroom climate. Thus, technology can be considered an important integrative, dynamic, contradictory, and educational discipline (Cabero, 2020).

Such a transition from traditional instruction to interactive instruction creates learning processes that allow students to create, work together, and make the learning process engaging like a game. The teacher, using a unique methodology, provides solutions to a series of problems, highlighting the importance of creativity in the use of technology. Therefore, assistance in training teachers is more than necessary, especially because it enables them to implement a new curriculum based on competencies and introduce didactic innovations in the learning process where the student is at the center, and education takes on an inclusive character.

3. MODELS OF TECH INTEGRATION IN CLASSROOMS

Technology integration can be defined as the convergence of educational technologies, tools, curricula, and content, aiming not only to refine teaching and learning strategies but also to enhance the overall learning outcomes for students. In the realm of education, technology integration involves the meaningful use of technology to attain learning objectives. Specifically, it is a process focused on improving and supporting the educational environment, teachers, instruction, and student learning. Davies and West (2014) emphasize that technology integration in education is a dynamic process wherein educators intentionally incorporate digital tools and resources into their teaching practices to elevate the learning experience. It goes beyond simply having technology in the classroom; it revolves around how teachers strategically employ it to make teaching and learning more engaging, challenging, and effective. Successful technology integration should always align with educational objectives and instructional goals. It is not merely about having students use computers or other devices; rather, it aims to enhance their comprehension and engagement with the subject matter. The effective incorporation of technology in the teaching process ensures opportunities for more collaborative, interactive, and student-centered learning experiences. The significance of technology integration in teaching is particularly evident in the development of students' digital literacy skills, which are crucial for navigating the challenges of the 21st century. Numerous

research studies and scholarly articles offer a comprehensive overview of some of the existing models of technology integration and the commonly identified barriers. Technology integration models are theoretical frameworks designed to assist teachers, researchers, and others in the educational field in contemplating technology integration in meaningful ways. These models encompass various frameworks, with the SAMR and TPACK being among the most widely used models, emphasizing the importance of aligning technology with pedagogy and content knowledge. Both models provide a conceptual basis for understanding the integration of technology in the classroom. The SAMR model is a four-level taxonomy that delineates how technology impacts teaching and learning. As mentioned by Arantes (2022), it can be utilized to design, implement, and evaluate learning experiences. According to Hamilton and colleagues (Hamilton et al., 2016), the SAMR model illustrates how technology can be integrated into a task with the intention of modifying learning, transforming from lower levels to enhancing at the upper levels. More specifically, the SAMR model categorizes different types of technology, their usage, and how they influence the learning outcome (Walsh, 2017; Romrell et al., 2014). This progression is achieved through substitution, augmentation, modification, or redefinition, where the first two stages (substitution and augmentation) fall under the category of "enhancement," while the latter two (modification and redefinition) fall under the category of "transformation." In the initial stage, substitution, one form of technology is simply replaced with another without any substantial change. For instance, this could involve substituting traditional activities and materials with their digital counterparts. In this stage, there is no fundamental alteration to the content; rather, the change lies in the method of delivery. Educational technology (EdTech) serves as a direct substitute for traditional practices, tools, or processes without a significant functional change. Substitution strategies not only save time and space but also offer a more accessible introduction to technological soft skills compared to modification and redefinition strategies. This stage provides students with a comfortable introduction to new technology before teachers proceed to transform their learning approaches. Moving on to the augmentation stage, technology is employed to enhance the learning process beyond what was achievable with traditional methods. At this point, technology changes the function of the task by introducing interactive digital enhancements such as comments, hyperlinks, or multimedia. While the content itself remains unchanged, students can leverage these digital features to elevate the quality of the lesson. EdTech, during the augmentation stage, goes beyond mere convenience; it adds value to the learning process. This stage may offer students a clearer understanding of complex topics or engage them in ways traditional methods cannot. Regarding introductory aspects, augmentation strategies facilitate more independent and student-centered learning. By utilizing technology as a source of information, students can initiate active learning without the constant need for teacher-led instruction. The third stage in the SAMR model, known as modification, involves leveraging technology to bring about a comprehensive transformation in the education delivery process. Unlike the first two stages, technology in this stage is not merely a medium for making incremental improvements; instead, it becomes the catalyst for a complete transformation of the learning experiences. Essentially, EdTech is employed to design interactive and dynamic tasks for students that surpass the constraints of traditional classrooms. For instance, learning management systems like Google Classroom, Moodle, and Canvas are used to manage logistical aspects of running a classroom, including posting assignments, messaging students, tracking grades, updating materials, grouping students,

and more. This approach fosters a more collaborative and dynamic class culture, encourages interactive activities and lively discussions, adopts a multimedia-rich approach to research, and facilitates peer-to-peer collaboration or knowledge sharing during interactive activities and features, shared documents, online interviews, or in large groups. Moreover, students can actively engage with their peers in real-time, enhancing their communication and critical-thinking skills. Additionally, they can participate in slower-paced, asynchronous discussions through online forums or email threads. The fourth and highest level of the SAMR model is redefinition. This advanced stage involves using technology to create entirely new learning opportunities, signifying a complete transformation of the task and opening new avenues for student learning.

For instance, students can express and present their ideas in more engaging and creative ways by developing multimedia presentations or other interactive audio or video materials, rather than traditional research papers. They may conduct research on various topics and teaching content by using virtual pen pals to connect with students worldwide who share similar interests or with experts in the field, facilitating the exchange of opinions and knowledge. Virtual field trips enable students to visit and explore spatially distant and otherwise inaccessible places, allowing them to embark on exploratory journeys around the world right from their classrooms. Additionally, they can leverage digital storytelling tools such as Storybird or Voicethread to create and share their own stories and reports, incorporating creative expression through a combination of text, images, and audio. The possibilities are numerous, but it's crucial to bear in mind that redefining learning has the potential to establish connections between learning and the real world, yielding authentic outcomes. Furthermore, it equips students with robust technological soft skills, including digital collaboration, communication, digital literacy, and the ability to adapt to new systems and processes. Another model for integrating technology into the teaching process is the TPACK framework. Although it is often compared to the SAMR model, they differ significantly in scope. The TPACK framework centers around three main areas of knowledge: Technological Knowledge (TK), Pedagogical Knowledge (PK), and Content Knowledge (CK). It provides a constructive approach to many of the dilemmas teachers encounter when incorporating educational technology (EdTech) into their classrooms. Walsh (2017, p. 30) describes these areas as follows: "Content Knowledge (CK) involves knowledge about the subject matter being taught; Pedagogical Knowledge (PK) pertains to an understanding of teaching methods and how students learn, and Technology Knowledge (TK) encompasses the know-how of using technologies productively with an understanding of their affordances and impedances. By distinguishing among these types of knowledge, the TPACK framework outlines how what is being taught (content) and how teachers impart that content (pedagogy) must form the foundation for any effective integration of EdTech. To enhance students' learning experiences, this order needs to be respected because the selected technology implementation must align with content and support pedagogy. All three areas interact with each other, and they are combined and recombined in various ways within the TPACK framework. In addition to the mentioned areas, other variations may be present: Technological Pedagogical Knowledge (TPK), Pedagogical Content Knowledge (PCK), and Technological Content Knowledge (TCK). First, TPK describes the knowledge of how to teach using necessary tools, i.e., the relationships and interactions between technological tools and specific pedagogical practices. Specifically, Technological Pedagogical Knowledge (TPK) encompasses teachers' comprehension of how particular technologies can alter both teaching and

learning experiences by introducing new pedagogical affordances and constraints. It focuses on understanding how such tools can be effectively integrated with pedagogy in ways that are suitable for the discipline and the development of the lesson at hand. Secondly, Pedagogical Content Knowledge (PCK) involves knowledge about teaching techniques that are specific to the content, emphasizing the relationships and interactions between pedagogical practices and specific learning objectives. PCK represents teachers' knowledge in foundational areas of teaching and learning, such as curriculum development, student assessment, and reporting results. PCK aims to enhance learning by establishing strong connections between content and the pedagogy used to convey it. Thirdly, Technological Content Knowledge (TCK) refers to knowledge about how tools work with the content, highlighting the relationships and intersections between technologies and learning objectives. It characterizes teachers' understanding of how technology and content can mutually influence and challenge each other. TCK also involves understanding how subject matter can be effectively communicated through different educational technology offerings, considering which specific EdTech tools might be best suited for particular subject matters or classrooms. Walsh (2017) observes that the TPACK framework encourages teachers to view technology as more than just an add-on and prompts them to consider how technology supports the content being taught and how pedagogy might change. The emphasis is on the practical utility of technology integration rather than its mere popularity. While integrating technology is a complex task, teachers are confronted with the challenge of incorporating technology into their classrooms and making informed choices about the technologies they choose to integrate. Consequently, this model can serve as a valuable guide for teachers, offering insights into effective technology integration in the classroom. The key objective is to comprehend how to use technology to teach concepts in a manner that enhances student learning experiences. As suggested by various authors, the benefits of this framework are manifold, serving as: (1) a constructive approach for contemplating how teachers could integrate educational technology into the classroom; (2) a measure of teachers' knowledge, potentially influencing both training and professional development offerings for teachers across various experience levels; (3) a valuable tool for explicating the types of knowledge most essential for successful technology integration in the classroom (Bas & Senturk, 2018; Koehler & Mishra, 2005; 2006).

Ling and colleagues (2014) highlight that all types of TPACK knowledge are shaped by various contexts, encompassing training, institution, discipline, and community, which collectively influence how a teacher perceives and applies their knowledge. Educators can gauge the current extent of technology integration in their classrooms and pinpoint areas for improvement by juxtaposing TPACK and SAMR. Additionally, they can evaluate which model aligns most effectively with their teaching approach and the learning requirements of their students.

However, integrating technology can pose a significant challenge because, as noted by Kimmons and Hall, there are "plenty of models to choose from; the problem is not that a useful model cannot be found but that deciding upon a model can be a complex task" (2018, p.29). Despite the notable advancements in the field of educational technology (EdTech), which impact the improvement, accessibility, and quality of education across all levels, teachers continue to encounter various obstacles and barriers in its efficient and effective application. Predictably, there is also a noticeable generational gap when it comes to adapting to the digital age, and numerous scholarly resources in recent years have

emphasized the compelling reasons for the feasibility of a systematic, structured approach to implementing modern technology to enhance educational outcomes.

4. BARRIERS OF EDTECH INTEGRATION

Teachers encounter several critical questions when incorporating educational technology into contemporary teaching: (1) What technology should be used? (2) How should technology be utilized? (3) How can technology be aligned with contextual constraints? (4) How can technology be effectively employed to support learning goals?

These questions revolve around the selection, methodology, adaptation, and functionality of technology. Teachers grapple with numerous challenges, described as obstacles or situations that impede the success of the teaching and learning process. Francom (2020) rightly suggests that teachers in today's world are facing the dual challenge of integrating technology into their classrooms while ensuring that curriculum standards are met. Throughout this process, various factors emerge as obstacles to the successful and appropriate integration of educational technology. While there is a long list of complex factors influencing the emergence of difficulties and barriers, a few stand out based on a detailed analysis of relevant sources and modern research, with teachers particularly emphasizing these challenges based on their own experiences.

The first significant group of barriers involves a lack of equipment and the unreliability of technology, commonly identified as the most prevalent issues. Specifically, these challenges fall under the category of cost. State-of-the-art technology often demands substantial investments and given that some technologies become obsolete within a few years, it is unsurprising that schools with limited budgets exercise caution regarding such expenditures. This issue has two sides of the same coin. On one side, a scarcity of technology is often viewed as a difficulty, particularly in schools located in underdeveloped areas. This barrier may arise due to various factors, with the cost of equipment and insufficient financial resources or special funds for providing adequate and functional equipment being the most common reasons. On the other side, teachers in schools with available technology often highlight its unreliability, citing frequent downtime, interruptions, outdated technology, failures during teaching, improper functionality, outdated technology, unlicensed software, and similar issues.

The second group of obstacles involves a lack of professional development, serving as another barrier, given that programs are often overly technical and lack practical applications in the classroom. Due to the evident gaps in professional development, teachers frequently find themselves grappling with these challenges independently. In some cases, teachers may use digital technology in their personal lives, but when attempting to apply it in the classroom, they encounter serious technical, logistical, and pedagogical issues. As a result, Cuhadar (2018) suggests that the technological competency level of teachers is intermediate or lower. Issues stemming from the integration of digital technologies at a personal level can be linked to their underutilization or their mechanical and educationally meaningless use. The insufficient quality or effectiveness of training programs further compounds the problem associated with the inadequate professional development of teachers in the implementation of EdTech. The main deficiency appears to lie in plans to incorporate technologies into training that focused on operational rather than strategic levels. Improvements have been made in the allocation of equipment and teacher

training, but plans addressing the various dimensions affected by the change, with policies corresponding to the identified needs, are lacking. According to a BECTA study (2004), the issue of training is undoubtedly complex, as it is crucial to consider several components to ensure the effectiveness of training. These components include time for training, pedagogical training, skills training, and the use of EdTech in initial teacher training. Newhouse (2002) emphasized that some initial training is necessary for teachers to develop the appropriate skills, knowledge, and attitudes regarding the effective use of EdTech to support student learning. He argued that continuous professional development is also required to maintain appropriate skills and knowledge. However, there is a recognized deficit in digital literacy among teachers – a lack of competence that would help ensure that the integration of digital technology is neither random nor underutilized but rather planned and suitable for meeting real educational needs. Researchers have reported that even when teachers and students have sufficient access to educational technologies, adequate training in technology use, and confidence in their abilities to apply it, not all of them actually use technology in the classroom, and those who do may not always use it effectively (Choy et al., 2009; Bauer & Kenton, 2005; Overbaugh & Lu, 2008; Shapley et al., 2010; Woolfe, 2010; Zhao, 2007). Finally, another one interesting fact can be added to this barrier, which is the impossibility of establishing a balance between the work schedule of teachers and the offers of educational programs oriented to teacher training for the application of EdTech in the teaching process.

The third group of barriers involves a lack of time and resistance to the adoption of new technology. Teachers express that technology demands a significant amount of their time in terms of evaluating it, planning for its incorporation, and balancing it with all other aspects of teaching. Several recent studies indicate that many teachers possess competence and confidence in using EdTech in classrooms, but they still use technologies minimally due to a shortage of time. According to Sicilia (2005), the most common challenge reported by all teachers was the insufficient time for planning technology lessons, exploring different internet sites, or delving into various aspects of educational software. She concluded that teachers spend much more time designing projects that include the use of EdTech than preparing traditional lessons. Additionally, with all the other requirements and tasks placed before modern teachers, finding time to explore technology becomes challenging. Regarding resistance to the adoption of new technology, many authors believe that this difficulty is significantly influenced by the attitudes of teachers. It is understandable that time-constrained teachers may be apprehensive about adopting new classroom tools, especially in the absence of support at the school level. This aligns with Bingimlas' perspective that change might not be easily accepted, and there could be some degree of resistance (Bingimlas, 2009). Schoepp's study (2005) found that while some teachers felt there was an abundance of technology available, they did not believe they were adequately supported, guided, or rewarded for integrating technology into their teaching. According to Empirica (2006), teachers who do not use EdTech still hold the opinion that its benefits are unclear or nonexistent. In their study, Cox and associates (1999) discovered that teachers are unlikely to embrace new technology in their teaching if they perceive no need to change their professional practice. They demonstrated that teachers who resist change are not rejecting the need for change but lack the necessary education to accept these changes and are provided with insufficient long-term opportunities to understand the new technologies for themselves.

The fourth group of barriers includes implicit beliefs of teachers. Teachers' beliefs refer to their ideologies about the usefulness and challenges associated with technology integration, influencing their decision to incorporate technology into instructional time (Kopcha, 2012). Based on teachers' personal and collective experiences with integrating new technology into their workflow, some undergo a process of negative negotiation. This means that teachers negotiate with their preconceptions of technology in a way that makes them feel they are wasting time and energy on it, negative stereotypes are reinforced, and feelings of frustration and anger predominate. Additionally, the generational gap poses an obstacle, as older teachers often sense and perceive the gap between themselves and their younger colleagues more than the younger ones. Despite their efforts to adequately engage in a learning environment designed for their much younger counterparts, the alienation and sense of distance are heightened. In the presence of young colleagues adept at using modern technology, a conducive environment is created for the development of a sense of discomfort among older participants (Jovanović, 2019). They end up adopting technology inefficiently, and a considerable number of them are convinced that the role of teachers will undergo significant changes through the application of EdTech, rendering them unnecessary from a professional standpoint and causing a loss of identity. Some teachers with a more traditional orientation believe that the teaching methods based on the old school model should not be altered, asserting that any introduction of innovation can only be detrimental, rather than beneficial, to both the teacher and the student. These individuals display a reluctance to leave their comfort zone and are unwilling to invest time in preparing interactive materials, persistently favoring the economy of time associated with adhering to established traditional teaching patterns. They are strongly attached to the belief that nothing can replace lecturing (*ex cathedra* work) and they feel comfort with the status quo. In addition to this, there are tendencies between some teachers that are formed as a result of the experiences of teachers in their own learning life, i.e. teachers' teaching behaviors were affected by their experiences when they were students. More precisely, *habitus* affect the integration of technology. Absolutely, it can be foreseen that these trends will affect not only technology integration but also the entire teaching-learning behavior of teachers. The fact that the tendencies arising from past experiences have such an effect on the individual's behaviors reveals the importance of teacher education. A teacher can also hold ability beliefs which are all about self-efficacy for teachers to use tools and resources.

Finally, in the fifth group of barriers, there is a lack of skills and pedagogical knowledge. The first one pertains to a deficiency in using EdTech, which can certainly influence teachers' perception of themselves as not competent enough or erode their self-efficacy and confidence. Newhouse (2002) discovered that many teachers lacked the knowledge and skills to use EdTech, and they were not enthusiastic about the changes and integration of supplementary learning associated with incorporating technology into their classrooms. The second one involves teachers' experiences related to the lack of pedagogical knowledge in the sense that available training did not contribute to their understanding to learn and develop skills for integrating content-specific methods, thus hindering their ability to effectively engage students. Current research has shown that the level of this barrier differs from country to country. In developing countries, research has reported that teachers' lack of technical competence is a primary barrier to their acceptance and adoption of EdTech (Pelgrum, 2001). The results of the research conducted by Balanskat and associates (2006) indicate that many teachers in Denmark still choose not to use EdTech in teaching situations because of their lack of digital skills rather than

pedagogical or didactic reasons. Meanwhile, in the Netherlands, teachers' ICT knowledge and skills are no longer regarded as the main barrier to EdTech use.

One simple barrier to technology integration has nothing to do with technology itself but with schools' long histories of launching new reforms and initiatives, then failing to follow through or adequately equip teachers. Hew and Brush (2007) conducted a major research study in K-12 schools, identifying six main categories of barriers to technology integration in terms of general obstacles: (1) resources (including time, access to equipment, and technical support); (2) institution (leadership, class scheduling, and school planning); (3) subject culture (including how technology fits with general attitudes and institutionalized practices of an area of study); (4) attitudes and beliefs (about technology's benefits and relevance); (5) knowledge and skills (lack of technology skills and knowledge, specifically in classroom management and pedagogy); (6) assessment (including high-stakes testing). Similarly, author Nagel (2013) also identifies six barriers, such as a lack of adequate, ongoing professional development, resistance to change, competition from new models for schooling, few opportunities for informal learning, failures in personalized learning, and assessment gaps in implementing new practices. Ertmer (1999) categorizes barriers to EdTech integration into primary and secondary. Primary barriers are considered external obstacles, not specific to individuals, such as limited resources or lack of technical support. On the other hand, she suggests that secondary barriers are internal obstacles, such as a lack of confidence or different mindsets. This differentiation also involves a distinct outlook, considering the difficulty of effecting change, as secondary barriers are more deeply rooted. The author deems secondary barriers more complex and challenging to overcome. According to some authors, recognizing the barriers existing in a given context that influence teaching staff and the organization of teaching is crucial (Peansupap & Walker, 2006; Mercader & Gairín, 2020). Mitigating their influence or eliminating them is the initial step for the full integration of EdTech, they emphasize.

When analyzing barriers to technology integration in education, it becomes evident that the previously described obstacles are primarily associated with teachers. Therefore, emphasis should be placed on teachers' knowledge, skills, attitudes, beliefs, and inclinations toward integration after addressing external barriers to achieve technology integration. Clearly, barriers manifest in various forms and at multiple levels within the school structure.

5. CONCLUSION

Upon reviewing the literature, it is evident that researchers generally agree that complete technology integration remains elusive. Despite a clear understanding of the factors influencing technology integration, resolving these issues remains a challenge. Supporting and motivating all teachers in the technology integration process is crucial, necessitating backing from educational institutions and curricula. Several strategies identified in the literature aim to address and overcome barriers to EdTech integration in teaching and learning processes, offering valuable insights. Establishing a shared vision and technology integration plan, addressing resource constraints, shifting attitudes and beliefs, conducting professional development, and reassessing assessments are among these strategies. Taking initial steps to address equity issues, investing in comprehensive professional development programs, providing necessary resources and support, and

fostering collaborative efforts involving policymakers, educators, and stakeholders could be pivotal. While these steps may appear modest initially, their implementation requires considerable time and involves complex substeps to advance the overarching vision and mission for the improved role of EdTech in the contemporary educational landscape, ensuring progress in 21st-century education. Perhaps the key to success lies primarily in reshaping the attitudes and beliefs of teachers, as they can be perceived as the factor hindering effective technology integration, even after external barriers like technology availability and educational access have been addressed. Consequently, future initiatives should prioritize influencing a shift in teachers' beliefs and preconceptions about EdTech. Emphasizing robust educational policies is crucial, but equally important is the need to implement improvement programs tailored to provide a personalized experience for teachers, addressing their educational needs, teaching domain specifics, and availability. Ultimately, fostering learning through design, experimentation, and exposure to a wider audience should garner equal attention from students, teachers, and the broader population.

Acknowledgement: This study was supported by the Ministry of Education, Science and Technological Development of the Republic of Serbia (Contracts No. 451-03-68/2022-14/200165 and No. 451-03-68/2022-14/200148) and it is prepared as a part of the project *Popularization of science and scientific publications in the sphere of psychology and social policy, conducted at the University of Niš – Faculty of Philosophy (No. 300/1-14-6-01)* and project *Affirmation of pedagogical theory and practice in contemporary society, conducted at the University of Niš – Faculty of Philosophy (No. 300/1-14-5-01)*.

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BARIJERE IMPLEMENTACIJE OBRAZOVNE TEHNOLOGIJE U SAVREMENOJ NASTAVI

Apstrakt

Savremena obrazovna tehnologija usmerena je na unapređenje tradicionalnih nastavnih metoda, nastavnih veština i kompetencija, apostrofira racionalnu primenu tehnoloških sredstava u cilju olakšavanja procesa učenja, optimizacije nastavnog procesa, a samim tim i osnaživanja kvaliteta obrazovanja i nastave. Ipak, uprkos vrhunskim dostignućima u oblasti obrazovne tehnologije koja utiču na unapređenje, dostupnost i kvalitet obrazovanja na svim nivoima, nastavnici se i dalje suočavaju sa različitim faktorima i preprekama u njenoj efikasnoj i efektivnoj primeni. Sasvim očekivano, primetan je i generacijski jaz u pogledu prilagođavanja digitalnom dobu, a brojni naučni resursi poslednjih godina skreću posebnu pažnju na očigledne razloge izvodljivosti sistemске, strukturirane metodologije primene savremene tehnologije za unapređenje obrazovnih rezultata. Pregledom literature predstavljene su različite barijere integracije obrazovne tehnologije u nastavni proces, koje potiču od samih nastavnika. Cilj je sticanje jasnijeg uvida u postojeće prepreke integracije obrazovne tehnologije u nastavu na bazi dubinskog teorijskog i analitičkog pristupa, a pre svega izvođenje određenih relevantnih zaključaka iz kojih bi mogle proisteći implikacije za buduće akcije i unapređenje kvaliteta nastave i učenja.

Ključne reči: barijere, obrazovna tehnologija, nastavnici, nastava, kvalitet



CHARACTERIZATION OF SOME EDUCATIONAL TECHNOLOGIES IN CYPRUS AND STRATEGIES FOR HIGHER EDUCATION

UDC 37.02:004; 37.018.43:378.6(564.3); 371.13:377.8

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Abstract. *The report provides an overview of the status of some educational technologies in schools in Cyprus. It follows the technological integration in Cypriot public schools as well as in public and private higher education institutions. The emphasis is on the vision of establishing Cyprus as a regional educational center that uses distance learning technologies. Issues such as the need to restructure the education system to eliminate the lengthy bureaucratic procedures required to implement innovation, the need for continuous support for teachers and professional development, and the need for assessment, accreditation and support for private higher education institutions. The role of these institutions is clarified and concrete proposals are presented for how these institutions can lead the development of technology strategies to shape education in Cyprus and the Eastern Mediterranean region. Several of the issues raised and discussed can be transferred to other countries and similar contexts. The research thesis refers to the study of the identification of the characteristics of some educational technologies in Cyprus and the integration of the characteristics in education towards strategies for higher education. Retrospective analysis, situational and comparative analysis, generalization, synthesis, analysis and different scientific approaches – research, problem, inductive-deductive approach, complex approach and others – are included in the research.*

Keywords: *educational, schools in Cyprus, technological, institutions, strategies*

1. INTRODUCTION

Over the years, Cyprus has a proven track record in generating high-quality scientific knowledge recognized worldwide. Already at the beginning of the 21st century, globally recognized centers of scientific excellence were built, which gradually developed within

Received February 01, 2024/Accepted May 12, 2024

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the framework of research and academic institutions. At the same time, a significant number of companies on the island compete on an equal footing and establish partnerships with foreign technology firms and multinational companies. Despite the good reported achievements, the country's innovation performance over the past five years remains at lower levels compared to most countries in Europe, making the transformation of the scientific knowledge generated by the Cypriot scientific community into innovation and value one of the most significant challenges that they have to deal with. People and companies engaged in active scientific activity are committed to improving national innovation performance, which requires developing a functional system composed of all the necessary building blocks, where stakeholders interact sufficiently with each other and the benefits are shared derive from synergies and alignment of objectives. Scholars are of the opinion that research needs to address this effort as a new culture, way of thinking and way of life. We also believe that innovation and the new knowledge-based society must be built on modern Cypriot education - in its wider dimension – where the education system, family and society work in a harmonized and systematic way to promote critical and creative thinking among the younger generation, starting from an early age. In our view, research and innovation policy should be far-sighted and driven by an ambitious vision and should guide the system effectively at all levels. It should ensure the active participation of all key stakeholders – from the private sector to the academic and research community and government – ensuring that policy meets the reality of the needs of innovation actors, as well as ensuring their commitment along the implementation path.

We believe that the currently implemented strategic framework in the effort facilitates the development of the national research and innovation policy, which is reflected in the Implementation Action Plan. We see a strategic framework and the national research and innovation (R&I) policy as essential factors for sustainable economic and social development and prosperity, which can provide significant political, technological, social and financial benefits.

2. INVESTMENTS IN THE RESEARCH AND INNOVATION IN A STRATEGIC CONTEXT

Investments in research and innovation have been shown to generate large and significant returns for businesses, economies and society; they contribute, among other things, to the development of new skills and cooperation networks, accelerating the development and production of high-tech products, services and value-added processes and increasing productivity and profitability for the business sector. They also support the development of entrepreneurship and a highly competitive business sector and industry, attracting foreign investment, increasing product exports and generally increasing the gross domestic product (GDP) of a country. Analyzing this vision, we find that the strategic framework for research and innovation activity under the title "Innovating Cyprus" is oriented around nine pillars and factors of strategic importance.

For the realization and successful operation of this objective, an implementation roadmap has been developed for the initial period of the strategy, 2019-2021. The proposed roadmap will be updated and further enhanced in accordance with the progress and development in the national research and innovation ecosystem as and with the support of additional case studies and the development of a detailed strategy for research and innovation activity. Achieving the development goals requires, in our view, a significant

increase in national research and development (R&D) investment, which is an important indicator of the maturity and effectiveness of national research and innovation ecosystems. Adopting an ambitious national target in Cyprus of R&D spending reaching 1.5% of GDP by early 2024 would mean an additional €280 million, according to the Finance Ministry. According to the tasks in the Strategy, they will be directed annually to the national R&D ecosystem, which will lead to the strengthening of research and development activity and will help Cyprus to climb from the 25th place to one of the top 12 places in the EU in the intensity of investments in R&D.

It is pleasing to note that in terms of the financial flows needed for the R&D to achieve the above goal, a balanced (50% - 50%) contribution between the public and private sectors is envisaged as a first step, with the aim of moving towards the majority from private sector R&D investment at a future stage. It is envisaged here that significant incentives will be needed to encourage private companies recording R&D investments in their annual reports to capture the total value of national R&D investments. Based on the arguments presented, we believe that this strategic plan seeks a holistic approach to transformation with a clear roadmap and set of supporting actions and governance. In addition to the plan, there is also an opinion from the scientific community that an ambitious innovation target should be set for research and development, a performance aimed at being included in the group of "strong innovators" among EU countries, according to the indicators for efficiency related to innovation.

2.1. The national goals and information technology of the Cypriot research and innovation ecosystem

The Cypriot research and innovation ecosystem is expected to contribute significantly to the achievement of the aforementioned ambitious national goals. As a small country with a relatively young research and innovation system and limited resources, Cyprus needs to balance the need to create a fully developed, functional research and innovation ecosystem with the need to focus resources on priority niche areas selected based on the identified strengths and opportunities for the national innovation system, including sectoral investments in research and innovation activity.

One of the main actions that we can highlight is the implementation and effective functioning of the new research and innovation management system, which was adopted in 2018 by the Council of Ministers. The new system adopts a unified and integrated approach to research and innovation at all levels, facilitates coordination, interaction and synergy between stakeholders and actions, and strengthens stakeholder participation in policy development.

The overall focus of the R&D management system, strategy and actions are oriented towards achieving results for a national research and innovation ecosystem, increasing the competitiveness of the Cypriot economy and improving the social well-being of the population. Information and communication technologies have been proven to have a major impact on education and training around the world. Telecommunication technologies used in distance education can reduce the cost of education, improve access to education, and provide time flexibility for learners by creating both synchronous and asynchronous learning (Mason, 1994; Owston, 1997). The rapid transformation manifested as a result of technological progress has an impact on education, training and on the administration and organization of educational institutions around the world. Undoubtedly, modern society "is

an information society, which at an increasingly rapid pace implements ICT in all spheres of life and work, including in education", and "the mass penetration of digital technologies into everyday life at various horizontal and vertical levels and institutions, predetermines the development of the cultural, socio-economic and political angle of existence" (Draganova, 2023, p. 291).

One of the most critical challenges facing many higher education institutions is how to develop capacity for change and remove the barriers embedded in their cultures that prevent change and maintaining the status quo (Duderstadt, 1999). In the age of the information economy and knowledge management, it is imperative for nations and organizations to invest in continuing education and lifelong learning to maintain competitiveness in the global marketplace. Educational technologies such as the Internet, interactive satellite television, and interactive multimedia discs are widely used in technologically advanced countries around the world. However, technology alone does not guarantee a solution to educational problems. Only when used within a well-developed strategic plan will technology have a positive impact. Although Cyprus is not considered a technologically advanced nation, there have been some recent developments that are likely to shape the field of educational technology. Implementation of plans to equip all schools with computers and connect them to the Internet in the next three years begins. All European nations have established policies for the inclusion of ICT in education. Their goals are defined in the categories of equipment, software acquisition and development, teacher and student skills, and Internet use.

Cyprus has set targets in all six areas for primary, secondary and tertiary education. Our studies lead to the conclusion that at the primary level, the trend among European education systems is to integrate ICT as learning tools. Although most European countries have plans to train teachers in ICT, Cyprus does not (Eurydice, 2000a). Since the Special Evaluation Report on the Cypriot Education System – carried out in 1997 by the International Institute for Educational Planning (1997) – a number of reforms have been made in an attempt to improve the quality of education. Among these innovations is the integration of technology into all levels of classroom instruction. Efforts are currently focused on working to integrate computers and the Internet into primary and secondary schools. In schools, ICT is applied not only for presentation, but also for creating products, because it is "a requirement of the modern information society, digital competence and the application of ICT in school education and it is a state educational policy" that actively promotes and provides opportunities for learning through the means of ICT. (p. 42, pp. 44-45)

The Department of Elementary Education has established a pilot program to introduce computers and related technologies into the classroom. For example, in the 1993-1994 school year, computers were introduced to several elementary schools as a pilot project (Information Technology Group, 2000). The main goal of the project is to identify how computers can be integrated into classroom teaching in ways that will improve education and learning for all students. The pilot project is coordinated by the Information Technology Group of the Curriculum Development Division at CMEC. In this period, out of 352 primary schools, only 48 have computer equipment, which corresponds to 13.6% of all public primary schools. Analyzes show that out of 48 schools that have computers, very few have access to the Internet. In the summer of 2000, a formal decision was made to equip every elementary classroom with a computer and a color printer. In Gymnasia (Junior High School) and Lykeia (Upper High School) Informatics and Computer Introduction are currently studied. The goal of these initiatives is to provide access to computers to all

students and prepare them to be informed and critical citizens of the information age. In twelve out of a total of 31 Lykeias there are local networks installed. All Lykeia and technical schools are connected to the Internet. In this regard, all physics classrooms are equipped with at least one computer.

2.2. The teachers in the digital age and educational changes linked with ICT

Teachers have access to computers and can use them in all areas of the curriculum. Although there are plans to equip schools with technology, what is missing in most is the long-term and degree-based training of teachers. Very few of them have been trained and prepared to effectively integrate these technologies into their teaching. This applies to primary education as well as secondary education teachers. The findings and trends reflected in the Key Education Data Report show that in primary education, Cyprus spends approximately 95% of its budget on hardware and only 5% on human resources and training. Other European nations such as Finland, the United Kingdom and Greece spend between 20-47% of their budgets on human resources (Eurydice, 2000a). This is evident in the decisions made by CMEC and the allocation of funds, with government officials under the mistaken belief that equipping schools with hardware and software will lead to successful integration of technology into schools.

In many European countries, ICT is included as a mandatory part of the curriculum for students, because "the application of ICT in the educational environment is part of the modern global trends in education in conditions of digital transformations." The aim is "on the one hand, developing and improving skills for working with modern ICT and digital competences, and on the other hand, acquiring skills for using and applying ICT in education, everyday life and the implementation of lifelong learning policy and access to information. (p. 75, p. 144). This is not the case in teacher education curricula and teacher preparation programs at either the primary or secondary level. The ICT course for teacher training is compulsory in less than half of European countries (Euridica, 2000b). In Cyprus, in-service teacher training in educational technology is optional. Consequently, there are hundreds of teachers out there who are asked to integrate technology into their teaching without training in how to use technology. Therefore, we believe that only teachers who are trained to use technology will be able to successfully integrate ICT into their classrooms and guide their students to become technologically literate and able to use technology to access information, collaborate, and communicate with peers and build of knowledge. CMEC offers optional training to prepare primary school teachers to integrate technology into their teaching.

From a report by the Ministry of Education, Culture and Tourism, it is clear that between 1993 and 2010, out of 3539 teachers, only 660 of them attended a computer preparatory program, and from 2011 to 2022, out of 3543 teachers, over 877 went through computer training and have received certificates (Republic of Cyprus, 1998, 2010, 2022). Organized partnerships in collaboration with Israel offer teacher training in educational technology. A program has also been set up with the Greek island of Crete to provide online training for teachers working in primary schools. Although there are plans to expand the use of educational technology in schools, there is very little discussion of the need to reform teacher education and training programs. There is a need to address both in-service and pre-service teacher education in order to harness technology for innovation and success (Vrasidas and McIsaac, 2001).

In addition to training, ongoing support is needed (Zembylas and Reese, 1999). There is no formal plan to provide ongoing support and professional development opportunities for in-service teachers. Teacher training and support can be provided, for example, through the development of online communities with the help of private and public higher education and other institutions, within the framework of a country's technology strategy.

3. TRENDS IN HIGHER EDUCATION

Although there have been efforts to develop educational technology, empirical research on educational technology in Cyprus is in its infancy. Technology integration work is based on influence and successful experiences from other countries where teachers have received computer literacy and education (Greece, Great Britain and USA). A public university was not established in Cyprus until 1992. Several private higher education institutions have operated on the island for decades, but their focus has been on teaching rather than research and development. After the establishment of the University of Cyprus and the expansion of the Cyprus Institute of Neurology and Genetics, government spending on research and development increased significantly. For example, in January 1998 the government approved a plan to improve research and development efforts and to promote the country as a center for services, business and education. One component of this plan is the improvement of higher education provided by both public and private institutions. What looks promising for research and development in Cyprus is the gradual expansion and growth of private higher education institutions such as Intercollege, Cyprus College and Frederick Institute of Technology. Of these, we can point as a good example to Intercollege, which is the largest institution (among private and public institutions) in Cyprus with just over 4300 students enrolled for the academic year 2022-2023. It is reported that there is a delay in the recognition and accreditation of these institutions, while other countries and educational institutions around the world have established partnerships with them and offered accredited bachelor's and master's degrees for the past 20 years.

Fields in which they offer accredited degrees include: social studies, computer science, business and engineering. Recent statistics show that during the academic year 2021-2022, 23119 students studied in higher education institutions in Cyprus, 8468 of whom attended private institutions (corresponding to 64% of students) (Chrysanthou, 2022). This is a clear indication that Cyprus needs private universities and that the public higher education system cannot adequately cope with the educational needs of the majority of Cypriots.

Private higher education institutions are growing, with several of their degrees being accredited by CMEC in 2021. The number of students attending these institutions is expected to increase dramatically in the next few years after the government grants them "university" status. In addition, the government has approved special financial assistance for Cypriot students enrolled in accredited degrees, which is expected to increase the number of students enrolled in private higher education institutions. All these private institutions use English as the language of instruction and as such they can serve students whose native language is not Greek. In this way, they manage to attract international students from countries such as Egypt, Syria and Eastern Europe, as well as students from Pakistan, India and China. In the academic year 2020-2021, 38.79% of students (corresponding to 3593 students) attending private higher education institutions in Cyprus were international students (Hrisantou, 2022). With the help of distance learning

technologies, Cyprus has the potential to become a regional center for higher education. To succeed in this, the country needs the cooperation of the government to further develop the accreditation process of private higher education institutions and end the monopoly of the Cyprus State University. Building cooperation between private and public institutions will benefit education and all Cypriots (Mavroid, 2002).

Overview of educational technology projects in higher education: Over the years, Cyprus and the EU have signed several protocols for financial and technical cooperation and to provide significant financial assistance to the island. The main objective of the programs is to promote cooperation between organizations and people from different countries. At the higher education level, the exchange of students and staff is encouraged, as well as the development of joint European programmes, while at the school level the main aim is cooperation between schools from different countries. Several educational technology projects are underway at Intercollege. In addition, partnerships are being established with US universities to jointly develop online bachelor's and graduate degrees in business administration and international relations.

The Intercollege Learning and Development Center received funding through the Leonardo project to develop online learning materials for the European Computerized Driving License (<http://www.intercollege.ac.cy>). The Department of Computer Science of the University of Cyprus participates in the Multimedia Network for Innovation in Education (MENON) project. The MENON network was initiated with the support of the European Commission under the ESPRIT program of DGIII (4th Framework Programme). Network is a European organization providing information, evaluation and support services to the education and multimedia market. MENON supports educators to integrate multimedia and the Internet and supports industry to improve the quality of educational software and other products and the distribution of such products to the international market (<http://www.menon.org>). Three of the main problems associated with attempts to integrate information technology in education are:

- The bureaucratic nature of the education system;
- Lack of strategic planning; and
- Lack of teacher training and ongoing support.

4. THE CENTRALIZED STATE EDUCATION SYSTEM IN CYPRUS - ADMINISTRATIVE FEATURES

Bureaucracy – Cyprus has a very centralized state education system that proves ineffective in many ways. Any change in the educational structure – curriculum and others – requires long bureaucratic procedures that often take months and even years to complete. For example, even when elementary schools find the financial resources needed to access the Internet and connect, state education officials will not allow them to connect to the Internet. Extensive and time-consuming paperwork must be completed in order for a school to be approved for Internet access. These procedures usually take more than one academic year. Here we see the role of CMEC, which should distribute some of the responsibilities and decision-making to local authorities and eliminate long bureaucracy, procedures and documentation. Local school boards may be authorized to review applications for Internet access and make decisions based on proposals and plans for use, availability of qualified personnel, availability of funds and technology infrastructure. In this respect, the structure

of the private education sector is more flexible, allowing it to participate in innovation and integrate ICT more effectively and efficiently.

Strategic Planning – Technology is blurring the lines between traditional face-to-face and distance education, and educators are having to rethink their basic assumptions about teaching and learning. Educational institutions must be flexible and open to the adjustments introduced by technological development and changes in the educational scene and social needs. Institutions of higher education have been criticized for the following three reasons: (a) they were unable to accommodate the increasing number of students seeking education, (b) the teaching methods used in large lecture halls typical of universities were ineffective, and (c) the meaning of the academic community disappears (Daniel, 1996). He argues that “the technology that has already had a dramatic impact on most areas of human endeavor is key to the renewal of higher education” (p. 1). Technology has the potential to help reform education. However, reform efforts alone will not bring about the necessary change. There is a reciprocal relationship between reform and technology. In Cyprus, unfortunately, government officials in education have the misconception that once technology is introduced to schools, reform will automatically take place. Beyond increased funding, what will facilitate technology integration in schools is serious strategic planning and reform of pedagogical practices from teacher-to-student approaches. Digital skills will be important in the future, “and digital intelligence in the XXI century is a new form of intelligence”, which, according to T. Draganova, is precisely the use of technologies, online communication and cooperation, the development of practical, operational and technical abilities, the development of digital competences for safety and security, application of technology and artificial intelligence in education, etc. (Draganova, 2023; Dermendzhieva & Draganova, 2022).

CMEC and higher education institutions in Cyprus must emphasize both content and process, requiring them to develop technology strategies that will lead Cyprus to making it an example of educational technology, research and development center. In order to develop strategies that will be implemented successfully, all parties affected by these strategies must have input. Staff from private and public higher education institutions – including faculty, department heads, technology coordinators, government officials, and more. Teachers – must participate in the stages of planning, implementation and evaluation of technological plans. Good leadership is about “inspiring a vision of the future that is attractive to all concerned” – an essential characteristic for establishing a strategic plan (Daniel, 1996). Commercial developers and providers of educational materials are growing in Cyprus. Private companies such as Future-Kids and Computer-Kids, which offer training and degrees in computer skills, are disrupting the education market as public schools fail to prepare young people for the information age.

A similar trend is evident in higher education. Higher education should prepare technologically literate citizens who can solve real-life problems using technological solutions. Digital changes “change people's lives, professional development, education and lifelong learning” because, according to T. Draganova, “digital acceleration is also part of the educational systems at the national and global level, it provokes digital changes in pedagogical and information technologies in education, innovation and requires another level of digital competence and intelligence.” (Draganova, 2023; Dermendzhieva & Draganova, 2019). Creating a technology plan is essential because it can not only improve teaching and learning, but it can also improve productivity. If universities do not become generators of technology-based courses, their faculty will gradually become buyers' guides

and librarians for materials produced outside the academy. New uses of technology must be linked to shared academic goals and prior experience of institutional success. We fully share the view that enforcement mechanisms should emphasize cooperation, teamwork and support. (Daniel, 1996, p. 138)

The needs of students must be at the center of any technology strategy in higher education. Developing technology strategies should start with the skills and resources that are already available. In higher education institutions and at CMEC, there are often faculty and staff involved in research and development, but their efforts are not known to most of their colleagues. Therefore, we find that there is a need to establish better communication channels for educators and scholars to share ideas and collaborate on projects. Sharing work and discussing projects can help build the collegiality needed to bring faculty and staff together in planning strategy.

Additionally, they need to upgrade their telecommunications infrastructure that will allow multiple users to access online resources and programs. Another technology component that could help is the creation of a satellite uplink that will allow faculty and students to participate in videoconferencing and courses offered via satellite from other locations around the world. Intercollege recently installed a video conferencing system that allows conferencing with local and international institutions. For higher education institutions in Cyprus to take a leading role in promoting educational technology, research and development, the government needs to establish policies and procedures that will facilitate their growth. Higher education institutions should cooperate closely with all other levels of educational institutions, namely, primary and secondary. Within the strategic plan, funding for research and development is an important component. Bates (2000) posits that funding is "probably the most powerful lever for change" (p. 4).

5. CONCLUSION

The Government of Cyprus allocates insufficient funding for research and development. If Cyprus wants to engage in serious research and development to improve education and the quality of life of its people, it must take research seriously and put in place the necessary mechanisms to provide funds for training. Higher education institutions should seek research grants from corporations and the European Union. Another technology investment strategy is redistribution. Bates (2000) asserts that "reassignment is the ultimate test of an institution's commitment to teaching with technology" (p. 4). Faced with the need for change, institutions must be flexible and willing to make adjustments in the ways funds are allocated within their organization. A dominant trend in learning and professional development is the use of network technologies for distributed learning and online learning communities. One of the central ideas behind the concept of online communities is that teachers and other professionals need ongoing training and support (Zembylas & Reese, 1999). The development of online and face-to-face communities that will provide training and support for educators can address the need for continuous professional development. Such communities can be implemented within lifelong learning. With the expanded use of computer networks and distributed multimedia systems for communication, education, and training, learning is now dispersed among people, artifacts, communities, and nations around the world. As more and more countries and people connect to the internet, the web is growing and changing very quickly. The development

of computer-supported collaborative learning (CSCL) tools and online communities have greatly influenced the evolution of distance learning and distributed learning. Thus, teachers, students, scientists, researchers and practitioners from online communities can participate, work on joint projects, exchange ideas and information. Distance learning has grown from simple correspondence learning to highly sophisticated, distributed, interactive, experiential learning. A central idea behind online communities is that learning is a social process. As such, being part of a community involves building connections between what is being learned and what is important to participants, and connections between participants with similar goals. Interest in online communities is growing every day, and both corporations and educational institutions are harnessing the power of online community building for lifelong learning and continuing education. Distance learning and online communities have great potential for countries in remote locations such as Cyprus. With the rapid growth of the Internet and computer ownership in Cyprus, the possible use of Internet technologies becomes a reality. By investing in online communities, Cyprus can take advantage of the knowledge and experience of Cypriots and other scholars around the world to share some of their expertise. An example of an online community that provides a model for continuing education and professional development for teachers is developed by STAR-Online (Supporting Teachers with Resources Anywhere/Anytime) at the Center for Information Technology Applications at Western Illinois University (<http://www.staronline.org>). This online staff development provides teachers with the training, support, and communication links necessary for their continued success in the classroom. Teachers have access to mentors, colleagues and resources through a web-based Virtual Teaching and Learning (VTLC) system. Through the VTLC, teachers can participate in quality online learning modules, access resources and an online portfolio, and network and collaborate with other teachers across the country (Vrasidas, 2001). One challenge facing those who develop professional development and continuing education projects is to examine whether online communities are worth the effort and investment and whether they actually make a difference in increasing the effectiveness of an organization. Does a community approach to learning have educational value? Does participation in a community make learning immediate, practical, and real? Do participating online communities provide opportunities for participants to learn anywhere, anytime? The multicultural nature of Cyprus raises another question: is participation in communities divided by gender, ethnicity and other socio-economic factors an influence? Can we "design something like a community" online? (Barab et al., 2001). The technological challenge facing designers of online communities is related to the continuous development and improvement of tools that will allow participants to use them without a steep learning curve. Higher education institutions in Cyprus can participate in research and development of such tools, taking into account the diverse cultural background of the region. Because successful higher education institutions, with their undergraduate and graduate education offerings, as well as their contribution to research and development, are important components of education in Cyprus and the Eastern Mediterranean region. Creating a clear vision for the future is no easy task, especially when dealing with technologies that change so rapidly. The most critical challenge facing higher education institutions is how to develop the capacity to change and remove the barriers embedded in their cultures that prevent change. Technology drives reform. Reform, we believe, cannot happen without the use of technology and serious strategic planning. Creating a technology strategy within which online communities and technology-based learning can be planned and developed

to provide training, ongoing support and professional development for professionals is just one of the many ways in which establishing of Cyprus as a regional educational center.

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KARAKTERIZACIJA NEKIH OBRAZOVNIH TEHNOLOGIJA NA KIPRU I STRATEGIJE ZA VISOKO OBRAZOVANJE

Apstrakt

U radu se daje pregled statusa korišćenja nekih obrazovnih tehnologija u školama na Kipru. Praćena je tehnološka integracija u kiparskim državnim školama i u javnim i privatnim visokoškolskim ustanovama, pri čemu je dat akcenat na viziji uspostavljanja Kipra kao regionalnog obrazovnog centra, uz korišćenje tehnologije učenja na daljinu. Razmatrana su pitanja kao što je potreba za restrukturiranjem obrazovnog sistema u cilju eliminisanja duge birokratske procedure potrebne za implementaciju inovacija, potreba za kontinuiranom podrškom profesionalnom razvoju nastavnika, kao i potreba za procenom, akreditacijom i podrškom privatnih visokoškolskih ustanova. Pojašnjena je uloga ovih institucija i predstavljeni su konkretni predlozi o tome kako ove institucije mogu voditi kreiranje tehnoloških strategija za oblikovanje obrazovanja na Kipru i u regionu istočnog Mediterana. Neka pitanja koja su pokrenuta i diskutovana u radu mogu se preneti na druge zemlje i slične kontekste.

Ključne reči: obrazovanje, škole na Kipru, tehnološke, institucije, strategije



HYBRID LEARNING – THE EDUCATIONAL CHALLENGE OF THE DIGITAL AGE

UDC 37.018.43:616-036.22(497.11); 37.022:004

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Abstract. *Hybrid learning has been extensively and massively put into practice in Serbia during the COVID-19 virus pandemic. Hybrid learning is based on a flexible approach to the organization of teaching, combining face-to-face work at school with online teaching. Hybrid learning is now recognized as a developmental direction in modern teaching and learning. Studies have shown that hybrid learning can bridge the gap between face-to-face work at school, i.e. traditional and online learning, and create the conditions for greater and better results in the educational process. The advantages of hybrid learning are numerous. It allows for flexibility of space and time, availability of information, constant access to materials and learning at your own pace. It ensures that teachers monitor each student's progress and adapt content accordingly. There are also numerous disadvantages, such as reduced socialization, problems related to technology and internet access, an increased need for digital competences of both students and teachers, planning and evaluation of learning. The aim of the paper is to examine and theoretically analyze the learning model that combines face-to-face and online teaching – hybrid learning – through the concept, analysis of the basic modalities, advantages and disadvantages of this form of learning. Implications for further research were derived from the analysis of the relevant theoretical and empirical findings.*

Keywords: *hybrid learning, traditional classroom, flipped classroom, online teaching*

1. INTRODUCTION

The epidemic caused by the Covid-19 virus has brought about changes in all aspects of life. Schools, as well as other educational institutions, were not exempt from these changes. The focus of all stakeholders in the education system, as well as society as a whole, was the organization of education with the aim of maintaining continuity in working with students while finding teaching modalities that would enable successful implementation while reducing the risk of virus transmission. Online learning, or distance learning, and

Received January 05, 2024/Accepted March 08, 2024

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hybrid, or mixed forms of instruction, were something new that both students and teachers had to grapple with.

In hybrid education, traditional classroom instruction is combined with online learning through the use of digital technologies. Students engage in learning both at school and at home, and this form of education encourages their activity and independent work. Through this approach, students are prompted to be actively involved in their learning, and the accessibility of educational content facilitates the learning process and planning (Kostović-Vranješ et al., 2021).

Among other things, hybrid education represents a response to the need to adapt and adjust the teaching process to new and different conditions and situations. It also considers individual differences in students' cognitive development and recognizes variations in teaching and learning across different subjects. Additionally, it aims to increase the time dedicated to learning, enabling students to independently decide on the time, place, method, and pace of their learning (Marjanović & Veljković, 2021).

This form of education does not imply a simple organizational change in the education process, where one group of students attends classes in person while the other follows from home. Additionally, hybrid education does not involve merely transferring traditional teaching methods into an online environment (e.g., classes lasting 45 minutes according to the weekly schedule). Hybrid education allows for flexibility in teaching and learning, applying various models and approaches to organize classes, and creating a stimulating environment for independent online learning facilitated by teachers.

1.1. Definition of hybrid education

Learning in the 21st century encompasses not only traditional face-to-face learning but also online and blended learning (Tran, 2021). Allen and Seaman (2013), considering the implementation of information and communication technologies (ICT) and the delivery of educational content online, categorize education into traditional instruction, web-enhanced instruction, hybrid instruction, and online instruction.

- 0% implementation of ICT – traditional instruction (face-to-face instruction). The instruction takes place in the classroom, online technologies are not used. Classroom instruction is teacher-centered, focusing on the teacher and instructional content, with little to no use of technology. In this form of instruction, the student is mostly passive, with a predominantly listening role.
- 1% to 29% implementation of ICT – web-enhanced instruction. Technology is used to enhance traditional instruction. The teacher posts learning materials on the course website, uses web content in instruction, and communicates with students through email.
- 30% to 79% implementation of ICT – hybrid instruction. This form of instruction represents a combination of in-person and online learning. A significant portion of instructional content is delivered online, often utilizing Learning Management Systems (LMS) for delivery and management of learning materials.
- 80% and more implementation of ICT – online instruction. Instructional content is predominantly delivered online, often through Learning Management Systems (LMS), facilitating communication, content delivery, collaboration, assessment, and more. This represents the most effective and contemporary form of distance education. The teacher creates a stimulating learning environment, guides, and

directs student work, learning is realized through various activities, students take on greater responsibility for their learning, and a high degree of flexibility and individualization is enabled (according to Allen and Seaman, 2013).

All definitions of hybrid education converge on the idea that this form of teaching and learning represents a flexible approach to organizing instruction. It involves combining the best methods of traditional face-to-face teaching with lectures delivered through various internet platforms. During hybrid instruction, it is not mandatory for teachers and students to be in constant direct contact; their involvement is planned based on the given context. A central element of hybrid learning is that online resources are not used exclusively for learning, as is the case with online distance learning. Instead, their aim is to enhance and complement the concepts discussed in the classroom. Classroom learning and hybrid learning are used interchangeably.

Hybrid or blended learning offers the opportunity to provide students with engaging learning experience by combining face-to-face instruction with online learning opportunities (Sing, 2017; Singh, Steele, & Singh, 2021). Hybrid instruction involves a planned, continuous, and integrated set of educational activities that take place both in the classroom and in an online setting, with these activities complementing each other and contributing to an increase in the quality of students' educational achievements (Marjanović & Veljković, 2021). Hybrid or blended learning should be seen as an effective pedagogical approach and an opportunity for classroom socialization with positive learning possibilities using technology in an online setting (Dziuban, Hartman, & Moskal, 2004). Siegelman (2019) suggests that online interactions in hybrid learning can be conducted synchronously through real-time meeting sessions or asynchronously where students communicate at different times.

This type of instruction may become a new standard as it allows teachers to rethink and revise content, especially in disciplines where teachers have struggled to provide engaging learning experiences for students in an online setting (Rodriguez, 2020). Leszczynski and associates emphasizes that blended learning is one of the most effective methods that supports traditional types of instruction (Leszczynski et al., 2018). Blended learning is a method that requires instructors to possess pedagogical methods, digital skills, and the ability to research students' learning styles (Tran, 2021). Therefore, support for teachers in implementing blended learning is crucial. Teachers need more assistance and guidance to gain the aforementioned skills and experiences (Bruggeman et al., 2021).

1.2. Flipped classroom as a model of hybrid education

Heather Farmer has proposed six models of hybrid learning. These models range from those requiring teacher support and supervision to independent, self-regulated learning: Flipped Classroom; Hands-On with Support; Integrated Hands-On; Independent Learning; Project-Based Learning and Self-Regulated Learning. Among these models, the most well-known in our educational practice is the Flipped Classroom model.

The Flipped Classroom is a pedagogical model for designing and organizing instruction. Flipped Classroom and hybrid learning represent a combination of online and in-person instruction, but they have different starting points. While the design and planning of hybrid learning are not guided by a specific learning theory, the Flipped Classroom model is influenced by constructivist teaching approaches and the revised Bloom's taxonomy (Marjanović & Veljković, 2021). In the Flipped Classroom model, the focus

shifts from the teaching process to active student participation and learning. It creates conditions for better interaction among students and between students and teachers, fostering the development of functional digital competencies in students for educational purposes (Bojović & Stojkanović, 2022).

The observation by teachers that many students struggle to understand the material during regular class sessions has actually led to the concept of the Flipped Classroom. The ability for students to review online content as many times as needed at home is a crucial element in overcoming this issue. This learning opportunity individualizes the learning process because teachers enable each student to learn according to their needs and at their own pace.

The term "Flipped Classroom" was first used by Baker in the year 2000. The practical application of the Flipped Classroom was proposed in 2007 by Bergmann and Sams, chemistry teachers in Colorado. They recorded lectures and published video content online to facilitate students' easier access, review of instructional materials, and preparation for class.

This is a pedagogical model in which the typical elements of instruction – lectures and homework – have switched places. Students watch short video lectures at home before coming to school and use class time to become familiar with the basic elements of what they will be learning. In school, time is dedicated to more cognitively demanding activities such as exercises, projects, or discussions, i.e., a deeper understanding of instructional content for which students need teacher support. This approach allows resources to be used wisely, and the time spent in direct contact between teachers and students is deeply meaningful (Bojović & Stojkanović, 2022).

Earlier studies have shown that better learning outcomes for students can be achieved with the flipped classroom method, specifically by integrating recorded videos with in-class learning (Tang et al., 2020). This teaching approach can positively impact redirecting students' attention toward learning. The flipped classroom model has demonstrated a positive effect on student learning, attention, and evaluation of learning (Abuhmaid & Mohammad, 2020).

Fairlie and Loyalka (2020) caution that digital tools can only successfully replace traditional forms of teaching and learning to a certain extent. They emphasize a balanced approach that should be optimal in learning, combining work on electronic devices with hands-on, tangible materials. Therefore, they propose activities such as reading books, conducting experiments at home, and projects as ways to reduce extensive reliance on technology in distance learning and teaching.

1.3. Advantages and disadvantages of hybrid learning

Studies have shown that hybrid learning can bridge the gap between traditional and online learning and create conditions for achieving greater and better results in the education process.

The advantages offered by the hybrid learning model include a wide variety of tools and resources available (platforms, materials, resources) that this form of lesson organization offers. Furthermore, it encompasses the freedom to experiment with teaching practices, the ability to tailor the learning process to individual student needs, and flexibility in terms of space and time, along with easy access to information.

The hybrid learning model ensures that teachers monitor the progress of each individual student and adjust the content accordingly. Studies show that hybrid learning and its implementation in teaching have a more significant positive impact on learning, teacher and student competencies, and improvement in learning outcomes compared to traditional instruction (Evans et al., 2020).

Recognized problems in hybrid learning include issues related to the availability of resources and technology for both students and teachers, low levels of digital competencies among students and teachers (Kostović-Vranješ et al., 2021; Saha et al., 2022), reliable communication infrastructure, necessary digital learning resources, appropriate learning tools, effective learning methods, organization of learning, and support for teachers and students (Huang et al., 2020).

A recent study by Tang et al. (2023) revealed that despite hybrid learning being a model that teachers were highly interested in, it still represented a new approach for some teachers. Teachers encountered difficulties in organizing this type of instruction, and a significant limitation in the implementation of hybrid learning was the ability of instructors to organize blended learning and teaching effectively. Instructors need to master the use of virtual teaching technologies, skills in utilizing traditional classrooms, and methods of online instruction.

Approaches that enhance learning outcomes in an online setting include well-prepared and delivered lectures, ongoing teacher participation, clear instructions and expectations, interactive and collaborative content, structured online discussions, teacher questions, clear feedback, flexible deadlines, and adequate support (Diković et al., 2021, p. 4150).

Although teachers aimed to apply teaching strategies that replicated the standard classroom dynamics, the comfort of working in an online environment created a positive feeling about using technology, leading to increased mastery of digital skills by both teachers and students (Giovannella et al., 2020). In turn, this has led to an increased perception of the sustainability of online education, with a large number of teachers considering that a blended mode of teaching should be introduced into school practice. This involves systematically incorporating distance learning as a complement to regular teaching processes, combining it with face-to-face instruction without changes to the school calendar (Tran, 2021; Giovannella, 2020).

2. CONCLUSION

Technology has changed higher education. Initially, traditional face-to-face learning was the only form of instruction. Online learning and the hybrid model – blended learning – have become widely accepted. By combining the advantages of various technologies, web tools, and learning theories, the hybrid model takes the best from both traditional and online learning. In some studies, a large number of teachers believe that a blended type of instruction should be introduced into school practice. This involves systematically incorporating distance learning as a complement to regular teaching processes, combining it with face-to-face learning.

In the digital age, it is expected that schools will increasingly combine in-person instruction with online learning, and professional development programs will be more commonly implemented using a hybrid model. Teachers' experiences during both

attendance and the implementation of online instruction serve as the foundation for successful planning of hybrid learning (Marjanović & Veljković, 2021).

There are few studies showing the effectiveness of hybrid learning and how teachers can leverage this approach to provide meaningful learning to students. Most studies have focused on either distance learning or traditional learning. It is necessary to investigate the advantages and disadvantages of these learning modes, but future research should also be directed toward exploring the benefits of hybrid learning and how participants in the education process can use it to facilitate learning.

The benefits of this paper lie in a better understanding of the perspective of hybrid learning as a foundation for further research and analysis, as well as for improving the implementation of hybrid education. Teachers have significant opportunities to enhance their teaching using various online learning and teaching platforms, not only in extraordinary circumstances but also in regular classroom instruction.

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HIBRIDNO UČENJE – OBRAZOVNI IZAZOV DIGITALNOG DOBA

Apstrakt

Hibridno učenje u Srbiji dobilo je punu i masovnu praktičnu primenu tokom pandemije izazvane virusom korona. Hibridno učenje zasniva se na fleksibilnom pristupu organizaciji nastave, koji podrazumeva kombinovanje direktnog rada u školi i onlajn-nastave. Danas je hibridna nastava prepoznata kao razvojni pravac savremene nastave i učenja. Istraživanja su pokazala da hibridno učenje može premostiti jaz između školskog rada licem u lice, odnosno tradicionalnog, i onlajn-učenja i stvoriti preduslove za postizanje većih i boljih rezultata u obrazovnom procesu. Prednosti hibridnog učenja su brojne. Ono omogućava fleksibilnost u pogledu prostora i vremena, dostupnost informacija, stalan pristup materijalima, učenje sopstvenim tempom. Osigurava da nastavnici prate napredak svakog pojedinačnog učenika i u skladu sa tim prilagođavaju sadržaj. Postoje i brojni nedostaci, kao što su: smanjena socijalizacija, problemi u vezi sa tehnologijom i pristupom internetu, povećana potreba za digitalnim kompetencijama kako učenika tako i nastavnika, planiranje i evaluacija učenja. Cilj rada jeste proučavanje i teorijska analiza modela učenja koji kombinuje direktnu i onlajn-nastavu – hibridno učenje kroz koncept, analiza osnovnih modaliteta, prednosti i nedostataka pomenutog tipa učenja. Analizom relevantnih teorijskih i empirijskih saznanja izvedene su implikacije za dalji istraživački rad.

Ključne reči: *hibridno učenje, tradicionalna nastava, izokrenuta učionica, onlajn učenje*



**PRIMARY SCHOOL TEACHERS' OPINIONS OVER THE
QUALITY OF DISTANCE EDUCATION DURING THE COVID-19
PANDEMIC: PROBLEMS AND SUGGESTIONS**

UDC 37.018.43:616-036.22; 004.7:373.3/4:371.212

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Abstract. *This paper is part of a broader study and aims to shed light on the opinions and experiences of primary school teachers regarding the quality of distance education provided during the COVID-19 pandemic in Greece. 221 primary school teachers from all over the country were asked to complete a questionnaire with open-ended questions to describe the problems they faced during the pandemic and to make suggestions to improve the quality of distance education offered. Data analysis was carried out with the Nvivo tool, using a thematic analysis of the qualitative data. Among the most frequently mentioned problems were the distant character with a lack of interpersonal connections, the exclusion of students who lack equipment or digital skills, the lack of equipment and stable internet connections, and the lack of organization for the implementation of distance education. Suggested measures to improve the quality of distance learning include the provision of technological equipment for students and teachers, in-service training of teachers, the quality of the internet, the improvement of online platforms and a better overall organization of distance education. In summary, distance education offered during the COVID-19 pandemic lacked overall organization and the necessary equipment to achieve the expected impact due to its urgency, but is in need of improvement. This research contributes to the literature on the opinions and experiences of primary school teachers regarding distance education during the COVID-19 pandemic and the suggestions for an improvement of the education provided in times of urgent state.*

Keywords: *distance education, urgent state, COVID-19, primary school teachers, opinions, Emergency Remote Teaching (E.R.T.)*

Received October 14, 2023/Accepted March 29, 2024

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1. INTRODUCTION

On March 11, 2020, World Health Organization declared Covid-19 a global pandemic. The outburst of Covid-19 pandemic caused a chained reaction to every sector of the human activity. Education was one of the most affected sectors worldwide. The lockdown measures adopted by governments globally to ensure health safety, urged the educational community to shift from a face-to-face learning to a type of distance learning (Ferri, Grifoni, & Guzzo, 2020; Günbaş & Gözüküçük, 2020). School closures resulted in the implementation of an emergency type of distance education or “emergency remote teaching” (E.R.T.). As distinguished by Mohammed et al. (2020), emergency remote teaching “comprises ultimate exploitation of the available remote teaching tools for delivering the curriculum or educational materials that would normally be delivered physically or as hybrid or blended courses” (p. 2). Although technology has been widely used for years as a tool to supplement the learning process, the shift to it being used as sole mean for learning in a remote way, especially for younger learners, was unprecedented (Tarbutton, 2018). As stated by UNESCO (UNESCO, 2020), disruptions in school function occurred in more than 190 countries, affecting billions of students.

In Greece, during the first phase of the pandemic, from March 2020 until the end of May 2020, all schools of all levels suspended their function, followed by a transition to E.R.T. For this purpose, the Greek Ministry of Education offered two online platforms, e-class and e-me, to implement education in an asynchronous form. The participation at the time was optional due to the urgent state and the lack of organization in front of the unknown. During the school year 2020-2021, there were periods of total suspension of schools in the Greek territory and transition to E.R.T., but also periods of face-to-face teaching, which varied due to regional lockdowns. The online platform of synchronous education, webex, was used for the period that schools were suspended and the participation of all students and teachers was mandatory.

This paradigm shift has provoked, immeasurable yet, consequences, challenging the effectiveness of the educational system on emergency states. Deceleration of learning progression (Feldman, 2020; Kuhfield & Tarasawa, 2020) decreased social interaction among students and peers (Guzzo et al., 2022), mental health issues (Kuhfield & Tarasawa, 2020; Marchant et al., 2021), augmentation of social and educational inequalities (Belay, 2020; Cardullo et al., 2021; Guzzo et al., 2022; Lagi, 2020; Van Lancker & Parolin, 2020) were amongst the most notable consequences. Many students had to face lack of equipment (Guzzo et al., 2022; Rasmitadila, et al., 2020) and accessibility to online platforms due to low/no internet connection (Guzzo et al., 2022; Marchant et al., 2021; Rasmitadila, et al., 2020) or/and limited digital skills (Marchant et al., 2021). Lack of private space for online learning was another issue, especially for families with many children in need to attend E.R.T. (Guzzo et al., 2022). Many students had limited or no support, technical (Guzzo et al., 2022), or pedagogical due to working or language barriers of their parents (Guzzo et al., 2022; Marchant et al., 2021), lack of proper alimentation and lack of motivation to participate in E.R.T. (Guzzo et al., 2022). As a result, many students were excluded from the educational process for a period or for the entire time of E.R.T. (Blaskó & Schnepf, 2020).

Despite the fact that online and distance education were already existing for years, their implementation in this setting, was new for many primary school teachers. This unprecedented disruption of the school function and the transit to E.R.T. posed challenges

on teachers, having to connect to their students, provide quality educational experiences and measure up to this new role, being an online teacher. Researches focusing on teachers' perspectives on emergency distance learning during the Covid-19 pandemic (Blaskó & Schnepf, 2020; Cedefop, 2020; Günbaş & Gözükcük, 2020; Guzzo et al., 2022; Hebebcı, Bertiz, & Alan, 2020; Jimoyiannis, Koukis, & Tsiotakis, 2021; Marchant et al., 2021; Rasmitadila, et al., 2020; Svobodova, Kursch, & Veteska, 2021; Tosun, Mihci, & Bayzan, 2021; Whalen & Trust, 2020), have identified the challenges, on technological, pedagogical, professional and social level, they faced during that period.

1.1. Challenges faced by teachers during the Covid-19 period

The most important technological challenges mentioned by teachers were the lack of the necessary digital equipment and the lack of accessibility due to non-existent or insufficient internet connection (Cedefop, 2020; Günbaş & Gözükcük, 2020; Hebebcı, Bertiz, & Alan, 2020; Jimoyiannis, Koukis, & Tsiotakis, 2021; Marchant et al., 2021; Rasmitadila, 2020; Svobodova, Kursch, & Veteska, 2021; Tosun, Mihci, & Bayzan, 2021; Whalen & Trust, 2020), the lack of technical support (Guzzo et al., 2022; Jimoyiannis, Koukis, & Tsiotakis, 2021) and the dysfunctional or not very interactive platforms used for E.R.T. (Guzzo et al., 2022). Technological challenges related to the location of the school were also mentioned. Schools in rural areas faced internet connection issues (Jamilah, Sukitman, & Fauzi, 2021; Tosun, Mihci, & Bayzan, 2021), while lack of devices for distance learning because of sharing with other members of the family and difficulties in using online platforms were identified in urban areas (Guzzo et al., 2022).

Regarding the pedagogical challenges teachers faced, the difficulties in creating or finding ready-to-use digital material appropriate for E.R.T. were among the most commonly mentioned (Cedefop, 2020; Guzzo et al., 2022; Rachmadtullah et al., 2020; Svobodova, Kursch, & Veteska, 2021). Many teachers stated that online learning is not suitable for K-12 ages, as students that age require a more personal, face-to-face learning process (Guzzo et al., 2022; Svobodova, Kursch, & Veteska, 2021). Class management during E.R.T. was another challenge for teachers, with students opening the microphones, writing on the chat or engaging in other activities (Rasmitadila, et al., 2020; Tosun, Mihci, & Bayzan, 2021). Many students' limited participation and parents' indifference caused great concerns on teachers during E.R.T. (Günbaş & Gözükcük, 2020; Svobodova, Kursch, & Veteska, 2021; Tosun, Mihci, & Bayzan, 2021).

Teachers also mentioned a strong preoccupation about educational inequalities that were deteriorated during the Covid-19 period due to the "digital divide" (Blaskó & Schnepf, 2020; Flack et al., 2020; Rasmitadila, et al., 2020; Svobodova, Kursch, & Veteska, 2021; Yang, 2020). The participation of children with special educational needs (Marchant et al., 2021; Svobodova, Kursch, & Veteska, 2021) and the inappropriate home environment for E.R.T. were also a point of concern for teachers (Guzzo et al., 2022). Another important concern mentioned by teachers regarded students' mental health and participation (Flack et al., 2020; Guzzo et al., 2022; James et al., 2021; Marchant et al., 2021; Yang, 2020) and a decline of social interaction between students (Flack et al., 2020; Guzzo et al., 2022; Marchant et al., 2021; Yang, 2020).

As part of the professional challenges, teachers reported a lack of official training, communication, support, and clear instructions by the government, as well as lack or inadequate digital skills, necessary knowledge and experience to implement remote

teaching (Cedefop, 2020; Jimoyiannis, Koukis, & Tsiotakis, 2021; Marchant et al., 2021; Tosun, Mihci, & Bayzan, 2021; Whalen & Trust, 2020). Another burden for teachers was the exposure to parents or other members of the family during the online lessons and in many cases their interventions in the process (Rasmitadila, et al., 2020). Challenges were also faced on a personal level, with increased work load due to E.R.T. (Kaden, 2020; Zhang, 2020) and difficulties in balancing the requirements of personal and professional life (Jimoyiannis, Koukis, & Tsiotakis, 2021; Marchant et al., 2021; Svobodova, Kursch, & Veteska, 2021).

In order to overcome the lack of digital devices or internet connection that impeded students' access to E.R.T., many teachers reached to their students using asynchronous methods, such as recorded videos and electronic boards to make the assignments available to all students. Others employed phone calls, whats up and e-mails (Guzzo et al., 2022; Rasmitadila, et al., 2020).

Apart from the challenges, teachers identified some positive aspects regarding E.R.T., such as the safety and security of health for both teachers and students (Guzzo et al., 2022), the familiarization with new digital tools and methodologies (Guzzo et al., 2022; Hebebcı, Bertiz, & Alan, 2020) and the enhancement of their digital skills (Guzzo et al., 2022). Flexibility in space and time was another positive aspect highlighted by teachers, providing the ability to be in contact with students even in urgent circumstances (Marchant et al., 2021). Moreover, the learning process did not get completely interrupted. The E.R.T. offered a solution to keeping students attached to school and the learning process and maintained the sense of belonging to a community (Guzzo et al., 2022; Hebebcı, Bertiz, & Alan, 2020).

1.2. Recommendations for future improvements

Provision of digital equipment and internet accessibility for both teaching staff (Guzzo et al., 2022; Marchant et al., 2021), as well as families (Guzzo et al., 2022; Marchant et al., 2021; Tosun, Mihci, & Bayzan, 2021) and technological support for teachers and families (Marchant et al., 2021; Tosun, Mihci, & Bayzan, 2021) were overemphasized by teachers. Training for families and students on distance, online learning and development of digital skills was also pointed out (Cardullo, Wang, Burton, & Dong, 2021; Marchant et al., 2021; Tosun, Mihci, & Bayzan, 2021). Developing more functional and interactive tools and platforms, that also promote accessibility for students with special educational needs is of high priority (Guzzo et al., 2022). The availability of meaningful digital material is essential for effective remote learning (Guzzo et al., 2022), such as AI and AR (Shraim & Crompton, 2020). Creating motivation for children to participate in online learning is also of great importance (Guzzo et al., 2022).

As professionals, teachers request official training on digital skills for the teaching staff to be able to correspond to the increased demands of E.R.T. (Marchant et al., 2021; Noor, Isa, & Mazhar, 2020). Moreover, teachers outline that communication about work should only occur during the working hours in order to ensure teachers' personal time and life (Marchant et al., 2021).

Finally, teachers highlight the need for school and helpline support of the parents that face difficulties supporting their children due to various barriers (Guzzo et al., 2022; Marchant et al., 2021). Additionally, they urge to prioritize on students' well-being and physical health, as well as mental health and social interactions (Marchant et al., 2021),

and provide opportunities for students to socialize with peers at the beginning and ending of lessons (Guzzo et al., 2022).

In Greece, as in other countries around the world, one of the measures taken to secure national health at the face of Covid-19 pandemic, was the suspension of face-to-face teaching at schools and the transition to an E.R.T. The aim of this paper is to reflect on the opinions and experiences of Greek primary school teachers regarding the problems they faced during this urgent state and make recommendations to improve the quality of the provided distance education in the future.

Our research questions investigate the following:

Question 1: What challenges did you face during the implementation of E.R.T.?

Question 2: Can you express some recommendations for future improvements of E.R.T.?

2. METHOD

Our research explores the opinions and experiences of educational counselors, school directors, teachers, parents and students of Greek primary schools regarding the distance education provided during the COVID-19 pandemic. This paper, as part of the broader research, aims to shed light to the opinions and experiences of in-service primary school teachers regarding the quality of the distance education provided during the COVID-19 pandemic in Greece.

2.1. Participants

In our survey participated 221 primary school teachers, 159 (71.9%) women and 62 (28.1%) men. Out of the participants, 22 (1%) were under the age of 30, 44 (19.9%) ages 30-34, 18 (8.1%) ages 35-39, 36 (16.3%) ages 40-44, 16 (7.2%) ages 45-49 and 85 (38.5%) ages 50 and more. Regarding their digital skills, 61 (27.6%) teachers mention that they have excellent technological knowledge, 75 (33.9%) very good knowledge, 58 (26.2%) good knowledge, 26 (11.8%) mild knowledge, while 1 teacher had no relevant knowledge.

A combination of recruitment methods was used in order to increase the reach and uptake of the survey. A considerable number of teachers participated in the survey. Special care was given in collecting sample from various geographical areas around the Greek territory (rural, semi-urban, urban, and metropolitan areas) and include teachers from the mainland, as well as from the islands. A total of 221 in-service primary school teachers working in primary schools across Greece completed the survey either online or in printed form.

2.2. Instruments

Primary school teachers were asked to fill in a questionnaire in printed or online form. The questionnaire included 40 open-ended and closed questions about various aspects of the educational transition during the Covid-19 pandemic. The open-ended questions presented in this paper focus on revealing the challenges posed on primary school teachers

during the school years of 2019-2020 and 2020-2021 and their recommendations on ways to improve the distance education provided in a future need.

2.3. Procedure

The research took place from January to May 2022, during which time, participants were asked to fill in a questionnaire and at the same time, interviews with a subgroup of the participants were conducted. Information sheets about the aims of the study and personal information privacy were distributed to the participants. Ethical and overall approval of the study was provided by the Greek Ministry of Education on December 2021 (approval number: 166083/19-12-2021). All participants were able to withdraw from the research at any point. All personal data such as school names were anonymised, while both printed and electronic questionnaires were registered with a special identification code and original data were only accessible to the researcher. Aside from pre-existing schools already engaged in the research, all primary schools listed by the Ministry of Education and Foreign Affairs were contacted via email inviting their staff to fill in the online questionnaire. Next, the survey was shared with key education stakeholders (e.g. local authorities, regional education consortia) to disseminate through their networks. Consequently, the qualitative data collected through the open-ended questions in the questionnaire were analyzed.

2.4. Data analysis

For the purpose of accenting participants' individual experiences, thematic analysis was used for analyzing the data with the Nvivo tool. Codes for the thematic analysis were formed based on the research questions of the study and the literature review. Every participant was assigned a special identification code.

3. SURVEY RESULTS

3.1. Challenges faced through E.R.T.

Numerous challenges were highlighted by teachers, namely pedagogical, technological, professional and personal.

According to the results from our survey presented in fig. 1, the majority of teachers stated that the lack of a more personal communication and interaction between teachers and students and among students was one of the main pedagogical challenges they had to face ("There was no actual communication with the students"). The impersonal environment of online platforms that provided minimum opportunities for interaction ("The online environment was impersonal and didn't promote an authentic pedagogical process"), along with the restricted timetable for primary schools ("The timetable was wrong. During that time students wanted to eat and sleep") and the poor internet connection that resulted in closed cameras ("There were many problems with students' internet connection causing difficulties in attending the online classes"), resulted in students and

teachers feeling alienated and aggravated the feeling of loneliness during the period of E.R.T.

A very important pedagogical and social challenge was the rise of inequalities. During E.R.T. many students from vulnerable social or economic groups, lacking digital equipment (“Many students in my school were using their parents’ smartphones. When parents had to go to work, they could not participate”), internet connection or having language barriers were left out (“There were to children in my classroom which had no internet connection and one was getting a connection from a café nearby and the other one from a neighbor”). Many children required assistance from their parents, who, because of difficulties in language (“Many parents with language difficulties tried to compensate, but it was difficult for me as well to support them efficiently”) lack of education or digital skills (“Many parents had no digital skills to support an online education or solve technical issues that occurred”) and work occupation (“Both parents were working all day, children had to attend on their own, with no help”), were unable to support them. Children with special educational needs that required a differentiation in the methods of the learning process, or extra assistance were also excluded from the educational process, as online support was unavailable in most of the cases (“Students with A.D.H.D. could not stand in front of a screen for so many hours”).

From a pedagogical aspect, many teachers condemn the lack of flexibility over the timetable that was imposed for younger ages. They support that the time chosen to implement E.R.T. on primary schools (14:10-17:20) was highly unsuitable for students this age (“The timetable chosen for primary school was absolutely inappropriate. At this time children complained that they were tired and hungry”). Moreover, teachers claim that E.R.T. was inferior to face-to-face teaching regarding the quality of the education provided, the way it was provided and the educational outcomes (“I think the whole process was incomplete, with no particular interest for children, no school context, no meaningful interaction between children. Therefore I believe that E.R.T. was a necessary evil, but it can’t replace the face-to-face education”). A very important issue that was outlined, was the excessive amount of time that both teachers and students had to spend in front of screens, expressing concerns about health issues. Both teachers and students presented symptoms of exhaustion, headaches, and eye pain (“Unnecessarily spending too much time in front of screens, especially for younger children”).

Technological challenges, such as the lack or poor internet connectivity, the lack of the necessary infrastructure and equipment for teachers and families, were expressed. Lack or absence of internet connectivity was a major issue and many teachers and students faced problems being “put out” of the platforms, not being able to attend the lesson as a whole. Particular regions, like islands and rural areas had to face continuous problems with internet connectivity (“Unfortunately internet connectivity was a major issue, since most of the times it was bad, or insufficient. We live in a remote island, with many disruptions due to the weather”). Regarding the infrastructure, many teachers with children in primary schools mentioned a lack of adequate digital equipment, due to E.R.T. timetable overlapping and the need to use many digital devices at the same time (“Families with many children could not support multiple devices for all their children to attend”). The problem was extended to families with many children studying in primary school and the need to participate in E.R.T. at the same time, resulting in many children participating with the use of smartphones which provided limited access or no participation (“Participation with smartphones caused many limitations, not all the options of the platforms were available”).

Teachers also expressed concerns about data privacy and security on the platforms used for E.R.T., as well as concerns about the open cameras especially for younger students (“There were many issues with data privacy and the security of online platforms which in many cases was compromised”).

The digital skills, necessary for such an attempt, was another challenge that was underlined, for both teachers and parents/students. Digital skills were not developed promptly and adequately. Many senior teachers had no previous experiences with online platforms and environments for synchronous and asynchronous teaching and had to overcome these without any central assistance from the Ministry (“Support by the Ministry came in great delay and was insufficient. The Ministry was despicable. They literally threw us to the wolves”). Many students, especially of younger ages, although familiar with new technologies, were in many cases unable to use them on an educational setting without the assistance and support of an adult/older sibling (“Children from the first Grades required technical and pedagogical assistance”).

Professional challenges, namely, the absence of teacher training programs and clear instructions over the process and pedagogical approaches for E.R.T. were among the most mentioned ones. Teachers felt unprepared for this overnight transition to E.R.T. and the lack of clear instructions common for everyone was chaotic. The lack of organization and support by the Ministry were some of the main issues. Teachers implemented pedagogical approaches used in face-to-face instruction in this new online environment, lacking the necessary training on new pedagogical approaches suitable for the specific use (“We were not prepared for E.R.T. Many teachers didn’t even know how to use a computer, not to mention deliver an online lesson”). Another issue was the lack of a digital library with ready-to-use digital material. An unprecedented transition like this, urged teachers to use digital material available online (“There were no organized digital material for E.R.T., available for us to use. We had to spend all day browsing through various websites to find or create something appropriate to use”). The fact that there is an information and material abundance online, required teachers to spend enormous amounts of time to browse through the material, select the appropriate one and organize it in lesson plans, resulting in an exhausting workload. Many teachers highlight the physical and mental exhaustion and burnout symptoms during E.R.T. (“The workload during E.R.T. was indescribable. I was

in front of a computer from early in the morning until very late at night, having to prepare the lesson, or receive and correct assignments”).

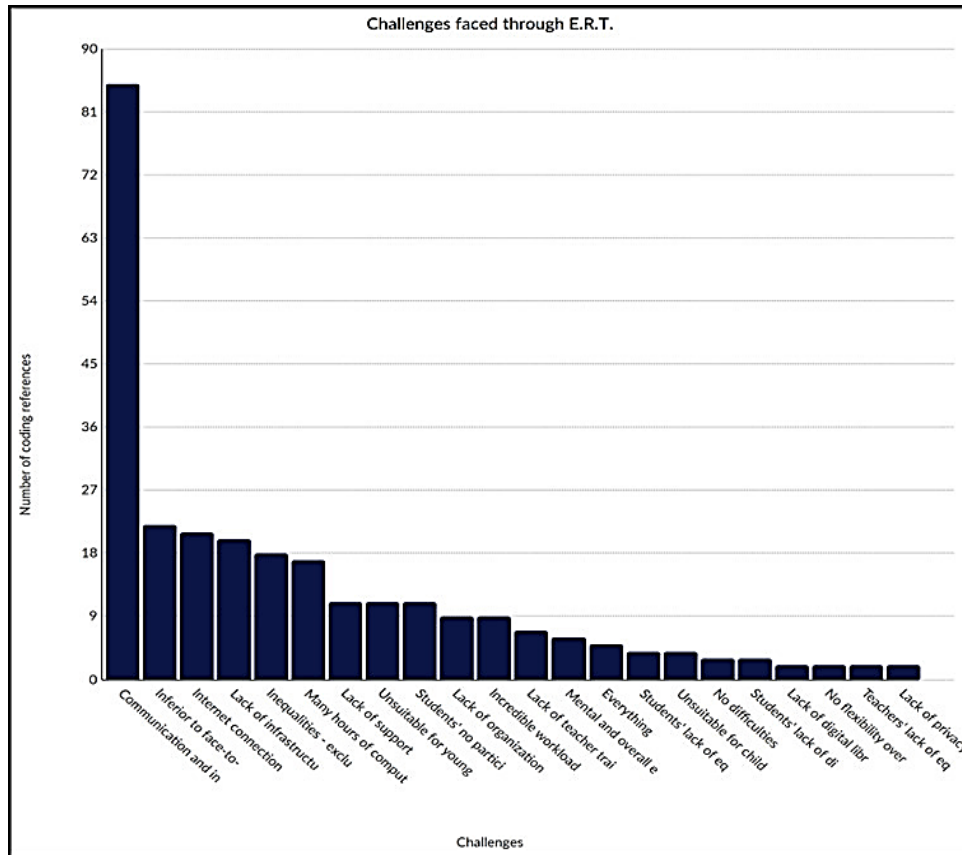


Fig. 1 Challenges faced through E.R.T.

3.2. Recommendations for future improvement

In this survey teachers were also asked to make some recommendations for the future improvement of E.R.T. (Fig. 2). Teachers recommended some actions that should be undertaken by stakeholders to provide a more efficient and inclusive distance education in future need. Among the most frequent recommendations was an efficient, central organization by the Ministry of Education with clear instructions for everyone involved in order to avoid the challenges faced due to its urgent state of implementation in the past. Teachers demanded future distance education to have clear goals and means of implementation, along with technological support by experts, to avoid confusion and disappointment (“All the stakeholders should be more prepared and organized regarding future implementation of online education”).

Many teachers suggest that E.R.T. in the form that was implemented was unsuitable for younger students and should be avoided, or used only in emergencies and the Ministry should avoid its overuse (“E.R.T. was an urgent solution and should remain this way”). The differentiation of E.R.T.’s timetable for younger ages was also mentioned, a flexible change that would create a more flexible environment, closer to younger students’ needs (“Online education should be conducted only during morning hours for primary school”). Smaller groups of students in every online classroom and extended online classroom hours were also recommended. Some teachers propose implementing E.R.T. along with face-to-face education, supplementing and reinforcing its outcomes, but not as a sole means of education, being implemented on its own (“Online education should only be supplementing face-to-face education and not replacing it”). Of high importance are actions that take into consideration the exclusion of vulnerable groups that have occurred in the past. Future actions should prioritize the need for an inclusive educational process and minimize the “digital divide”, with support on every level (infrastructural, technological, pedagogical, lingual), with the development of more inclusive and accessible tools, platforms and devices in order to facilitate the access of disadvantaged children and children with special educational needs or disabilities (“There should be some help on families that can’t support their children due to language, financial, educational, or other barriers”).

Teachers outlined the need for digital equipment, as well as fast and reliable internet connection for schools, teachers, and families (“The Ministry should provide the necessary digital equipment for E.R.T.”). The upgrade of schools’ digital infrastructure is reported to be of high importance (“The Ministry should upgrade schools’ digital infrastructure”). Fast and reliable internet connection, provided freely for the implementation of E.R.T. would aid in the reduction of educational inequalities (“Free internet access should be provided to everyone for educational purposes”). Other technological issues are also highlighted, such as the need for technological support for teachers and families. Both teachers and families were left stranded without any help, to figure out the way to make E.R.T. work. All day support by experts on technological issues, would give both teachers and parents more confidence and motivation to work on E.R.T.

In order to plan, organize and implement meaningful lessons, teachers need to participate in meaningful and prompt training courses to improve their digital skills and help them become part of a new, technological learning process (“There should be constant, step-by-step, teacher training on platforms and applications in order to improve the quality of synchronous and asynchronous E.R.T.”). Moreover, teachers need to be supported on a pedagogical and technological level. Actions related to the pedagogical aspects, should include the creation of new, inclusive educational processes and methodologies for teaching and assessment in distance education (“Online education can not be implemented without prior educational research and organization with a pedagogical background”). The creation of a digital repository, a digital library of ready-to-use material for distance education would be of great aid for teachers trying to organize their lessons in a plethora of information (“The creation of a digital repository with appropriate ready-to-use educational material available to all teachers is necessary”).

Improvements on the platforms used for E.R.T. were recommended, in order to focus and emphasize on interactivity features and a more friendly environment for younger students (“Improvements on the platforms for online education would provide a more friendly and interactive environment”). Facilitation of communication and interaction between teachers and students, as well as between students would motivate students to

participate more actively. Improvements on data safety issues in the platforms was also recommended, as it was a main concern for both teachers and parents (“Access to online classes should be granted with identification and use of personal security codes for students in order to ensure the security of everyone involved”).

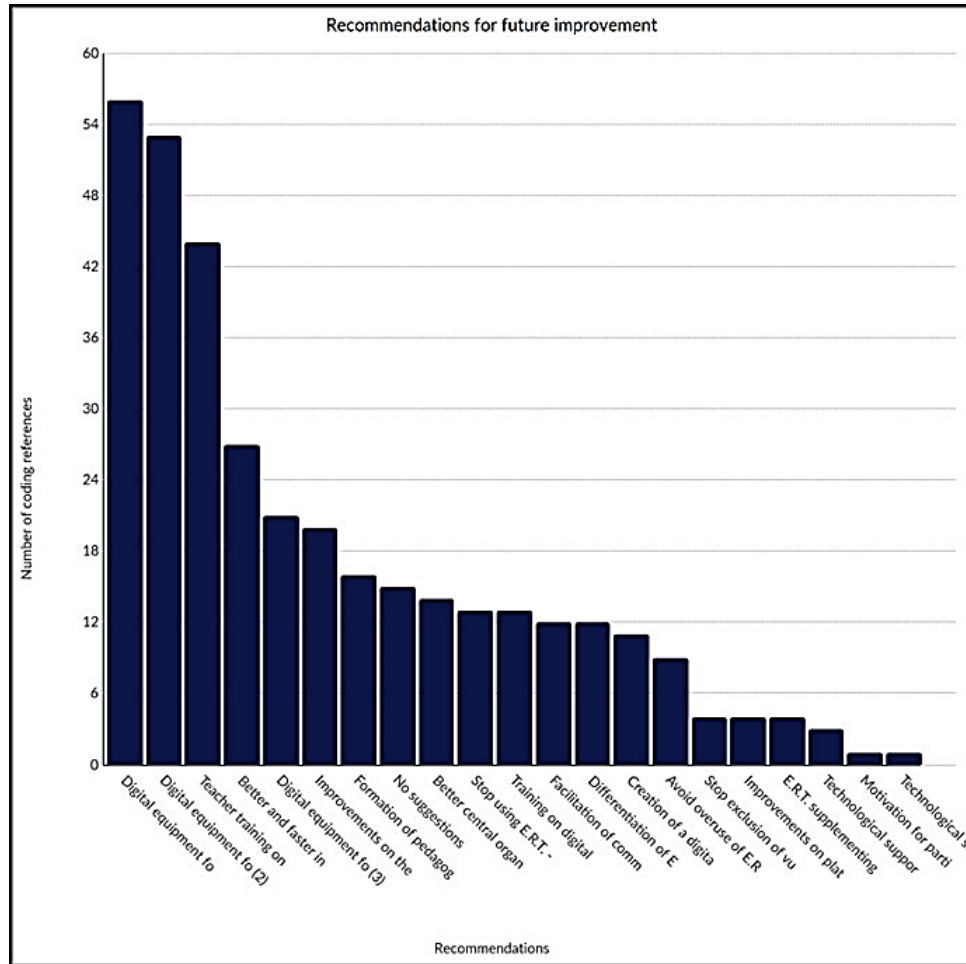


Fig. 2 Recommendations for the improvement of E.R.T.

4. CONCLUSION & DISCUSSION

Technological advances have provided us with the tools to overcome physical barriers and create meaningful learning environments for students (Tarbuton, 2018). The urgent event of Covid-19 pandemic though, has brought in surface many deficiencies in the educational process, some of which are mentioned in this paper. Our research findings are in accordance with findings for other researches (Blaskó & Schnepf, 2020; Cardullo,

Wang, Burton, & Dong, 2021; Ferri, Grifoni, & Guzzo, 2020; Günbaş & Gözüküçük, 2020; Marchant et al., 2021; Guzzo et al., 2022; Jimoyiannis, Koukis, & Tsiotakis, 2021; Rasmitadila et al., 2020; Svobodova, Kursch, & Veteska, 2021; Tosun, Mihci, & Bayzan, 2021; Whalen & Trust, 2020). Teachers in Greek primary schools seem to be facing the same challenges, as teachers in other countries across the world. This suggests the unpreparedness of the educational system in front of an emergency state and the need for a radical change. The transition to an E.R.T. has made clear that the school system needs to be technologically updated in order to respond to current needs. Challenges, such as provision for digital devices, internet connectivity, training on digital tools, availability of digital educational material and a clear pedagogical framework, as well as pedagogical and technical support for both teachers and families, are of high priority for a functional, efficient distance, online education to be succeeded. Since remote teaching may be implemented in future emergency states, the challenges highlighted by teachers in this study and brought forward by literature, need to be resolved so as to avoid the most significant consequence of the school disruption during the Covid-19 pandemic, the augmentation of educational inequalities. However, in some countries, like Estonia, E.R.T. is not solely being linked to emergencies, but is providing an alternative for families who travel a lot, who work abroad, or have specific needs. Regardless of the role that E.R.T. might play in the future, the need for a more inclusive and interactive online learning experience sets some prerequisites for governments around the world, to identify the consequences of the school disruption on everyone included in the learning process and develop strategies to cope with the inequalities that have occurred.

5. LIMITATIONS & FUTURE RESEARCH

Although the study includes a variety of primary school teachers spread over the Greek territory, mainland, and islands, from rural to semi-urban, urban and metropolitan areas, it is not a statistically representative sample. Future research should focus on identifying inequalities before and after a crisis and provide a functional framework to resolve them based on the perspectives of the people involved. Moreover, further research should collect

and reflect on teachers' suggestions on how to make online, distance learning more inclusive and interactive.

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MIŠLJENJE NASTAVNIKA OSNOVNIH ŠKOLA O KVALITETU OBRAZOVANJA NA DALJINU U VREME KOVID-19 PANDEMIJE: PROBLEMI I PREDLOZI

Apstrakt

Ovaj rad, kao deo šireg istraživanja, ima cilj da rasvetli mišljenja i iskustva nastavnika osnovnih škola o kvalitetu obrazovanja na daljinu tokom pandemije kovid 19 u Grčkoj. Od 221 nastavnika osnovnih škola iz cele zemlje zatraženo je da popune upitnik sa pitanjima otvorenog tipa kako bi izrazili probleme sa kojima su se suočili tokom vanrednog stanja i dali predloge za poboljšanje kvaliteta obrazovanja na daljinu. Analiza podataka sprovedena je pomoću Nvivo alata, korišćenjem tematske analize kvalitativnih podataka. Distanciran karakter sa nedostatkom međuljudske veze, isključenost učenika bez opreme ili digitalnih veština, nedostatak opreme i stabilne internet konekcije i nedostatak organizacije za sprovođenje nastave na daljinu bili su među najčešće prijavljenim problemima. Obezbeđenje tehnološke opreme za učenike i nastavnike, stručno usavršavanje nastavnika, kvalitet interneta, kao i unapređenje onlajn-platforni i bolja ukupna organizacija obrazovanja na daljinu istaknuti su kao predložene akcije za poboljšanje kvaliteta istog. Došlo se do zaključka da obrazovanje na daljinu, koje je sprovedeno tokom pandemije kovid 19, kao rezultat vanrednog stanja, nije imalo sveukupnu organizaciju, kao ni neophodnu opremu da bi imalo očekivani efekat, ali su nastavnici voljni da rade na njegovom poboljšanju.. S obzirom na to da sadrži konkretne predloge za unapređenje obrazovanja u vreme vanrednog stanja, doprinos istraživanja ogleda se u obogaćivanju literature koja se odnosi na mišljenja i iskustava nastavnika osnovnih škola o obrazovanju na daljinu tokom pandemije kovid 19.

Ključne reči: obrazovanje na daljinu, vanredno stanje, COVID-19, učitelji, mišljenje, nastava na daljinu u hitnim slučajevima (E.R.T.)



EXPLORING DIFFERENT CHATGPT PROMPT ENGINEERING TECHNIQUES USEFUL TO TEACHERS OF SCRATCHJR PROGRAMMING IN LESSON PREPARATION

UDC 371.3:004.8

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Abstract. *The revolutionary potential of artificial intelligence (AI) has the ability to transform education, and there are already available solutions like ChatGPT that contribute to this advancement. Extensive research in this field has raised various questions. The main objective of this study was to examine the impact of three different prompting techniques on the outcomes produced by ChatGPT. Typically, prompts consists of three main components: the task, the instructions to be followed and the role that the model should assume. In this exploration, ChatGPT was tasked with creating a programming blocks lesson plan in ScratchJr, assuming the role of a teaching expert for young children. For this research, the selected prompt techniques were as follows: standard prompting with role, instructions, and seed-word prompt; "Zero, One and Few Shot prompting"; and "Let's think about this" prompting. In all three prompts, the responses consistently aligned with the given task and existing literature. Despite these similarities, noticeable differences were observed. The response to the first prompt, which was based on standard prompting, closely resembled human-like understanding of the task. The activities were tailored for preschool children aged 5-7 years. However, the other two prompting techniques led GPT to generate lesson plans intended for students older than 7 years, even though ScratchJr is designed for children aged 5-7. Additionally, in all three cases, the AI recommended software to be installed on tablets OR computers, despite the fact that tablets are the platform recommended by the software authors. The first significant finding of this study highlights the remarkable capacity of GPT to emulate human-like responses. The results obtained indicate that a carefully tailored standard prompting approach, augmented with an additional role and seed-word definitions, can be the preferred strategy for teachers when generating lesson plans using ChatGPT.*

Keywords: *prompt engineering, prompt techniques, ChatGPT, lesson plan, ScratchJr programming*

Received January 05, 2024/Accepted March 15, 2024

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1. INTRODUCTION

In recent times, the field of artificial intelligence (AI) has experienced remarkable advancements, with several solutions such as ChatGPT, Bard, CICERO, Midjourney, and others gaining the attention and interest of researchers and users.

Progress in natural language processing (NLP) has led to the development of powerful language models like the Generative Pre-trained Transformer (GPT), encompassing large language models such as ChatGPT and GPT-4. These models have undergone pre-training on vast text data and have demonstrated impressive capabilities across various NLP tasks, including language translation, text summarization, and question answering. ChatGPT, specifically, is a versatile conversational chatbot built on the GPT-3 language model by OpenAI (Zhai, 2022). It has displayed potential in diverse fields such as education, healthcare, reasoning, text generation, human-machine interaction, and scientific research. As per its description (Adiguzel, Kaya, & Cansu, 2023), ChatGPT is a robust machine learning software employing the Generative Pre-trained Transformer (GPT) algorithm to generate responses resembling human language based on textual inputs.

The transformative power of AI holds the potential to revolutionize education, with tools like ChatGPT and other existing solutions. Typically, ChatGPT is employed for tasks like content creation, research assistance, and language learning, including coding in computer languages. Numerous studies in this area delve into various topics, ranging from the effectiveness of learning (Flogie & Aberšek, 2019; Firat, 2023) to academic integrity and honesty (Sullivan, Kelly, & McLaughlan, 2023; Karthikeyan, 2023; Wolfram, 2023; Cotton, Cotton, & Shipway, 2023). More than 80 methods for enhancing teaching and learning utilizing AI are outlined in (Skrabut, 2023).

The extensive datasets utilized to train pre-trained language models enable them to acquire significant linguistic and factual knowledge. Prompt engineering techniques can then be applied to customize these models for specific tasks. This paper explores the experiment of modifying user prompts within specific domains, such as teaching programming languages tailored for young children.

2. PROMPT ENGINEERING BASICS

Despite GPT's impressive capabilities, it has the potential to generate outputs that sound plausible but are untrue, blurring the line between reality and illusion (Bender et al., 2021). Prompt engineering involves crafting input prompts that elicit precise and useful responses from Large Language Models (LLMs) (Petroni et al., 2020). Engineers can gain a deep understanding of GPT's abilities and limitations to design prompts that guide the model to generate valuable insights while minimizing the risk of generating false information or illusions.

In the realm of education, prompt engineering is essential to mitigate these risks and harness GPT's full potential. As AI technology continues its rapid advancement, the ability to effectively communicate with AI systems, known as prompt engineering (PE), has become a highly valuable skill. Prompt engineering techniques are versatile and applicable to a wide range of tasks, making them valuable tools for individuals seeking to enhance their efficiency in both routine and cutting-edge activities.

Various approaches to prompt engineering techniques have been defined through experiments. A tentative four-stage process related to the use of Midjourney and text-to-image prompting (Ruskov, 2023) outlines the stages as follows:

1. Initial Prompt
2. Composition Adjustment
3. Style Refinement
4. Variation Selection

Practical considerations for prompt engineering techniques (Whately, 2022) propose three principles:

- Be Specific in Instructions: Provide clear and specific instructions in the prompts.
- Break Work into Chunks: Request the model to divide its task into smaller parts, similar to how you would with a human.
- Self-Check and Improvement: Instruct the model to review and enhance its own output.

The specific format for a prompt (prompt formula) typically comprises three main elements (John, 2023): a task statement specifying what the prompt expects from the model, instructions guiding the model's text generation process, and the role the model should assume while generating text.

There are numerous prompt engineering techniques that can be employed with ChatGPT. John (2023) discusses more than twenty different types of prompts that can be utilized depending on the task or role at hand.

3. METHOD

3.1. Prompt Task and Role Definition

For the purpose of this exploration, the task what the prompt is asking the model to generate is creation of the lesson plan for teaching programming blocks in ScratchJr.

The role is a teaching expert – teacher or preschool teacher capable to perform IT education with young children.

ScratchJr is a beginner programming tool aimed at young children, aged 5 to 7 years, which provides an open studio environment for them to learn fundamental programming concepts such as sequencing, looping, procedures, and branching (Portelance, Strawhacker & Bers, 2016; Flannery et al., 2013; Bers & Resnick, 2016) (Fig 1.)

Teacher usually use ScratchJr with curriculum “Animated Genres” (Portelance, Strawhacker & Bers, 2016; Developmental Technologies Research Group at Tufts University, n.d.) designed by the same authors. The curriculum is divided into three modules based on three interactive genres: collage, story, and game. Each of these modules is comprised of two units: a series of lessons that introduce ScratchJr features and programming blocks and an opportunity for children to create their own projects by applying concepts learned in module lessons.

Lessons defined in this curriculum can be used as a starting point for comparing results obtained from GPT.



Fig. 1 ScratchJr Interface

3.2. Prompt Techniques

For the purpose of this research following prompt techniques are selected:

- Standard prompting with role, instructions and seed-word prompt,
- Zero, One and Few Shot prompting and
- “Let’s think about this” prompting.

3.2.1. Standard prompting with role, instructions and seed-word prompt

Standard prompts are a simplest way to direct the output of ChatGPT by defining a specific task for the model to complete and prompt formula is “Generate a [task]”. Standard prompts can be combined with other techniques like role prompting and seed-word prompting to enhance the output of ChatGPT.

According to our task and role definition, standard prompting technique is as follows:

Task: Generate a lesson plan for teaching motion programming blocks in ScratchJr.

Instructions: The lesson plan should be realistic and should be appropriate for preschool children.

Role: Teacher of IT education or preschool teacher.

Seed-word: “Appropriate for children aged 5 to 7 years.”

Prompt formula: “As a teacher of IT education, generate a realistic lesson plan for teaching motion programming blocks in ScratchJr, appropriate for teaching children aged 5 to 7 years.”

3.2.2. Zero, One and Few Shot prompting

Zero-shot, one-shot, and few-shot prompting are techniques used to generate text from ChatGPT with minimal or no examples and prompt formula is “*Generate text based on [number] examples*”. They are useful in situations when there is limited data available for a specific task or when the task is new and not well-defined. These techniques can be used to generate text based on a model's understanding of the task or examples provided.

For our task, prompting technique is as follows:

Task: Generate a lesson plan for teaching motion programming blocks in ScratchJr.

Prompt formula: “Generate a realistic lesson plan for teaching programming blocks in ScratchJr with one example (motion blocks).”

3.2.3. “Let’s think about this” prompting

In order to encourage ChatGPT to create contemplative texts, ones can use “Let's think about this” prompt technique. Despite opinion that this technique is useful for tasks such as writing essays, poetry, or creative writing author decided to try its efficiency in generating less creative texts. The prompt formula is simply the phrase “Let's think about this:” or “Let’s discuss:” followed by a topic or question.

As stated in [15], “this prompt is asking for a conversation or discussion about a specific topic or idea. The speaker is inviting ChatGPT to engage in a dialogue about the subject”.

For our task, prompting is as follows:

Task: Generate a lesson plan for teaching motion programming blocks in ScratchJr.

Prompt formula: “Let’s think about this: the lesson plan for teaching motion programming blocks in ScratchJr.”

4. RESULTS AND DISCUSSION

4.1. Standard Prompting with Role, Instructions and Seed-word

[ChatGPT Prompt A]: “As a teacher of IT education, generate a realistic lesson plan for teaching motion programming blocks in ScratchJr, appropriate for teaching children aged 5 to 7 years.”

[ChatGPT]: “Sure, here’s a sample lesson plan for teaching motion programming blocks in ScratchJr to children aged 5 to 7 years:”

Lesson Plan: Introduction to Motion Programming Blocks in ScratchJr.

Objectives:

- To introduce children to the concept of motion programming blocks in ScratchJr,
- To teach children how to use the motion programming blocks to create simple animations,
- To encourage children to explore and experiment with the motion programming blocks to create their own unique animations.

Materials Needed:

- ScratchJr app installed on tablets or computers,
- Sample animations created using the motion programming blocks,
- Whiteboard or chart paper and markers.

Lesson Outline:*1. Introduction (10 minutes):*

- Greet the children and introduce the topic of motion programming blocks,
- Ask if any of the children have ever used ScratchJr before, and if so, what they have created using it,
- Show a few sample animations created using the motion programming blocks, and ask the children what they think is happening in each animation.

2. Explanation of Motion Programming Blocks (10 minutes):

- Explain to the children that the motion programming blocks are used to make characters or objects move around the screen in different ways,
- Show the children the “Move” and “Turn” blocks, and explain what each block does,
- Demonstrate how to use the “Move” and “Turn” blocks together to make a character move in different directions and turn around.

3. Hands-on Practice (30 minutes):

- Divide the children into pairs or small groups,
- Give each group a tablet or computer with ScratchJr installed,
- Provide the children with a set of challenges to complete using the motion programming blocks (e.g. make a character move in a square, make a character spin in a circle, etc.),
- Circulate around the room to offer assistance and answer questions as needed.

4. Reflection and Sharing (10 minutes):

- Gather the children together and ask them to share their favorite animation they created using the motion programming blocks,
- Ask the children what they learned about motion programming blocks, and if they have any ideas for new animations they want to create using these blocks.

5. Wrap-up (5 minutes):

- Review the main points covered in the lesson,
- Encourage the children to continue experimenting with the motion programming blocks on their own,
- Remind the children to save their work and log out of ScratchJr.

Assessment: Assessment will be based on the children's ability to complete the set challenges using the motion programming blocks, as well as their engagement and participation during the hands-on practice portion of the lesson. The teacher may also observe the children's ability to troubleshoot and problem-solve when encountering errors or difficulties during the hands-on practice.

4.2. One-shot Prompting

[ChatGPT Prompt B]: “Generate a realistic lesson plan for teaching programming blocks in ScratchJr with one example (motion blocks).”

[ChatGPT]: “Sure, here's a lesson plan for teaching programming blocks in ScratchJr with an example of motion blocks:”

Topic: Introduction to Programming Blocks in ScratchJr – Motion Blocks

Grade level: Elementary (3rd-5th)

Objectives:

- Students will be able to identify and use different motion blocks in ScratchJr,

- Students will be able to create a simple animation using motion blocks in ScratchJr,
- Students will be able to explain how the different motion blocks work.

Materials:

- ScratchJr software installed on tablets or computers,
- ScratchJr tutorials or online resources,
- ScratchJr project worksheet (optional).

Lesson Plan:

1. *Introduction (10 minutes):*

- Introduce the ScratchJr programming environment to the students,
- Discuss the different programming blocks available in ScratchJr,
- Explain that today's focus will be on motion blocks,
- Ask students to identify examples of motion in their everyday life.

2. *Demonstration (15 minutes):*

- Demonstrate the different motion blocks available in ScratchJr, such as move, turn, and glide,
- Provide examples of how to use these blocks in creating simple animations,
- Encourage students to follow along on their own devices.

3. *Guided Practice (20 minutes):*

- Provide a simple ScratchJr project worksheet for students to follow along,
- Instruct students to use the different motion blocks to create a simple animation, such as making a character move across the screen or spin in circles,
- Encourage students to experiment with different combinations of motion blocks.

4. *Independent Practice (15 minutes):*

- Instruct students to create their own animation using the motion blocks in ScratchJr,
- Encourage students to be creative and experiment with different combinations of motion blocks.

5. *Wrap-Up (10 minutes):*

- Ask students to share their animations with the class,
- Discuss the different motion blocks used in the students' projects,
- Recap the key concepts learned in the lesson.

Example: Using the “Move” Block

1. Demonstrate how to use the “Move” block to move a character across the screen.
2. Instruct students to use the “Move” block to make their character move to a specific location on the screen.
3. Encourage students to experiment with different values for the “Move” block to see how it affects the speed and distance of the movement.
4. Ask students to share their projects with the class and explain how they used the “Move” block in their animation.

4.3. "Let's Think About This" Prompting

[ChatGPT Prompt C1]: “Let’s think about this: the lesson plan for teaching motion programming blocks in ScratchJr”.

[ChatGPT]: “Sure, I’d be happy to help you with that!

Here’s a lesson plan for teaching motion programming blocks in ScratchJr:”

Objective: Students will learn how to use the motion programming blocks in ScratchJr to move characters and objects on the screen.

Materials:

- ScratchJr app installed on tablets or computers,
- Worksheet with activity instructions,
- ScratchJr characters and objects (optional).

Introduction:

1. Ask students if they have ever played a game or used an app where they had to move a character or object around the screen.
2. Introduce ScratchJr as a programming language where they can create their own games and animations.
3. Explain that today they will be learning how to use the motion programming blocks to move characters and objects on the screen.

Activity:

1. Pass out the worksheet with instructions for the activity.
2. Have students open the ScratchJr app and create a new project.
3. Demonstrate how to access the motion programming blocks and explain what each block does (e.g. “Move Forward”, “Move Backward”, “Turn Left”, “Turn Right”, “Jump”, etc.).
4. Have students practice using each block individually to move a character or object across the screen.
5. Encourage students to experiment with combining blocks to create more complex movements.
6. Once students are comfortable with the individual blocks, have them create a simple animation or game that incorporates the motion programming blocks.
7. Allow students to share their creations with the class.

Conclusion:

1. Ask students to reflect on what they learned today and how they can use motion programming blocks in future ScratchJr projects.
2. Encourage students to continue exploring ScratchJr and trying new programming concepts.

[ChatGPT Prompt C2]: “Please, adapt the lesson plan to the children aged 5 to 7 years.”

[ChatGPT]: “Sure! Here's an adapted lesson plan for children aged 5 to 7 years:”

Objective: Students will learn how to use the motion programming blocks in ScratchJr to move characters and objects on the screen.

Materials:

- ScratchJr app installed on tablets or computers,
- Worksheet with activity instructions (with pictures and/or simpler language),
- ScratchJr characters and objects (optional).

Introduction:

1. Gather students together and introduce ScratchJr as a fun way to create their own games and animations.
2. Explain that today they will be learning how to move characters and objects on the screen using motion programming blocks.

Activity:

1. Pass out the worksheet with instructions for the activity (with pictures and/or simpler language).
2. Have students open the ScratchJr app and create a new project.

3. Demonstrate how to access the motion programming blocks and explain what each block does using simple language and visual aids (e.g. "Move Forward" block makes the character move in the direction of the arrow).
4. Have students practice using each block individually to move a character or object across the screen.
5. Encourage students to experiment with combining blocks to create more complex movements (e.g. using the "Turn Left" block followed by the "Move Forward" block to make a character move diagonally).
6. Once students are comfortable with the individual blocks, have them create a simple animation or game that incorporates the motion programming blocks.
7. Provide support and assistance as needed to ensure students can complete the activity successfully.
8. Allow students to share their creations with the class.

Conclusion:

1. Ask students to share what they learned today and how they feel about using ScratchJr to create their own games and animations.
2. Encourage students to continue exploring ScratchJr and trying new programming concepts, reminding them that it's okay to make mistakes and to keep trying.

4.4. Research Questions Discussion

How did ChatGPT perform when presented with three distinct prompts centered on the same subject?

We tasked ChatGPT with generating a lesson plan for teaching programming blocks in ScratchJr, particularly focusing on programming at an early age.

The initial observation highlights ChatGPT's remarkable ability to generate responses that closely resemble human-like interactions. Across all three prompts, the responses were consistently aligned with the given task and theme, resulting in lesson plans that adhered to the existing literature. Moreover, the structure of the generated plans adhered to recommended practices, encompassing clear objectives, necessary materials, and a well-organized lesson outline.

However, despite these similarities, there were noticeable differences among the three lesson plans produced by ChatGPT.

Answer to the first prompt based on standard prompting with role, instructions and seed-word prompt is closest to the human-like understanding of the task and activities are adapted to the preschool children aged 5-7 years. The other two prompting techniques led GPT to generate the lesson plans intended for students older than 7 years, despite definitions that ScratchJr is intended for children aged 5-7. Also, in all three cases AI recommend software installed on tablets or computers, despite facts that tablets are platform recommended by the software authors and the existing software for computers is not an official solution. In the third case ("Let's think about this" prompting) GPT was additionally asked for to adapt the lesson plan to the children aged 5 to 7 years and the result obtained is slightly changed.

5. CONCLUSION

This paper suggests guidelines for effectively utilizing ChatGPT as a tool for lesson plan development. In this exploratory study, three distinct prompt engineering techniques were employed to explore their impact on the generated responses.

The selected prompt techniques for this research included standard prompting with a specified role, instructions, and seed-word prompts; “Zero, one, and few-shot” prompting; and “Let’s think about this” prompting. The findings reveal that meticulously crafted standard prompts, complemented by additional role and seed-word definitions, could be the preferred strategy for teachers when using ChatGPT for lesson plan creation.

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ISTRAŽIVANJE RAZLIČITIH CHATGPT TEHNIKA PROMPT INŽENJERINGA KOJE MOGU KORISTITI NASTAVNICIMA SCRATCHJR PROGRAMIRANJA U PRIPREMI ČASA

Apstrakt

Revolucionarni potencijal veštačke inteligencije (AI), između ostalog, ima sposobnost transformacije obrazovanja. S tim u vezi, već postoje rešenja, kao što je ChatGPT, koja tome i doprinose. Obimna istraživanja u ovoj oblasti postavljaju različita pitanja koja pokrivaju širok spektar tema, kao što su efikasnost učenja, akademski integritet i čestitost. Glavni cilj ovog istraživanja bio je ispitivanje uticaja tri različite prompt tehnike na rezultate (izlaze) koje proizvodi ChatGPT. Uobičajeno se format upitnika sastoji iz tri glavne komponente: 1. zadatka, koji predstavlja kratku izjavu o tome šta model treba da generiše, 2. uputstava koja treba da sledi model tokom generisanja teksta i 3. uloge koju model treba da preuzme pri generisanju teksta. U ovom istraživanju, zadatak dodeljen modelu bio je da kreira plan časa za učenje programskih blokova u ScratchJr. Odabrana uloga za model bila je uloga eksperta za nastavu, kao što je učitelj ili vaspitač dece predškolskog uzrasta, koji je osposobljen za izvođenje informatičkog obrazovanja za mladu decu. U svrhu ovog istraživanja, odabrane su sledeće prompt tehnike: standardni prompt sa ulogom, uputstvima i bitnim rečima; prompt tipa "Nula, jedan i nekoliko primera"; i prompt tipa "Razmislimo o ovome". Prvi rezultati ovog istraživanja ističu izuzetnu sposobnost GPT-a da emulira odgovore slične ljudskim. Dobijeni rezultati pokazuju da pažljivo prilagođen standardni pristup postavljanju pitanja, upotpunjen dodatnom ulogom i definisanim bitnim rečima, može biti predložena strategija za učitelje i vaspitače pri kreiranju planova časova uz pomoć ChatGPT.

Ključne reči: inženjering upitnika, tehnike upitnika, ChatGPT, plan časa, ScratchJr programiranje



EDUCATIONAL COMPUTER SOFTWARE AIMED AT IMPROVING THE QUALITY OF ELEMENTARY MATHEMATICS INSTRUCTION

UDC 371.3::51-028.31; 371:004.4

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Abstract. *The modern approach to teaching mathematics is for children to learn actively and independently, in a way that is fun, easy and appropriate to their level of development. Educational software on computers offers various opportunities for this type of learning. The main goal of educational software for mathematics instruction is to give students the opportunity to learn the necessary mathematical concepts in a new, engaging and contemporary way. Each student has the opportunity to use computer learning software to learn and complete projects at a pace that suits their abilities. This allows them to use a variety of working strategies. The aim of this paper is to give an overview of the different educational software programs (GeoGebra, Cabri, Geometer's Sketchpad, GEONExT, WolframAlpha, etc.) and to highlight their advantages and didactic potential, which can help to raise the standards of mathematics teaching in elementary school and improve the quality of initial teaching in mathematics. Specific examples are used to show how these programs can be used in mathematics classroom. In addition, useful links are provided to interesting websites with high quality materials and instructions that can further influence the quality of mathematics teaching.*

Keywords: *educational software, elementary mathematics instruction, quality of instruction.*

1. INTRODUCTION

Frontal teaching techniques, the use of textbooks, the equal treatment of all students in the classroom, the transmission of ready-made knowledge, the role of the teacher as lecturer, the passive role of students in the teaching process and other features characterize modern school practice. Less thought is given to the unique abilities of each individual student, and instead the entire teaching process is tailored to the idea of the "average" student. It is difficult to convince students to actively engage in learning mathematical concepts in traditional classrooms and using outdated technology. Inherently abstract

Received January 25, 2024/Accepted March 24, 2024

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mathematical concepts cannot always be adequately taught and explained by a teacher using only chalk and a blackboard. Most students find abstract mathematical concepts incomprehensible in such an environment, making math a boring and uninspiring subject.

As today's children have become accustomed to digital technologies, it is logical to take this into account when developing a systematic way of teaching mathematical concepts. The use of instructional software in the classroom offers teachers with a wealth of opportunities to address students' cognitive abilities while presenting them with mathematical material. The use of information and communication technologies in the classroom improves student performance and the quality of learning, as research at the end of the 20th century and the beginning of the 21st century has shown (Cronin, Meadows, & Sinatra, 1990; Funkhouser, 1993; Sherry, Jesse, & Billig, 2002; Traynor, 2003). The main goal of using computer learning software in mathematics instruction is to provide students with the necessary mathematical information in a unique, engaging, and modern way. The use of educational computer learning software increases students' motivation and enhances their comprehension, exploration and assimilation of mathematical ideas, laws and principles. Its application can lead to successful individualization of mathematics instruction and adaptation of the curriculum to students' abilities.

However, the inadequate spatial and technical conditions in our schools, the insufficient training of teachers and the lack of educational resources significantly hinder the implementation of software-supported teaching. Research results (Budinski, 2013; Milikić, Vulović, & Mihajlović, 2020) show that despite the positive attitude towards the use of computers in teaching, only a small percentage of teachers in Serbia use computers in direct work with students. In addition, mathematics textbooks for the first four grades of primary school do not contain examples of content that includes the use of educational software. Therefore, the creation of content for teachers and a database of models would help to increase their use and improve the quality of mathematics teaching in primary school.

The aim of the paper is to provide a comprehensive overview of various educational software programs such as GeoGebra, Cabri, Geometer's Sketchpad, GEONExT and WolframAlpha. These programs will be analyzed in terms of their characteristics, their didactic potential and their application models, especially in the context of initial mathematics lessons in the lower grades of elementary school. The goal is to highlight how these software tools can be used effectively to improve the quality of mathematics teaching at this level.

2. EDUCATIONAL COMPUTER SOFTWARE IN INSTRUCTION

In literature, the term educational software is encountered under various names. Nadrljanski and Soleša (2002) note that, depending on the linguistic region, German literature uses terms such as didactic software, *lenware* – *lernsoftware* (learning software), and *unterrichtsoftware* (instructional software), while in English literature, the term Educational software is used.

According to Buckleitner (1999), who is attempting to describe educational software conceptually, educational software is defined as ready-made computer programs that are used in the teaching process. More accurately, educational software is a particular kind of learning resource that students can experiment with and customize (Majherová, Palásthy, & Gunčaga, 2014).

Similar definitions can be found among domestic authors. Milošević (2007) thus highlights that educational computer software is a representation of information technology, encompassing both a particular organization of teaching and learning as well as programming languages and tools. It consists of programs designed for certain users, such as students, instructors, and collaborators.

As per Stanković et al. (Stanković, Jordanović, & Janković, 2015, p. 548), 'educational computer software represents a computer application specifically built for teaching content, with the purpose of improving teaching and promoting individuality in learning'. We can therefore infer that educational computer software is any computer program that can be utilized for teaching and learning process preparation, execution, and planning.

There are many different ways that computer software can be used in the classroom and in teaching as a whole. In the process of teaching and studying all subjects, including the one that interests us the most – mathematics – they become indispensable. Educational programs are appropriate and efficient ways to modernize education in general and mathematics in particular (Milikić, 2023).

Software-assisted mathematics instruction enables students to better understand mathematical concepts and facilitates the application of rules and conclusions about the relationships among them. Students independently acquire knowledge, which involves continuous cognitive activity, flexible thinking, and perseverance in work (Bauer & Kenton, 2005; Radivojević, 2013). When learning in this way, students have the opportunity to browse, discover, and independently organize data, allowing them to see correlational relationships among the information. In other words, teaching becomes problem-oriented, encouraging students to explore and consider multiple potential problem-solving approaches. Therefore, knowledge is acquired through active student participation in teaching, rather than passive adoption of ready-made knowledge, resulting in the acquisition of more lasting and high-quality knowledge (Milikić, 2023). Additionally, activities performed using software encourage the integration of new knowledge into the existing knowledge base of students. Educational software includes a variety of illustrations, animations, and simulations, i.e., visual and auditory effects, which have a very positive impact on students' motivation and curiosity.

In addition, through interactive educational software, the learning pace is adapted to individual abilities. Information designed and presented in various ways, tasks formulated in multiple ways, additional information for students who want and can learn more about the studied content, as well as supplementary information for students with insufficient prior knowledge and those progressing more slowly in learning, provide effective differentiation and individualization of teaching (Radivojević, 2013).

The application of digital technologies and software that develop logical-combinatorial thinking is also implied by the *Regulation on the Curriculum for the Third Grade of Primary Education* (2019). Numerous studies have pointed out the immense potential of digital technologies in improving educational opportunities for students and in the efficient organization of the learning process in younger grades (Clements & Sarama, 2003; Plowman & Stephen, 2005; Zevenbergen & Logan, 2008).

However, in conditions where educational computer software represents an important tool for learning and teaching, a crucial prerequisite for their successful implementation in mathematics education is the teacher's personality, their skill in using them, as well as their motivation to modernize mathematical content and methods of interpretation, and to adapt teaching to the interests of the current generation of students (Žilinskienė, & Demirbilek,

2015). In this sense, the continuous professional development of teachers in the field of implementing modern educational technologies in the classroom should be one of the main focuses in regards to the quality of education at the national level.

2.1. Models for Using Educational Software to Teach Elementary Mathematics

In this section of the paper, we will introduce several software programs and give concrete instances of how they have been used to teach mathematical concepts to younger elementary school students.

2.1.1. Educational Software *WolframAlpha*

WolframAlpha is a unique engine for computing answers and providing knowledge. It is a free web service, developed by Wolfram Research that effectively calculates results for a natural language question by applying algorithms to its large internal database of facts. It works by using its huge knowledge base, expert-level algorithms and AI technology to automatically answer questions, perform analysis and generate reports.

In the following we will list some advantages of using *WolframAlpha* educational software. First of all, *WolframAlpha* is built with Wolfram Language, a symbolic language designed for rapidly develop powerful programs. With Wolfram Language it is possible to quickly express complex ideas in computational form. Its syntax is very simple, there is no strict rules and symbols as semicolon in program languages for example. Actually, students can ask their questions using the natural language. So, *WolframAlpha* allows students to focus on problem solving and not on syntax rules. As an answer to a question, student gets a lot of information from the extensive knowledge base. One answer may be formulated as an equation, a graph, an exact or approximate answer. In this way, students significantly enrich their knowledge. Also, *WolframAlpha* supports e-learning since using this platform is not limited to the classroom. Students have access from anywhere at any time if they have a computer or a mobile phone connected to the internet. It means that online students can participate in the lab assignments. One more advantage of *WolframAlpha* is showing the steps in the problem solving process. It is very helpful for the students to view the process as well as the final answer. *WolframAlpha* is more powerful than a graphing calculator. It is free software and the latest version is available to the students. Dimiceli described some benefits of using WolframAlpha, highlighting its platform independence, natural language processing, continuous updates, step-by-step solutions, as well as accessibility for both students and institutions (Dimiceli et al., 2010).

One limitation of using this platform for Serbian teachers is the interface language. The software is not available in Serbian language. However, this limitation can be overcome by using an appropriate translator, such as Google Translate.

In the following we will show two examples of use the *WolframAlpha* software for creating mathematical materials. 0 shows the multiplication table for numbers up to 10, created in the *WolframAlpha* program. We can easily obtain a ready-made multiplication table for numbers up to 10 by entering the query 'multiplication table 10' in the question input field.

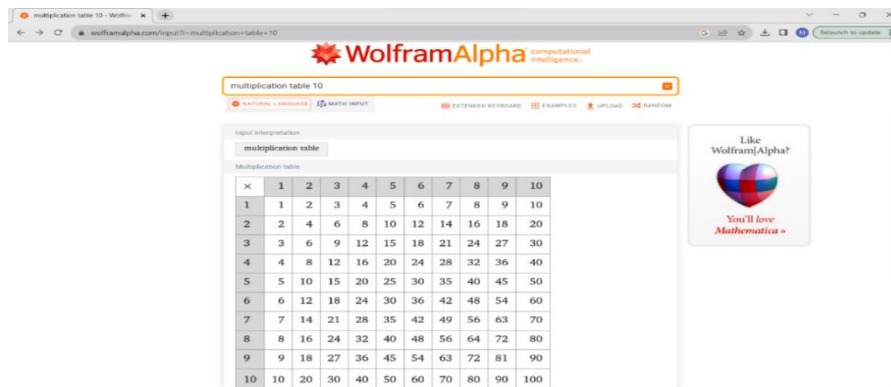


Fig. 1 Multiplication table created in the WolframAlpha program

0 illustrates the solution of the Assignment 1. i.e. it shows the addition of numbers in the WolframAlpha program. After entering the appropriate question in the input field, the response includes the interpretation of the entered problem and the final solution. The solution is visually represented on the number line and illustrated using sets of squares. By choosing the option Step-by-step solution we get the solution process.

Assignment 1. Calculate: $7 + 2 + 11 = \underline{\hspace{2cm}}$.

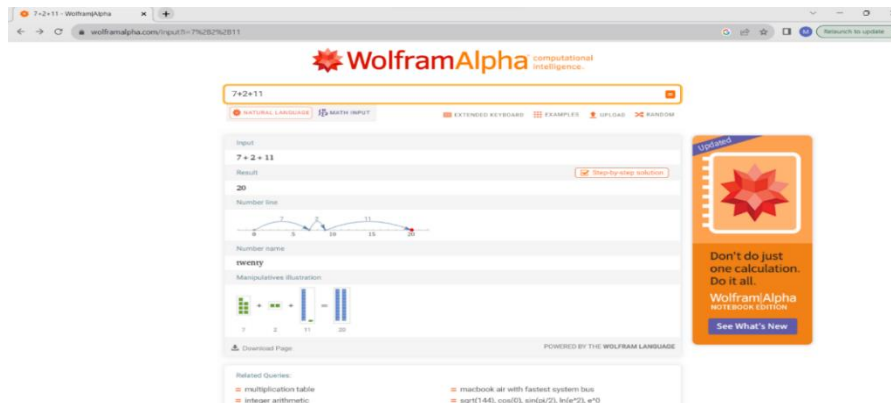


Fig. 2 Addition of numbers in the WolframAlpha program

A large database of examples is available on the website [Wolfram|Alpha: Examples by Topic \(wolframalpha.com\)](http://Wolfram|Alpha: Examples by Topic (wolframalpha.com)). Examples are categorized by topic. On the mentioned page, teachers can find ready-made examples from the field of elementary mathematics, algebra, geometry, and other fields of mathematics. Stephen Wolfram wrote very useful book, which is a recommended literature for new users (Wolfram, 2015).

2.1.2. Educational software *GEONExT*

GEONExT is designed as an auxiliary digital tool for learning and teaching mathematics. It is an application that assists teachers in generating high-quality mathematical visualizations. *GEONExT* allows teachers and students to share their experiences in working with the program, as well as created projects, enriching the available database of educational materials.

Using *GEONExT* has many advantages in teaching and learning mathematics. The *GEONExT* software is free and easily available on the Internet. It is written in the Java programming language and is available for a large number of different operating systems. The software allows creating different geometric constructions using a large number of construction tools. The software includes built-in libraries of objects from which the user can choose points, lines, arrows, circles, polygons, text, etc. Additionally, *GEONExT* is an excellent tool for visualizing all mathematical functions. Each drawing created in this program can be saved on the computer in the 'geonext' format. An important advantage of the *GEONExT* software is the simple interface which enables easy use of the program. Also, the program allows drawing of mathematical objects from the simplest to the most complex, without the need for programming skills. It enables autonomous and cooperative learning of mathematics, and can be used from elementary school to college.

The following example presents the visualization of a problem in *GEONExT*.

Assignment 2. The walls and ceiling of a room in the shape of a cube need to be painted. The height of the room is 2 m 5 dm. On one wall, there is a window with dimensions of 125 cm by 130 cm. How much paint is needed to paint the room if 1 m² requires 1/2 liter of paint?

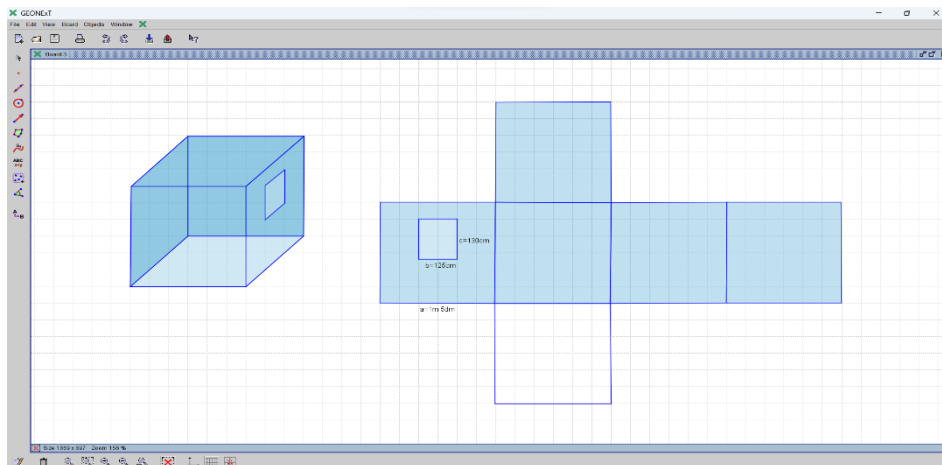


Fig. 3 *GEONExT* program representation of the problem of calculating a surface area of a cube

In tasks of this type, appropriate visualization significantly facilitates problem-solving. With the help of a model created in the *GEONExT* program, students can easily identify the surface area of the room that needs to be painted. 0 shows a cube modeling the room from the task, as well as the grid of that cube. A necessary condition for mastering the

concept and calculation of the surface area of a three-dimensional object is understanding the formation of the surface grid of a given geometric figure (Mulligan et al., 2005). The two-dimensional representation of the cube's grid aims to help students understand that the floor of the room, as well as the window, does not need painting. On the cube's grid, the surface area of the window located on one of the walls of the room is clearly visible. Observing the image during heuristic discussion, students conclude that the surface area of the room to be painted is obtained by subtracting the surface area of one side of the cube and the area occupied by the window. After that, it is necessary to express the calculated surface area in square meters. Since 1 m² requires 1/2 liter of paint, to calculate the amount of paint needed to paint the room, it is necessary to multiply the calculated value of the required surface area in square meters by one-half.

2.1.3. Educational software *Geometer's Sketchpad*

Geometer's Sketchpad is an educational software designed for creating interactive learning materials in mathematics. The program is used for constructing and exploring mathematical concepts in the fields of geometry, trigonometry, algebra, etc. The software environment of *Geometer's Sketchpad* provides significant digital support in the process of learning and teaching mathematics (Almeqdadi, 2000).

In the following, we will specify some advantages of *Geometer's Sketchpad*. The program allows the user to explore both simple and complex theorems and relationships in geometry. 'The power of the GSP combined with the power of proof gives a complete illustration of the theorem involved' (Giamatti, 1995, p. 456). In general, the results of studies and discussions on the use of the *Geometer's Sketchpad* program in teaching and learning mathematics confirm that it is an extremely useful and engaging digital tool that contributes to the innovation of the teaching process and supports e-learning (Dixon, 1997; Mersinoğulları et al., 2014; Kotu & Weldeyesus, 2022). Beside the listed advantages, we highlight that by using the *Geometer's Sketchpad* program, mathematical problems can be easily visualized, which facilitates students' understanding of geometric concepts and principles. The program can be used by students as early as the third grade of primary school. Also, it provides the option to save constructions in the form of a script. *Geometer's Sketchpad* program can be an excellent teaching tool in forming the concept of polygons for students. An adequate graphic representation provides significant support in solving problems that involve calculating the perimeter of a polygon.

Instructions for constructing various shapes in the *Geometer's Sketchpad* environment can be found on the official website (The Geometer's Sketchpad Learning Center, 2023). Online tutorials for constructing geometrical objects in *Geometer's Sketchpad* can be found on the web sites <https://sketchpad.keycurriculum.com/> and [Sketchpad Reference Center \(dynamicgeometry.com\)](https://dynamicgeometry.com/).

Assignment 3. Calculate the perimeter of the figure shown in 0.

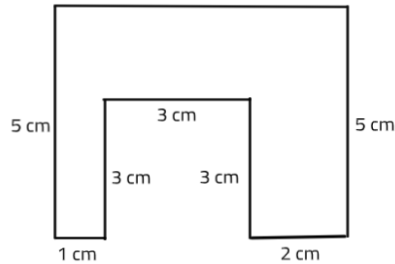


Fig. 4 Image with Assignment 3

The solution to the problem in Assignment 3 can be easily observed if the perimeter of the given figure is shown through the graphical alignment of segments, as shown in 0. In the program, the closed broken line that bounds the area of the given figure is transformed into an open broken line composed of segments (colored in different colors) that represent the sides of the polygon. Through discussion, using the illustration, the teacher guides students to independently conclude that the perimeter of the figure is the sum of the measured lengths of its sides (0). Since the lengths of all sides of the polygon are given in the assignment, except for the side painted in red, thanks to the good representation, i.e., visualization of the problem in *Geometer's Sketchpad*, students understand the relationships between the sides of the given figure and conclude that the length of that side is equal to the sum of $1\text{ cm} + 3\text{ cm} + 2\text{ cm}$.

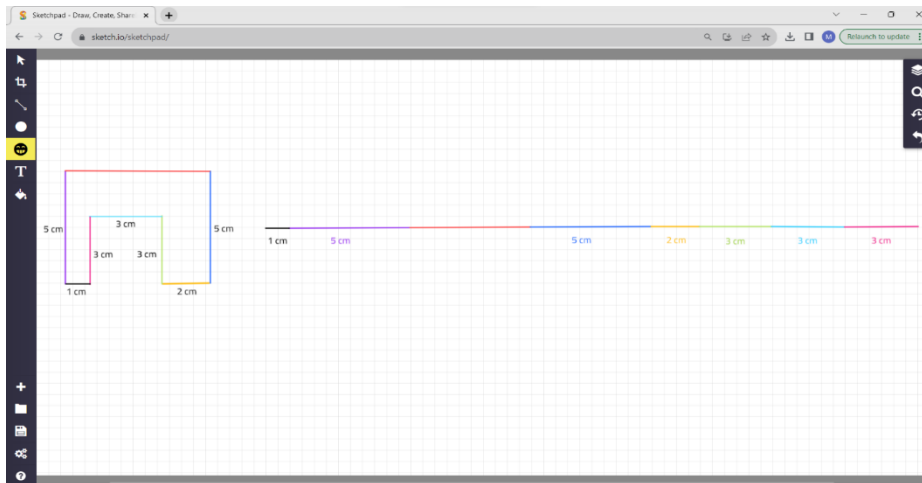


Fig. 5 Illustration of calculating the perimeter of a polygon using the *Geometer's Sketchpad* program

2.1.4. Educational Software *Cabri Geometry*

New curricula worldwide encourage teachers and students to use modern digital technologies and the internet for teaching and learning mathematics (Kepceoğlu, 2018). Especially in the field of geometry, dynamic geometry software such as *Cabri* allows students to quickly and easily observe the validity of certain assumptions in geometry.

In the following we will list some advantages of using the *Cabri Geometry* software. The use of a dynamic environment like *Cabri* visually emphasizes the difference between a drawing as a trace of an object on paper and a figure representing the theoretical object. *Cabri*, like other dynamic geometry programs, provides a model of Euclidean geometry that, through the 'dragging' of objects on the screen, offers feedback on the accuracy of constructions or theorems (Hoyles & Jones, 1998). Students clearly grasp the principles of constructions and find it easier to understand the proofs of corresponding statements. Unlike traditional methods of teaching mathematics, which involve presenting two-dimensional geometric objects on the board or paper, dynamic mathematical software requires a high level of geometric thinking. By using *Cabri* software with a focus on schemes of geometric proofs, students develop and significantly enhance their reasoning skills in dynamic geometric environments. The *Cabri* program environment prompts students to constantly question their prior knowledge as they construct dynamic geometric shapes (Kotu & Weldeyesus, 2022). 'The *Cabri* environment forces users to use a high level of geometric thinking and improves as well the investigation skill of users' (Kepceoğlu, 2018, p. 4).

Tutorials for discovering the power of the authoring tool can be found on the web site [New Cabri tutorials | Cabrilog](#).

In the following, we will illustrate using *Cabri Geometry* software in order to create interactive mathematical materials. In Figure 6, straight and curved lines created in the *Cabri* program are shown. The concept of a point in mathematics is introduced as the intersection of two lines (Špijunović & Maričić, 2016). Based on the illustrated example, students can independently conclude that the intersection of two straight lines contains one point, while two curved lines, as well as one straight and one curved, can intersect at multiple points. The tool for drawing straight lines in the *Cabri* program shows drawing a line through two points, leading students to the conclusion that only one straight line can pass through two different points (0). Also, by emphasizing the relationship between a point and a line, students infer that through one point, an infinite number of lines can be drawn. Students are, therefore, able to follow the process of creating a graphical representation of these concepts, unlike in a traditionally organized class where students only observe their final form on the board or in the textbook. The program allows for changing the color, style, and thickness of lines, enhancing the visual effect.

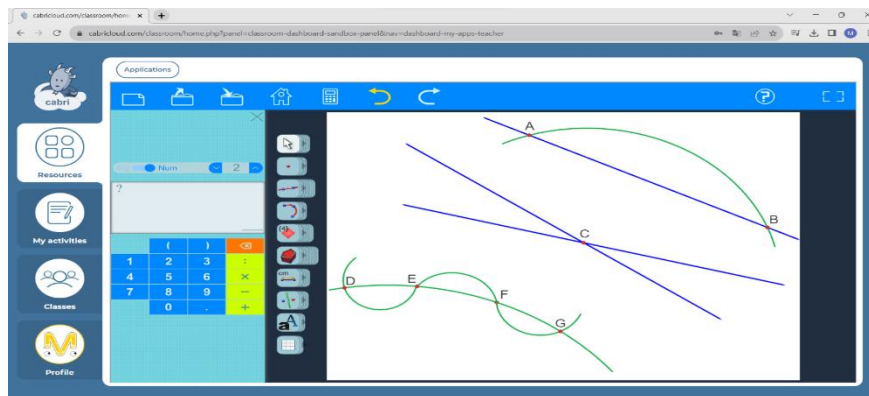


Fig. 6 Point as the intersection of two lines

Using the dynamic model in the *Cabri* program in a simple and clear way, we can present the formation of the cube's net to students. The program allows dragging squares across the screen and rotating space, contributing to a clearer visualization (0). Specifically, starting from the three-dimensional model of the cube, moving the slider transforms the cube's surface and forms the cube's net. Students conclude that the cube's net consists of six identical squares. The sides of the resulting squares that make up the net are of the same length, hence they are all in the same color. If we return the cube's net to its original position, it can be concluded that the sides of the squares correspond to the edges of the cube.

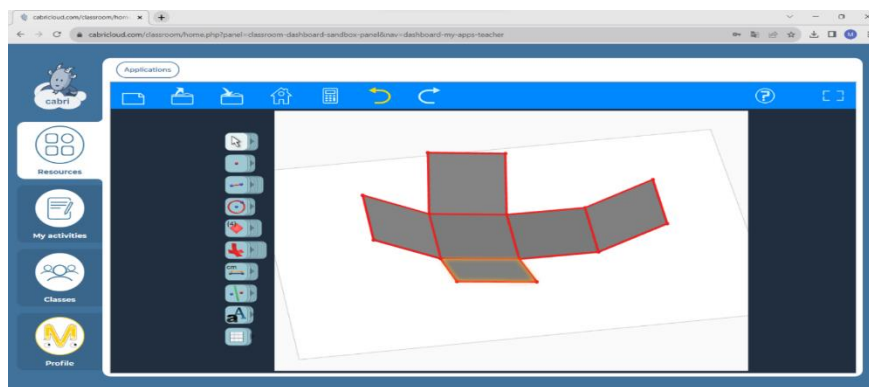


Fig. 7 Cube net in the *Cabri* program

2.1.5. Educational Software *Geogebra*

GeoGebra is an interactive mathematical software created in 2001 to meet the need for widely accessible high-quality mathematical resources for instructors and institutions worldwide. *GeoGebra* was designed by Marcus Hohenwarter as a dynamic software environment that connects geometry, algebra, and calculus. Hohenwarter and colleagues

emphasize that the number of site visitors increased rapidly, confirming that the program became very popular in a relatively short period (Hohenwarter et al., 2008).

Using *GeoGebra* software has many advantages for teaching and learning mathematics. The availability of open-source code in translations into multiple languages, as well as interactivity through the user forum, contributed to the rapid popularization of the program (Hohenwarter et al., 2008). GeoGebra provides the option to work in an online environment. On the official website <https://www.geogebra.org>, there are available links for downloading free offline GeoGebra applications for iOS, Android, Windows, Mac, Chromebook, and Linux. Thanks to the interesting connection between geometry, algebra, and calculus in a dynamic environment with a user-friendly interface, *GeoGebra* has stood out from other similar mathematical software. The use of the *GeoGebra* program can visualize abstract geometry objects quickly and efficiently, which can be especially beneficial for students in lower grades of elementary school, as clarity and visual representation should be the basis of the didactic approach to geometric content at that age (Milikić, 2023). Multiple representations of geometric concepts, available in the *GeoGebra* software package, can be used to help students achieve a deeper understanding of concepts, their properties, and their interrelationships. Sugandi and Bernard conducted a study in 2020 on the topic '*Application of GeoGebra software to improve problem-solving skills in analytic geometry in prospective teachers students*' and demonstrated that the use of *GeoGebra* software is effective in enhancing problem-solving skills in learning analytic geometry (Sugandi & Bernard, 2020). Materials created in *GeoGebra* can be used to prepare electronic lessons as part of online courses. In this regard, *GeoGebra* provides excellent support for e-learning through Learning Management Systems such as *Moodle* and *Canvas*.

Due to the growing number of interested teachers worldwide, Hohenwarter founded the *GeoGebra User Forum* and *GeoGebraWiki*, providing users with continuous support and an increasing number of free resources. Free mathematical resources for algebra, geometry, and other areas of mathematics can be found on the website <https://www.geogebra.org/math>. The available materials encourage students to conduct independent research, allowing teachers to use them to improve the quality of teaching and modernize the teaching process. There is a free webinar titled '*How to Integrate GeoGebra Resources in Various Learning Management Systems*,' as well as video tutorials for implementing distance learning using the *GeoGebra* software on the website <https://www.geogebra.org/m/fa5tndzg>.

In the text below, through a specific example of a problem situated in a real context, we will demonstrate to what extent multiple representations in *GeoGebra* software aid students in developing the concept of measuring the volume of a rectangular prism.

Assignment 4. Calculate the volume of a rectangular prism with dimensions $a = 4 \text{ cm}$, $b = 2 \text{ cm}$, $c = 1 \text{ cm}$.

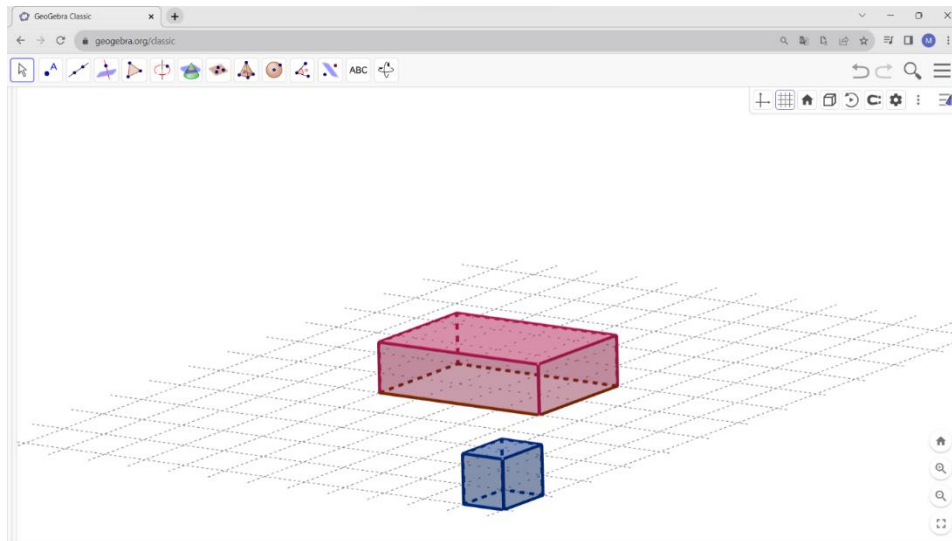


Fig. 8 Rectangular prism and unit cube in the *GeoGebra* software

The dynamic model in 0 shows a rectangular prism with a length of 4 cm, width of 2 cm, and height of 1 cm. Additionally, a unit cube with an edge length of 1 cm (volume of 1 cm^3) is provided. The graphical representation in 0 clearly indicates that the observed rectangular prism contains the unit cube of volume 1 cm^3 eight times. Specifically, there are two rows in one layer, and in one row, we can place (side by side) four unit cubes. Since the observed prism has only one layer, students conclude that the volume of the prism is $V = 4 \text{ cm} \cdot 2 \text{ cm} \cdot 1 \text{ cm}$, or $V = 8 \text{ cm}^3$. Therefore, the volume of the rectangular prism is the product of the measurements of its dimensions. *Geogebra* allows for the animation of objects, so in this example, an animation can be created where the given cube is inserted into the prism eight times. Additionally, it is possible to manipulate three-dimensional object models through a two-dimensional environment. Thanks to this feature, the presented geometric object can be rotated and viewed from an appropriate angle.

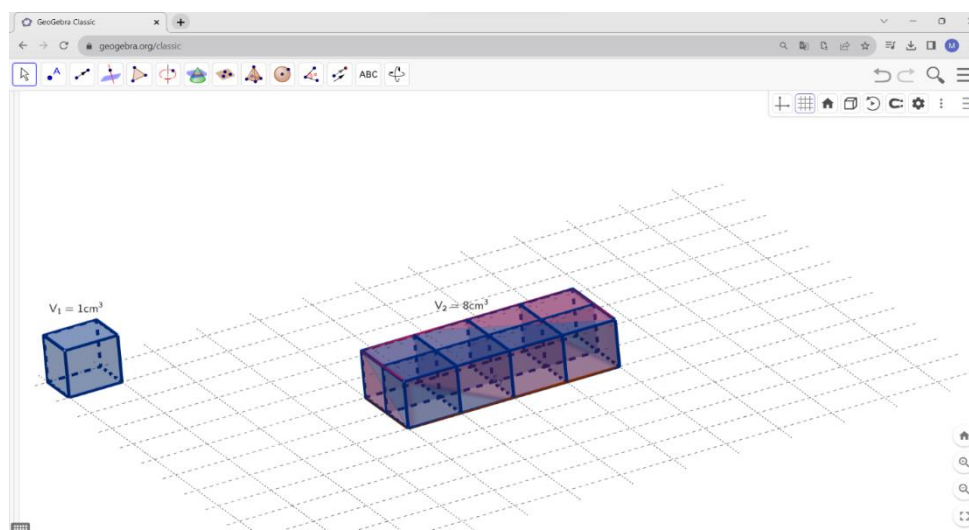


Fig. 9 The volume of the rectangular prism in the *GeoGebra* software

3. CONCLUSIONS

Based on the aforementioned, we can conclude that the use of educational software in instruction facilitates the integration of classical and interactive, that is, traditional and modern learning. The use of instructional software in the teaching process is an essential component of didactic-technical modernization of schools, and the unique features of primary school mathematics curriculum make it suitable for digitalization. Even the *Regulation on the Curriculum for the Third Grade of Primary Education (2019)* suggests the use of ICT to develop basic mathematical concepts. On the other hand, circumstances conditioned by the Corona virus pandemic, where there was an increased need for computer-mediate classes, made us aware of the necessity of using educational software in the teaching and learning process

The justification of the application of educational software in teaching mathematics is also indicated by the results of experimental research (Tomić, 2013; Ćibili, 2019), which confirmed the numerous advantages of their use. Research conducted by Bauer and Kenton (Bauer & Kenton, 2005) shows that educational software encourages student activity in the learning process, while Downes (2002) points out that the use of digital technologies significantly improves students' educational opportunities. Ljajko (2014) finds that the proper use of appropriate educational software contributes to the effective construction of mathematical concepts and procedures in students. Furthermore, research conducted by Griffard et al. (Greefrath, Hertleif & Siller, 2018) demonstrates the positive influence of educational software on improving students' overall mathematical competence. Collectively, these studies provide robust empirical support for the efficacy and benefits of using educational software in mathematics education.

In this paper, we have presented some examples of the application of software packages in mathematics instruction, however, the possibilities of their application are much greater. The models of application of educational software presented suggest a dynamic and

interactive learning environment where students are actively engaged throughout the entire learning process. Through the use of educational software, students have the opportunity to actively participate, formulate hypotheses and questions, provide answers, and, with guidance from the teacher, draw conclusions independently. Overall, the application of educational software empowers students to take ownership of their learning and develop critical thinking skills while being supported by the instructional guidance of their teacher. A large database of ready-made models in geometry, as well as other fields of mathematics, is available on the websites mentioned in the text of the work, on which teachers can find an abundance of ready-made content on these websites, including exercises, animations, simulations, and models. These can also act as inspiration for developing appropriate resources required for teaching mathematical content. There are tutorials available for using the aforementioned programs in addition to ready-made material.

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OBRAZOVNO RAČUNARSKI SOFTVERI U FUNKCIJI UNAPREĐIVANJA KVALITETA POČETNE NASTAVE MATEMATIKE

Apstrakt

Savremeni pristup nastavi matematike podrazumeva da učenik uči aktivno, samostalno, na kreativan, lak i zanimljiv način, a sve u skladu sa svojim razvojnim mogućnostima. Značajne mogućnosti za ovakvo učenje pružaju obrazovno-računarski softveri. Osnovni cilj obrazovno-računarskih softvera u nastavi matematike jeste da na drugačiji, zanimljiviji i savremeniji način omogući učenicima da steknu potrebna matematička znanja. Upotrebom obrazovno-računarskih softvera svakom učeniku se pruža mogućnost da, koristeći različite tehnike rada, uči i rešava zadatke tempom koji odgovara njegovim sposobnostima. Cilj ovog rada je da da pregled različitih obrazovnih softvera (GeoGebra, Cabri, Geometer's Sketchpad, GEONExT, WolframAlpha i dr.) i da istakne njihove prednosti i didaktičke potencijale, koji mogu pomoći u podizanju standarda nastave matematike u osnovnoj školi i unapređivanju kvaliteta početne nastave matematike. Dati su konkretni primeri koji pokazuju kako se ovi programi mogu koristiti u nastavi matematike. Pored toga, date su korisne veze ka zanimljivim veb-stranicama sa visokokvalitetnim materijalima i uputstvima koja mogu dodatno uticati na kvalitet nastave matematike.

Ključne reči: *obrazovni softver, početna nastava matematike, kvalitet nastave.*

QTL IN THE CHANGING SOCIAL CONTEXT;

LEADERSHIP FOR QTL



CLASSROOM MANAGEMENT STYLES AND RESILIENCE ASPECTS

UDC 371.12:159.923.3; 371.12:159.947.5

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Abstract. *Creating a positive learning culture in schools is one of the most important and challenging tasks for any teacher. After all, education is not just about going to school and giving a lecture. It also has a lot to do with instilling confidence and inspiration in young people and motivating them to achieve in their lives. The purpose of the current study was to examine whether there is a relationship between the styles teachers use in managing their classrooms (interventionist, interactionist, and non-interventionist) and aspects of their resilience (hardiness, coping, adaptability/flexibility, meaningfulness/purpose, optimism, regulation of emotion and cognition, and self-efficacy). The sample consisted of 100 elementary school teachers of both genders (86 of whom were women) with an average work experience of 23.12 years. The following instruments were used: The Inventory for teachers' self-assessment in classroom management styles and the Connor-Davidson Resilience Scale. Results showed that both interventionist, and interactionist management styles were positively, and statistically significantly correlated with two aspects of resilience – coping and regulation of emotion and cognition. The interactionist management style is additionally correlated with the following resilience aspects – hardiness, and adaptability/flexibility, and these relationships are both positive and statistically significant. Both non-interventionist and interactionist management styles are positively correlated with meaningfulness/purpose. These findings suggest that teachers who use interventionist and interactionist management styles may be better able to deal with challenges and obstacles and regulate their emotions, while teachers who use non-interventionist styles also exhibit higher levels of adaptability and flexibility in their professional lives.*

Keywords: *teacher, classroom management styles, aspects of resilience*

1. INTRODUCTION

Education is not just about going to school and giving a lecture. It also has a lot to do with instilling confidence and inspiration in young people and motivating them to succeed in their lives. To achieve this, a teacher needs to be equipped with the appropriate personal

Received January 05, 2024/Accepted March 14, 2024

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qualities that will enable them to manage their classroom as effectively as possible. This also means that they themselves must learn to adapt and deal effectively with daily challenges – i.e. they must be resilient.

Creating a positive learning culture in schools is one of the most important and challenging tasks for any teacher. One of the first aspects of teaching that an educator must master in order to deliver the best and most effective lessons is the way he or she manages the classroom. Classroom management is a broad concept that encompasses the strategies and techniques teachers use to create and maintain a positive learning environment, manage student behaviour and facilitate effective instruction. It refers to the management of time, space, equipment, learning materials, student behaviour, and relationships so that students can participate in learning activities and achieve the desired outcomes (Pedota, 2007; Woolfolk et al., 2008). Martin and Sass (2010) defined classroom management as that which encompasses “teacher efforts to oversee the activities of the classroom including student behavior, student interactions and learning” (p. 1125).

In order to gain a deeper understanding of this concept, the theoretical framework developed by Martin & Baldwin (1993a; 1993b) was used in this study. Here, classroom management is understood as a multi-layered process that includes three main dimensions: 1) teachers' beliefs about students' personalities and what teachers do to contribute to students' personal development, as well as the general psychological climate; 2) teachers' actions that contribute to the creation of learning conditions, such as the establishment and maintenance of the classroom environment, and 3) teachers' actions that contribute to the creation of learning conditions. Such as the establishment and maintenance of classroom activities, the organization of space, and the use of time; and 3) teachers' actions related to discipline, i.e., teachers' actions aimed at establishing and maintaining certain norms of behavior. According to Martin & Baldwin (1993a), each of these three dimensions of classroom management is distributed on a continuum on which three approaches to student management are distributed – non-interventionist, interventionist and interactionist. The criterion for this categorization is based on the degree of power between the teacher and his students. Each of the three categories comprises a complete instructional model that helps the teacher to create and maintain a disciplined classroom, and each of them denotes a unique set of beliefs that manifest themselves in appropriate models of classroom management. Teachers use all three styles in their daily teaching activities, but usually, one of them is always the predominant one. These styles, as described by Martin & Baldwin (1993a), are given below.

A teacher employing the non-interventionist approach holds the belief that, because students have innate motivations that should be allowed to unfold in the real world, they should be granted a high degree of autonomy. He believes that his role is primarily to create a supportive environment in which students can flourish, so he strives for a modest degree of control and trusts the students to take control of their own destinies. Teacher is a facilitator who focuses on creating a conducive atmosphere for smooth classroom routines and behaviors. It is important to point out that this approach is different from a *laissez-faire* management style, teacher is not indifferent, but instead he is employing specific strategies to manage different aspects of the classroom, all based on the belief that students' innate curiosity drives their learning.

On the opposite end of the spectrum lies the interventionist approach, in which the teacher takes a central role and strive for total control in the classroom. This methodology is based on the belief that external factors, including the teacher as part of the environment,

significantly influence the development of the individual. So, limiting students' autonomy gives them the opportunity to shape the classroom environment to their liking and exercise total control over the conditions they deem most conducive to achieving desired outcomes. This view leads them to use rewards and punishments as a means to encourage certain student behaviors, all in the belief that they are acting "for the benefit of the students"

In the middle between these extremes is the interactionist style, which is based on the constructivist perspective that development occurs through the interaction between the individual and the environment. Teachers who follow the interactionist style share responsibility for the dynamics in the classroom with their students. They value the students' needs, suggestions and initiatives and set rules and boundaries together with them – control of the situation is shared between the teacher and the students. This approach provides students with the necessary autonomy while ensuring that they exercise their power within the established boundaries of the classroom. Whenever possible, the teacher gives students the opportunity to make their own decisions, giving them a sense of responsibility for their behaviour.

It is important to reiterate that the teaching style chosen by a teacher in a particular situation will be influenced by numerous factors. These include the particular class and its students, their expectations and those of their parents, colleagues, school administration, the wider environment, the current objectives, the nature of the learning content and the personality of the teacher themselves. Despite this variability, there is usually a recognizable pattern in which most teachers exhibit similar behavior in different situations. This observed consistency allows us to identify a predominant style of teacher classroom management that is often consistent with the corresponding underlying beliefs (Đigić, 2013). The results of two independent studies in Serbia (Djigić & Stojiljković, 2012; Ristić, Zlatković, & Malinović-Jovanović, 2023) showed similar results – among the teachers observed, the use of the interactionist style is the most pronounced, followed by the use of the interventionist and non-interventionist styles.

Teaching is a profession in which members are confronted with many difficult situations and circumstances, and teachers are expected to continue their work efficiently despite everything. (Lacaba, Lacaba, & Caliwán, 2020). According to Beltman, Mansfield, and Price (2011), the stresses that teachers face in their daily lives are well documented. Considering that the teaching profession is generally perceived as highly stressful, the teacher's ability to cope with stress and their classroom management skills and competencies are therefore important factors that can determine the extent to which the teacher will be successful in managing the classroom. Therefore, the teacher's psychological strength to deal with stress and adverse situations in the profession and to overcome difficulties in the profession plays an important role in classroom management (Murthy, 2017). So one could say that teaching is an emotionally demanding profession that always requires a certain resilience.

According to Connor & Davidson (2003), resilience embodies the personal qualities that enable one to thrive in the face of adversity. Boon (2021) notes that the various concepts of resilience emphasize the return to original functioning after exposure to stressors or the return to a new state of optimal functioning in response to one or more stressors.

In the context of the teaching profession, resilience can be conceptualised as an ability, a process and also as an outcome. Resilience encompasses an individual teacher's ability to utilise personal and contextual resources to overcome challenges, the dynamic process

by which the characteristics of individual teachers and their personal and professional contexts interact over time as teachers use specific strategies to promote the outcome of a teacher experiencing professional engagement and growth, commitment, enthusiasm, satisfaction, and well-being (Beltman, 2015, after Mansfield, et al., 2016). In summary, teacher resilience is a dynamic process or outcome that is the result of interaction over time between a person and the environment (Beltman, et al, 2011). Existing literature suggests that teacher resilience is complex and dynamic, encompassing a range of personal and contextual factors. (Flores, 2018). More specifically, resilience leads to job satisfaction, responsiveness, effectiveness, self-efficacy, pride, agency, interpersonal relationships, competence, autonomy, optimism, positive interpersonal emotions, empathy, and emotionally intelligent teachers (Wang, 2021).

Gu and Day (2011) explain that resilience in the classroom is important for three reasons. First, it is unrealistic to expect students to be resilient if their teachers, who are the primary source of their role models, do not exhibit resilient characteristics. Secondly, the teaching profession is challenging in an emerging 'age of diversity and sustainability'. Shifting the focus from stress and burnout in teachers to resilience offers a promising perspective for understanding how teachers manage and sustain their motivation and engagement in times of change. Third, resilience, defined as the ability to bounce back quickly and efficiently in the face of adversity, is closely linked to a strong sense of calling, self-efficacy, and motivation to teach, which are fundamental to striving for success in all areas of students' lives.

Howard & Johnson (2004) describe resilient teachers as those who are able to persevere under difficult circumstances, who have behaviour management skills, who are able to empathise with difficult students, who can curb negative emotions and focus on the positive, who feel a sense of pride and accomplishment, and who are more committed to their school and profession. Bobek (2002) found that resilient teachers are better able to assess unfavourable situations, determine coping options and implement appropriate solutions – teacher resilience is a critical element of success in the classroom. Mansfield et al (2016) state that a resilient teacher can utilise personal characteristics and contextual elements to overcome challenges and thrive, achieving professional satisfaction combined with well-being over time. Teacher resilience is of paramount importance in all areas of education as it can have numerous positive effects.

We can conclude that the same standards of curriculum delivery and student safety apply to every teacher. However, teachers achieve these standards in different ways – through the use of different classroom management styles. In many ways, the success of certain style depends on the teacher's ability to bounce back in difficult and unforeseen situations. In this context, this study aimed to investigate whether there is a relationship between the styles teachers use in managing their classrooms (interventionist, interactionist and non-interventionist) and some aspects of their resilience (hardiness, coping, adaptability/flexibility, meaningfulness/purpose, optimism, regulation of emotion and cognition and self-efficacy).

2. METHODS AND MATERIALS

2.1. Sample and procedure

The sample comprised 100 primary school teachers of both genders (86 of whom were women). Written permission was obtained from the authors for all instruments used in this study. The survey was conducted online.

2.2. Instruments

The Inventory for teachers' self-assessment in classroom management styles (ITSCMS, Djigic & Stojiljkovic, 2014) consists of 30 items – 10 items, hypothetical situations that occur in the classroom, for each of the three styles – interventionist, interactionist and non-interventionist. Teachers rate themselves by choosing the level on the Likert scale (from 1 to 5) for each item to determine which description best applies to them. The reliabilities of the subscales in the current sample are respectively: $\alpha = 0.75$, $\alpha = 0.57$, $\alpha = 0.74$, so, with the exception of the interactionist style subscale, the other two coefficients are medium and satisfactory.

The Connor-Davidson Resilience Scale (CD-RISC; Connor & Davidson, 2003; Serbian version, approved by the author of the scale) is the instrument consisting of 25 items which measure the degree of expression of seven aspects of psychological resilience – namely hardiness (i.e. commitment/challenge/control), coping, adaptability/flexibility, meaningfulness/purpose, optimism, regulation of emotion and cognition, and self-efficacy. In some cases, the items overlap more than one of these constructs. The task of a respondent is to evaluate, on a five-level Likert type scale, to what degree he/she has felt a certain way or has thought in a certain way during the previous month. If the given situation has not happened to him/her recently, then he/she is asked to respond in accordance to what he/she believes that he/she would feel. The reliability of the subscales on the current sample are as follows: hardiness – $\alpha = 0.80$, coping – $\alpha = 0.49$, adaptability/flexibility – $\alpha = 0.65$, meaningfulness/purpose – $\alpha = 0.50$, optimism – $\alpha = 0.48$, regulation of emotion and cognition – $\alpha = 0.73$, and self-efficacy – $\alpha = 0.70$.

3. RESULTS AND DISCUSSION

This goal was to examine whether there is a relationship between the styles teachers use in managing their classrooms (interventionist, interactionist and non-interventionist) and some aspects of their resilience (hardiness, coping, adaptability/flexibility, meaningfulness/purpose, optimism, regulation of emotion and cognition and self-efficacy). The results showed that both interventionist, and interactionist management styles were positively, and statistically significantly correlated with two aspects of resilience – coping and regulation of emotion and cognition. The interactionist management style is additionally correlated with the following resilience aspects – hardiness, and adaptability/flexibility, and these relationships are both positive and statistically significant. Both non-interventionist and interactionist management styles are positively correlated with meaningfulness/purpose (Table 1).

Table 1 Correlation between management styles and aspects of resilience

	Interventionist	Interactionist	Non-interventionist
Hardiness	.196	.369**	-.166
Coping	.241*	.238*	-.163
Adaptability/flexibility	.182	.291**	-.013
Meaningfulness/purpose	.128	.211*	.225*
Optimism	.146	.123	-.081
Regulation of em. and cogn.	.200*	.286**	.000
Self-efficacy	.182	.116	.022

*. Correlation is significant at the 0.05 level (2-tailed).

**.. Correlation is significant at the 0.01 level (2-tailed).

Resilience is not about avoiding stress or difficult circumstances, but rather about effectively coping and recovering from them. Coping is a person's ability to deal with and adapt to stress, adversity, or challenging situations (e.g., Lazarus & Folkman, 1984; Lazarus & Folkman, 1987; Folkman & Lazarus, 1988; Lazarus, 1999), and understanding and using effective coping strategies is a critical component of resilience. The coping strategies that individuals use can have a significant impact on their resilience to adversity, and coping mechanisms may differ from person to person and from situation to situation. Based on the above findings, we can say that teachers who adopt an interventionist and an interactionist approach cope with difficulties in different ways – by taking a central role and striving for total control in the classroom or by sharing responsibility for classroom dynamics with their students. These two styles are also positively correlated with the ability to regulate one's emotions and cognitions, suggesting that taking control – total or partial – requires the ability to self-regulate, i.e. to control one's emotions and cognitions and maintain a positive attitude in difficult situations. This aspect of emotional resilience is closely linked to effective classroom management, as teachers who can regulate their own emotions are better able to deal with the diverse and sometimes stressful dynamics in the classroom.

In addition to managing and regulating emotions and cognition, the interactionist style is also associated with aspects of resilience and flexibility. These findings are consistent with the core of the interactionist approach. In order to share responsibility with students and give them the necessary autonomy while ensuring that they exercise their power within the established boundaries of the classroom, the teacher must be fully engaged and willing to accept the challenges while maintaining sufficient control. In all of this, they must also be able to adapt their strategies to the changing needs of their students and the classroom environment. This flexibility then contributes to their resilience as they are better able to deal with unexpected challenges.

The interactionist style lies in the middle between these extremes. It is based on the constructivist perspective that development occurs through interaction between the individual and the environment. Teachers who follow the interactionist style share responsibility for classroom dynamics in the classroom with their students. They value the students' needs, suggestions and initiatives and set rules and boundaries together with them – control of the situation is shared between the teacher and the students. This approach gives students the autonomy they need while ensuring that they exercise their power within the established boundaries of the classroom. Whenever possible, the teacher lets the

students make their own decisions and gives them a sense of responsibility for their behaviour.

The meaningfulness or purpose aspect of resilience is critical for individuals to successfully overcome challenges, setbacks and stressors. Having a sense of purpose or meaning in life provides a framework for understanding one's existence, setting goals and finding a sense of fulfilment. People with a strong sense of purpose are more likely to persevere in difficult situations and motivate themselves to overcome obstacles. This can contribute significantly to their overall resilience. Viktor Frankl (1959), for example, emphasised the role of finding meaning in life as a key factor in resilience. Both the non-interventionist and interactionist styles are based on the belief that students' need for autonomy – to a greater or lesser extent – must be accommodated. A teacher with a non-interventionist approach believes that students' innate motivations should be allowed to unfold in the real world and should therefore be given a high degree of autonomy. A teacher with an interactionist approach believes that collaboration between him and his students is the key to creating a conducive environment for teaching and learning, i.e. giving them the power they need and offering them the opportunity to make their own decisions.

4. CONCLUSION

Resilience in the context of teaching refers to a teacher's ability to bounce back from challenges, adapt to change and maintain a positive and effective teaching approach despite various stressors. Classroom management, on the other hand, encompasses the strategies and techniques teachers use to create and maintain a positive learning environment, manage student behaviour, and facilitate effective instruction. The relationship between teachers' classroom management styles and their resilience is complex and multi-faceted. Teachers who use flexible, positive and effective classroom management strategies are more likely to be able to overcome challenges. The ability to adapt, build positive relationships, communicate effectively, problem solve, regulate emotions and apply reflective practises contributes to a teacher's overall resilience in the demanding and dynamic context of the classroom.

These findings shed light on the critical role that management styles play in teachers' ability to manage challenges and regulate their emotions effectively – particularly for teachers who employ interventionist and interactionist management styles. They suggest that these approaches provide teachers with proactive strategies to tackle problems head-on. They promote a sense of control and resilience in the face of adversity and enable them to regulate their emotions and cognition with greater sensitivity. The finding that the interactionist style correlates with increased hardiness and adaptability/flexibility adds another layer to this, suggesting that teachers who use these methods also demonstrate greater perseverance and adaptability to the dynamic and ever-changing evolving educational landscape. These findings underscore the importance of a nuanced and adaptive approach to teaching, where a blend of interventionist and interactionist strategies enables teachers to manage the complexity of their professional lives with skill and poise.

Finally, we must of course mention some limitations, which at the same time can be seen as potential areas for improvement of the current study. Apart from the fact that the generalisation of the results obtained requires testing on a larger sample, the reliability coefficients of certain subscales are hardly satisfactory, so future research could be directed

towards the construction of more adequate instruments that could better measure these very important constructs.

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STILOVI UPRAVLJANJA UČIONICOM I ASPEKTI REZILIJENTNOSTI

Apstrakt

Stvaranje pozitivne kulture učenja u školama jedan je od najvažnijih i najizazovnijih zadataka za svakog nastavnika. Uostalom, obrazovanje nije samo odlazak u školu i držanje predavanja. Takođe ima mnogo veze sa ulivanjem poverenja i inspiracije mladim ljudima i motivisanjem da postignu uspeh u životu. Svrha ove studije bila je da ispita da li postoji veza između stilova koje nastavnici koriste u upravljanju svojim učionicama (intervencionistički, interakcionistički i neintervencionistički) i aspekata njihove rezilijentnosti (izdržljivost, snalaženje, prilagodljivost/fleksibilnost, smislenost/svrha, optimizam, regulacija emocija i kognicija i samoefikasnost). Uzorak je činilo 100 nastavnika osnovnih škola oba pola (od kojih 86 žena) sa prosečnim radnim iskustvom od 23.12 godina. Korišćeni su sledeći instrumenti: Inventar za samoocenjivanje nastavnika u stilovima upravljanja učionicom i Konor-Dejvidsonova skala otpornosti. Rezultati su pokazali da su i intervencionistički i interakcionistički stil upravljanja bili pozitivno i statistički značajno povezani sa dva aspekta otpornosti – snalaženjem i regulacijom emocija i kognicije. Interakcionistički stil upravljanja dodatno je u korelaciji sa sledećim aspektima otpornosti – izdržljivošću i prilagodljivošću/fleksibilnošću, a ovi odnosi su i pozitivni i statistički značajni. I neintervencionistički i interakcionistički stilovi upravljanja su u pozitivnoj korelaciji sa smislenošću/svrhom. Dobijeni rezultati sugerišu da bi nastavnici koji koriste intervencionističke i interakcionističke stilove upravljanja mogli bolje da se nose sa izazovima i preprekama, kao i da regulišu svoje emocije, dok nastavnici koji koriste interakcionističke stilove takođe pokazuju viši nivo prilagodljivosti i fleksibilnosti u svom profesionalnom životu.

Ključne reči: nastavnik, stilovi upravljanja učionicom, aspekti rezilijentnosti



THE FRAMING EFFECT OF ROLE MODELS IN WOMEN'S CAREER PATH TO ACADEMIA

UDC 378.4:305-055.2

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Abstract. *This study investigates the framing effect of role models in shaping women's career paths towards academia. Employing an interpretative approach, semi-structured interviews were conducted with 17 women pursuing doctoral studies. The research explores their academic backgrounds, decision-making processes, socio-cultural influences, and the impact of role models on their pursuit of academic careers. Through thematic analysis, 591 preliminary codes were identified, leading to the identification of 8 key themes. Findings reveal that women's self-perception, characterized by traits like discipline and ambition, plays a pivotal role in their persistence in doctoral studies. Positive framing, including the academic environment, professionalism, role models, and support, contributes to their motivation and success. Conversely, negative framing, such as demotivating experiences and challenges in work-life balance, can hinder progress. Role models emerge as influential figures inspiring resilience and determination. The study suggests that addressing gender-specific challenges and promoting positive framing can enhance women's experiences in academia. The findings contribute to understanding the complex interplay of factors influencing women's academic journeys and provide valuable recommendations for fostering gender equality in academia.*

Keywords: *PhD, mentor, role model, framing, decision making*

1. INTRODUCTION

People make decisions every other day. From the career choice to the preference of reaching to coffee or tea on the table refers to decision making process, which is an intersection of cognitive psychology, neuroscience, marketing and behavioral economy along with the others. The process is influenced by various factors like past experiences (Jullisson, Karlsson, & Gärling, 2005), cognitive biases (Stanovich & West, 2008), framing effect (Tversky & Kahneman, 1986), age, individual differences (Bruin, Parker, &

Received December 28, 2023/Accepted February 17, 2024

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Fischhoff, 2007), and belief in personal relevance (Acevedo, & Krueger, 2004). When it comes to educational decisions such as enrolling at a university or pursuing an academic career by master's and doctoral degrees, the findings from various studies categorise the involving factors as career opportunities, intellectual development or social status (Boyer, 1987; Fischer et al, 1987; Litten, 1991); environment, experience and skills (Pascariati & Ali, 2022); culture (culture, subculture, social class), society (reference groups, family, role and position), personality (age and life cycle stages, occupation, economic status, lifestyle, personality and self) and psychological motives (motivation, perception, learning, beliefs and behaviours (Bümen, 2015). One possible route for universities as an institutional goal to present a set of role models in the frames of future academics, to enhance the possibility for pursuing a PhD, which could be one of the most complicated decision in peoples' lives. Especially for women, participating in labour force has long been the focus of many studies. Almquist & Angrist (1971) assumed that career aspirations developed in adolescent years. This assumption comes with more questioning: what distinguishes career-oriented women from their classmates? One explanation could lay in early development and family relationships, but how important are the role models in their lives? Which leads us to have a deeper look into the framing theory.

The major premise of framing theory, which rose and tested as a criticism towards *homo economicus*, is that an issue can be viewed from a variety of perspectives and be construed as having implications for multiple values or considerations affecting the basic or most complicated decisions in peoples' lives. Therefore, framing can be defined as a notion which refers to the process by which people develop a particular conceptualization of an issue or reorient their thinking about an issue (Chong & Druckman, 2007). Within the same frame, Hill and Wheat (2017) revealed with a feminist qualitative approach that female leaders' mentors and role models have an effect in their decision to pursue a leadership position; gender dynamics characterize female leaders' role models and mentoring relationships, and non - traditional mentors have served as great career guides and social support mechanisms. On the other hand, negative experiences in student – advisor relationship, mentorship defined as responsibilities without support, ineffective communication and isolation during dissertation process were proven to be the reasons affecting doctoral attrition. This requires a closer look as doctorate level studies are seen as the professional standard for academic life (Casey & Fletcher, 2017), and incubators for knowledge-based economy (Dai et al., 2020). To better understand the process with the females pursuing their PhDs, we conducted face to face interviews. The research questions we suggest include (1) What are the factors affecting women's participation and success in academia? (2) What are the factors creating a positive framework for female researchers? and (3) What role do role models play on women researchers?

2. FRAMING EFFECT AND ROLE MODELS IN MAKING DECISION FOR PHD STUDIES

Traditional economists see humans as rational decision makers whose choices are basically rely on consistency and coherency. However, more contemporary research suggest that decisions are made in the frame of decision makers' conceptions of behaviors, outcomes, and contingencies. This stems mainly from the controlling factors in the frame of decision makers, which are partly formulation of the problem, partly norms, habits and personal characteristics of them (Tversky & Kahneman, 1981). The researchers came to

framing effect conclusion after presenting some illustrations of preference reversals to the students in Stanford University and University of British Columbia. In a classroom setting, the students were given a problem with two possible solutions, which was as follows:

Problem 1 [N = 152]: Imagine that the U.S. is preparing for the outbreak of an unusual Asian disease, which is expected to kill 600 people. Two alternative programs to combat the disease have been proposed. Assume that the exact scientific estimate of the consequences of the programs are as follows:

If Program A is adopted, 200 people will be saved.

If Program B is adopted, there is 1/3 probability that 600 people will be saved, and 2/3 probability that no people will be saved.

Which of the two programs would you favor?

72% of the students chose Program A, and 28% of the students opted for B. Here in the given problem, the situation was framed as risk aversion. Most of the students favored saving 200 lives even though the same result would be achieved in the second scenario (a one-in-three chance of saving 600 lives).

In the second round, the situation was framed as risk taking. Even though the consequences are identical, the priming with the gain and loss emphasis made students favor for Program D (78%). The scenario was given as follows:

Problem 2 [N = 155]: If Program C is adopted 400 people will die.

If Program D is adopted there is 1/3 probability that nobody will die, and 2/3 probability that 600 people will die.

Which of the two programs would you favor?

Criticizing the long-accepted notion of humans' being rational in their decisions could be said to be refuted by the work of (Tversky & Kahnemann, 1981). Therefore, the framing effect can be described as a violation in thinking, which lead people to make a decision based on how a situation is presented. The situation is referred as a cognitive bias for the fact that although both options yields exactly the same result, people generally opt for the alternative presented as a gain. Presented with a dependent measure of choice and the presence of a risk, the framing lead people to risky choices. Cappella and Jamieson (2023) summarized the structure of frames under two categories: outcomes and learning and judgments.

In studying role model influences on the framing of academic life for women, we took two assumptions made earlier by Almquist and Angrist (1971) as the frames. The first assumption was the prevailing norms in society which direct women to marry, start a family, rear kids, and support for the partner's career. A more recent study by Dai et al. (2020) defined Chinese context for career salient women. Female academics in Chinese universities are at the disadvantaged end in the gendered pipeline, as they are the main caregivers, they are restrained by their obligations to their families, the social pressure to be good wives, decent mothers, and, in China, obedient daughters. This makes them to be socially outcast from the university system favoring as "boys club" (Rhoads & Gu, 2012). The second assumption is that academic career aspirations of women can be explained within a role model reference framework. The role model reference framework can be defined as a group or a person that the actor takes into account in choosing a behavior, a decision or a manner among the alternatives (Kemper, 1968). Hence, defined as a leaky pipeline (Todd et al., 2008) metaphorically to describe the women's' hurdles in academic life, we applied to the narratives of women to learn more of their academic progress, underrepresentation, widening gender divide in professorship, subordinate positions, and

fewer opportunities in employment. We assume that this framing could be set as a gain or a loss by the role models they have met during their studies. To this end, the current study aims to explore the underlying factors influencing the framing of women in their path to academia. It has the potential to provide insight into the plight of female researchers pursuing a PhD degree. This will also highlight the struggles and success for career salient women, defining the effects of role models in reaching their goals in academic life.

3. METHODOLOGY

In order to answer the research questions, we thought that adapting an interpretative approach would be needed for a comprehensive description of the women who are doing their doctoral studies. Thus, it could be possible to have an image of their experiences rooted in a cultural and social setting, as this may have an influence on the intended behaviors (Strauss & Corbin, 1998) of the participants. We conducted semi – structured interviews to elicit the framing effects behind the decision-making process to pursue an academic career. We adapted the interview questions conducted earlier for a similar study by Hill & Wheat (2017) with their kind permission. The interview questions centered on the academic background, the time when the participants decided to do a PhD, socio – cultural and individual factors, role models, and work – life balance. 17 participants were recruited with the criterion that they need to be identified as women, pursue their PhDs, and volunteer to participate. Most of the participants are coming to the end of their doctoral studies, 5 of them are taking PhD courses, and the participants are between the ages of 27-42. Pseudonyms like Alex, Rose, Lena, Sophie...etc. to disguise the identities of the participants.

Seventeen interviews were transcribed verbatim in Turkish. Through inductive reasoning and the constant comparison method (Glaser & Strauss, 1967) 591 preliminary codes derived using MAXQDA. The last author did the coding manually to ensure the reliability of coding. After the discussions among the authors, 368 codes were put under 8 themes. The first two authors agreed on 11 themes after finishing to code on MAXQDA (intrinsic motivation, professionalism, role models, guidance and planning, social circle, family, mentorship, support, drawback, gender specific differences, and suggestions). The last author's manual coding revealed 9 themes (personal growth, educational background, professional growth, career, work – life balance, social support, family and friends, negative and positive perspectives, gender-based differences). The code cloud seemed as follows:



Fig. 1 The code cloud⁷

Three authors checked the themes for redundancy and overlap and they decided the final themes. The final 5 themes were agreed upon as Equality Perception (153 codes), Positive Framing (117), Work – Life Balance (39), Negative Framing (28), and Intrinsic Motivation (21).

4. FINDINGS & DISCUSSION

The findings suggest that equality perceptions of the women have the greatest role in retaining in the PhD studies. This is mostly characterized by the personal traits of the women in academia. Compared to their male colleagues, women were found to describe themselves with the adjectives like disciplined (10), ambitious (6), perfectionist (6), and resilient (6) along with being eager to learn, adamant, fair, quality oriented, devoted, better communicators, and curious. Golde (2000) stated a doctoral degree is a test of an individual's persistence, intelligence, coping skills, and interpersonal communication, in which sense women researchers have got the skills required to success in academia. Alex says: "Most men do not get what I have been struggling for. The job is just a job for them. They are more practical and straight forward. They spend less time on thinking and planning. However, I am more open minded and have a lot of perspectives. I am more ambitious than my male colleagues." With the fact that their self-perception becomes

⁷ Note: The code cloud was created by the authors.

apparent in constructing their researcher identity (Dai et al., 2020) the personal traits used by the women researchers to define themselves need recognition.

Among few studies, one former research suggesting that female PhD students tend to fare poorly compared to their male counterparts (Carter et al., 2013; Wall 2008) stands out. In their research of reviewing the bibliometric data of 243 young social science researchers in Netherlands, van den Besselaar and Sandström (2016) found that male researchers published 17% more than females, causing different career achievement levels in the mid - phase of their careers. The abovementioned findings also coincide with our sub theme regarding responsibilities of women. Sarah says: “Daily chores and responsibilities are like my obligations. Especially kids... when you have kids, every other thing slowdown in your life.” Likewise, Becky states “...PhD is like driving in the fog, you cannot see where you are going, we don't give up, we hope to get where we want to and keep driving”. Hence, the women's becoming resilient and not wanting to give up overlaps with van den Besselaar and Sandström's (2016) suggestion that gender discrepancies in productivity might be in related to the orientations shaped by gender stereotyping and biased decisions in academia.

Damgaard & Nielsen (2018) explained framing as the environment which influences the salience or labelling of different aspects of already available information. Creating even small changes in the framing of information may change the behavior or eliminates the bias stemming from cognitive and attentional limitations. In female doctoral researchers' context, positive framing plays a crucial role in the continuum of the current level of study. We found that being in an academic environment, need for professionalism, current social circle, role models, support, and prestige of the academic positions constitute a positive frame for the female researchers. Becky puts the importance of being in an academic environment like this: “...the idea of starting a PhD...after a long break after master's degree...the biggest influence is my colleagues. They were taking PhD courses, and they were motivated, and I thought I could do this, as well.” The need for professionalism appears to be another drive to pursue a higher degree. Eva, Zoe and Pia emphasized that they *felt an urge* to learn more for both their personal development goals and their professional skills. They stated that after a while, *experience was not enough* for them.

Role models are also found to influence the framing of the participants. Emma says “I find my advisor impressive and encouraging. The other professors are like that...they... woke me up in a sense. They helped me to find the desire to reach the intellectual knowledge in me.” Similarly, June says: “There is always times that you feel desperate. When I feel discouraged or start to question yourself, I always read the biographies, narratives of my role models. I see how they overcome unfairness, disappointment, and failure. They show me the way out.” Following the leads of role models, some participants brought another dimension to role model perspective. They stated that they would like to serve as a role model to their daughters, which was why they were trying hard to success. It can be interpreted as if the framing is not completely positive for a researcher, she can change the environment in the positive direction for the future.

The participants also stated that they chose to pursue their doctoral studies as they wish to change their current social circle or careers. For example Rachel says: “On the first day of my teaching career, I decided to go on with graduate studies.” This can be interpreted as academic career is seen as a prestigious career. Most of the participants stated that even though their social lives were limited to a few people who have understanding for the process, they still held on the idea of seeing the end of the tunnel. Eventually, PhD degree is perceived to have a prestigious position in life, family, and at work. Jane and Sophie

expressed their experiences like this “It is a lot of work. At first people see this is exhausting and unnecessary. But in the end you can feel the admiration.”

Negative framing, on the other hand, plays an equally important role for the decision to continue or give up in female researchers' academic lives. Sue tells an anecdote to clarify how a discouraging frame causes demotivation. “I was in the third year in undergraduate. I really wanted to be an academic and asked for guidance...I really needed a mentor then. I got 85 (out of 100) from ALES (Author's note: a test needed to be accepted for a graduate student), and I will be applying to be a researcher. She just told me that ‘don't be so happy there are candidates waiting to be accepted with the scores 90- 95.’ I lost my confidence there, and couldn't apply for a program for a very long time.” Along with the demotivating tone, transportation, financial difficulties, and hurdles in finding a position in academia are found to be the other factors constituting the negative frame for females in academia.

Another negative influence on women's framing is balancing work – life and academic responsibilities. As Dai et al. (2020) defined even if their high degrees females are still the main caregivers, they feel restrained by their obligations to their families, and to the society as well. There is still a latent pressure to be a good wife, mother, and friend. Balancing the needs of their children, spouses, social circles and research restrains productivity and puts them under more cognitive load than they can handle. They stated to have felt burn out, have health problems, and sleep deprivation and loneliness. Single participants told that they were having a more balanced academic life as they did not have any responsibilities and they got support from their parents. However, it could be exhausting for a married researcher with children. Alex puts it as follows: “Women researchers' career plans are negatively affected by their family life. A friend of mine got offline during an online class because her kids were crying and she was alone. She had to give up the whole process. It is impossible. With a kid, housework, a husband...Who wants to be with a woman who spend 16 hours on the computer? People want happy faces around themselves, I am not happy most of the time”. The findings also suggest that the hurdles of balancing work and life are seen and accepted as *academic lifestyle*. This kind of gendered disparity in shared responsibilities among family members might play a pullback role just as Wolf-Wendel and Ward (2006) described with the words fear and tension. Like Wolf-Wendel and Ward (2006), Hagedorn and Sax (2003), Aiston and Jung (2015), and Mason and Goulden (2004) our findings support the earlier ones that disparity based on gender start with balancing family life, mostly motherhood, and academic life. Even if past research demonstrates that institutional support and working environment are egalitarian, domestic sphere of women's lives, as the disparity persists in parenting and homemaking. Nine female researchers reported that they remain single and childless, because they do not want to take up the additional responsibilities and stress from relationships and family life they have observed from their married peer.

Twenty-one codes put under the intrinsic motivation theme. The participants' responses including like *unfulfilled desire* (Emma, Alex), *being studious* (Ezra, Sarah, Mary, Jane), *love to learn* (Mary, Anna, Eva), *self-realization* (Alex, Pia, Mary), *responsibility to learn* (Emma, Lena, June), *excitement* (Alex, Moni). Horta, Li & Chan (2023) have recently found out the typical motivational profiles are predominant in pursuing a doctoral degree. Their findings coincide with ours in terms of the basic drive is the mindsets of most students.

It is interpreted from the findings that female researchers' families and social circles make up a positive framing for further studies. However, if they need to work on their

professional development and personal growth, they may be said to have been using role models or mentors as a trampoline to jump higher in their careers. Negative framing from the role models and mentors might cause them to go out of the play, although positive framing helps them to achieve their goals in spite of the bumps in the road.

The suggestions for further studies were also collected from the participants. Ezra suggested that there should be more in-depth questions for females at individual and institutional levels. Sophie drew attention to the economic struggles besides the psychological ones. She emphasized the support mechanisms needs reinforcement. Becky criticized the terms role models and mentors as finding them redundant in an adult person's life. She preferred to put it as framing, more than people. Sarah brought a different perspective and stated that the future research had better deal with the female faculty outnumbered by male counterparts in their workplaces. Anna and Mary shared thoughts upon psychological well beings of the possible role models and the social media contents associated with gender differences and their negative effects on these women. Rachel and Jane stated that role models may not be needed, intrinsic factors and family framing need to be handled in depth. Pia and Eva proposed a future study focusing solely on work and life balance.

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EFEKAT OKVIRA UZORA NA PUTU ŽENA KA AKADEMSKOJ KARIJERI

Apstrakt

Ova studija bavi se efektom okvira uzora u oblikovanju karijernog puta žena ka akademskoj zajednici. Koristeći interpretativni pristup, obavljani su polustrukturirani intervjui sa 17 žena na doktorskim studijama. U radu se istražuje njihova akademska pozadina, procesi donošenja odluka, društveno-kulturni uticaji i uticaj uzora na njihovu težnju ka akademskoj karijeri. Kroz tematsku analizu identifikovan je 591 preliminarni kod, na osnovu kog je identifikovano 8 ključnih tema. Dobijeni rezultati ukazuju na to da samopercepcija žena, koje karakterišu osobine kao što su disciplina i ambicija, igra ključnu ulogu u njihovoj istrajnosti na doktorskim studijama. Pozitivni okviri koji uključuju akademsko okruženje, profesionalizam, uzore i podršku doprinosi njihovoj motivaciji i uspehu. Nasuprot tome, negativni okviri, kao što su demotivaciona iskustava i izazovi u ravnoteži između posla i privatnog života, mogu ometati njihov napredak. Uzori su uticajne ličnosti koje su žene inspirisale na otpornost i odlučnost. S obzirom na dobijene rezultate, sugestija je da rešavanje rodno specifičnih izazova i promovisanje pozitivnog okvira mogu poboljšati iskustva žena u akademskoj zajednici. Dobijeni rezultati mogu doprineti razumevanju složene interakcije faktora koji utiču na akademsku karijeru žena i pružaju dragocene preporuke za negovanje rodne ravnopravnosti u akademskim krugovima.

Ključne reči: doktorske studije, mentor, uzor, uokvirivanje, donošenje odluka



ETHNIC MINORITY STUDENTS WITH SPECIAL EDUCATIONAL NEEDS: THE CASE OF SCOTLAND

UDC 376.1-056.26/.36-053.2 (411); 323.15(411)

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Abstract. *Students from minority ethnic groups with special educational needs are not only the subject of debate, but also of disagreement and prejudice, as the link between ethnicity and disability is obviously fraught with complications. The Scottish population in which this research was conducted has changed from a stable and largely homogenous population to an ever-changing one, making it an ideal setting for this study. We have chosen the term 'Special Educational Needs' rather than the Scottish term 'Additional Support Needs' in order to achieve a comprehensive understanding at a global level. The target was specifically children with cognitive/educational impairments, physical/mental disorders, all of which fall within the SEN spectrum. The main research questions and purpose of our research was to focus on the challenges faced by teachers and their prospects regarding the inclusion of these children in the education system. A qualitative approach was used and semi-structured interviews were conducted. Eight primary school teachers were interviewed. Participants' responses were consistent with the social model of disability, suggesting that these children may be disadvantaged due to societal inequalities. The results showed that the unequal distribution of resources and misperceptions of identity are causally linked and contribute to ethnic minorities being overrepresented in the Scottish ASN category and subsequently in the global SEN category. They also showed that teachers' outlooks included improving school democracy as an opportunity for teachers and students to participate in all facets of democratic life. By matching theory with outcomes, this research confirmed the social model of disability and described the over-identification of ethnic minority children in SEN categories, social marginalization and exclusion, while emphasizing the need for democratic practices and cultural negotiation. The pedagogical implications showed that teachers can cultivate the values and skills necessary to transform difficult circumstances into fertile ground for inclusive and socially just practices.*

Keywords: *SEN, ASN, ethnicity, disability, overrepresentation, inclusion*

Received November 29, 2023/Accepted March 20, 2024

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1. INTRODUCTION

Across the global landscape, socio-economic inequalities are widening the gap between the prosperous population and those marginalized by precarious living conditions, creating a web of inequality and social exclusion that cuts across nations, cultures and religions. The onset of globalization is leading to dynamic diversity within these populations, changing the demographics of schools and intensifying the educational challenges associated with addressing the needs of children from diverse ethnic backgrounds (Tan, Ware & Norwich, 2017). In particular, children from minority ethnic backgrounds with special educational needs (SEN) represent a particularly nebulous and intricate subset of pupils, highlighting the confusing interplay between multicultural dynamics, conventional educational settings and SEN (Gibson & Hidalgo, 2009; Strand & Lindorff, 2018). These children face difficulties in multiple ways. Their status as an ethnic minority makes them vulnerable to discrimination due to their numerical inferiority (Yusoff & Sarjoon, 2016).

At the same time, a diagnosis of SEN recognizes that they have "greater difficulties than the majority of children of the same age" (Department for Education and Skills, 2001, p.6). Drawing on these complexities, this research aimed to highlight the challenges and perspectives of educators in relation to the education and inclusion of minority ethnic children with SEN. The study aimed to deepen our understanding of teachers' difficulties and perceptions regarding the inclusion of such children, thus laying the foundation for future research. In addition, the research addressed the implementation of inclusion practices for minority ethnic pupils with SEN in the broader context of social justice and equality in education. Inclusion as an ongoing process that promotes equal learning and participation for all students, while breaking down barriers to accommodate diversity, is considered urgent for these children as they are vulnerable to falling behind and encountering barriers that can affect their educational outcomes (Booth & Ainscow, 2011; Elder et al., 2021).

Despite the urgent need to critically address the challenges of supporting students with diverse needs, there remains a gap in the literature and research, particularly in relation to the education and inclusion of ethnic minority students with SEN (Tan et al., 2017). This gap in knowledge served as the main motivation for exploring this overlooked area. In the Scottish context in which this study was conducted, the term 'special educational needs' was replaced by the more inclusive term 'additional support needs' (ASN) in the Education (Additional Support for Learning) (Scotland) Act 2004. This legislative change aimed to challenge the prevailing deficit-oriented language in national policy (Allan, 2010; Strand & Lindorff, 2018) and broaden the definition to include all children with learning difficulties due to social problems and disabilities (Riddell, Harris, & Weedon, 2012). However, this study focused specifically on children with physical or mental disabilities, cognitive or educational impairments who fall within the SEN 'spectrum' according to the International Standard Classification of Education (United Nations Educational, Scientific and Cultural Organization, 2011), which is consistent with internationally accepted definitions (OECD, 2012).

2. LITERATURE REVIEW

2.1. Ethnicity and ethnic minorities in the United Kingdom

Regarding ethnicity and ethnic minorities in the UK, the research points to the continuing importance of diversity, ethnicity, identity and differences between groups. In a multicultural British society, these topics have garnered considerable interest (Burton, Nandi & Platt, 2008; Strand & Lindorff, 2018). However, the complexity of British society makes it challenging to define and understand ethnic group identity and its various dimensions. Ahmad (2009) argues that the common approach to categorizing ethnicity often excludes white people and implies that ethnicity is only about skin color and cultural differences. The term "ethnic minority" is usually used to describe individuals who belong to a minority group within a particular population in terms of skin color, culture, language, nationality or race (Scottish Government, 2016).

2.2. The case of Scotland

In Scotland, a trailblazing legislative framework has been established, reflecting the Government's commitment to promoting a society grounded in equality (Watson, 2010). The progression from the SEN and Disability Discrimination Act 2001, which secured legal rights for disabled pupils (Wright, 2010), to the introduction of the term Additional Support Needs (ASN) in the Education (Additional Support for Learning) (Scotland) Act 2004 marked a significant change. This new terminology broadened the scope to encompass children whose learning difficulties stem from their social circumstances (Riddell, 2011). This comprehensive category encompasses various subcategories, and the intent of this legislation was to provide additional resources for children requiring extra support to succeed (Riddell & Weedon, 2016). The expansion of the categories has redefined the approach to supporting pupils with learning challenges, extending the SEN framework to include social factors that may impede learning (Riddell & Watson, 2014). Scotland's innovative approach to encompass a broader population not previously classified as having SEN represents a significant stride towards leveling the educational playing field by acknowledging that additional assistance is necessary for a wider range of students (Williams, 2009). However, despite these advancements, there remains a gap in data, particularly in the integration of statistics on pupils who are both from minority ethnic groups and identified with ASN (Meer, 2016). This gap indicates the need for further research in this area in order to fully understand and address the diverse needs of the Scottish student population.

2.3. Ethnicity and SEN

Recognizing the complexities inherent in identifying ethnic minority pupils with Additional Support Needs (ASN), it becomes evident that such intricacies are mirrored globally in the identification of ethnic minorities with Special Educational Needs (SEN) worldwide. In this context, it is essential for national systems of identification and assessment to acknowledge and address the underlying tensions, as pupils categorized under the same disability label may exhibit diverse learning requirements (Desforges & Lindsay, 2010; Roman-Urrestarazu et al., 2021). Despite this, the interplay between ethnicity and disability, or the specific challenges faced by certain social groups in relation

to SEN, has not been widely explored in the academic literature. There are few studies that analyze demographic variables to identify disproportionality (Lindsay, Pather & Strand, 2006; Banks, Shevlin & McCoy, 2012; Elder et al, 2021; Cruz & Firestone, 2022). Disproportionality, located at the intersection of globalization and special education, is related to broader issues such as socioeconomic disadvantage and social exclusion or injustice. It is defined as the under- or over-representation of ethnic groups within SEN categories (Gabel et al, 2009; Harry, 2014; Cruz & Rodl, 2018; Stiefel et al, 2022). This phenomenon is observed when the proportion of specific groups identified as having SEN differs from their representation in the overall school population (Dyson & Callannaugh, 2008). Concerns arise particularly when minority ethnic pupils are over-represented in certain SEN categories, leading to a focus on issues of misidentification and misleading identification of children from these groups, as their challenges are often rooted in structural and systemic factors (ibid). Two primary hypotheses have been proposed to explain this phenomenon. The first states that ethnic minority pupils are more prone to disabilities and special educational needs due to the disadvantaged social conditions they may encounter (Oswald, Coutinho & Best, 2002; Grindal et al., 2019). The second hypothesis states that the overrepresentation in SEN categories may stem from incorrect interpretations of ethnic and cultural differences as disabilities (Oswald, Coutinho & Best, 2002; Strand & Lindorff, 2018). Moreover, failing to recognize students' previous educational experiences or learning pace can lead to incorrect assumptions about their capabilities and backgrounds, potentially resulting in erroneous assessments and diagnoses (Arshad & Moskal, 2017; Cruz & Rodl, 2018). This complex scenario highlights the need for a nuanced understanding and approach to educational assessment and support for ethnic minority pupils.

2.4. Ethnic minority groups

In a scientific analysis, Lindsay et al (2006) found significant differences in the identification of children with Special Educational Needs (SEN) across different ethnic groups in the UK. Notably, children belonging to two traveller groups (Traveller Gypsy/Roma and Traveller – Irish) are 2.5 times more likely to be identified with SEN than white British children. This higher incidence is attributed to factors such as a curriculum irrelevant to Traveler culture, experiences of bullying, racism and negative teacher attitudes. Campbell (2015) and Marshall (2016) further elaborate on this, suggesting that discriminatory practices are often ingrained in teachers' attitudes, possibly as a result of long-standing discrimination and exclusion. Similarly, Black Caribbean children are 1.5 times more likely to be identified with SEN than their White British peers, a disparity that may be influenced by differential treatment and racist attitudes (Dyson & Callannaugh, 2008; Strand & Lindsay, 2012; Morgan et al., 2018). In addition, Bangladeshi pupils are 2.5 times more likely to have a hearing impairment and Pakistani pupils are similarly likely to have physical/mental impairments or learning difficulties as White British pupils. Genetic factors such as consanguinity are posited as significant contributors to these impairments (Lindsay et al., 2006; Roman-Urrestarazu et al., 2021). Moreover, it is important to note that these examples of disproportionality often occur in high incidence categories, such as behavioral difficulties and learning disabilities, which are predominantly based on subjective evaluations rather than biological factors (Harry, 2014; Lindsay & Strand, 2016; Morgan et al., 2018).

2.5. Social justice and Educational Equality

The discourse on social justice, which has been significantly influenced by the theory of John Rawls (1971), has developed into a multi-layered academic debate. A notable contribution to this discussion is Fraser's (2005) three-part framework, which conceptualizes social justice in terms of recognition, representation and (re)distribution. In the context of equity in education, this concept requires the examination of responsiveness to pupil diversity, inclusion in decision-making through democratic processes in schools and society, and equitable distribution of resources (Riddell & Weedon, 2017; Zajda, 2022). The role of education in shaping more equitable societies is crucial and presents a paradox where education is both a source of inequality and a potential solution (Power, 2012; Grindal et al., 2019). In the UK, educational inequalities are initially evident in the uneven distribution of social goods and resources (Hills et al., 2010). In particular, there are substantial disparities in provision for pupils with Special Educational Needs (SEN) among different local authorities in England and Wales, complicating the operationalization of SEN concept for pupil identification (Terzi, 2010; Torres & Tarozzi, 2020; Zajda, 2022; De-Los-Santos-Menéndez, 2022). This inconsistency leads to situations where children may be identified with SEN in one school but not in another, challenging the establishment of a fair funding system (Florian & Pullin, 2000; Smeets & Roeleveld, 2016). These economic injustices are characterized by material deprivation and marginalization due to poverty (Power, 2012; Torres & Tarozzi, 2020). In Scotland, despite initial expectations that the expansion of Additional Support Needs (ASN) categories would reduce inequalities, pupils from socioeconomically deprived backgrounds continue to face disadvantages (Fordyce et al., 2013; Zajda, 2022). Even with increased ASN identification rates, pupils from impoverished neighborhoods, including ethnic minorities, are less likely to have a Coordinated Support Plan (CSP) compared to those from wealthier areas, further highlighting economic injustices (Riddell & Weedon, 2017). Although frameworks such as *Achieving Our Potential* and the *Government's Economic Strategy* (Scottish Government, 2008; 2010) outline strategies to tackle poverty in society and education, the Scottish Government's efforts fall short if they do not address the root causes of educational disadvantage and existing socio-economic conditions (MacKie & Tett, 2013). Ethnic minority children with SEN face social injustices marked by misrecognition. The Equality Act (2010) in Scotland mandates school authorities to take measures against discrimination, particularly for pupils with protected characteristics, including ethnicity and disabilities. However, a survey found that 35% of minority ethnic pupils reported experiencing discrimination and unfair treatment (Meer, 2015), underscoring the intertwined nature of discrimination, difference and misrecognition (Meer, 2016). This situation highlights the ongoing challenges and complexities of achieving social justice in education, particularly for vulnerable and marginalized groups.

2.6. Inclusion and ethnic minorities with SEN

The realm of social justice is closely intertwined with inclusion and represents a complex landscape influenced by discourses that have emerged over the past century. Social justice and equality, seen as spaces for democratic innovation or even subversion, offered an opportunity to situate disability and equality within an innovative cultural framework (Hodkinson, 2011; Juvonen et al., 2019; Strand & Lindorff, 2021). Beyond conventional definitions of inclusion merely as an approach placing SEN pupils in the

general school system, Hinz (2012) introduces a broader perspective by defining inclusion as a social goal. The conceptualization of inclusion varies, but at its core is an understanding and emphasis on values such as participation, equality and respect for diversity, which serve as a foundation for developing inclusive practices. While the literature highlights numerous factors challenging the education of minority ethnic children with SEN, particularly in relation to disproportionality and social justice, these factors though indirect, they are by no means insignificant. Language, as an initial challenge, poses a significant hurdle, as incorrect assessments may lead to teachers employing misguided strategies, providing inappropriate support ultimately impeding inclusion (Gu, 2018; Francisco, Hartman & Wang, 2020). Teacher training, or lack thereof, emerges as a barrier to the effective teaching of ethnic minority children with SEN, not only due to insufficient awareness and competence but also a lack of interculturality awareness to foster richer understandings and incorporate pupils into mainstream society (Lucas & Villegas, 2013; Strand & Lindorff, 2021). Moreover, the absence of collaborative cultures among teachers and agencies may impede the implementation of context-specific strategies and limit the sharing of professional knowledge for preventative interventions (Armstrong, 2015; Juvonen et al., 2019). Ineffective school leadership or practitioners untrained in collaboration may hinder multi-agency partnerships (ibid.). Inappropriate support can be exacerbated when provision models are inflexible or when the curriculum proves rigid and irrelevant (Day & Prunty, 2015; Strand & Lindorff, 2021). A substantial body of research underscores a strong correlation between exclusion and low levels of parental involvement (Belfi et al., 2015). Parents from ethnic minorities with low socioeconomic status participate less in school activities, are less involved in their children's progress, refrain from encouraging socialization activities, and do not share their views on appropriate teaching and rearing with teachers (Francisco, Hartman, & Wang, 2020). The absence of shared beliefs concerning practices that enhance children's inclusion impedes the provision of appropriate support for effective learning (Day & Prunty, 2015; Juvonen et al., 2019).

2.7. Ethnicity and SEN in theory

Globally, disabled individuals and their advocates have ardently challenged historical oppression and exclusion, aiming to shift perspectives from individualistic and over-medicalized notions of disability (Shakespeare, 2010; Waldschmidt, 2017; Fish, 2019). Historically, the difficulties faced by disabled people were attributed to moral failings, evolving into a post-Enlightenment era view of biological deficit and the medical model of disability, framing disability as a personal tragedy with medical prevention/cure as a solution (Barnes, 2012; Billingsley & Bettini, 2019). However, this study deliberately redirected focus from the functional restrictions of individuals with impairments to challenges arising from societal constructions, fostering dysfunctions leading to social oppression and exclusion (Retief & Letsosa, 2018). The research endeavored to present ethnic minorities with SEN as a group susceptible to societal exclusion and discrimination (Purtell, 2013). Disability, in this context, is viewed as a socially constructed disadvantage hindering the participation of these groups in society (Barnes, Mercer & Shakespeare, 2010; Billingsley & Bettini, 2019). Embracing the principles of personal empowerment, non-discrimination, and equal opportunity, the research adopted the social model of disability, aiming to explore barriers to inclusion and assess whether ethnic minority children with SEN can participate equally in community life (Loewen & Pollard, 2010;

Anastasiou & Kauffman, 2013). Disability, in this perspective, transcends a mere bodily pathology or medical issue, transforming into a human rights concern.

RQ1: What are the challenges teachers face towards ethnic minority children with additional support needs and the inclusion of these children?

RQ2: What are the prospects teachers have towards the inclusion of ethnic minority children with additional support needs?

3. METHODOLOGY

The aim of this qualitative study was to investigate the challenges and opportunities faced by teachers in the inclusion of ethnic minority children with Special Educational Needs (SEN). Purposive sampling was undertaken to select participants who could provide rich information and deep insight into the issues discussed (Suri, 2011). The Scottish context was selected due to its multicultural features and the fact that it represents an increasingly diverse community. It was assumed that Scotland, with its diverse history of successive waves of settlers, would provide ample scope for cultural literacy and competence in educators (Henderson, Woods, & Kurlus, 2017). A sample of eight teachers (six female and two male) from a primary school in Scotland was selected to share their experiences and knowledge. The key criterion for selecting participants was that their classrooms had a significant number of minority ethnic students with ASN, ensuring they could provide valuable insights on the topic (Archibald & Munce, 2015). Semi-structured face-to-face interviews were preferred for data collection (Waring, 2017). Given the focus was on people's views, experiences, understandings and interactions, the interview questions were intentionally less leading, allowing ample room for the participants to construct or reconstruct their responses during the process (Merriam & Tisdell, 2016). Prior to the actual interviews, the questions were piloted with two additional teachers not involved in the study, aiming to create a more flexible version of the interview (Patton, 2002). The piloting process helped to identify flaws in the design, facilitating necessary modifications (Creswell, 2013).

4. RESEARCH FINDINGS

4.1. Teachers' challenges

4.1.1. Lack of funding and resources

Overall, the results indicated that the insufficient funding is a systemic issue within the Scottish education system. All teachers unanimously acknowledged (8 out of 8) the shortage of funding and resources, particularly concerning ethnic minorities with Additional Support Needs (ASN). According to the teachers, poverty appeared to be a pervasive standard for this group, and they felt it was not adequately addressed. Responding to this question, a teacher stated:

Teacher F: "Usually, children from ethnic minority backgrounds face poverty issues...this is unfair...we need more funding to help them".

Without any deviations, all interview participants expressed their requirement for financial support to assist children in overcoming their daily challenges. For example, one

teacher emphasized the importance of financial resources and material support to meet the needs of these children:

Teacher C: “We need more money, more funds for their everyday support. Imagine what happens when they have a mental or a physical impairment on top of it”.

A subset of teachers' responses (5 out of 8) involved a minor adjustment to their initial emphasis on material resources, as they shifted their focus to the shortage of staff. According to these teachers, the undeniable need for staff becomes evident due to the lack of funding:

Teacher H: “We need more EAL teachers. Support from EAL in our school is two times a week and this is not enough”.

Additional expressions highlighting the importance of funding and its impact on the education and inclusion of these children emerged when teachers were questioned about the adequacy of the resources provided for supporting and including ethnic minority students with Additional Support Needs (ASN). The majority of the respondents answered negatively:

Teacher B: “These pupils have complex needs and we cannot address all the challenges, based only on our willingness to help”.

Solely one teacher conveyed the opinion that they are partially equipped with the necessary resources. This belief was founded on the somewhat sufficient assistance they received in addressing such situations; however, the ongoing necessity for recruiting additional staff persisted. As illustrated in the following section, the insufficiency of staff may be regarded as a factor contributing to the combination of classrooms and the subsequent enlargement of class sizes.

4.1.2. Overcrowded classrooms

The majority of teachers (5 out of 8) stated that crowded classrooms could significantly impede the education and inclusion of ethnic minority children with Additional Support Needs (ASN). Two teachers endeavored to pinpoint the cause of overcrowded classrooms, explaining that the shortage of funding resulted in a lack of staff, consequently influencing classroom size. They also acknowledged the challenges and issues within the classroom when attempting to address the needs of each child. Indicatively, one teacher confessed:

Teacher C: “It is extremely hard to address the barriers and support all of them, without neglecting some”.

This observation was reinforced by other participants who mentioned that in such classrooms, their only recourse at times was to prioritize learners with fewer needs over others. Nevertheless, a different teacher utilized the concept of crowded classrooms to share her perspective on special education:

Teacher E: “There are so many children in one classroom! I am not sure if their needs are met or if they would be better off in a special school”.

It is at such points that the discussion over needs and and suitable support comes to the forefront, extending further in instances where language acts as an obstacle to comprehending the requirements of these students.

4.1.3. Language barriers

Significantly, all eight teachers identified language barriers as among the foremost challenges. To elaborate on their statements, they underscored the communication

challenges experienced with ethnic minority children. However, when coupled with Additional Support Needs (ASN), it presents an additional hurdle, as there may be ambiguity regarding the nature of the difficulties. Specifically, teachers acknowledged their difficulty in discerning whether a child from an ethnic minority background is facing a learning difficulty/educational impairment or if language barriers are obstructing an accurate understanding of the child's genuine needs. This is evident in the following example:

Teacher A: "I am not always sure if a child is, for example, dyslexic or if the language is what impedes me from understanding. Language functions as an obstacle to identification".

These perspectives set the stage for another concern related to inaccurate identifications. Issues in identification resulting from language barriers may result in an overrepresentation of ethnic minority students in ASN categories. As one teacher noted:

Teacher H: "My fear is that misinterpretations may occur. We don't know their language, so they might be wrongly placed under an ASN category. It's common to see ethnic minorities being considered as having a disability".

Lack of language proficiency could also give rise to the subsequent challenge of cultural misrecognition. Inability to communicate effectively with members of other cultural groups and empathize with them may foster negative attitudes towards such groups.

4.1.4. Cultural misrecognition

Interestingly, a few respondents (3 out of 8) identified cultural misrecognition as a barrier to inclusion that extends beyond the school environment to the broader community. One teacher acknowledged that when these students are perceived as outsiders, their identities are not esteemed, resulting in their subordination. A characteristic example was given to support this case:

Teacher B: "When we talk about other cultures and identities, it is clear that these people are perceived as others; probably as the insignificant other".

Another teacher made a similar claim when she accentuated the existence of otherness in the society:

Teacher G: "We see people from ethnic minorities as someone different; not in this school, but in the wider community. To me, this is a general challenge towards inclusion; to perceive ethnic minorities as outsiders".

Clearly, the above observations suggest that perceiving ethnic minorities as outsiders could readily contribute to the isolation of children and their families from the school community.

4.1.5. Uninformed and distant parents

A notable proportion of respondents (6/8) highlighted the issue of parents being disengaged and poorly informed, which presents a significant obstacle in the education and inclusion of ethnic minority children. The teachers observed that such parental disengagement results in a detachment from the school community, potentially leading to the exclusion of these families. This phenomenon was attributed by some teachers to language barriers and gaps in cultural understanding. However, one teacher offered an alternative perspective, recognizing cultural stigmas associated with disability or

educational impairments in certain communities as a reason for parents' reluctance to engage:

Teacher F noted "In many countries, it is considered as a big stigma to have a disability or an educational impairment. Therefore, many parents do not wish to go public and discuss their child's difficulties".

Another teacher, Teacher G, suggested that the root of this distance might lie in the lack of effective collaboration between parents and teachers:

Teacher G remarked "Parents are here by themselves, with no help, and they don't know how to access services".

4.1.6. Overcoming challenges and promoting equality

When discussing strategies to address these barriers and foster inclusion and equality, most teachers (6/8) emphasized the importance of effective communication among educators. They reported that regular discussions and collaborative efforts among teachers lead to more successful outcomes. Collaborative learning was also widely cited (7/8) as an effective method for addressing challenges in a manner beneficial for the group:

Teacher E stated, "Getting learners to work together [...] it's a good opportunity for everybody in a group, breaking their strengths and their ability forward"

Teacher H, when asked specifically about how group work promotes equality, linked it to equal participation:

Teacher H explained, "When they work in groups, they do not feel excluded and collaborate in equal terms"

Additionally, cultural awareness was identified as crucial. Two teachers emphasized that understanding and respecting cultural backgrounds is fundamental to achieving equality and inclusion:

Teacher F commented, "Inclusion is interrelated to equality and equality means respect about their culture. First, I make sure I know all about their cultural background so as to bring an aspect of culture in the classroom and make them feel included."

Regarding the curriculum, all teachers (8/8) agreed that its adaptability and flexibility were instrumental in their efforts, allowing for equal access while accommodating diverse needs.

4.2. Teachers' Prospects

4.2.1. Children as change instigators

Two teachers believed that children should be empowered to take control of their learning, advocating for a democratized educational system that values the voices of all pupils, particularly those marginalized due to ethnicity and disability:

Teacher E: "Inclusion is a right and pupils should have their own voice. What I want to see in the future is children being involved in decisions and actions concerning their future".

On similar grounds, another teacher envisioned a free society where children will evade monolithic approaches to learning and decide on the ways they will learn:

Teacher C: "When education is democratized, pupils and teachers' views are equally considered. Pupils must express their views about their own education and use their own experiences as a means towards learning".

Yet, as it is further displayed the role of children can be strengthened by adopting an additional function, that of a cultural negotiator.

4.2.2. Children as cultural negotiators

Affirming her convictions regarding the prevalent cultural misrecognition, a teacher argued that children should take on the role of cultural negotiators to foster respect for culture and identities:

Teacher B: “My hope is that they will not be seen as outsiders in the society, but as cultural negotiators who will teach respect for identities, cultures, languages and religions”.

However, it was supported that besides children, teachers should also increase their levels of knowledge and confidence.

4.2.3. Teachers' enhancement of skill, knowledge and confidence

Three out of eight interviewees supported the idea of enhancing teachers' knowledge and skills to avoid relying on routine practices:

Teacher H: “It's not about entering a classroom and start teaching...it's about updating our understanding on how to battle inequality in practice”.

The rationale behind this preference is rooted in the advocacy for inclusion, which, as per the respondents, underscores the necessity for teachers to develop confidence as an essential component of the learning process:

Teacher G emphasized, "If we want to promote inclusion, we have to build our confidence through an unofficial curriculum that would help us act for justice."

When Teacher G was asked to clarify her perspective and define the term "unofficial curriculum," it was suggested that adopting a whole-school approach could be mutually beneficial, boosting both teachers' confidence and students' achievements while fostering inclusion. Within the context of inclusion, one teacher expressed her aspirations by supporting a potential future elimination of special settings to approach complete inclusiveness for all.

4.2.4. Abolition of special settings

Teacher F asserted that, particularly in situations involving ethnic minority children with educational impairments or physical/mental disabilities, opting for the elimination of special schools should be a preferred solution. This approach aims to avoid stigmatization and ensure equal opportunities:

Teacher F: “To me, special settings are responsible for these children's social marginalisation. My prospect is for all children to be included into mainstream schools, even those ones with severe disabilities”.

4.2.5. Better support through the use of special settings

Contrastingly, another teacher contended that the potential use of special settings could enhance children's learning. In this perspective, the central concept does not revolve around inclusion or exclusion but rather focuses on access. The teacher acknowledged that flawed adjustments are sometimes made in the pursuit of inclusion. This was illustrated with an example:

Teacher A: “There are learners with severe disabilities who come to mainstream education and we will have their tasks minimised, to a point where we don’t know if we are harming them”.

In response to a follow-up question prompted by his earlier answer regarding inclusion, he contended that he supports inclusion, but it should be implemented to a certain extent:

Teacher A: “There are times when placing people in a mainstream school does more damage and I mean that from a kind of neglect point. We shouldn’t forget about the economic cuts and the services that no longer exist. Maybe, bringing them to a special environment where they can progress and develop would be a better solution and a feasible prospect”.

5. DISCUSSION

While establishing a contextual backdrop to address both research questions, this part elaborates on the research questions with regards to the pertinent literature. Regarding the challenges that the teachers face towards ethnic minority children with additional support needs and towards the inclusion of these children, teachers' responses suggest that economic structures act as barriers, restricting access to resources and causing a dearth of funding. Consequently, these economic disparities unveil social injustices, hindering the ability of ethnic minorities with ASN to engage with their peers on an equal footing and attain "parity of participation" (Fraser, 2008, p.16). Aligned with the social disability theory, asserting that individuals with disabilities face exclusion and economic marginalization due to their impairments (Oliver, 1990), teachers identify economic injustices rooted in marginalization and deprivation. Notably, ethnic minority children from deprived backgrounds find themselves excluded from educational opportunities due to prohibitive costs (Parrish, 2014). The shortage of teaching staff contributing to overcrowded classrooms prompts teachers to acknowledge the prioritization of learners with fewer needs, a factor implicated in classroom inequalities for ethnic minorities with ASN. Both national and international literature converge in emphasizing that quality education is compromised in overcrowded classrooms, hindering teachers' attention to individual pupils and their specific needs (Epri, 2016). Beyond the challenges posed by large classroom sizes, language barriers further confound teachers, impeding their ability to accurately discern the nature of difficulties. The linguistic gap between ethnic minority pupils and teachers unfamiliar with their mother tongue presents a formidable challenge, as misinterpretations may lead to incorrect assessments of needs (Salvia, Ysseldyke & Witmer, 2012). This, in turn, may result in teachers employing inappropriate strategies, providing inadequate support, and hindering the pursuit of inclusion (Gu, 2018). The crux of the matter lies in the significant concern that misidentifying needs may categorize ethnic minority children into ASN classifications, underscoring the confusion and lack of coherence in teachers' support plans and contributing to the overrepresentation and disproportionate placement of such pupils into ASN categories (Riddell & Weedon, 2017).

Post-incorrect identifications, attention shifts to the challenge of understanding diverse cultures, with Teacher B delineating societal misconceptions toward ethnic minorities that undermine respect for diversity. Although teachers' observations may not directly involve the school community, the assumption is that children unrecognized and excluded from society struggle to integrate into classrooms. Despite advancements in policy development

and racial equality efforts in Scotland, there are lingering areas of inequality that demand attention (Watson, 2010). Parallels between teachers' responses and literature reveal that perceiving ethnic minorities as "others" may give rise to issues of racial discrimination and injustice (Gkaintartzi & Tsokalidou, 2011; Kymlicka, 2012). The issue of distant and uninformed parents surfaced, underscoring the isolation of parents and their detachment from their child's education. Teachers' responses align with both national and international studies that illuminate how school staff often perceives cultural barriers as impeding parental involvement in their child's learning (Katz, La Placa & Hunter, 2007). A corresponding report from Scotland aligns with teachers' concerns regarding language barriers and stigmatization. In many societies, families bear the stigma associated with a child having a disability, often compounded by parents' reluctance to acknowledge their child's needs (Henderson, Woods & Kurlus, 2017).

Evident from these findings is the parallelism between the challenges faced by teachers in the inclusion of ethnic minorities with ASN in Scotland and the challenges confronted globally in the inclusion of ethnic minorities with SEN, as elucidated in the literature review. On a global scale, the insufficient funding for such groups exposes an economic structure that perpetuates an unjust distribution of resources (Power, 2012). Due to limitations in supplementary funding, the education system struggles to provide equitable opportunities for pupils from ethnic minorities identified with SEN. Furthermore, about the prospects teachers have towards the inclusion of ethnic minority children with additional support needs, the findings propose that ethnic minority children with ASN should be positioned at the core of the learning process, enabling them to catalyze change by actively participating in education planning. Jabbar and Mirza (2017) underscore the importance of linking student voice to action, allowing them to equally contribute to shared decisions and influence the direction of their learning. Teachers' responses regarding their prospects converge on the pivotal role of students. Teacher B advocates for ethnic minority pupils to become cultural negotiators, fostering respect for diverse identities and cultures. This perspective emanates from a social justice standpoint, reintegrating and reflecting patterns of cultural recognition, presenting avenues for seeking cognitive justice in future classroom settings (Keddie, 2012). Additionally, teachers underscore the enhancement of skills, knowledge, and confidence as indicative of teacher self-efficacy. This becomes a mechanism to achieve specified performance levels and foster improved practices in the inclusion of ethnic minority children with ASN. Similar studies by researchers emphasize the importance of bolstering teachers' confidence and understanding, as it has a dual impact on their professional functioning and other determinants (Sadler, 2013).

Responses exhibit considerable variability, exemplified by Teacher F's proposition to abolish special settings and advocate for the inclusion of all children with ASN into mainstream schools. While literature support for the abolition of special settings is scarce, there is a growing global movement and major legislations favoring the inclusion of all children into mainstream schools (Braunsteiner & Mariano-Lapidus, 2014). This belief aligns with research indicating that children's inclusion in mainstream settings yields better academic outcomes compared to those in special classrooms (Villa, Thousand & Nevin, 2010). Even in cases of severe impairments, studies suggest that the inclusion of all children should be considered as an alternative, given that their education in special schools may not necessarily yield improved outcomes (Jan Pijl, Nakken & Mand, 2003; Waitoller, Artiles & Cheney, 2010). On the contrary, Teacher A raised the possibility of a viable prospect by suggesting an increased utilization of special settings, especially as an

immediate response to severe disabilities in some pupils. This finding carries significant weight in the conceptualization of inclusion, challenging the notion that the contemporary reality of special schools and segregation is obsolete. In this regard, these findings bear resemblance to Tsakalou, Hamilton, and Brown's study (2018) in the Greek context, where it was concluded that while the concept of inclusion is rhetorically promoted in schools, teachers may not exhibit the necessary commitment to the values of inclusion. In our case, the divergent beliefs in teachers' responses may indicate the absence of a unified vision towards inclusion, potentially leading to conflicting perspectives within the same school, as suggested by Hazel and Allen (2013). Considering that teachers worldwide encounter challenges that converge at certain points despite contextual differences, the discussed prospects could be applied for the benefit of all ethnic minority children with SEN.

5.1. Pedagogical Implications

Derived from the aforementioned insights and further suggestions, there exists ample room for the application of inclusive pedagogical practices, despite the limited scope of this small-scale research. The implications, as inferred from the findings, should not solely focus on classroom practices. Rather, there should be a shift in focus towards inclusive pedagogical approaches that empower teachers in driving inclusion and social justice. Importantly, inclusive pedagogy, as an approach, actively avoids marginalizing and excluding specific groups while attending to individual differences among pupils (Florian & Black-Hawkins, 2011). There is immense value in preparing teachers to reassess assumptions about their teaching and actions. An understanding of the intricate notions of learning, action, and change could aid teachers in reinforcing possibilities for an improved and socially just education for ethnic minorities with SEN. Therefore, the proposal for teachers is to concentrate on systematic conditions that shape their practices rather than relying solely on externally formulated policies.

5.2. Research Limitations

It could be contended that the small-scale nature of the study, coupled with the limited sample size, constrains the generalizability of the findings to broader populations (Merriam & Tisdell, 2015). Conducted in a single primary school, the respondents' perspectives might differ from those in other educational institutions. It should be acknowledged that while these specific findings may offer profound insights to individuals in similar situations, they may not provide adequate understandings for the broader educational context. Thus, future research with a relevant topic would benefit from interviewing a larger sample size to ascertain if participants' opinions align with those in other schools. Additionally, a large-scale study could potentially provide deeper insights into teachers' challenges and prospects, particularly concerning their specific profiles. Another limitation arises from the concurrent use of the terms SEN/ASN in a study conducted in the Scottish context. The use of both terms may jeopardize the transferability of this research, considering that SEN was adopted to describe a specific population in a context where ASN refers to a broader range of needs. Therefore, a re-examination of the terminology, along with providing explanations and consolidating terms, becomes imperative (Lincoln & Guba, 1985).

5.3. Areas for Further Research

Upon scrutinizing the findings of this study, the need to address various aspects of the study becomes evident. A more extensive investigation into teachers' challenges and perspectives regarding the inclusion of ethnic minority children with SEN is deemed prominent. This recommendation is bolstered by the proposal to present a more comprehensive picture of these children's dual needs, encompassing both cultural/language differences and SEN. In this regard, we contend that other educational stakeholders, such as pupils and parents, could be included in future research endeavors.

6. CONCLUSION

This research delved into the issue of ethnic minority children with SEN from the perspective of teachers, shedding light on the challenges and future perspectives for their inclusion. The exploration of these issues appeared crucial, given the amalgamation of disadvantages stemming from the multicultural background and special educational needs of these children (Tisdall, 2012). These disadvantages manifest in school communities, providing the rationale for undertaking this research. However, the roots of this issue predominantly lie in society, reflecting the oppression of such vulnerable groups by societal norms (Sime & Fox, 2015), thereby illustrating the close link between research and theory. There appeared to be significant interest in exploring such matters within the Scottish context.

To seek answers to the aforementioned issues and pave the way for future studies, semi-structured interviews were conducted with eight teachers in a primary Scottish school. Despite the potential limitations of semi-structured interviews and qualitative research in general, the research objectives were achieved, yielding findings that can be deemed credible. Notably, the findings aligned with the social model of disability, emphasizing that disadvantage primarily stems from social discrimination (Oliver, 2013). Scottish teachers emphasized that the most significant challenges are associated with maldistribution and misrecognition. These injustices highlight society's role in the over-identification, social marginalization, and exclusion of children (McCluskey et al., 2016). These challenges formed the basis for teachers to articulate their perspectives on the inclusion of these children.

In conclusion, the primary significance of this study lay in its contribution to ongoing discussions about ethnic minority children with ASN in Scotland and SEN internationally. Although the terms ASN/SEN posed a significant limitation, it was mitigated by clarifying their relationship/distinction throughout the entire research process. The key implication of this study was raising awareness regarding the role of teachers as agents. Despite the challenges they face in educating and including these children, it was suggested that teachers' autonomy could instigate change by viewing "schools as potential sites for promoting social equality" (Villegas & Lucas, 2002, pp. 54). Overall, through the findings, this study underscored the need for future research to discover new ways to address children's marginalization and establish inclusive education systems, initiating this effort from the UK. The quest appears unceasing; addressing injustices concerning ethnic minority children with SEN should concern researchers, and teachers not only in our target country but globally.

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UČENICI ETNIČKIH MANJINA SA POSEBNIM OBRAZOVNIM POTREBAMA: SLUČAJ ŠKOTSKE

Apstrakt

Učenici etničkih manjina sa posebnim obrazovnim potrebama bili su predmet ne samo debate već i neslaganja i protivljenja zbog evidentnih komplikacija koje proizilaze iz povezanosti etničke pripadnosti i invaliditeta. Stanovništvo Škotske, gde je sprovedeno ovo istraživanje, transformisalo se iz stabilnog i uglavnom homogenog društva u ono koje se stalno menja, što ga čini idealnim okruženjem za proučavanje. Izabrali smo termin 'specijalne obrazovne potrebe' umesto škotskog izraza 'dodatne potrebe za podrškom' zbog potrebe da se obezbedi temeljno razumevanje na globalnom nivou. U fokusu istraživanja bila su deca koja imaju kognitivne obrazovne smetnje, fizičke/mentalne poremećaje, koji pripadaju SEN spektru. Cilj istraživanja i glavna istraživačka pitanja odnosila su se na izazove sa kojima se nastavnici susreću, kao i na njihove perspektive u pogledu uključivanja ove dece u obrazovni sistem. Korišćen je kvalitativni pristup i vođeni su polustrukturirani intervjui. Intervjuisano je osam nastavnika osnovnih škola. Odgovori učesnika su se slagali sa društvenim modelom invaliditeta, što sugeriše da društvene nejednakosti mogu ovu decu držati u nepovoljnom položaju. Dobijeni rezultati ukazuju na to da su nejednaka distribucija resursa i pogrešno prepoznavanje identiteta uzročno-posledično povezani i doprinose prezastupljenosti etničkih manjina u škotskoj kategoriji ASN, a potom i u svetskoj kategoriji SEN. Takođe, perspektive za nastavnike uključuju poboljšanje školske demokratije kao načina da nastavnici i učenici učestvuju u svim aspektima demokratskog života. Usklađujući teoriju sa rezultatima, ovo istraživanje je podržalo društveni model invaliditeta i ukazalo na preteranu identifikaciju dece pripadnika etničkih manjina sa decom sa posebnim potrebama, i svrstavanjem u kategoriju društvene marginalizacije i isključenosti, istovremeno naglašavajući potrebu za demokratskim praksama i kulturnim pregovorima. Pedagoške implikacije su pokazale da bi se nastavničke zajednice mogle koristiti za kultivisanje vrednosti i veština neophodnih za pretvaranje izazovnih okolnosti u plodno tlo za inkluzivne i društveno pravedne prakse.

Ključne reči: *SEN, ASN, etnička pripadnost, invaliditet, prevelika zastupljenost, inkluzija*



REWARDS SYSTEM AND PERFORMANCE OF TEACHERS IN SMALL AND MEDIUM-SIZE SCHOOL IN KOGI STATE

UDC 005.88:371.124; 373.3/4(669 Kogu)

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Abstract. *This study aimed at rewards system and performance of teachers in Small and Medium-Size School (SMS) in Kogi State. The study examined the effect of reward on task performance of teaching staff in SMS in Kogi State; and assessed the influence of rewards on contextual performance of teaching staff in SMS in Kogi State. A descriptive research design was adopted. This involved incorporating quantitative research approaches to better understand the relationship between the variables in the context of the research problem. A sample of 253 respondents was stratified and randomly selected. Both descriptive and inferential analytical techniques were used to analyze the data. The analytical technique that was employed was regression analysis. Findings showed that extrinsic rewards have strong effect on task performance of teaching staff in SMS, and that intrinsic rewards have strong effect on task performance of teaching staff in SMS. Findings further revealed that extrinsic rewards have strong effect on contextual performance of teaching staff. The practical implications of the study is that it can inform the development of policies and initiatives aimed at enhancing teacher performance and fostering a conducive educational environment. Recommendation was made among others that SMS design and implement effective reward systems that recognize teacher performance and offer tangible incentives.*

Keywords: *Extrinsic Reward, Task Performance, Intrinsic Rewards, Contextual Performance*

1. INTRODUCTION

People are at the center of the success of every organization. The people remain valuable asset for organizations that intend to achieve strategic vision. According to Kolluru (2020), people are regarded as human resources, and are the most important tangible assets in any enterprise, and they may either help or impede corporate growth.

Received November 29, 2023/Accepted March 20, 2024

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Human Resource Management focuses on employees as not only being critical to the success of the organization but as complex and indispensable human elements in the organizational process. Gill (2018) stated that employees are a good component of organizational success. Therefore, rewards are *sine qua non*, and serve as a motivating factor for behavioral change that will favor the achievement of desirable organizational goals. The staff of Small and Medium-size Schools (SMS) are aware of certain rewards for their performance, and they are often expectant that their rewards will be better if they are more committed to the task and contextual performance.

Different schools in Kogi State have different reward systems. According to Kolluru (2020), a well-articulated reward system can significantly promote organizational ability to “source, maintain, and drive high performance” (p.162). The rationale behind every reward system is to stimulate the interest of staff towards achieving their schools’ strategic goals. The varying reward systems may be classified into financial and non-financial. Many staff of the SMS in Kogi State receive financial rewards in the form of wages, salaries, bonuses and allowances. The school management rewards the staff with any of these based on the nature of the job (as a teacher, admin officer, accountant, cleaner, nanny, or gardener), effort and productivity. Financial rewards relate with extrinsic motivation (which reflects tangible rewards). Non-financial rewards reflect all forms of rewards (other than monetary rewards) that create psychological and social memories. Ngwa, Adeleke, Agbaeze, Ghasi, & Imhanrenialena (2019) posited that the non-financial rewards are immeasurable with special reference to the value of money.

Lately, the economic, health and political environment has posed challenges to SMS in Kogi State. The increase in Value Added Tax (from 5% to 7.5%) caused economic challenges for SMS; coupled with the minimum wage, and government policy, particularly with reference to the COVID-19 protocol. All these have led to higher costs for the SMS rewards system. In Kogi State, SMS managers seem to be less focused on reward system as a strategic tool to achieve long-term goals due to the challenges arising from the aforementioned environments. The SMS managers are majorly concerned about pay (salary) as a measure of the contribution of the staff. They struggle with the implementation of other forms of financial rewards. Non-financial rewards are also not taken seriously. Ochidi, Suleiman, Olumoyegun, & Yusufu (2019) found that rewards can be used effectively to enhance interest in task performance (p.89). Pratheepkanth (2011) argued that “good remuneration is one of the best policies that any organizations can use to stimulate task performance. It is of great possibility that the empirical position of previous studies will be replicated among SMS in Kogi State. However, this has remained unsubstantiated in educational research for a long time now. The core objective of the study was to investigate the effect of the rewards system on the teaching staff of SMS in Kogi State. The specific objectives of the study were:

1. To examine the effect of reward on task performance of teaching staff in SMS in Kogi State.
2. To assess the influence of rewards on contextual performance of teaching staff in SMS in Kogi State.

2. LITERATURE REVIEW

The management of SMS employs a reward system to initiate an influx of talents. The reward system also serves the purpose of strategic retention of key employees. Other purposes may involve stimulating contextual and task performance. As a result of the multiple benefits of the reward system, scholars have established diverse views on its conceptual meaning.

A close examination of the conceptual clarification in previous studies has shown that the rewards system is an inevitable tool for the SMS. The need for SMS commitment to an effective reward system spans from the fact that teaching staff adjust their actions and workplace attitudes based on their perception of the systematic nature of rewards. According to Njanja, Maina, Kibet, & Njagi (2013), it is a strong instrument. From a layman's perspective, rewards are financial benefits that result from good performance at work. Lin (2007) cited in Kikoito (2014) stated that "the remuneration that a teacher receives from the SMS in exchange for the service provided or in return for work completed is referred to as a reward" (p.8). With respect to the economic situation of Nigeria, teachers only render service in lieu of rewards which will go a long in their daily lives. Any teacher whose reward expectation is not fulfilled may leave for better job elsewhere. According to recent studies, one in every three teachers departs the profession during the first three years, and nearly half leave within the first five (Gbenga & Yakub, 2018).

All members of the teaching staff have expectations that they believe the SMS will help them to achieve in the form of rewards. There is no doubt that large-scale schools (relative to their financial base) use handsome rewards to encourage repeated favorable actions and behaviors of teachers. A teacher who is regularly rewarded may make their brain more alert, take initiative and be more innovative in the workplace. Ngwa et al. (2019) added that a reward is a tool to recognize a teacher for doing an exceptional job. Noor et al. (2020) also added that "it promotes the perpetual improvement of performance that leads to career growth and a boost of morale" (p.7). James, Ella, Nkamare, Lukpata, Uwa, & Mbum (2015) stated that rewards systems are the pre-set tasks that SMS carry out in order to attain their defined goals. Wasiu & Adebajo (2014) also posited that rewards are intended to encourage behaviour that will help SMS achieve their objectives. Organizations plan to review the way they reward employees to drive desirable behaviour towards the pursuit of concrete goals. In the context of this study, focus is on extrinsic rewards and intrinsic rewards.

1. **Extrinsic rewards:** There is a general consensus that monetary rewards can go a long way to take care of teachers' bills. At the end of each month, the expectations of teachers are always high. Some teachers often target the end of the month for payment of bills and other settlements. Thus, they are often motivated when the month is nearby. The implication of this is that expected monetary reward drives the performance level of teachers. To a reasonable extent, one can put it that teachers respect a well-paid job, and will often do everything possible to impact quality knowledge on students. Thus, monetary rewards may be conceived strategic tool for achieving long-term performance of teachers in Kogi State.
2. **Intrinsic rewards:** According to Rowley & Harry (2011), these "rewards relate to the inner satisfactions experienced in carrying out the tasks and duties of a job" (p.119). These satisfactions may be small or large, depending on factors such as the degree of interest in the work, conditions, opportunities and recognition. Intrinsic rewards may not usually be sufficient to induce teachers to take a teaching job and

remain in it, although people may accept lesser extrinsic rewards if the intrinsic satisfactions of a job are obviously substantial enough. In Kogi State, working in a prestigious school with status is considered to be a valuable intrinsic reward.

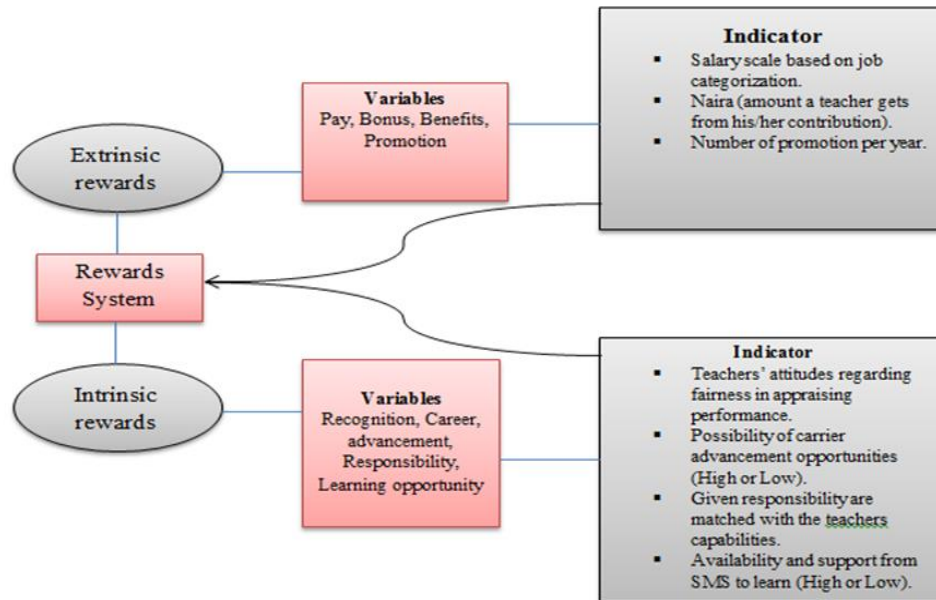


Fig. 1 Forms of rewards (Adapted from Pretheepkanth, 2011; Samson, 2015)

After the conceptual clarification of rewards, it is important to look at rewards systems. SMS may design its reward systems in line with their corporate goals. Strategy and vision are at the core of reward systems; thus setting the stage for a better internal organizational structure, financial strategies, staff improvement and development, and happy customers (Kaplan and Norton, 1996, as cited in Niki, Nili & Nilipour, 2012).

The major reason why organizations engage in continuous review of their rewards system in Kogi State is to enhance increased performance, attract, retain and motivate employees. The management of SMS create goodwill before the teaching staff to strategically drive in impressive image. The acceptance of such an image with respect to the recognition and motivation (financially and non-financially) of teaching staff may lead to excellent organizational climate. Anele et al. (2017) posited that “a reward system encompasses all the actions of SMS aimed at compensating teachers who are committed to the school's goals” (p.95). Kikoito (2014) also noted that “motivation is channeled in desired areas, such as greater functioning and success, through the use of a reward system by management” (p.7). Reward systems are expected to be effective enough to facilitate the motive behind its adoption. If the motive is not achieved, it means that the reward systems are ineffective or deficient. James et al. (2015) stated that “any reward system that fails to accomplish this is deemed unsuccessful” (p.45). An effective reward system may be perceived by the teaching staff as paraphernalia for their school. Through their evaluation of the reward system, teachers may often recognize whether or not they are

valuable citizens of the school. The factors that are cardinal to an effective reward system are shown in the figure 2.

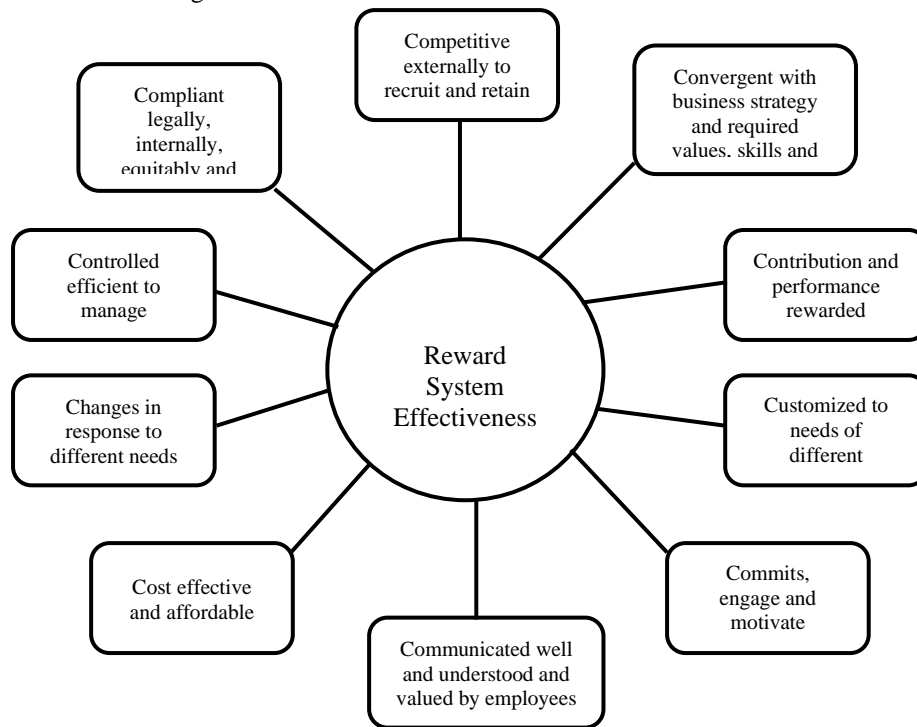


Fig. 2 Reward System: The Ten Cs. (Source: Armstrong, Brown, & Reilly, 2009)

Performance may be considered as a multifaceted concept. Performance relates to the attitude towards outwitting standard set. The term "behavior" refers to the actions that teachers take to improve their performance. Pradhan and Jena (2016) expressed that job performance comprised of explicit behaviors which incorporate essential job requirements specified in the job description. Task and contextual performances are considered for investigation. Conway (1999) cited in Pradhan and Jena (2016) added that task performance requires more cognitive ability and is primarily facilitated through task knowledge (requisite technical knowledge or principles to ensure job performance and having an ability to handle multiple assignments), task skill (application of technical knowledge to accomplish task successfully without much supervision), and task habits (an innate ability to respond to assigned jobs that either facilitate or impede the performance). Contextual performance is characterized as actions that lead to the socio-psychological core of the SMS. It is increasingly valued alongside task performance. Contextual performance is crucial in addition to formal job requirements. Contextual performance may mean the use of teachers' discretion to push for the big image of the school. It includes good spirit towards finding favor for the school, helping others out of job bottleneck, building social networks and good relations with parents and other members of the school community.

Designing an effective reward system is essential for improved performance. Setting goals related to the teaching task can help to boost performance (Downes, & Choi, 2014), but the rewards system must be well-designed and positioned. Allowances may be offered to the teaching staffs who achieve a set goal. A solid assurance of allowances will continue to motivate them to achieve even more. Negussie (2014) found that remuneration, transportation and rent allowances among others have substantial impact on teachers' task performance. People also have the tendency of positive attitude towards improved contextual performance at work when they are commended and rewarded. However, Lazarus & Oluwuo (2019) noted that there is a necessity for flexibility in how teachers are rewarded, and rewards must take into account the variances in people's requirements, expectations, aspirations, objectives, and performance desires.).

3. THEORETICAL REVIEW

The theories that undergird the subject matter are Expectancy-Value Theory (EVT) and Two-Factor Theory (TFT). Frederick Herzberg who is the proponents of TFT presupposes that hygiene and motivational factors are critical to both task and contextual performances. Ali & Ahmad (2017) argued that motivational factors (salary; promotion, bonuses, recognition, etc.) and hygiene factors (non-financial benefits, workplace environment, and policies) are critical to performance. The TFT identified motivational and hygiene factors as being crucial for maximizing improved employee performance (Tan and Waheed, 2011). Motivational factors inspire teachers to excel in their jobs and tasks, and hygiene factors generally ensure that teachers remain happy and satisfied. TFT assumes that teachers have both physiological and psychological requirements that must be met to keep them satisfied. Both financial and non-financial rewards are favored. This theory is relevant to this study as rewards can be satisfying or unsatisfying (Ahmed, Nawaz, Iqbal, Ali, Shaukat, and Usman, 2010).

Victor Vroom's (1964) EVT elaborated the need for an effective reward system. EVT explains that teachers are driven to improve their task and contextual performance when they are confident of being rewarded. The assumption of EVT is that teachers weigh the potential value of a possible relationship against their expectations of success in establishing that relationship. Armstrong (2012) added that EVT discusses how incentives drive teachers' performances as well as how they make decisions about what goals they want to pursue. A teacher's proclivity to perform is predicated on the anticipation that when he or she accomplishes a specific task, reward is eminent, and that the reward will be appealing to him or her. The rewards must be linked to SMS performance. A meritless reward scheme may actually restrict the strongest performers' motivation by diminishing instrumentality. SMS management must make the case for merit and attractive reward by finding out what its teaching staff value.

4. METHODOLOGY

This study was planned and structured to obtain answers to the research questions. This study adopted a descriptive research design, which according to Cooper and Schindler (2003) involved surveying the respondents and recording their responses for analysis. Within the descriptive research design, this study incorporated quantitative research

approaches to better understand the relationship between the variables in the context of the research problem. The teachers of SMS were the target of the study, and they could describe the scenario around the subject matter. The total population of the selected SMS were 8 149. For this study, the formula of Paler-Calmorin and Calmorin (2006) was used to determine a manageable sample. This method was used because it is one of the best methods for determining the sample size in probability sampling. Using this formula and assuming a sampling error of 1% and a reliability of 99%, a sample of 253 respondents were stratified and randomly selected. It is assumed that the standard value at 1% level of probability is 2.58 with 99% reliability and a sampling error of 1% or 0.01.

To summarize, the selection of the sampling unit was based on two specific criteria (e.g., inclusionary criteria and exclusionary criteria). The inclusion criteria focused on the categories of teachers selected for the survey (such as teachers with sound mind, competence, ability to understand, sound health and high experience of at least five years). The exclusion criteria involved the categories of teachers who were excluded from the study. These were teachers who were unavailable, sick or ill, had less than five years of business experience and so on. Cronbach's coefficient alpha (α) results show the constructs' reliabilities as provided in Table 1.

Table 1 Reliability of constructs (Source: Field Survey, 2022)

	Construct	Item	Cronbach's alpha (α)
SSJ	Salary scale based on job categories	4	0.786
ATC	Amount teacher gets from contribution	4	0.825
NPP	Number of promotions per year	5	0.779
TPA	Teachers' attitudes regarding fairness in performance appraisal	4	0.810
CAA	Career advancement	5	0.822
HSR	High sense of responsibility	4	0.756
LSS	Learning support from SMS	3	0.912
TSP	Task performance	4	0.842
CNP	Contextual Performance	4	0.755

The results (in Table 1) indicate the internal consistency of the various constructs measured in the study. The construct of SSJ, which refers to the salary scale based on job categories, demonstrated a Cronbach's alpha coefficient of 0.786. The construct of ATC, which measures the amount teachers receive from contribution, displayed a Cronbach's alpha coefficient of 0.825. The construct NPP, representing the number of promotions per year, had a Cronbach's alpha of 0.779. The construct TPA, referring to teachers' attitudes regarding fairness in performance appraisal, yielded a Cronbach's alpha of 0.810. The construct CAA, which represents career advancement, achieved a Cronbach's alpha coefficient of 0.822. The construct HSR, representing high sense of responsibility, demonstrated a Cronbach's alpha of 0.756. The construct LSS, which measures learning supports from SMS, showed a Cronbach's alpha of 0.912. The construct TSP, which refers to task performance, obtained a Cronbach's alpha coefficient of 0.842. The construct CNP, representing contextual performance, showed a Cronbach's alpha of 0.755.

The results of the reliability show that all constructs are reliable. This is because none of the Cronbach's alpha (α) is below 70%. Data analysis was achieved by employing both descriptive and inferential analytical techniques. Regression analysis was used as the analytical technique.

5. DATA ANALYSIS AND DISCUSSION

Table 2 shows the R^2 value (0.9093) for extrinsic reward in SMS. The result shows that 90.9% of the variation in teachers' task performance is explained by extrinsic reward. Three aspects of extrinsic reward (such as salary scale based on job categories, the amount the teacher receives for his/her contribution and the number of promotions per year) were considered. The R^2 value (0.9628) for intrinsic rewards shows the predictive power of intrinsic rewards on teaching staff task performance. The result also shows that intrinsic rewards accounts for 96.3% of the variation in teachers' task performance. The four sub-constructs considered for intrinsic rewards are teachers' attitudes towards fairness in performance appraisal, career advancement, high sense of responsibility and learning support from SMS. The remaining 9.1% for extrinsic reward and 3.7% for intrinsic rewards, which are unaccounted for variations, suggest the possibility that other variables predict teachers' task performance.

Table 2 Results of regression on rewards and task performance of teaching staff (Source: Authors' Computation, 2021)

	Coeff (β)	Std. Error	t-stat	P-value	R-Square
ESR					0.9093
SSJ \rightarrow TSP	.7238621**	.0394075	18.37	0.000	
ATC \rightarrow TSP	.2629792**	.0802222	3.28	0.001	
NPP \rightarrow TSP	-.0125686	.0707641	-0.18	0.859	
INR					0.9628
TPA \rightarrow TSP	-.0725439	.0463571	-1.56	0.119	
CAA \rightarrow TSP	.0072364	.0288991	0.25	0.802	
HSR \rightarrow TSP	.1029184**	.0354423	2.90	0.004	
LSS \rightarrow TSP	.9493594**	.0385253	24.64	0.000	

Legend: ** $p < 0.01$; * $p < 0.05$

The result shows that a linear relationship exists between the salary-scale and task performance of teaching staff ($\beta = .7238621$; $p < 0.01$). This implies that 72.4% mean change in the salary-scale will induce almost direct similar change in task performance of teaching staff. The p-value reveals a significant but positive correlation between the salary-scale and task performance of teaching staff. There is a positive linear relationship between the amount that teachers get from their contribution and their task performance ($\beta = .2629792$; $p < 0.01$). That is, 26.3% increase in the amount that teachers get for contributing to the development of their SMS will systematically result into about 26.3% increase in their task performance. The result proved that an increase in such amount will significantly lead to an increase in the task performance of teaching staff. Number-of-

promotion (per-year) does not have significant linear relationship with task performance of teaching staff ($\beta = -.0125686$; $p > 0.05$).

Teachers' attitudes towards fairness in performance appraisal are linearly, but not significantly relates with task performance of teaching staff ($\beta = -.0725439$; $p > 0.05$). Career advancement also has a linear but not significant relationship with task performance of teaching staff ($\beta = .0072364$; $p > 0.05$). There is a linear relationship between a high sense of responsibility and the task performance of teaching staff ($\beta = .1029184$; $p < 0.01$). This means that a mean change of 10.3% with a high sense of responsibility leads to an almost directly proportional change in teachers' task performance. The p-value means that the linear relationship is positive and significant. Learning support through SMS is linearly and significantly related to teachers' task performance ($\beta = .9493594$; $p < 0.01$). This means that a 94.9% mean change in learning support will bring about similar change in the task performance of teaching staff. Explicitly, increased learning support from SMS will lead to increased task performance of teaching staff.

Table 3 Results of regression on rewards and contextual performance of teaching staff
(Source: Authors' Computation, 2021)

	Coeff (β)	Std. Error	t-stat	P-value	R-Square
ESR					0.7407
SSJ \rightarrow CNP	.6862009**	.0680609	10.08	0.000	
ATC \rightarrow CNP	.315906*	.1385521	2.28	0.023	
NPP \rightarrow CNP	-.107329	.122217	-0.88	0.381	
INR					0.8170
TPA \rightarrow CNP	-.0912742	.1049787	-0.87	0.385	
CAA \rightarrow CNP	.0347276	.0654439	0.53	0.596	
HSR \rightarrow CNP	.0160297	.0802616	0.20	0.842	
LSS \rightarrow CNP	.9634127**	.0872432	11.04	0.000	

Legend: ** $p < 0.01$; * $p < 0.05$

Table 3 shows the effects of rewards and contextual performance of teaching staff (R^2 -value = 0.7407). The result reveals that extrinsic rewards predict 74.1% variations in the contextual performance of teaching staff. Also, intrinsic rewards predict 81.7% variations in the contextual performance of teaching staff. The 25.9% unexplained by extrinsic rewards and 18.3% unexplained by intrinsic rewards indicate that other variables are also responsibility for the variations in contextual performance of teaching staff.

The result demonstrates that the salary-scale has a linear relationship with the contextual performance of teaching staff ($\beta = .6862009$; $p < 0.01$). This indicates that a 68.6% change in the salary scale will result in an equivalent change in the contextual performance of teaching staff. Based on the p-value ($p < 0.01$), the salary-scale has a significant positive linear relationship with the contextual performance of teaching staff. The amount offered for a contribution is also linearly related to teachers' contextual performance ($\beta = .315906$; $p < 0.05$). The result shows that 31.6% unit increase in the amount offered will cause a similar increase in the contextual performance of teaching staff. Number of promotion per year has a negative but insignificant linear contextual relationship with performance ($\beta = -.107329$; $p > 0.05$).

For intrinsic rewards; teachers' attitudes regarding fairness in performance appraisal ($\beta = -.0912742$; $p > 0.05$), career advancement ($\beta = .0347276$; $p > 0.05$) and high sense of responsibility ($\beta = .0160297$; $p > 0.05$) have no significant linear relationship with the contextual performance of teaching staff. The result shows that learning support from SMS ($\beta = .9634127$; $p < 0.01$) has a positive linear relationship with contextual performance of teaching staff. That means that 96.3% improved learning support leads to approximately the same level of improved contextual performance of teaching staff.

6. DISCUSSION OF FINDINGS

The results showed that extrinsic reward have a strong effect on task performance of teaching staff in SMS. This is in line with the findings of Ibrar and Khan (2015) that extrinsic reward has significant positive effect on employee performance of teachers. The quantitative analysis showed that teaching staff who received extrinsic rewards, such as salary and promotion, reported higher task performance. These rewards act as external stimuli, driving teachers to perform better, take on additional responsibilities, and demonstrate greater commitment to their role within the SMS. The result showed that there is a significant positive relationship exists between the salary-scale and task performance of teaching staff. This supports the finding of Noorazem, Sabri, & Nazir (2021) that salary significantly stimulate improved employee performance. This finding was clear enough compared to that of Wasiu and Adebajo (2014) who showed that there is a significant relationship between employee performance and salary package, job allowances and employee's performance. Findings revealed that there is a significant positive relationship between the amount that teachers get from their contribution and their task performance. This refutes the finding of Zikanga et al. (2021) that remuneration has no significant effect on employee performance. This indicates that teachers who receive higher compensation are more likely to be satisfied with their jobs, feel valued, and have a greater sense of financial security. This positive psychological state translates into increased engagement, dedication, and efforts to excel in their teaching responsibilities. The Number-of-promotion (per-year) is not significantly linearly related to task performance of teaching staff.

The results showed that intrinsic rewards have a strong effect on task performance of teaching staff in SMS. The results showed that teachers' attitudes regarding fairness in performance appraisal and career advancement do not have significant relationship with task performance of teaching staff. It was also found that high sense of responsibility and learning support from SMS have significant relationship with the task performance of teaching staff. By emphasizing both responsibility and learning support, the SMS can potentially enhance the task performance of their teaching staff, leading to better educational outcomes for students.

Finding revealed that extrinsic rewards have a strong effect on the contextual performance of teaching staff. It was also discovered that the salary-scale and the amount offered for contribution have significant linear relationship with the contextual performance of teaching staff. This implies that as the salary scale increases, there is a significant positive effect on the teachers' contextual performance beyond their core instructional duties. A higher salary scale can serve as a motivating factor for teachers. On the other hand, finding revealed that the amount of contribution offered also has a

significant linear relationship with the contextual performance of teachers. This means that when teachers are offered greater financial rewards for their additional efforts or exceptional performance, it positively and significantly influences their contextual performance in non-instructional areas. The additional incentives can serve as a means of recognition and encouragement, motivating teachers to go above and beyond in their professional roles and contribute to the broader educational context, such as participating in extra-curricular activities, mentoring colleagues, or engaging in educational research. This refutes the finding of Sieweke, Köllner and Süß (2016) that a decrease in employees' objective internal pay ranking, but not their external pay ranking, is associated with a negative impact on their contextual performance. Hettiarachchi & Jayarathna (2014) asserted that rewards can stimulate contextual performance which encompasses tasks that are not formally part of the job but are crucial for all jobs. The result of this study proves that the influence of financial rewards on contextual performance in SMEs in Kogi State is weak. This follows based on the empirical evidence that financial rewards have accounted for 42.6% change in contextual performance. Similarly, the study by Nnubia (2020) revealed that there is a positive relationship between salary and wages and employee performance. The number of promotions per year has a negative but insignificant relationship with teachers' contextual performance.

Finding further showed that teachers' attitudes regarding fairness in performance appraisal, career advancement and high sense of responsibility have no significant linear relationship with the contextual performance of teaching staff. Other factors like work environment, professional development opportunities and leadership support among others, may play more significant roles in influencing teachers' engagement and performance in non-instructional areas. It is important for SMS to consider these findings when designing policies and initiatives to promote teachers' contextual performance. Emphasizing fairness in performance evaluation and career advancement, as well as strengthening a sense of responsibility, may continue to be beneficial for fostering a positive work environment and boosting teacher satisfaction, but may not translate directly into improved performance in non-instructional areas.

7. CONCLUSION

The study concludes with valuable insights into the effects of extrinsic and intrinsic rewards on task performance and contextual performance of teaching staff in SMS. This study's findings demonstrate unequivocally that extrinsic rewards, such as salary and promotion, have a significant positive effect on task performance. Teaching staff who receive extrinsic rewards, such as salary and promotion, demonstrate higher levels of performance, emphasizing the crucial role of external stimuli in motivating teachers to excel in their duties within the SMS. The correlation between the salary scale and task performance further emphasizes the importance of monetary compensation in enhancing teacher job satisfaction and dedication. The study proved a significant correlation between the amount of salary teachers receive for their contributions and their task performance. This suggests that a higher salary not only promotes job satisfaction and a sense of financial security but also increases teachers' commitment, dedication, and efforts to excel in their teaching responsibilities. However, the study found that the number of promotions per year

did not have a significant linear relationship with task performance, suggesting that other factors may be more influential in driving performance.

Furthermore, it was discovered that intrinsic rewards have a significant impact on task performance. The lack of a significant relationship between teachers' perceptions of fairness in performance evaluation, career advancement, and task performance suggests that these factors may not directly affect performance outcomes. Nevertheless, a strong sense of responsibility and learning support from the SMS were substantially associated with task performance. This suggests that providing instructors with access to professional development opportunities and a supportive and engaging work environment may have a positive effect on their performance. Extrinsic rewards were discovered to have a significant impact on contextual performance. Salary scale and contribution amount were considerably and positively related to contextual performance, indicating that financial incentives can motivate teachers to engage in non-instructional activities and contribute to the larger educational context. Compared to other factors, the effect of financial rewards on contextual performance was found to be relatively weak. The study demonstrates that work environment, professional development opportunities, and leadership support may have a greater impact on teacher engagement and performance in non-instructional areas. The study has practical implications for SMS in Kogi State and can inform the development of policies and initiatives aimed at enhancing teacher performance and fostering a conducive educational environment.

8. RECOMMENDATIONS

Based on the findings of the study, the following recommendations are made:

Implementing effective extrinsic reward systems: It is recommended that SMS design and implement effective reward systems that recognize teacher performance and offer tangible incentives. This can include competitive pay scales and explicit promotion pathways that encourage teachers to excel in their roles, assume additional responsibilities, and demonstrate greater dedication.

Improving intrinsic motivation and support: The SMS should prioritize nurturing a positive work environment, providing opportunities for professional development, and providing strong leadership support in order to increase teachers' intrinsic motivation and sense of responsibility. Creating a culture that places a premium on impartiality in performance evaluations and career advancement can also contribute to a positive work environment. Together with a supportive SMS, these factors can increase teachers' engagement, commitment, and efforts to excel in their teaching roles.

It is important to recognize that factors other than financial incentives may play a more significant role in influencing teachers' engagement and performance in non-instructional areas. When developing policies and initiatives to promote teachers' contextual performance, the SMS should consider factors such as the work environment, professional development opportunities, and leadership support. Emphasizing on impartiality in performance evaluation and career advancement, as well as the strengthening of a sense of responsibility, can contribute to a positive work environment and increase teacher satisfaction, but they may not directly result in enhanced performance in non-instructional areas. A holistic approach is needed to create an enabling environment that fosters teacher engagement and excellence in all aspects of their professional roles.

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SISTEM NAGRAĐIVANJA I UČINAK NASTAVNIKA U MALIM I SREDNJIM ŠKOLAMA U DRŽAVI KOGI

Apstrakt

Ova studija je imala za cilj sistem nagrađivanja i učinka nastavnika u malim i srednjim školama u državi Kogi. Studija je ispitivala efekat nagrade na obavljanje zadataka nastavnog osoblja u SMS-u u državi Kogi na osnovu čega je procenjen uticaj nagrada na kontekstualni učinak nastavnog osoblja u SMS-u u državi Kogi. U okviru istraživanja korišćena je deskriptivna metoda koja je uključivala inkorporiranje kvantitativnih istraživačkih pristupa kako bi se bolje razumeo odnos između varijabli u kontekstu istraživačkog problema. Uzorak od 253 ispitanika je stratifikovan i nasumično odabran. Analiza podataka izvršena je primenom deskriptivnih i inferencijalnih analitičkih tehnika koje su podrazumevale primenu regresione analize. Dobijeni rezultati ukazuju na to da i ekstrinzičke i intrinzičke nagrade imaju snažan uticaj na izvršavanje zadataka nastavnog osoblja u SMS-u. Nalazi su dalje otkrili da ekstrinzičke nagrade imaju snažan uticaj na kontekstualni učinak nastavnog osoblja. Praktične implikacije studije odnose se na pružanje informacija za razvoj politika i inicijativa koje imaju za cilj poboljšanje učinka nastavnika i negovanje povoljnog obrazovnog okruženja. Između ostalog, preporučeno je da SMS dizajnira i implementira efikasne sisteme nagrađivanja koji prepoznaju učinak nastavnika i nude opipljive podsticaje.

Ključne reči: ekstrinzičko nagrađivanje, obavljanje zadataka, intrinzičko nagrađivanje, kontekstualno izvođenje



SCHOOL LEADERSHIP AND INNOVATIVE EDUCATIONAL PROGRAMS IN SECONDARY SPECIAL EDUCATION SCHOOL UNITS IN GREECE

UDC 376.5:371.214.112(495)

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Abstract. *The majority of research to date has focused on the study of school leadership in a general education context. The present study focuses on the contribution of school leadership to the introduction and implementation of innovative educational programs in secondary Special Education Schools in Greece. An explanatory sequential mixed methods design was used. Phase I of the study included an online survey and Phase II individual interviews with special education teachers. Findings show that, in secondary special schools, Greek teachers identify innovation primarily with new technologies. The participants have enough knowledge about innovative programs and implement school activities, while they indicate less interest in European Programs. In addition, the innovative school leader takes the role of facilitator, coordinator and mentor, while autonomy and vision are promoted as key leadership practices. At the skills level, Greek teachers focus on the professional, social and problem-solving skills of the school principal. The expanded delineation of innovation in the context of special education confirms the benefits of technology, while the lower implementation rate of European Programs, probably indicates a lack of information about European measures. Regarding the innovative principal, multiple roles and specific practices are clearly distinguished, and emphasis is placed on the upgraded professional profile of Special Education principal. The above research findings could support the academic dialog on the contribution of school leadership in Special Education and serve as a trigger for further research by educational policy bodies.*

Keywords: *School leadership, Innovation, School Activities Programs, European School Programs, Secondary Special Education Schools, Greece*

Received October 29, 2023/Accepted March 14, 2024

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1. INTRODUCTION

School leadership is undeniably related to innovation (Organisation for Economic Co-operation and Development [OECD] 2018; Vincent-Lancrin et al., 2019) and, by extension, the decisive role of the leader in the introduction, diffusion and implementation of innovative actions is emphasized (Fullan, 2016; Khan, 2018). However, although the contribution of leadership to innovation in general educational contexts has been variously highlighted (Leithwood, Harris, and Hopkins, 2020; Othman, 2016) and despite the established need for an inclusive education (Boscardin & Lashley, 2019; Moral et al., 2020) and the consequent usefulness of the innovative Interdisciplinary and European School Programs implemented in Greek schools (Makri et al., 2017), there is a lack of research, especially in Greek literature, about the innovative leader in Special Education (SPED). Any references are limited and innovation in Special Education in the Greek context is examined, mostly, in the light of improving students' cognitive and behavioral achievements (Skaloubakas & Lytra, 2020).

In view of the above-mentioned, this paper focuses on the leader and the way he influences the implementation and promotion of innovative educational programs in secondary Special Education School Units (SMEAE) in Greece.

2. SCHOOL LEADERSHIP AND INNOVATION IN SPECIAL EDUCATION

Although literature is recent and relatively limited (Trichas & Avdimiotis, 2020), the different management and leadership skills required to manage any diversity are being recognized, in response to the imperative need to reshape school units with the aim of making it possible to educate a greater number of people with disabilities (Mieghem et al., 2020; Qvortrup & Qvortrup, 2017). Accordingly, research on the link between school leadership and innovation demonstrates the complexity of the issue. In essence, the innovative leader seeks change through the creation of a vision of inclusion and is linked to ensuring changes in the school environment (Hadjikakou & Mnasonos, 2012), the inclusive education policy of the school unit (DeMatthews, Serafini, and Watson, 2020) through a series of innovative practices (Council of Chief State School Officers [CCSSO] 2019; McLeskey et al., 2017), the development of social capital, the connection with the local community, the cooperation with the family and the creation of a climate of safety for all (Day, 2015; Moral et al., 2020).

3. THE INNOVATIVE LEADER

Theories of educational management attribute to the principal the implementation of innovative actions through predetermined roles, practices and skills (DeMatthews, Serafini, and Watson, 2020; Leithwood, Harris, and Hopkins, 2020). Specifically, and in a broader attempt to codify literature, it becomes clear that principal functions as a coordinator, mediator, mentor, facilitator and the one who will encourage the participation of the staff in the implementation of innovative actions (Fullan, 2016; Khan, 2018; Leithwood, Harris, and Hopkins, 2020; Torfing, 2016). As for leadership practices that promote innovation, three main categories are identified (Chreim, 2014): a) practices that focus on the degree of control, with leadership delineated top-down and bottom-up

according to the person exercising power (Draaisma, Meijers, and Kuijpers, 2018), b) practices oriented to tasks and interpersonal relationships (Lee & Carpenter, 2018), c) practices based on the updated study by Leithwood, Harris and Hopkins (2020) who identify four main areas (setting direction, developing people, redesigning the organization and managing the instructional program), with 21 individual leadership practices. Moreover, there is much interest in the classifications of school leadership skills, but it has been argued that a principal should possess a blend of skills in order to be successful. According to various typologies (Abun et al., 2020), researchers agreed that professional, communication, organizational, problem-solving and staff development skills are considered essential to execute effective leadership (Boscardin & Lashley, 2019; Hadjikakou & Mnasonos, 2012; Halasz, 2021; Miegheem et al., 2020).

4. INNOVATIVE EDUCATIONAL PROGRAMS IN SPECIAL EDUCATION

The Greek educational system, influenced by innovations introduced in the European Union (CIDREE, as cited in Spyropoulou et al., 2008) introduces as an innovative action, for the first time, in 1992, School Activities programs. From then on, in general and special secondary schools, are being implemented (Spyropoulou et al., 2008):

1. the Interdisciplinary Programs/School Activities with basic thematic categories:
 - a. Environmental education
 - b. Health Education
 - c. Culture and art-oriented issues
 - d. Career Education
2. the European Educational Programs that are related to the responsibilities of the State Scholarship Foundation (IKY) and include actions for the three levels of education, adult education, language learning and new technologies (Diamantopoulou, 2010).

The pursuit of educational change (Fullan, 2016), but also the differentiated methodological/teaching approaches required for the education of students with special educational needs and disabilities (SEND) (CCSSO, 2019; McLeskey et al., 2017), which fall perfectly within the scope of the innovative programs (Spyropoulou et al., 2008), make these programs innovative even today. Thus, almost thirty years after their first implementation, with minor differences in the duration, subject matter, place and time of implementation (Spyropoulou et al., 2008), the Interdisciplinary and European School programs gather the interest of the educational community.

5. PURPOSE OF THE RESEARCH

In light of the aforementioned necessity, the purpose of the present study is to investigate the views of Greek teachers regarding the contribution of school leadership to the introduction and implementation of innovative educational programs in secondary Special Education School Units. The individual research questions are summarized as follows: the meaning of innovation in Special Education, the characteristics of innovative educational programs, the role, practices and skills of the principal in the introduction and implementation of innovation, while demographic variables are examined in relation to teachers' views.

6. RESEARCH METHODOLOGY

Methodologically, explanatory sequential mixed methods design was used, balancing, in this way, the limitation of a single-method process and the advantages of one method with the disadvantages of the other (Creswell & Plano Clark, 2018). In an explanatory sequential mixed methods design, the researcher first conducts quantitative research, analyzes the results, and then builds on the results to explain them in more detail with qualitative research. Phase I of the study included the online survey with Greek special education teachers, and phase II of the study included individual interviews with Greek special education teachers.

6.1. Sampling

The sample of the quantitative research consisted of 242 participants, response rate 11%, drawn from a total of 2 229 teachers of secondary Special Schools across the territory, including Special Education (EEP) and Special Support staff (EBP), who were selected by random sampling. The desired sample was calculated with a margin error of 5% and a confidence level of 90%. Of the 242 teachers, men represented 18% (N = 43) (18%), while women represented 82% (N = 199).

Regarding teachers' employment relationship, 202 (83%) work as permanent teachers, while 40 (17%) work as full-time substitute teachers.

Accordingly, convenience sampling was chosen for the qualitative research, with the final sample consisting of eight (N = 8) teachers of secondary special schools, 6 (75%) women and 2 (25%) men, all working as permanent teachers.

6.2. Data collection tools

The multi-method research was carried out using the following research tools:

1. An improvised electronic questionnaire, designed and pilot tested⁸ specifically for this research, which consisted of four sections with closed-ended questions⁹ on: a) demographic data, b) the definition of educational innovation, c) the characteristics of innovative programs, d) the innovative leader. A 5-point Likert scale was used as the main measurement scale ("Strongly disagree" to "Strongly agree").
2. Semi-structured interviews¹⁰ with questions organized from general to specific, corresponding to the sections of the questionnaire, common to all interviewees. The interviews, lasting 35' to 45', were conducted via Webex, which was considered more appropriate due to the outbreak of the covid-19 pandemic and the ability to access geographically remote populations (Bjärkefur et al., 2021).

⁸ During piloting testing, the Cronbach's Alpha index obtained values, for all factors from 0.712 to 0.927, while the overall index, for the 82 questions, was 0.961, ensuring high reliability or excellent reliability (Bryman, 2016).

⁹ In total, the questionnaire included 98 questions about school leadership and 8 demographic questions.

¹⁰ A pilot test was also carried out on the interview tool with the assistance of a teacher from a secondary Special Education School to correct possible wording errors and adapt the interview guide (Bryman, 2016). The interview protocol, developed based on the preliminary results from the online survey, contained more in-depth open-ended questions aimed at understanding teachers' perceptions related to the definition of innovation in Special Education, characteristics of innovative educational programs, and innovative leadership in Special Education.

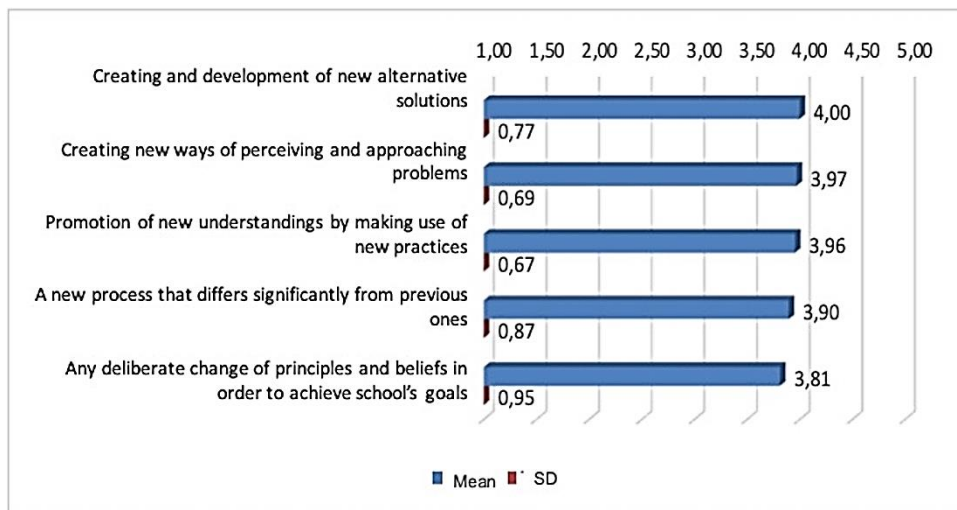
6.3. Research data analysis

The online survey data were uploaded to the Statistical Package for the Social Science (SPSS) Version 27 to determine descriptive statistics, including frequencies and mean score percentages for the categorical variables and the Likert items. The analysis, also, included bivariate and multivariate statistics. The thematic analysis¹¹ was chosen for the qualitative research, which included (Bryman, 2016): a) data reduction, b) report, c) presentation and interpretation of results.

7. RESULTS

7.1. Analysis of quantitative data

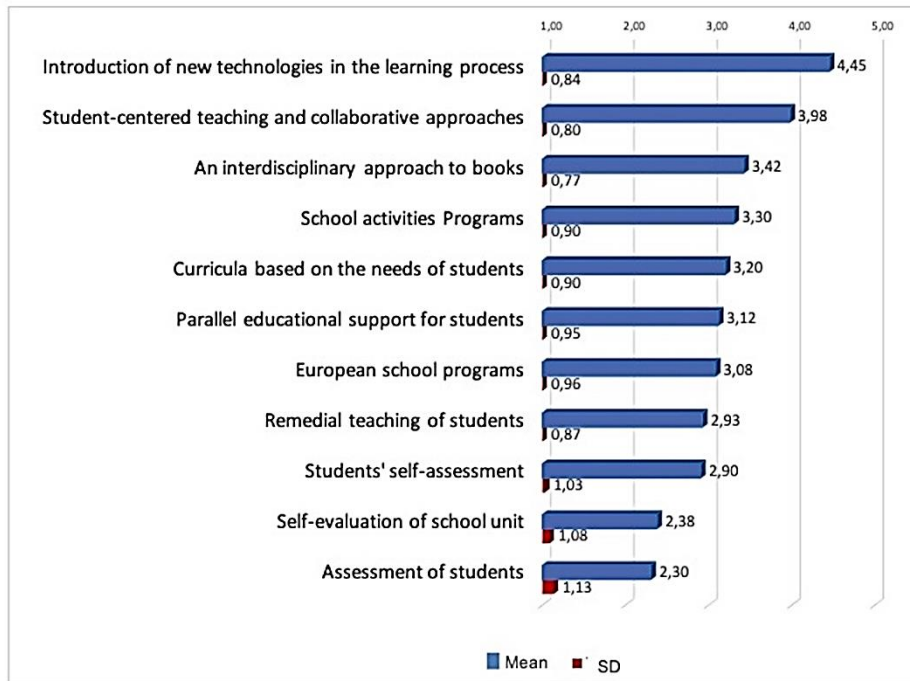
The first research question concerned the definition of innovation. As can be seen from Graph 1, innovation in Special Education in Greece, is, first of all, perceived as something new and associated with change, with teachers demonstrating an overall good understanding of the concept ($M = 3.93 \pm 0.62$):



Graph 1 Concept of innovation in Special Education

In addition, Greek teachers identify, primarily, educational innovation with New Technologies ($M = 4.45 \pm 0.84$) and, secondarily, with student-centered teaching and collaborative approaches ($M = 3.98 \pm 0.80$). In contrast, the evaluation of a school unit ($M=2.38 \pm 1.08$) and/or teachers ($M = 2.30 \pm 1.13$) does not seem to be an innovative practice, with the exception of student self-evaluation ($M = 2.90 \pm 1.03$). Regarding innovations, teachers rate innovative programs quite positively ($M = 3.30 \pm 0.90$), with an emphasis on School Activities (Graph 2):

¹¹ The process involved first categorizing each transcript into broad themes and then, through continued review, translating the data into more specific themes. In total, 10 themes emerged.



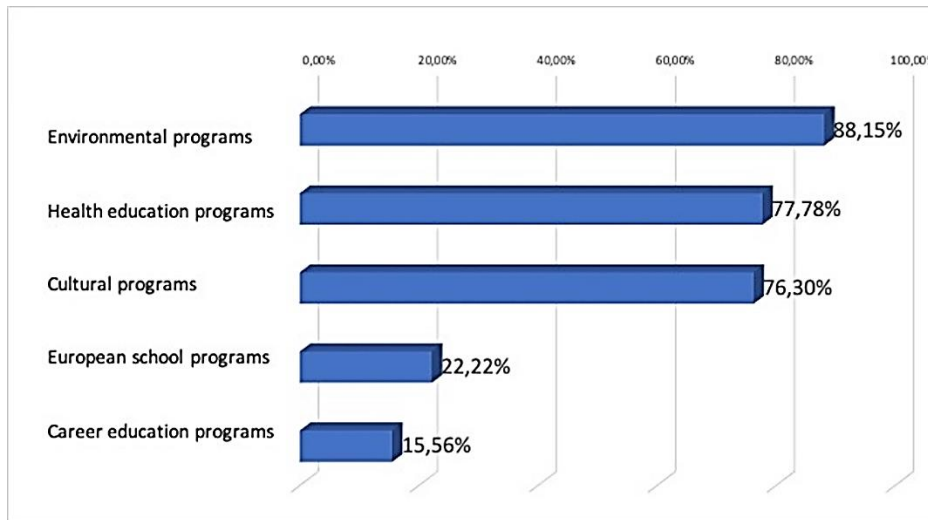
Graph 2 Innovation in Special Education

In terms of the characteristics of innovative programs in secondary special schools, Greek teachers have enough knowledge of them, with an emphasis on Cultural ($M = 3.47 \pm 1.04$), Environmental ($M = 3.45 \pm 0.99$), Health programs ($M = 3.43 \pm 0.88$) and Career Education programs ($M = 2.72 \pm 0.97$). However, they indicate a reduced knowledge for European School Programs ($M = 2.64 \pm 0.93$) (Table 1).

Table 1 Knowledge of innovative programs

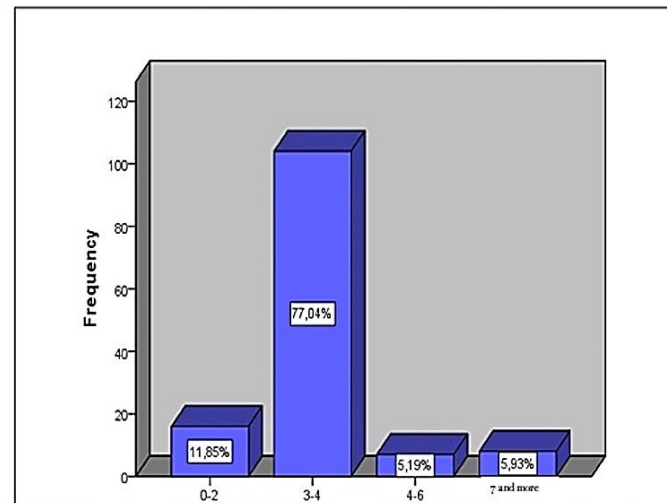
Innovative Programs	Mean	SD
Cultural programs	3.47	1.04
Environmental programs	3.45	0.99
Health Education programs	3.43	0.88
Career Education programs	2.72	0.97
European School Programs	2.64	0.93
Knowledge of innovative educational programs	3.14	0.71

In Greece, secondary special schools, according to participants' statement, implement, mostly, Environmental (88.15%), Health Education (77.78%) and Cultural programs (76.30%). In contrast, they implement less European School Programs (22.22%) and Career Education Programs (15.56%) (Graph 3).



Graph 3 Implementation of innovative programs

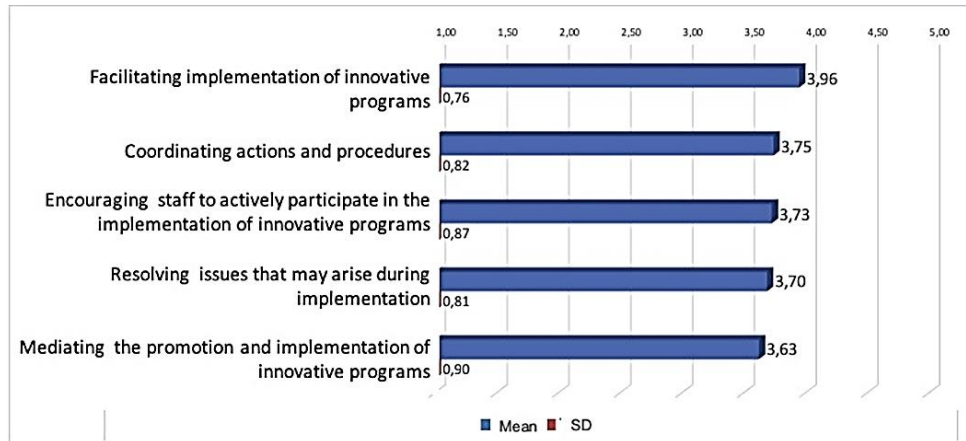
As for the number of innovative programs, secondary special schools implement 3 to 4 programs per year. The implementation of 7 or more programs per year is a minority. In fact, approximately, 77% implement 3 to 4 programs, 12% up to 2 programs, almost 6% implement 7 and more programs, while 5% implement from 4 to 6 programs per year (Graph 4).



Graph 4 Annual number of innovative programs

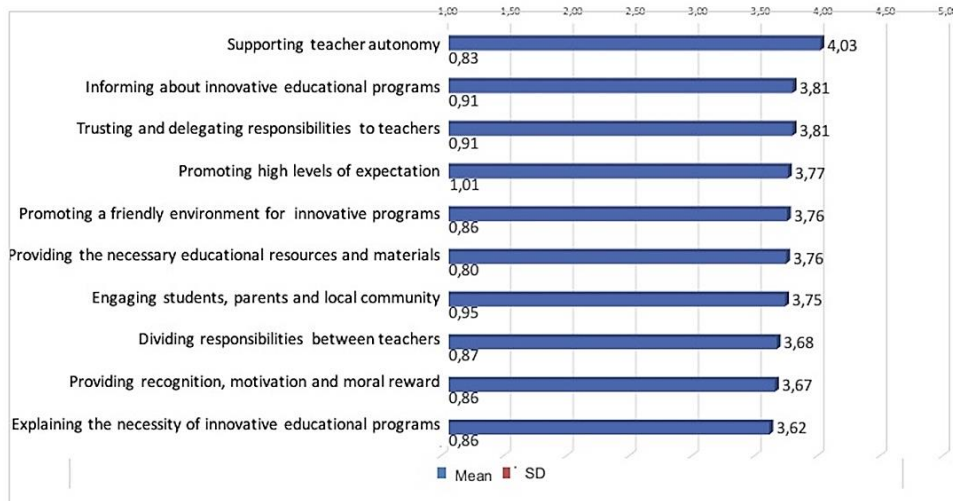
The third research question for the innovative leader highlighted that the principal's role, to a very large extent, is to facilitate teachers ($M = 3.96 \pm 0.76$), coordinate actions

and procedures ($M = 3.75 \pm 0.82$), encourage staff ($M = 3.73 \pm 0.87$), solve problems ($M = 3.70 \pm 0.81$) and, finally, mediate for the promotion and implementation of innovative programs ($M = 3.63 \pm 0.90$) (Graph 5).



Graph 5 Principals' role

At the level of leadership practices, autonomy ($M = 4.03 \pm 0.83$) and information ($M = 3.81 \pm 0.91$) are the two most basic practices for the promotion of innovative programs. In more detail, respondents consider, to a very large extent, that principal must trust and delegate responsibilities ($M = 3.81 \pm 0.91$), communicate and promote high levels of expectation ($M = 3.77 \pm 1.01$). At the same time, they consider, to a very large extent, that principal must promote an environment that favors the implementation of innovative programs ($M = 3.76 \pm 0.86$), provide the necessary educational resources and material ($M = 3.76 \pm 0.80$), engage students, parents and local community ($M = 3.75 \pm 0.95$) and share responsibilities between teachers ($M = 3.68 \pm 0.87$). Finally, Greek teachers consider that principals should, on the one hand, provide recognition, motivation and moral reward to those who implement innovative programs ($M = 3.67 \pm 0.86$), on the other hand, explain the necessity of them ($M = 3.62 \pm 0.86$) (Graph 6).



Graph 6 Leadership practices

In terms of leadership skills, professional skills were ranked first among the six main categories. The analysis highlighted as vital professional skills related to knowledge of innovative programs ($M = 4.31 \pm 0.82$) and more specifically knowledge of innovative programs for disabled students ($M=4.29\pm 0.80$), but also specialized studies in Special Education ($M = 4.25 \pm 0.83$). Teachers, also, focus on communication skills and, in more details, on principal’s ability to be open-minded ($M = 4.09 \pm 0.88$) and communicative ($M = 4.04 \pm 0.87$). As for the organizational skills, principal must have a vision ($M = 4.04 \pm 0.87$) and the ability to set goals, ($M = 4.01 \pm 0.81$), while problem-solving leadership skills refer to the process of identifying ($M = 4.04 \pm 0.85$) and resolving the problem on a creative thinking ($M = 4.03 \pm 0.91$). In terms of staff development skills, helping teachers to identify their strengths and weaknesses ($M = 4.01 \pm 0.86$) and addressing performance issues immediately ($M = 3.96 \pm 0.92$) are recognized as main skills. In a similar way, teachers’ motivation skills are referred in the genuine concern for others ($M = 4.07 \pm 0.79$), the positive role model and a positive attitude ($M = 3.93 \pm 0.96$) (Table 2).

Table 2 Leadership skills

	Skills	Mean	SD
Professional	Knowledge of innovative educational programs	4.31	0.82
	Knowledge of innovative educational programs for SEND	4.29	0.80
	Studies in Special Education	4.25	0.81
Communication	Being open-minded and accepting others’ opinions	4.09	0.88
	Being communicative with teachers	4.04	0.88
Organizational	Communicating a shared vision	4.04	0.87
	Setting goals	4.01	0.81

Problem solving	Defining problem situations clearly	4.04	0.85
	Fostering a climate of creative thinking and problem solving	4.03	0.91
Staff development	Helping teachers to identify their strengths and weaknesses	4.01	0.86
	Addressing performance issues immediately	3.96	0.92
Teachers' motivation	Showing genuine concern for others	4.07	0.79
	Becoming a role model and encouraging a positive outlook	3.93	0.96

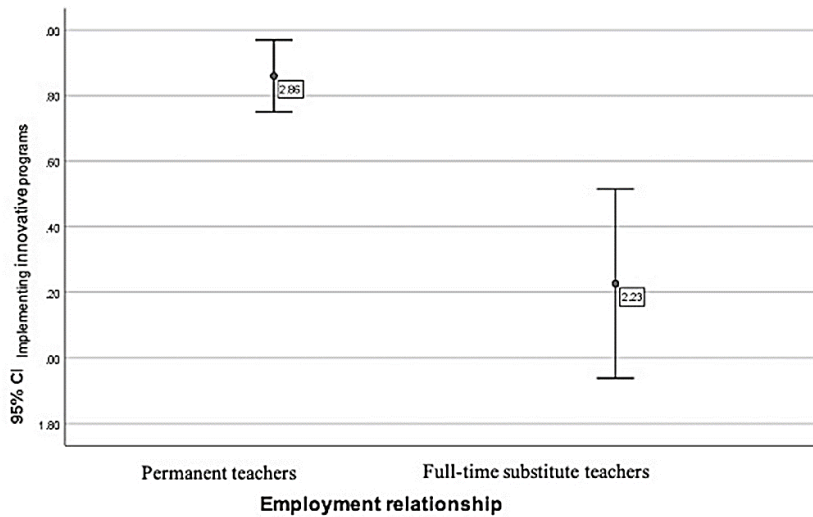
As for the fourth research question, the impact of demographic characteristics on teachers' opinions, correlations were examined for all questions at a significance level of $p < 05$ ¹². More specifically, to test which factors are statistically significant, t-test and Mann-Whitney test were performed. Results show that teachers' employment relationship has statistically significant differences of means in the factors "Implementation of educational programs", "Professional skills" and "Teacher motivation skills" (Table 3):

Table 3 Factors * Employment relationship, independent samples t-test and Mann-Whitney

Factor	Statistic	p	Control
Definition of innovation in Special Education	t (133) = 0.150	0.881	t-test
Innovation in Special Education	t (25.16) = -0.341	0.736	t-test
Knowledge of innovative educational programs	t (25.54) = 1.559	0.131	t-test
Implementation of educational programs	t (133) = 4.543	< 0.001	t-test
Leadership roles	U = 1016.5	0.172	M-W
Leadership practices	t (133) = -1.514	0.132	t-test
Professional skills	U = 888.5	0.033	M-W
Communication skills	U = 965	0.096	M-W
Organizational skills	U = 984.5	0.121	M-W
Problem solving skills	U = 964	0.093	M-W
Staff development skills	t (133) = -0.926	0.356	t-test
Teachers' motivation skills	U = 872.5	0.026	M-W

In fact, based on the results, Greek permanent teachers in secondary special schools implement innovative educational programs more frequently than full-time substitute teachers (Graph 7).

¹² In total, the independent variables examined were 'Gender,' 'Age,' 'Type of SMEA,' 'Employment relationship,' 'Teaching experience in General Education,' 'Teaching Experience in Special Education,' 'Teaching experience in SMEA,' and 'Studies in Special Education.' The most important findings will be presented here.



Graph 7 Error bars "Implementation of educational programs" * Employment relationship

On the other hand, years of experience in general education affect the implementation of innovative programs. More specifically, results show that respondents with up to 5 years of experience implement innovative educational programs less often than teachers with more years of experience in education. Additionally, teachers with 6-15 years of experience agree less on principals' role (Table 4):

Table 4 Factors * Teaching Experience in General Education, Kruskal - Wallis (statistically significant)

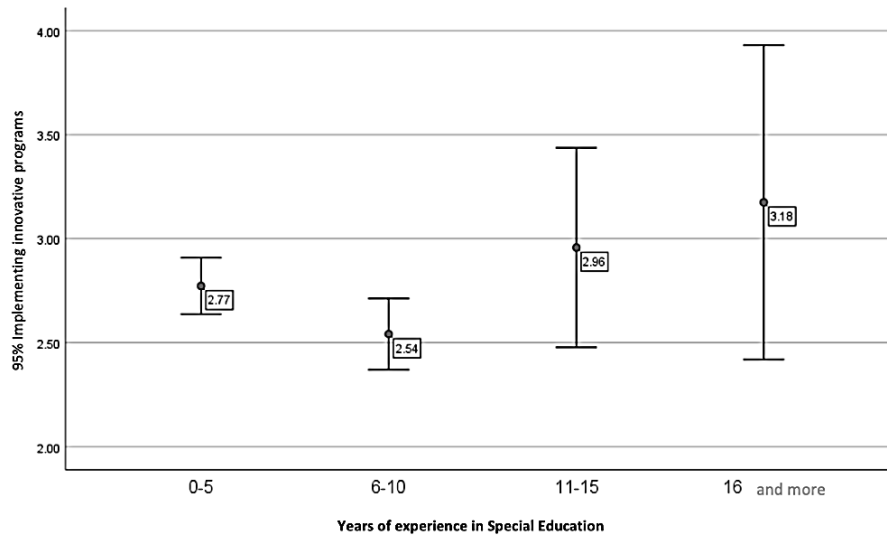
Factor	Years	N	M.R.	H	df	p
Implementation of educational programs	0-5	18	38.86	13,642	3	0.003
	6-15	86	69.59			
	16-25	27	79.41			
	26 ≤	4	87.88			
Leadership roles	0-5	18	72.22	12,416	3	0.006
	6-15	86	59.92			
	16-25	27	89.07			
	26 ≤	4	80.50			

Finally, in terms of teaching experience in Special Education, the ANOVA and Kruskal-Wallis results revealed statistically significant mean differences regarding "Innovation in Special Education" ($F(3,131) = 2.894$), the "Implementation of educational programs" ($F(3,131) = 3.028$), "Leadership Roles" ($F(3,131) = 3.295$), and principal's "Communication" ($H(3) = 29.223$), "Organizational" ($H(3) = 17.550$), "Problem solving" ($H(3) = 17.942$) and "Teacher motivation skills" ($H(3) = 15,300$) (Table 5):

Table 5 Factors * Teaching Experience in Special Education, ANOVA and Kruskal-Wallis

Factor	Statistic S	p	Control
Definition of innovation in SEN	F (3,131) = 1.382	0.251	ANOVA
Innovation in Special Education	F (3, 131) = 2.894	0.038	ANOVA
Knowledge of innovative programs	H(3) = 0.987	0.804	KW
Implementation of educational programs	F (3, 131) = 3.028	0.032	ANOVA
Leadership roles	F (3, 131) = 3.295	0.023	ANOVA
Leadership practices	H(3) = 6.899	0.075	KW
Professional skills	H(3) = 5.975	0.113	KW
Communication skills	H(3) = 29.223	< 0.001	KW
Organizational skills	H(3) = 17.550	0.001	KW
Problem solving skills	H(3) = 17.942	< 0.001	KW
Staff development skills	F (3, 131) = 2.555	0.058	ANOVA
Teacher motivation skills	H(3) = 15,300	0.002	KW

At this point, factor "Implementation of educational programs" needs special attention as the average of respondents with 6-10 years of experience in Special Education ($M = 2.54$) is statistically lower than the average of respondents with 11-15 years of experience in Special Education ($M = 2.96$) ($p = 0.038$) and 16 years and older ($M = 3.18$) ($p = 0.011$) (Graph 8).

**Graph 8** Error bars "Implementation of educational programs" * Years of experience in Special Education

7.2. Analysis of qualitative data

7.2.1. Thematic axis A'

The first research question concerns the definition of educational innovation. A common understanding among Greek teachers was that innovation in Special Education coincides with a reform process, a change and new ideas. For example, they consider co-educational programs and supporting educational structures, such as the Centers for Interdisciplinary Assessment and Counseling Support (KEDASY), to be a change or something different. They, also, agree that the use of technology in Special Education is innovation and allow students with special needs to enjoy the learning process just as much as their peers. One teacher relates innovation to flexible curricula of special schools, the Special Educational and the Special Assistance staff, but also the four-year study in secondary Special School Units in Greece:

“Innovation in Special Education involves the application of new approaches, such as inclusion programs or KEDASY, which are implemented for the first time.” (T2).

“In nowadays, eBooks, smartphones, tablet computers are used regularly in classrooms! Assistive technology is an innovation! It can help students with many types of disabilities.” (T1).

“Even the curriculum and the four-year study in Special Education is an innovation [...]. School psychologists, social workers, and speech therapists support disabled students!” (T5).

7.2.2. Thematic axis B'

As for the characteristics of innovative programs in Special Education, all teachers reported that they are familiar with School Activities and European School Programs. In fact, most interviewed participants noted an innovative program that they were involved:

“The most well-known programs are the School Activities programs and European programs, such as Erasmus, Grundving, and eTwinning.” (T8).

“Every year I work on an environmental program!” (T6).

On the other hand, teachers' implementation of innovative programs deserves attention. The most reported innovative program is the Environmental, with an emphasis on the local natural environment. Furthermore, among Greek teachers in secondary special schools cultural programs for local History and Theater Education are common and some teachers implement Health Education Programs. However, none of the teachers implemented European School Programs. Conclusively, all teachers agree that special schools implement 3 to 4 innovative programs per year:

“I usually work an environmental project. For example, in Crete we made wine with our students. At another time, I worked on a project about recycling.” (T2).

“As far as I know, we take part in about 3 to 4 programs every year. Almost every school joins a program. It's something common for our school community!” (T4).

7.3.3. Thematic axis C'

Concerning the innovative leader in Special Education, all teachers stated four roles. As they reported principals' role is to encourage teachers, coordinate the procedures,

facilitate by helping teachers achieve their goals and accomplish their tasks and, finally, mediate or, in other words, to resolve conflict in an amicable way:

“Principals must create an encouraging environment. Especially in nowadays! Teaching is definitely a tough, misunderstood job, so encouragement is important!” (T7).

“A school principal has to coordinate the whole school community. They are responsible for the detailed organization of the school!” (T1).

“Principals work as facilitators. They help teachers to take action, decide and achieve goals.” (T2).

“If there is a problem, principals have to find solutions and allow everyone involved to have control of what’s finally agreed. They act as mediators!” (T4).

Interestingly, the most reported leadership practices are autonomy, vision and setting goals. All teachers emphasized the value of autonomy as the key for additional benefits and an improved potential for innovation. On the other hand, teachers stated that a principal’s vision outlines the future they desire for their school:

“Greece’s education system is a fairly centralized system. School leaders have to claim for more autonomy, more freedom in the organization!” (T8).

“School leaders must have a clear vision! Vision is the indicator of what their students and teachers are able to do! A visionary principal ensures that the vision becomes reality by stating clear goals. I cannot imagine working with a non-visionary principal or with a principal without clear goals! Goals are important in helping teachers become a team!” (T3).

“I consider it essential that the principal knows what he wants from the school, his students and the teachers. Everyone who takes over must leave their mark!” (T6).

Regarding principals’ skills, the most reported are professional skills. Greek teachers stated that a combination of principal’s studies for students with disabilities and a knowledge of the basic law for Special Education are necessary. Teachers, also, agree that the ability to communicate well is one of the most important skills required by principals and they look for principals who can take ownership of problems and quickly resolve them:

“Principals in Special Education must have specific studies for students with disabilities. Moreover, they need a thorough understanding of the laws that protect their educational rights.” (T4)

“Principals should communicate effectively!” (T5)

“Principals have to overcome problems and challenges. First of all, they have to identify the problem. Sometime it’s not so easy! After that they have to find a possible solution and decide the best for their school.” (T6)

8. DISCUSSION & CONCLUSION

The main purpose of the present study was the investigation of school leadership in the introduction and implementation of innovative educational programs in secondary Special Education School Units in Greece. Important results emerged, as they have already been presented, which allow the formulation of conclusions, a consequence of the research questions of the work.

Specifically, the first research question focused on the definition of educational innovation. Greek teachers perceive innovation, in special educational, as the promotion of

new perceptions, practices, alternatives, ideas or procedures, but also as a deliberate change of principles and beliefs, confirming the findings of previous research (Vincent-Lancrin et al., 2019). Further specialization reveals that innovation in Special Education involves the introduction of new technologies, the student-centered and collaborative teaching methods, the interdisciplinary teaching manuals, the specialized curricula, the students' four-year study, as well as the Special Educational and the Special Assistance staff. The expanded delimitation of innovation is confirmed by the institutional framework in Greece of Special Education, but also by the multiple research data on the benefits of technological innovation (Fraillon et al., 2020; Stopar & Bartol, 2019) and the student-centered, collaborative and interdisciplinary teaching methods (Seechaliao, 2017; Vincent-Lancrin et al., 2019). However, teachers do not associate innovation in secondary special schools with assessment. The perennially negative attitude of Greek teachers towards the self-evaluation of school units and/or the evaluation of teachers (Papakonstantinou, & Kolympari, 2019) is a possible explanation of the above finding, which, however, needs further investigation.

The second research question concerned the characteristics of innovative programs in secondary special schools. Teachers have enough knowledge of School Activity Programs, especially those with cultural and environmental content, as well as Health Education programs, but they seem to know and implement less European Programs. The preference for environmental and cultural programs is evident in numerous surveys of Greek General Schools (Lappa, Kyparissos, and Paraskevopoulos, 2017), while the low participation rates in European School Programs, according to the report of the Greek State Scholarships Foundation for the school years 2014 to 2018 for special schools in Greece (IKY, 2018), confirm the present findings. However, the annual number of innovative programs implemented in secondary special schools in Greece, does not coincide with the findings of other researches. The number of 3-4 programs per year is characterized as relatively high. Findings can be interpreted from the flexible and specialized Curricula for people with SEND (Kurz et al., 2010; Nilsen, 2017) which seems to motivate teachers to find alternative forms of education for students with disabilities (Lewis, Wheeler, and Carter, 2017; Pollaway et al., 2018).

The third research question attempted to identify the innovative leader in Special Education, in relation to the role, practices and skills required to implement innovative programs. Greek principals are inclined to perform the roles of facilitator, coordinator, mentor, mediator and encourager. Findings are in line with previous research (Fullan, 2016; Khan, 2018; Leithwood, Harris, and Hopkins, 2020; Torfing, 2016). In a similar way, basic leadership practices, in the centralized Greek system, are autonomy and vision, with the need for high levels of autonomy projecting as a dominant trend of all modern educational systems (Leithwood, Harris, and Hopkins, 2020; OECD, 2018). Accordingly, teachers recognize the importance of professional and communication skills of principal in Special Education. The preference for specific skill categories matched those from previous research that recognizes the importance of an upgraded professional profile of Special Education principals (Boscardin & Lashley, 2019; Hadjikakou & Mnasonos, 2012) and matched previous research which claimed that effective communication is vital for any organization, and schools are no exception (Farh, Lee, and Farh, 2010; Palmon & Illies, 2005).

In the present study, important findings also emerged regarding the effect of demographics. First of all, the effect of the employment relationship is reflected in the

implementation, since permanent teachers implement innovative programs with greater frequency than full-time substitute teachers. In the same way, in terms of teaching experience, teachers with up to 5 years of teaching experience implement innovative actions less often than respondents with more years of experience. The job uncertainty of substitute teachers acts as an inhibitor for planning and organizing innovative actions, a finding that focuses on employee motivation (Kanfer, Frese, and Johnson, 2017). On the other hand, the lack of experience, overall and/or in Special Education, at the beginning of their professional career seems to be an obstacle, a finding that coincides with data from other researches (Boscardin & Lashley, 2019; Hadjikakou & Mnasonos, 2012). At a final level, there is a differentiation, smaller or larger, in terms of teachers' views on principal's role and skills, with a characteristic convergence of their views depending on the type of working relationship and experience, a fact that needs further study.

The above data, although presenting indicative aspects regarding innovative leadership in secondary special schools in Greece, cannot be generalized. Examining a different level of Special Education, such as early childhood or primary education, involving a larger sample of interviewees or a sample with a different quota of permanent/substitute teachers, various specialties, and teachers with divergent formal qualifications, might have resulted in a different statistical conclusion. Moreover, the absence of official indicators for innovative programs makes it impossible to compare the results. Obviously, future researches will need to address whether these findings apply in other educational systems. Nevertheless, we consider this study an important step towards gaining insights into leadership and innovation in Special Education. Findings that have been collected could help the scientific dialogue in terms of contribution of school leadership to the introduction and implementation of innovative programs in secondary special schools and could act as a trigger for further research of these kinds of programs by educational policy bodies. In conclusion, to enhance management in secondary special schools in Greece and implement innovative educational programs effectively, principals should prioritize tailored professional development. This should emphasize innovative teaching methodologies, including technology integration and student-centered approaches. Additionally, raising awareness and participation in European educational programs among educators is essential. Supporting substitute teachers and establishing mentorship programs for new teachers are vital for facilitating innovation adoption. Lastly, policymakers must allocate resources to ensure equitable access to quality education for all students.

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ŠKOLSKO RUKOVODSTVO I INOVATIVNI OBRAZOVNI PROGRAMI U SREDNJIM ŠKOLAMA ZA SPECIJALNO OBRAZOVANJE U GRČKOJ

Apstrakt

Većina dosadašnjih istraživanja bavila se proučavanjem školskog liderstva u kontekstu opšteg obrazovanja. Ova studija se fokusira na doprinos školskog rukovodstva u uvođenju i implementaciji inovativnih obrazovnih programa u srednje škole za specijalno obrazovanje u Grčkoj. Korišćen je eksplanatorni sekvencijalni dizajn mešovitih metoda. Faza I studije uključivala je onlajn-anketu, a faza II je uključivala individualne intervjue sa nastavnicima specijalnog obrazovanja. Rezultati pokazuju da u srednjim specijalnim školama grčki nastavnici poistovećuju inovacije sa novim tehnologijama. Učesnici smatraju da imaju dovoljno znanja o inovativnim programima u realizaciji školskih aktivnosti, a pokazuju smanjeno interesovanje za evropske programe. Štaviše, inovativni direktor preuzima ulogu fasilitatora, koordinatora i mentora, dok se autonomija i vizija promovišu kao ključne liderske prakse. Na nivou veština, grčki nastavnici se fokusiraju na profesionalne, društvene veštine i veštine rešavanja problema direktora škole. Prošireno razgraničenje inovacija u kontekstu specijalnog obrazovanja potvrđuje prednosti tehnologije, dok smanjene stope implementacije evropskih programa, verovatno, ukazuju na nedostatak informacija o evropskim akcijama. Što se tiče inovativnog direktora, akcenat je stavljen na unapređeni profesionalni profil direktora specijalnog obrazovanja, koji podrazumeva jasno razlikovanje višestruke uloge i specifične prakse. Rezultati istraživanja mogu pomoći naučnom dijalogu u smislu doprinosa školskog rukovodstva u specijalnom obrazovanju, kao i u oblasti obrazovnih politika.

Ključne reči: školsko rukovodstvo, inovacije, programi školskih aktivnosti, evropski školski programi, škole srednjeg specijalnog obrazovanja, Grčka



OPINIONS OF ROMA STUDENTS' SCHOOLTEACHERS ON THE MEANING AND THE USE OF MULTILITERACIES

UDC 376.1-054.57(=214.58)(495);
316.644-057.175:811.214.58'246.2(495)

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Abstract. *The rapid financial and social developments have created the need for students to acquire new skills that are necessary for understanding and managing social relationships and the modern environment. Although the concept of literacy and the approach of Multiliteracies are reference points for teaching the Greek language, there have been misinterpretations by teachers. The bilingualism of Roma students is often not utilized during the educational process although there's a need for the teachers to adapt their teaching methods to the Roma students' needs in order for the lessons to become more attractive. The use of multimodal means and multiliteracies help in teaching, with active participation, focus and increase in students' interest. A survey was conducted using a questionnaire among a sample of 105 primary education teachers in Western Greece, who either teach or have taught in the past Roma students. The survey focused on the concept of Multiliteracies and its educational utilization in teaching. The results show that teachers generally have a good understanding of the concepts, though some misunderstandings exist. Teachers exhibit a limited perception of the concept of literacy; they ignore certain types of literacy and fail to realize that the instructional application of multimodal texts is not confined to the primary taught text but extends to non-linguistic means as well as a variety of linguistic forms. The need for targeted in-service education becomes apparent.*

Keywords: *roma students, teachers' opinions, multiliteracies*

1. INTRODUCTION

The rapid economic and social developments have created the need for acquiring new skills, which are necessary to understand and manage not only social relationships but also

Received December 23, 2023/Accepted March 19, 2024

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the modern environment (Merrell & Tymms, 2007). This new data influenced and concerned a lot of researchers regarding the concept of literacy, as it serves as a reference point for teaching (Barton et al., 2007; Fterniati, 2010^a). For many years, the term of literacy has been identified with the term of literate. Nowadays, the term literacy, not only refers to an individual's ability to read and comprehend a written text but also to the ability "to understand, interpret, and critically engage with various types of discourse" (Maybin, 2006; Yayli, 2009). In other words, literacy combines multiple cultural, social, and cognitive dimensions, constituting a social process that is linked to various social practices (Barton, 2009).

Roma students often show low academic performance, with many of them deciding to discontinue their studies. The education system struggles to integrate the cultural background of these students into the educational process (New et al., 2017).

The bilingualism of Roma students is often not considered in the educational process, while teachers themselves are required to become familiar with the language and history of the Roma (Hemelseoet, 2015; Kyuchukov, 2000).

Teachers believe that the use of multimodal means helps in teaching by actively engaging students, increasing their interest and focus (Dimitriadou et al., 2011). However, they do not have a perfectly clear picture of the tools and possibilities available to them in their educational practices (Alger, 2009; Lim et al., 2022; Potamias, 2015; Smith & Dobson, 2011), often not taking into account all the available media (e.g., videos, comics, etc.) (Grosdos, 2011), even though they recognize the connection of the approach to various forms of art (Holloway, 2012; Kontovourki & Ioannidou, 2013; Oreck, 2004).

The inadequate training of teachers contributes to the creation of a superficial understanding of the Multiliteracies approach and the multiple possibilities they offer in language teaching (Barletta, 2009; Dominguez-Romero & Bobkina, 2021; Maybin, 2006). Therefore, they show a weakness in adapting teaching methods according to the Multiliteracies model, especially when it comes to students who are taught Greek as a second or foreign language, such as Roma students (Kantzou et al., 2017; Tsiouma, 2023).

1.1. From the concept of Literacy to the approach of Multiliteracies

Functional literacy views literacy as a series of authoritative and universal skills aimed at ensuring the professional success of students to effectively meet the demands of modern world as future citizens (Kalantzis et al., 2003; Powell et al., 2001; Stamou, 2014). It is a measurable form of literacy with the goal of achieving social objectives, through a predefined curriculum, without requiring critical thinking from learners (Baynham, 2002).

On the other hand, critical literacy asserts that linguistic phenomena are connected to social ones, as messages and ideologies are transmitted through speech (Janks, 2005; Street, 1995). Education is defined as a social process, and linguistic and teaching practices are used in such way that a student becomes aware of the conditions of their life (Comber et al., 2001). The goal of critical literacy is for individuals to become aware of the function of dominant literacies, develop critical thinking towards them, and engage in dialogue with the texts they read (Mills, 2011). In this context, critical literacy focuses on power relations reflected and described in texts through language (Stamou, 2014), turning teaching into a "political act" in accordance with the social framework, cultural norms, and discussions taking place (Fairclough, 2003).

When the Pedagogy of Literacy was considered inadequate, the term “Multiliteracies” emerged in September 1994 in the town of New London, New Hampshire, Australia, as an emerging need for development of essential skills to comprehend texts that combine different semiotic modes (e.g. linguistic, visual, auditory) for both meaning-making and understanding discourses produced within diverse and multicultural social contexts (Kress, 2003; Kress & van Leeuwen, 1996, 2001).

Initially, the genre is considered the primary domain for implementing the Multiliteracies approach. On the one hand, it plays a significant role in shaping literacy, while on the other it is “shaped” by the prevailing sociocultural conditions. In this context, and according to the genre, the theory of Multiliteracies initially follows a Design, through which students independently search, in a dynamic process through the available sociocultural resources, for texts with topics or information that pique their interest or engage their social lives (Cope & Kalantzis 2000). The Design consists of a series of four stages. Firstly, in the *Situated Practice* stage, the primary selection and utilization of texts includes personal experiences of the students themselves and texts interacting with their daily lives (Cope & Kalantzis, 2015; Kalantzis & Cope, 1999; Fterniati, 2010^a). Following is the *Overt Instruction* stage, during which students attempt to understand and explain the linguistic mechanisms they identify in a text, contributing to its organization (Fterniati, 2010^a). Next is the *Critical Framing* stage, where students attempt a critical reading of a text by connecting it and situating it within the sociocultural framework in which it was written. Students take into consideration the content and the function of a text in relation to the circumstances and the environment (Collins & Blot, 2003; Fterniati, 2010^a). Finally, the last stage is *Transformed Practice*, where students are called upon to produce both oral and written discourse in which they present their own positions on an issue, situating it within a specific sociocultural framework (Cope & Kalantzis, 2015; Fterniati, 2010^a). These stages are not independent and autonomous but can be complementary and overlapping. In each case, a structural part of Multiliteracies is the collaborative method (Johnson et al., 2000).

1.2. The pedagogical utilization of Multiliteracies

The Multiliteracies approach shifts language teaching one step beyond the pedagogy of literacy (Fterniati, 2010^b) and offers new possibilities for both learners and teachers. Through this approach, their practices are based on multimodal texts that combine multiple semiotic modes (e.g., linguistic, auditory, visual) (New London Group, 1996; Pirbhai-Illich, 2010). From this perspective emerges a contemporary approach that adds particular value to language teaching, connecting the modern social environment with genres of discourse (Elsner, 2011). In this way, Multiliteracies represent a modern approach to language teaching for non-native speakers, such as immigrants, refugees, Roma, and generally those learning Greek as a second or foreign language (Skourtou, 2015). It is an approach in line with contemporary developments in both linguistic and cultural diversity, as well as the evolution and development of Information and Communication Technology (I.C.T.) (Veum et al., 2020). Students have the opportunity to engage with familiar social issues and topics related to their culture, enabling them to express their views through written and oral discourse (Barton, 2009), fostering motivation for learning and responsiveness (Tan et al., 2010). Simultaneously, they develop metacognitive and

metalinguistic skills while cultivating their critical stance towards contemporary social issues (Andrews, 2010; McLean & Roswell, 2013).

Basiouri conducted an intervention program based on the theory of Multiliteracies in a reception class of a Greek primary school. The use of multilayered materials (texts, short films, photographs) in class with Roma students showed that they produced oral and written discourse, enriched their vocabulary, understood some aspects of object description, even though their descriptive texts were insufficient, understood basic grammar rules, and applied them (Basiouri, 2019).

From the above, it is evident that the use of the theory of Multiliteracies, as well as multimodal texts, has tremendous benefits not only for students taught in their native language but also for non-native students or those belonging to sensitive social groups (Cope & Kalantzis, 2015).

Teacher training is crucial, as teachers themselves feel unprepared to handle issues of diversity and bilingualism in their classrooms (Gkaintartzi et al., 2015, p. 70). Furthermore, knowledge and skills in implementing Multiliteracies are of vital importance for teachers in the contemporary globalized environment, as they contribute to promoting an innovative approach to language teaching for immigrants and students with a different native language from that taught in the official school curriculum (Mirra et al., 2018).

This research addresses a literature gap, as there is no other research in the Greek context that explores the perceptions of primary education teachers instructing classes with Roma students regarding their views on the significance of Multiliteracies and the means of implementing them in everyday school practice.

After reviewing the relevant literature (e.g., Boche, 2014; Cope & Kalantzis, 2015; New London Group, 1996; Fterniati, 2010^{a,b}), the following research questions were investigated:

- What are the teachers' perceptions of approaching Multiliteracies?
- What means do teachers recognize as most useful for implementing Multiliteracies?
- Are there statistically significant differences in teachers' opinions about approaching Multiliteracies approach regarding their socio-demographic characteristics?

2. METHODOLOGY

This chapter presents the research process. It is a cross-sectional study that utilized quantitative methodology (Cohen et al., 2007).

2.1. Participants' characteristics and Sampling Procedure

The study involved 105 teachers serving in schools in Western Greece. The majority of them are females (71.4%), reflecting the overall percentage of women in primary education in Greece, according to the official data of the Hellenic Statistical Authority. Regarding their years of service, most participants have served for 21-35 years (23.8%). In total, 70.5% of teachers have worked for 16 to 35 years, while only 29.5% have less than 15 years of service. The majority of the sample holds two-year basic degrees (74.3%), while only 25.7% have graduated from a four-year Pedagogical Department. This is a sample of older teachers, who may have a wealth of experience but are likely to have insufficient

training in literacy issues. Nevertheless, around half of the teachers (57.1%) have completed postgraduate studies, with two of them holding doctoral degrees.

The research was conducted in February 2022. A pilot survey was administered to a sample of 20 teachers with postgraduate degrees to correct any oversights or questionnaire errors. Then, the electronic questionnaire was distributed to teachers via the email addresses of the schools of the Regional Director of Education of Western Greece. The sample is characterized as a convenience sample as only teachers who teach Roma students participated in the research. Therefore, the research doesn't seek to generalize to the wider population of teachers (Cohen et al., 2007).

2.2. Material and Methods

The review of the relevant literature as well as the teaching and work experience of the researchers in different positions of responsibility and at different levels of education in Greece, led to the formulation of the questions and the construction of the questionnaire.

The questionnaire consisted of two (2) closed-ended questions on a four-point scale (1 – Strongly Disagree, 4 – Strongly Agree). Teachers had to indicate their level of agreement in 16 statements for the first question and 7 for the second one, concerning their opinions regarding the approach to Multiliteracies and the means they utilize.

To ensure the validity and reliability of the questionnaire, questions were constructed after reviewing Greek and international articles and literature. The reliability of the questionnaire for internal consistency was measured based on the Cronbach Alpha coefficient (α). It was calculated as a total of $\alpha = 0.73$ ($\alpha = 0.72$ for the first question and $\alpha = 0.89$ for the second question), which is acceptable (DeVellis, 1991). The pilot administration and the measurement of the internal consistency of the questionnaire, the types of questions, the format, and the length of the questionnaire also contributed to the reliability and validity of the research (Cohen et al., 2007).

Ethical and moral rules were followed. The electronic questionnaire was accompanied by a letter on the first page, providing detailed information about the purpose of the research, ensuring the anonymity of the participants, informing them about the lack of benefit for the researchers, the absence of any risks, and the freedom to withdraw at any time (Miles & Huberman, 1994).

2.3. Data Analysis

Data analysis was performed using the Statistical Package for the Social Science (SPSS 24.0). A total of 105 questionnaires were completed. With the Kolmogorov-Smirnov test, the null hypothesis was rejected, so the sample distribution can be considered non-normal. Non-parametric tests Kruskal-Wallis (H) and Mann-Whitney (U) were used to compare the views of teachers regarding the concept of Multiliteracies and the means it utilizes. Gender, studies and years of service variables were also examined. The significance level (p) was set at 0.05.

3. RESULTS

In this chapter, the results of processing the teachers' response data will be introduced. Initially, their views on Multiliteracies and the means they consider necessary for it will be presented. Then, the correlations between teachers' responses and their socio-demographic characteristics will be displayed.

3.1. Teachers' Perceptions of Multiliteracies

In the first question teachers were asked to rate a series of 16 statements related to the concept of literacy and the approach to Multiliteracies. The mean, mode, cumulative relative frequency of responses 1 and 2 for disagreement with each statement (1 + 2) and the cumulative relative frequency of responses 3 and 4 for agreement with each statement (3 + 4) were calculated. The results are presented in the table below (Table 1).

Table 1 Teachers' Perceptions of the Concept of Multiliteracies

Statements	Mean	Mode	1 + 2 (%)	3 + 4 (%)
The theory of Multiliteracies is also appropriate for students from different linguistic and cultural environments (Roma, foreigners, refugees).	3.33	3.00	5.7	94.3
The Multiliteracies model cultivates skills in students so that they can negotiate the communicative aspects of a text.	3.27	3.00	7.6	92.3
Multiliteracies, representations and other forms beyond language are utilized to create meaning.	3.24	3.00	5.7	94.3
Through the Multiliteracies model, students engage with and participate in the current social changes through the Design.	3.18	3.00	11.4	88.5
Among the texts selected for instructional materials, there must be a representation of the types of texts identified, specifically narratives, descriptive, and argumentative texts.	3.08	3.00	13.3	86.7
The concept of literacy means an individual's ability to read and comprehend a written text.	3.08	3.00	14.3	85.7
The basic unit determining literacy is defined as the textual genre, as shaped by the respective socio-cultural reality.	3.06	3.00	16.2	83.8
Comprehending multimodal texts requires metacognitive skills from students.	2.89	3.00	26.7	73.3
The theory of Multiliteracies involves working with different written texts and grammatical phenomena.	2.86	3.00	24.8	75.2
Multiliteracies challenge the use of written discourse as the dominant means of communication.	2.51	3.00	47.6	52.4
Multimodal texts exclusively use other semiotic modes (image, sound, movement) and not the linguistic ones (text).	2.28	2.00	63.8	36.2
The concept of literacy pertains to the study and processing of written texts that originate from the Greek Language course.	2.20	2.00	62.9	37.2
According to the theory of Multiliteracies, the concept of literacy exclusively deals with reading and writing.	2.08	2.00	78.1	21.9
The theory of Multimodality is similar to the theory of literacy	2.07	2.00	72.4	27.7
In the pedagogy of Multiliteracies, only one design is suitable, including texts from newspapers, videos, images, not the book.	2.07	2.00	78.1	21.9
The instructional material produced based on the Multiliteracies model include only activities of written discourse production.	1.95	2.00	83.8	16.2

Based on the above table, it is evident that teachers generally agree on the value of Multimodality in language teaching, considering it as an effective approach for the education of bilingual students. More specifically, teachers, with Mode 3 – “Agree”, responded that: (a) The theory of Multimodality is appropriate for students from different linguistic and cultural backgrounds ($\bar{X} = 3.33$), (b) The Multiliteracies model cultivates skills in students so that they can negotiate the communicative aspects of a text ($\bar{X} = 3.27$), (c) The theory of Multimodality utilizes representations and other forms beyond language to create meaning ($\bar{X} = 3.24$), (d) Through the model of Multimodality, students encounter social changes and engage with them through the Design ($\bar{X} = 3.18$), (e) Through the selected texts for instructional material, there should be a representation of different genres ($\bar{X} = 3.08$), (f) The concept of literacy means an individual's ability to read and comprehend a written text ($\bar{X} = 3.08$), (g) Genre is defined as the basic unit for determining literacy, as shaped by the current sociocultural reality ($\bar{X} = 3.06$), (h) Comprehending multimodal texts requires metacognitive skills from students ($\bar{X} = 2.89$), (i) The theory of Multiliteracies involves working with different written texts and grammatical phenomena ($\bar{X} = 2.86$), (j) Multimodality challenges the use of written language as the dominant means of communication ($\bar{X} = 2.51$).

Furthermore, teachers with Mode 2 – “Disagree” mentioned that: (a) Multimodal texts exclusively use other semiotic modes, not linguistic ones ($\bar{X} = 2.28$), (b) The concept of literacy pertains to studying and processing written texts from the Greek language course, ($\bar{X} = 2.20$), (c) The concept of literacy is exclusively concerned with reading and writing, ($\bar{X} = 2.08$), (d) The theory of Multimodality is similar to the theory of literacy ($\bar{X} = 2.07$), (e) In the pedagogy of Multimodality, only one design that includes texts from newspapers, videos, images and not books is suitable ($\bar{X} = 2.07$), (f) The instructional material produced based on the Multiliteracies model include only activities of written discourse production ($\bar{X} = 1.95$).

Furthermore, in the second question, teachers were asked to respond to a series of 7 statements regarding the instructional approach of Multimodality. The results are presented in Table 2.

Table 2 Teachers' perceptions of the teaching tools utilized in the approach of Multiliteracies

Multiliteracies utilize for the creation of meaning	Mean	Mode	1 + 2 (%)	3 + 4 (%)
The video	3.37	3.00	3.2	96.8
The new technologies	3.31	3.00	4.3	95.7
The works of art	3.25	3.00	7.5	92.5
The cinematic films	3.17	3.00	10.8	89.2
The theater	3.16	3.00	11.8	88.1
The television	3.04	3.00	15.1	84.9
The dance	2.91	3.00	23.7	76.3

According to the above table, it is apparent that teachers generally agree that various resources are utilized in language teaching when applying the approach of Multimodality for the education of bilingual students. More specifically, teachers, with Mode 3 – “Agree”, responded that Multimodality utilizes for meaning: (a) Video ($\bar{X} = 3.37$), (b) New technologies ($\bar{X} = 3.31$), (c) Works of art ($\bar{X} = 3.25$), (d) Cinematic films ($\bar{X} = 3.17$), (e) Theater ($\bar{X} = 3.16$), (f) Television ($\bar{X} = 3.04$) and g) Dance ($\bar{X} = 2.91$).

3.2. Correlations of teachers' responses based on their sociodemographic characteristics

Since distribution was not normal, a Mann Whitney-U test was conducted to compare teachers' opinions regarding Multiliteracies approach based on their sociodemographic characteristics (gender, studies). Statistical significance was found in certain statements based on their gender (Table 3) and additional studies beyond their basic degree (Table 4).

Table 3 Teachers' perceptions about the meaning and the use of the Multiliteracies based on their gender

Item	Gender	N	Mean Rank	Sum of Ranks	Mann – Whitney U	P
The concept of literacy involves the study and processing of written texts that originate from the Greek Language course	Male	30	62.57	1877.00	838.000	.032
	Female	75	49.17	3688.00		
Multimodal texts exclusively use other semiotic modes and not the linguistic one	Male	30	62.02	1860.50	854.500	.041
	Female	75	49.39	3704.00		
Multiliteracies utilize dance for the creation of meaning	Male	30	58.44	1461.00	564.000	.005
	Female	75	42.79	2910.00		

The results indicate that male teachers, in comparison to their female colleagues, rated higher in commenting that: (a) The concept of literacy pertains to the study and processing of written texts from the Greek Language course (SO = 62.57, MWU = 838.000, $p = .032$), (b) Multimodal texts exclusively use other semiotic modes and not the linguistic one (SO = 62.02, MWU = 854.500, $p = .041$), and (c) Multiliteracies utilize dance for the creation of meaning (SO = 58.44, MWU = 564.000, $p = .005$).

Table 4 Teachers' perceptions about the meaning and the use of Multiliteracies based on their studies

Item	Post graduate Studies	N	Mean Rank	Sum of Ranks	Mann – Whitney U	P
According to the theory of Multiliteracies, the concept of literacy is exclusively concerned with reading and writing.	Yes	60	46.04	2762.50	932.500	.002
	No	45	62.28	2802.50		
The concept of literacy pertains to the study and processing of written texts that originate from the Greek Language course.	Yes	60	47.97	2878.00	1048.000	.039
	No	45	59.71	2687.00		
The model of Multiliteracies cultivates skills in students so that they can negotiate the communicative aspects of a text.	Yes	60	60.83	3649.50	880.500	.001
	No	45	42.57	1915.50		

From the results, it is evident that teachers holding only a bachelor's degree rated higher that: (a) According to the theory of Multiliteracies, the concept of literacy is exclusively

concerned with reading and writing ($SO = 62.28$, $MWU = 932.500$, $p = .002$), (b) The concept of literacy pertains to the study and processing of written texts that originate from the Greek Language course ($SO = 59.71$, $MWU = 1048.000$, $p = .039$). On the other hand, teachers with postgraduate studies scored higher in the statement (a) The model of Multiliteracies, cultivates skills in students so that they can negotiate the communicative aspects of a text ($SO = 60.83$, $MWU = 880.000$, $p = .001$).

As the distribution was not normal, a Kruskal-Wallis test was conducted to compare teachers' opinions on the theory of Multiliteracies based on their years of service. The results are presented in Table 5.

Table 5 Teachers' perceptions about the meaning and the use of Multiliteracies based on their years of service at school

Item	Years of service at the school	N	Mean Rank	Chi – Square	df	p
The concept of literacy means an individual's ability to read and comprehend a written text	1-5	10	42.55	20.362	6	.002
	6-10	3	77.00			
	11-15	18	32.64			
	16-20	15	54.07			
	21-25	25	65.34			
	26-30	16	52.66			
	31-35	18	57.44			

As it turns out, teachers with 6-10 years of service gathered the highest rating in the statement “*The concept of literacy means the ability of a person to read and understand a written text*” ($SO = 77.00$), $\chi^2(6) = 20.362$, $p = .002$).

4. DISCUSSION

From the analysis of the teachers' responses, particularly interesting findings emerged regarding their views on literacy issues and the approach of Multiliteracies in language teaching in general.

First and foremost, teachers primarily associate literacy in the Greek language course with written discourse, reflecting a limited understanding as it excludes oral communication (Baynham, 2002; Street, 1995). Additionally, they seem to overlook other forms of literacy (e.g., digital, mathematical, etc.), as they agree that the concept of literacy is linked to individuals' literacy, i.e., their ability to read and understand a written text (Lim et al., 2022; Maybin, 2006; Mirra et al., 2018; Yayli, 2009).

It appears that teachers have formed a specific framework for the content, use, and function of multimodal texts. At first, they do not realize that in the application of this linguistic approach, combining text with other semiotic systems (e.g., visual, auditory, verbal, etc.), familiar to students is essential and can engage their interest (Kalantzis & Cope, 1999; Kontovourki & Ioannidou, 2013; Kress, 2003; Kress & Van Leeuwen, 2001). While they do acknowledge the potential of I.C.T. in designing their teaching (utilizing video, images), that highlight the students' emotions and thoughts, transforming the lesson

into an engaging process (Dimitriadou et al., 2011; Smith & Dobson, 2011), they do not integrate the ICT with the school textbook's texts. Furthermore, they do not recognize, to the extent they should, the variety of multimodal texts (e.g., an invitation, an e-mail, a poster or even the textbook itself), with which students come into contact in various communication circumstances in their daily lives (Collins & Blot, 2003; Potamias, 2015).

Teachers do not recognize, as might be expected, that multimodal texts are not only a structural part of language teaching but also an everyday social practice (Barletta, 2009; Baynham, 2002; Dominguez-Romero & Bobkina, 2021; Kress & van Leeuwen, 1996), contributing to the development of metacognitive skills such as the critical stance towards issues in their daily lives (McLean & Roswell, 2013; Mills, 2011), taking into account the specific communicative conditions, whether in written or oral discourse (Comber et al., 2001; Cope & Kalantzis, 2015; Ferniati, 2010^b).

They do not fully understand the Multiliteracies approach for students from different cognitive and sociocultural backgrounds, such as Roma students, which are taught Greek as a second or foreign language, arguing that written discourse is the dominant means in language teaching (Kantzou et al., 2017; Tsiouma, 2023).

Younger teachers support, more pronouncedly, the connection of literacy with the reading and writing process, excluding the development of communicative and social skills (Alger, 2009; Maybin, 2006). It is possible that the teaching experience of teachers is a reinforcing factor for their knowledge and skills in language teaching. There is a need for targeted training of teachers in Multiliteracies, not only in terms of knowledge but also in practical application (Gkaintartzi et al., 2015), as the perception they have currently formed seems to be superficial.

Finally, teachers understand the benefits arising from the language learning process through linking Multiliteracies with various forms of art (Holloway, 2012; Kalantzis & Cope, 1999; Oreck, 2004).

5. CONCLUSIONS

The research aimed to capture the opinions of teachers working with Roma students regarding the pedagogical approach of Multiliteracies and the potential means that could be utilized.

It appears that teachers' perceptions of the aforementioned fields are superficial, lacking substantial knowledge of the ways in which the approach of Multiliteracies can be applied in language teaching. While they seem to understand the value of Multiliteracies, recognizing basic elements that structure them and acknowledging essential tools for their implementation, there is no clear and distinct understanding of the value and possibilities of Multiliteracies in language teaching. They lack a clear understanding of the tools and techniques associated with Multiliteracies, as well as the fundamental points of its application in language teaching, regardless of gender, age, or years of service.

There is an immediate need for teachers to undergo training in the pedagogical approach of Multiliteracies, as they consider it particularly suitable for students from different linguistic and cultural backgrounds. This training should focus on how teachers can design their teaching around Multiliteracies, allowing them to address contemporary social issues familiar to students and enabling them to develop a critical attitude towards these issues. In this way, they will engage with topics that are interesting to students and motivate them

to work collaboratively, utilizing their cultural and individual characteristics. Consequently, the teaching of the Greek language will become more interesting and useful for every student, serving as a means of expression, regardless of whether Greek is their native language. Simultaneously, teachers will have the opportunity to deal with issues that are extremely useful and appealing to themselves, showcasing their individual skills and knowledge to the fullest. Ultimately, this approach will help children develop a critical stance and opinion on issues in their social environment, as they improve their language skills and acquire essential abilities for their future lives, becoming critically thinking adult citizens.

These findings are particularly significant, considering the lack of similar studies related to the teaching of Roma through Multiliteracies. Future studies can illuminate the practices of teachers regarding the utilization of the pedagogical approach of Multiliteracies in classes with Roma students.

A primary limitation of the study is that the sample is derived from only one (among thirteen) educational region of Greece. A second limitation is the relatively small sample size, but this was expected, as a prerequisite for participation in the research was teaching Roma students.

Acknowledgement: *The research is part of a no funding larger project about the problems face Roma students in school in Greece. The first and the third author designed and implemented the research, while the second author contributed to the analysis of the data and assisted in co-authoring theory and research outputs. We would like to thank the teachers who participated altruistically in the research. We also express our gratitude to Mrs. Bovoleti Joanna for editing the translation of the text, as well as to the postgraduate student Mr. Droulias Dimitrios for his valuable ideas and observations.*

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MIŠLJENJA NASTAVNIKA ROMSKIH UČENIKA O ZNAČENJU I UPOTREBI MULTIPISMENOSTI

Apstrakt

Ubrzan finansijski i društveni razvoj stvorio je potrebu da učenici steknu nove veštine neophodne za razumevanje i upravljanje društvenim odnosima i modernim okruženjem. Iako su koncept pismenosti i pristup multipismenosti referentne tačke za nastavu grčkog jezika, postoji njihovo pogrešno tumačenje od strane nastavnika. Dvojezičnost romskih učenika se često ne koristi tokom obrazovnog procesa, iako postoji potreba da nastavnici prilagode svoje nastavne metode potrebama romskih učenika kako bi nastava za njih bila privlačnija. Upotreba multimodalnih sredstava i multipismenosti pomaže u nastavi, uz aktivno učešće učenika, fokusiranje i povećanje njihovog interesovanja. Istraživanje je sprovedeno na uzorku od 105 nastavnika osnovnog obrazovanja u zapadnoj Grčkoj koji predaju ili su u prošlosti predavali romskim učenicima. Koncept multipismenosti i njegova obrazovna upotreba u nastavi ispitivana je korišćenjem odgovarajućeg upitnika. Dobijeni rezultati ukazuju na to da nastavnici u globalu dobro razumeju koncept multipismenosti. S druge strane, pokazuju ograničenu percepciju pojma pismenosti, ignorišu

određene vrste pismenosti i ne shvataju da nastavna primena multimodalnih tekstova nije ograničena na primarni tekst koji se uči, već se proteže na nejezička sredstva, kao i na razne jezičke forme, što ukazuje na očiglednu potrebu za ciljanim stručnim obrazovanjem.

Ključne reči: romski učenici, mišljenje nastavnika, multipismenost



CULTURALLY RESPONSIVE PEDAGOGY IN EDUCATION: AN AGENDA TO PREPARE PRIMARY SCHOOL TEACHERS

UDC 37.091.321

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Abstract. *Over the last decades, as the speed and intensity of globalization are in the foreground and more and more students from diverse backgrounds populate 21st century classrooms, the need of culturally responsive pedagogy seems more than necessary. In this paper, we attempt to present and critically analyze some crucial aspects of culturally responsive pedagogy and to propose an agenda to prepare teachers deal with its requirements. In the first part of our paper, we try to define the meaning of culturally responsive pedagogy, as well as to follow its historical line. In the second part, we try to highlight the importance of culturally responsive pedagogy in every single classroom and pointing out some difficulties which hinder its successful implementation. In the final part of this paper, we propose a holistic framework of essential characteristics and strategies that teachers should adopt and apply, in order to effectively design and implement culturally responsive pedagogy and we close with some tips for further research in this area.*

Keywords: *Culturally responsive pedagogy, teachers, curriculum, strategies, practices*

1. INTRODUCTION

The 21st century is primarily linked with global interconnectedness, the proliferation of information, advancements in technology, and digital transformation (Zorba, 2020). This results in numerous cultural interactions where not just information and messages, but also entire cultures are shared without physical barriers (Koc-Damgaci & Aydin, 2018). People of different «racial» or ethnic origins have increasing amounts of contact with each other (Yang et al., 2014). Consequently, experts in demographics observe that school populations are becoming more diverse in terms of ethnicity, language, and economics (Jackson, 1993). In this perspective, it's evident that conventional teaching methods wouldn't succeed in culturally diverse environments (Richards, 2001). Educators are

Received December 23, 2024/Accepted March 09, 2024

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instructing students from diverse ethnic backgrounds, each with a broad spectrum of abilities, in their classrooms (Green, 2007). So, one must have faith is that teachers should acquire multicultural skills geared towards diverse instruction, leading to improved academic performance among these students (Delpit, 1988). A domain that has emerged within multicultural education literature is culturally responsive pedagogy (CRP) (Brown-Jeffy & Cooper, 2011). CRP asserts that teachers must embrace a non-judgmental and inclusive attitude toward their students' cultural backgrounds to effectively support learning (Brown-Jeffy & Cooper, 2011). The term culturally responsive appears to refer to this dynamic or synergistic relationship between home/community culture and school culture (Ladson-Billings, 2007). Consequently, considerable emphasis has been placed on training teachers to instruct in varied educational environments (Garcia et al., 2010). In this essay, we are going to enlighten some crucial aspects of culturally responsive pedagogy and propose an agenda to prepare teachers deal with its requirements. We consider that establishing positive home – school relationships, developing substantial relations between students and teachers, transforming the curriculum, and becoming cultural literate constitute a holistic framework that teachers should adopt and apply so as to effectively design and implement culturally responsive pedagogy.

2. HISTORICAL LINE OF CULTURALLY RESPONSIVE PEDAGOGY

Culturally responsive pedagogy (CRP) is not a recent development or a fleeting trend. The level of literature on culturally responsive pedagogy has been steadily rising since the mid-1990s, indicating a growing interest in the subject (Rychly & Graves, 2012).

The initial formal endorsement for culturally responsive teaching (CRP) can be traced back to 1928 with the release of the Meriam Report (Prucha, 2000). Its authors advocated for an increase in Indigenous educators, the implementation of early childhood initiatives, and the integration of tribal languages and cultures within educational institutions (Brayboy & Castagno, 2009). As Demmert and Towner (2003) mentioned this report was “a forerunner in the idea that incorporating culturally based education was a necessary component of a school’s culture if Native American students were to succeed academically as students and play a meaningful role as citizens” (Demmert & Towner, 2003, p. 2). In 1930s, we met culturally responsive pedagogy in Vygotsky’s theory (Boon & Lewthwaite, 2015). Since then, his theory promoted the utilization of cultural tools to enhance learning (Boon & Lewthwaite, 2015). These concepts are closely tied to cultural identity and align with Indigenous culture's emphasis on collaborative learning, where the teacher or a more knowledgeable individual facilitates the learning process (Boon & Lewthwaite, 2015).

But these important changes that needed to be made were not widely implemented until three decades later. During the 1960s and 1970s, several crucial laws and federal inquiries were conducted in USA concerning American Indian education, specifically focusing on the involvement of tribal languages and cultures in schools catering to Indigenous youth (Brayboy & Castagno, 2009). Between 1969 and 1975, a series of initiatives seemed to move in this direction. The Indian Education Act of 1972 provided resources and support for establishing programs focusing on tribal culture and language in schools, along with efforts to increase the presence of Native educators. Additionally, the Indian Self-Determination and Education Assistance Act of 1975 encouraged the creation of schools and educational initiatives under tribal control (Demmert & Towner, 2003). The 1980s

were a significant period when the educational anthropology literature saw a surge in works related to culturally responsive teaching, which was referred to by various scholars, like Brown (1980), Deyhle (1986), Greenbaum & Greenbaum (1983), and McLaughlin (1989) (Brayboy & Castagno, 2009). Additionally, the fact that the different educational outcomes of different class, ethnic and cultural groups have become apparent among students in USA schools during the 1980s and 1990s led to a heightened interest in culturally responsive teaching among a diverse group of educators. Researchers from various disciplines including anthropology, psychology, applied linguistics, and sociology further enriched the knowledge base, shedding light on the challenges faced by minority students in educational settings (Brayboy & Castagno, 2009).

In the 1990s, federal laws and reports, such as Executive Order 13096 signed by President Clinton in 1998, were introduced to address the educational needs of Indigenous youth (Clinton, 1998). This order emphasized assessing effective methods for Indigenous students, recognizing the impact of native language and culture on education, and supporting tribal governments in meeting the unique educational requirements of their children (Brayboy & Castagno, 2009). Despite these efforts, a subsequent Executive Order (13337) in 2004 redirected attention towards Indigenous students aligning with the No Child Left Behind Act of 2002, raising concerns among Indigenous communities that schools may be straying from providing an effective, high-quality, and culturally sensitive education for Indigenous youth (Brayboy & Castagno, 2009). Keep going in 2012, the Menzies Institute quietly published *Culturally Responsive Pedagogy (CRP)*, authored by Perso, advocating for informed enhancements in teacher effectiveness specifically aimed at Indigenous students in Australia (Boon & Lewthwaite, 2015).

3. DEFINITION OF CULTURALLY RESPONSIVE PEDAGOGY

To have a clear look it is helpful to begin by clarifying what culturally responsive pedagogy means. At one point CRP is viewed as an expansion of multicultural education within the classroom setting (Zorba, 2020). Specifically, culturally responsive teaching is an educational approach designed to enhance the involvement and enthusiasm of students from diverse backgrounds, particularly those belonging to marginalized communities, who have traditionally faced academic challenges and felt socially disconnected within public schools (Vavrus, 2008). This is one of the most general but direct explanations of CRP focused on the students who do not belong to or conform to the dominant social group (Klug & Whitfield, 2003). Likewise, CRS has been depicted as an approach that establishes a connection between a child's cultural background and the school environment, aiming to enhance learning and academic performance (Pewewardy & Hammer, 2003). Taking a step beyond, Brown (as cited in Bergeron, 2008) defines culturally responsive teaching as the intentional response to the requirements of the culturally and ethnically varied students in classrooms, achieved partly by adopting student-centered approaches and employing pertinent curricula (Bergeron, 2008).

We concur with Geneva Gay, one of the most prominent authors in the field, who defined culturally responsive, as pedagogy that uses the cultural characteristics, experiences, and perspectives of ethnically diverse students as conduits for teaching them more effectively (Gay, 2002). She premises behind this approach is that academic knowledge and skills become more personally meaningful, intriguing, and easier to learn

when they are connected to the real-life experiences and perspectives of students (Gay, 2000). Consequently, the academic performance of students from diverse backgrounds will enhance when they are educated through the lens of their own culture and personal experiences (Gay, 2002). It instructs by focusing on the strengths of these students and operates in a manner that validates and affirms their cultural identities (Siwatu et al., 2016). Concluding, culturally responsive practice involves using teaching methods to advocate for equality and equity in terms of race, ethnicity, language, and economic status for all students (Grant & Asimeng-Boahene, 2006).

4. THE IMPORTANCE OF CULTURALLY RESPONSIVE PEDAGOGY

If students from diverse backgrounds are failing due to cultural disparities in their preferred learning methods and teaching approaches, it implies that an increasing number of students will persistently lag academically (Rychly & Graves, 2012). But even in the face of existing social injustices and unfriendly classroom atmospheres, students have to enhance their academic abilities (Ladson-Billings 1995). Thus, it is evident that a 'new' approach, focusing on teaching students in alignment with their optimal learning methods, needs to be integrated into our classrooms (Rychly & Graves, 2012). So, culturally responsive pedagogy facilitates and supports the achievement of all students (Richards et al., 2007). In a culturally responsive classroom, successful teaching and learning take place within a context that supports cultural diversity and student-centered learning (Richards, Brown & Forde, 2007). This approach involves recognizing, nurturing, and utilizing the strengths that students bring to school, ultimately enhancing their academic performance (Richards et al., 2007). The primary challenge in today's education has to be learning environments that preserve the cultural identity of each child while also boosting their academic achievements (Pluntsog, 1999). As Ladson-Billings (1995) mentions culturally responsive teaching demands that teachers address students' academic requirements instead of simply focusing on making them "feel good" (Ladson-Billings, 1995).

5. DIFFICULTIES OF CULTURALLY RESPONSIVE PEDAGOGY

To implement culturally responsive teaching successfully, it is essential to identify and remove existing beliefs and practices that act as barriers (Gay, 2002). One such obstacle involves teachers potentially lacking understanding of their students' cultural background and real-life experiences (Sleeter, 2001). Studies indicate that when teachers lack familiarity with their students' cultural background and fail to appreciate diversity, it can lead to diminished expectations regarding students' performance (McKown et al., 2010). When students' cultural, «racial», ethnic, and intellectual traits significantly differ from the standard norms of schools, the likelihood of their academic performance being affected by low or negative teacher expectations increases (Gay, 2002). Children from minority backgrounds or low-income families exhibit significant variations from the established norms, leading to unfair teacher attitudes, expectations, and actions directed towards them (Gay, 2002). Unjust and pessimistic expectations create self-fulfilling prophecies, influencing students' underperformance (Good & Brophy, 1994). One prevailing issue that hampers the educational quality for ethnically diverse students in special education is inaccurate assessments and diagnoses (Gay, 2002). There are times that teachers confuse

diversity with disability (Gay, 2002). Heward and Cavanaugh (1993) propose that "a higher percentage of students from culturally diverse backgrounds have been incorrectly identified as disabled (Heward & Cavanaugh, 1993). This occurs due to misunderstandings about differences in attitudes, values, and behaviors between students from non-mainstream «racial», ethnic, and cultural backgrounds and the cultural norms at school (Gay, 2002). These misunderstandings, rather than biological or intellectual limitations, lead to the misdiagnosis and assignment of these students to special education (Gay, 2002). At this point Rachlin (1989) (as it cited in Gay, 2002) raises doubts about the validity of the learning disabilities category, questioning whether it serves merely as a convenient way for educators to remove challenging students from regular educational settings. Similarly, Skrtic (1991) highlights that "a number of definitional and measurement problems, as well as problems related to the will or capacity of teachers and schools to accommodate student diversity" (Skrtic, 1991). Either independently or in combination, these adverse effects can impact the academic achievements of students from minority backgrounds (Milner & Tenore, 2010). In reaction to the repercussions of teachers lacking an understanding of their students' cultural background and failing to appreciate their diversity, experts have advocated for the training of educators who welcome student diversity and possess the ability to teach in culturally and linguistically responsive manners (Lucas et al., 2008). It is essential to offer educators impactful learning opportunities tailored to initiate the deep personal changes necessary for them to become culturally responsive teachers (Phuntsog, 1998). Certainly, we should keep in mind that getting educators ready to instruct students from various economic, "racial", ethnic, social, and linguistic backgrounds stands out as an urgent concern in contemporary teacher education and is expected to remain relevant for the foreseeable future (Villegas & Lucas, 2002). Next, we propose an agenda outlining the fundamental strategies and practices that a teacher, in our opinion, should develop and implement to enhance students' learning in culturally diverse schools.

6. THE FRAMEWORK FOR A CULTURALLY RESPONSIVE PEDAGOGY

6.1. Establishing positive home – school relationships

Based on the literature review, teachers understand the significance of parental assistance in the educational journey. In order to involve students in the process of knowledge building, educators should familiarize themselves with their students' families and communities (Richards, et al., 2007) and be aware of the experience's students have beyond the school environment (Villegas & Lucas, 2002). This approach enables teachers to perceive their students not merely as individuals present in the classroom, but also as social and cultural individuals linked to intricate social and cultural networks (Richards, et al., 2007). Doing this the teacher not only enhanced the ties between the home and school but also communicated to the students that their families possess valuable knowledge and experiences highly regarded by the school (Villegas & Lucas, 2002). These teachers are more equipped to comprehend the students' behavior and attitudes in school and to integrate the wealth of knowledge that these families hold into classroom activities (Moll & Gonzalez, 1997). Furthermore, they can utilize families and communities as valuable resources (Richards, et al., 2007). By understanding their students' hobbies, favorite activities, and accomplishments beyond the school, educators can purposefully integrate

the children's interests, worries, and talents into their teaching methods (Ladson-Billings, 1994). This approach enhances students' motivation to learn (Ladson-Billings, 1994). To support this, at the start of the school year, educators can send a letter home to convey their excitement about welcoming the student into their class and follow up these notes with a telephone call to discuss the student with the parent (Jackson, 1993). Examples of inquiries could include asking parents about the student's strengths, weaknesses, and interests as perceived by them (Jackson, 1993). Teachers can integrate this information into their future lesson planning (Jackson, 1993). They can continue by conducting home visits and seeking guidance from individuals residing in the communities served by the school, beyond just the children's parents or guardians (Villegas & Lucas, 2002). Last strategy involves teachers inviting adults from diverse population groups to visit the class and participate in the educational program (Jackson, 1993). So, culturally responsive teachers bridge the gap between school and the students' homes by adapting instruction to meet the learning needs of all students and providing consistency with the values of students' own cultures (Bergeron, 2008).

6.2. Developing relations between teachers and students

As previously mentioned, to make culturally responsive pedagogy be completely effective, it depends on various qualities possessed by the teacher. An effective culturally responsive teaching focuses on the relations between students and the teacher within the classroom setting. As Nieto (1999) (as cited in Brown-Jeffy & Cooper, 2011), mentioned "the nature and the extent of the relationships between teachers and their students are critical in promoting student learning" (Brown-Jeffy & Cooper, 2011). This topic encompasses the ideas of caring (Gay, 2002), empathy (Rychly & Graves, 2012), personal connections, interaction, classroom climate (Brown-Jeffy & Cooper, 2011) and mutual trust (Jackson, 1993).

Providing caring interpersonal relationships is a hallmark of CRP teachers (Gay, 2000). In literature, the term "caring" doesn't merely mean being "nice" or "kind"; it refers to teachers who refuse to accept underachievement (Rychly & Graves, 2012). According to Gay (2002), caring teachers are individuals who are deeply concerned for their culturally diverse students to the extent that they demand the same standards from them as they do from other students (Gay, 2002). Irvine (2003) (as cited in Rychly & Graves, 2012) employs the term "caring" to refer to individual relationships between students and teachers, as well as the teacher's involvement in the wider community (Rychly & Graves, 2012). In general terms, showing care involves being patient and persistent in teaching students (Brown-Jeffy & Cooper, 2011). Empathy, according to the research by Gretchen McAllister and Jacqueline Jordan Irvine (2002), doesn't seem to be a distinct trait on its own but rather a specific aspect of caring displayed by teachers (McAllister & Irvine, 2002). In particular, empathy signifies the teacher's capacity to view the classroom from the students' standpoint (Rychly & Graves, 2012). A frequently underestimated aspect of a successful classroom is the mutual trust established between teachers and their students (Jackson, 1993). Educators who establish trust manage to instill in their students a sense of confidence and conviction that their efforts in the classroom are meaningful (Jackson, 1993). Focusing excessively on the intellectual aspects of teaching often neglects the emotional aspects (Jackson, 1993). As Jackson (1993) proposed as a strategy to encourage students to explore and present details about their family's cultural heritage (Jackson,

1993). Following the sharing, students assess the information, identifying both commonalities and distinctions (Jackson, 1993).

Continuously, classroom atmospheres that are unwelcoming, hostile, isolating, and tense do not promote optimal learning for ethnically diverse students (Gay, 2002). Thus, teachers need to create a warm and positive classroom environment that enhances students' positive self-perception and eradicates the risk of stereotyping (Yang, et al., 2014). In these classrooms, children understand that they are appreciated, and that the classroom is a secure and encouraging space where they can freely express themselves (Gay, 2002). For this, teachers can adorn the classroom environment to evoke a sense of warmth and encouragement, thus fostering a learning-friendly atmosphere (Yang et al., 2014).

Kleinfeld (1974, 1975), based on the results of her research, mentioned that the teachers who proved most effective were those who showed genuine care and interest in their students while also encouraging and enabling them to achieve high academic standards (Kleinfeld, 1974, 1975). She called these teachers “warm demanders” (Kleinfeld, 1974, 1975). These educators support the learning process, affirm learners' knowledge development, enhance both individual and collective learning abilities (Brown-Jeffy & Cooper, 2011) and extended their caring and connections with students beyond the school (Gay, 2002). Students feel the genuine care of their teachers, and educators acknowledge and value their students both as unique individuals and as members of a cultural community (Brown-Jeffy & Cooper, 2011). So together, students and teachers, establish a classroom community, creating a secure environment to foster the cultural identity of everyone involved (Brown-Jeffy & Cooper, 2011), reduce and challenge cultural bias in classrooms (Phuntsog, 1999).

6.3. Becoming culturally literate

In order to succeed in a diverse classroom, teachers need to cultivate an understanding of cultural diversity (Gay, 2002) and value it (Richards, et al., 2007). The initial stage in culturally responsive teaching involves introspective evaluation of one's attitudes and beliefs regarding instructing children from diverse cultures (Novick, 1996). They need to consider diversity as the standard in society and discard the idea that any group is superior to another (Richards, et al., 2007). Also, educators need to confront their preconceived ideas about the capabilities of students from varied backgrounds in order to overcome the stereotypical underperformance associated with diverse students (Grant & Asimeng-Boahene, 2006). Thus, they must broaden their awareness of sociocultural factors (Banks, 1996). Sociocultural consciousness refers to comprehending that individuals' thoughts, actions, and identity are significantly shaped by elements like race/ethnicity, social class, and language (Banks, 1996). Lacking this understanding, teachers are unable to bridge the sociocultural gaps that often exist between them and their students (Villegas & Lucas, 2002) and cultivate the respect for distinctions and be open to teaching from this viewpoint (Richards, et al., 2007). In this way, culturally responsive teachers will have to assume responsibility for becoming at least biculturally and if possible multiculturally aware (Jackson, 1993), utilizing students' culture as a vehicle for learning (Ladson-Billings, 1995).

Culturally responsive teaching employs the cultural understanding of diverse students to tailor the learning experience to their needs (Gay, 2000). Culture encompasses many things (Gay, 2002). So, teachers need to learn about their students' language, interactional

style, learning styles, values (Jackson, 1993), traditions, communication, contributions, and relational patterns (Gay, 2002) respect them and then uses them as resources for teaching and learning (Yang, et al., 2014). This information constitutes the first essential component of the knowledge base of culturally responsive teaching (Gay, 2002). Teachers must possess a knowledge that surpasses mere acknowledgment, respect, or general understanding of the fact that ethnic groups hold different values or express similar values in diverse manners (Gay, 2002). Hence, the second prerequisite for constructing a knowledge base for culturally responsive teaching involves obtaining specific information for the cultural intricacies of distinct ethnic groups (Gay, 2002). They should develop their understanding and skills in multicultural awareness and action (Yang, et al., 2014).

They should openly and positively engage with students, sharing the cultures of various ethnic groups and actively listening to the cultural perspectives and emotions of students from diverse backgrounds (Yang, et al., 2014). Delpit (1988) suggests that teachers employ ethnographic methods to understand their culturally diverse students better (Delpit, 1988). These methods could involve observing students outside of school settings, such as visiting community churches, conversing with community leaders, and conducting home visits (Jackson, 1993). This knowledge is essential for creating a more engaging, stimulating, and inclusive educational experience tailored to the needs of ethnically diverse students (Gay, 2002). So, the last ones can gain a deeper comprehension and appreciation for their own culture, while also contributing to the preservation of their cultural heritage (Yang, et al., 2014).

6.4. Transforming the curriculum

Present attention in the field of education is directed toward crafting curricula and classroom teaching methods that cater to the unique cultural backgrounds and varied experiences of individual students (Bergeron, 2008). This is because existing research indicates that the prevalence of a single cultural perspective in schools has led to biases in shaping educational content and institutional policies, negatively impacting the academic success of students from diverse cultural and linguistic backgrounds (Richards, et al., 2007). Educators, serving as the crucial connection between the educational institution and students, should actively engage in the process of reshaping the education system to make it more inclusive (Richards, et al., 2007). Teachers who are culturally sensitive possess the ability to assess both the strengths and weaknesses of multicultural elements in curriculum designs and teaching materials. They can then implement necessary changes to enhance the overall quality of education (Gay, 2002). Culturally responsive teachers must address common patterns in how formal school curricula handle ethnic diversity (Gay, 2002). Some of these trends include sidestepping contentious topics like racism, historical injustices, power imbalances, and dominance; repeatedly spotlighting a select few prominent individuals while overlooking collective efforts; disconnecting women from their «racial» and ethnic backgrounds and the issues they face; neglecting poverty-related issues; and prioritizing factual data while downplaying other forms of knowledge, such as values, attitudes, emotions, experiences, and ethics (Gay, 2002). Revamping the curriculum in these ways unquestionably fosters social justice and equality in society (Ladson-Billings, 1995).

Therefore, a culturally sensitive curriculum enables students to draw from their familiar cultural background (Menchaca, 2001) and leveraging the diversity of their life experiences

(Bergeron, 2008). It also makes it easier for people to relate new knowledge to their personal experiences (Menchaca, 2001). This curriculum offers a suitable educational pathway that is beneficial and conducive for all students (Nichols et al., 2000) as it contributes to the improvement of their critical thinking abilities (Ladson-Billings, 1995).

Indeed, it is evident that educators must consider students' diverse cultural backgrounds when creating curriculum, devising teaching methods, and choosing educational resources. This approach is essential for enhancing students' engagement and academic success (Yang et al., 2014). Brayboy and Castagno (2012) emphasized the importance of diverse curriculum materials that are not only directly related to students' lives but also serve as a gateway to fundamental subjects they will be required to grasp in higher grades (Brayboy & Castagno, 2012). In the same context, Banks (as cited in Jackson, 1993) encourages educators to create teaching materials that resonate with students and capture their interest (Jackson, 1993). Educators should try to utilize textbooks and design bulletin boards that are culturally responsive and supportive of their students, as much as possible (Richards et al., 2007). If the textbooks and instructional materials provided by the school reinforce stereotypes or do not adequately portray diverse groups, teachers need to complement the instruction with resources that are inclusive and depict individuals from various backgrounds with sensitivity (Richards et al., 2007). Examples include the content displayed on bulletin boards, depictions of heroes and heroines, books used in teaching, and publicly exhibited statements related to social behavior, rules, ethics, and accomplishments (Gay, 2002).

Furthermore, an educationally sensitive curriculum presents alternative scenarios to those outlined in textbooks (Nichols et al., 2000). It should encompass details about the histories, cultures, contributions, and experiences of various ethnic groups across all subjects (Gay, 2002). If there is a mismatch between the cultural context of school texts and students' understanding of the content, it can hinder students' ability to grasp essential information (Nichols et al., 2000). To address this, a broad range of examples, scenarios, and vignettes representing diverse ethnic and cultural backgrounds should be incorporated to illustrate and exemplify the concepts, principles, skills, and ideas being taught (Gay, 2002). Additional methods to support culturally sensitive curriculum involve implementing thematic units, inquiry-based science lessons, firsthand narratives, collaborative research in groups, allowing students to choose their reading materials, and organizing book clubs (Bergeron, 2008). The teacher should update the course syllabus to incorporate readings that offer a multicultural viewpoint (Howard-Hamilton, 2000). This can be achieved by offering an additional list of readings and choosing texts that seamlessly integrate women and individuals of diverse backgrounds into the core content, rather than treating them as supplementary (Howard-Hamilton, 2000). Similarly, students should be encouraged to explore their own thoughts and questions through journal writing. Allowing them to raise and answer their queries fosters self-discovery, enabling them to find their unique voices and interpret classroom learning in a personally meaningful way (Howard-Hamilton, 2000).

Following Ho's perspective (2005) (as cited in Yang et al., 2014), it is crucial for teachers to design the curriculum considering the appropriate knowledge and skills aligned with children's chronological and cognitive development. Additionally, teachers should adjust the curriculum and activities based on the children's progress and challenges they encounter (Yang et al., 2014). By doing so, a valuable multicultural approach becomes an essential element of culturally sensitive teaching methods (Gay, 2002).

7. CONCLUSION AND RECOMMENDATIONS

In conclusion, the imperative shift towards culturally responsive pedagogy (CRP) is a recognition of the evolving educational landscape characterized by increased diversity in student populations. As educators grapple with the challenges and opportunities presented by culturally diverse classrooms, the adoption of CRP emerges as a holistic framework to bridge the gaps between traditional teaching methods and the needs of an interconnected and varied student body. By adopting these strategies, teachers can enhance students' learning experiences in culturally diverse schools, addressing the challenges and promoting equal educational opportunities for all. Implementing these practices not only aligns with the principles of CRP but also contributes to building an inclusive and culturally responsive educational environment.

What we have presented here is a conceptual framework of culturally responsive pedagogy. We note that the proposed strategies are not a cure-all, nor are they the only ones. There is much more to know, think, and do. A next step could involve interviews with educators to further explore practices they might be using in practice to teach students from different cultural backgrounds. Going even further, we would conduct observations in school classrooms to ascertain whether the practices we propose, if implemented by teachers, indeed contribute to the teaching of diverse students.

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KULTUROLOŠKI ODGOVORNA PEDAGOGIJA U OBRAZOVANJU: AGENDA ZA PRIPREMU NASTAVNIKA U OSNOVNIM ŠKOLAMA

Apstrakt

Tokom poslednjih decenija kada je brzina i intenzitet globalizacije u prvom planu i kada sve više učenika iz različitih sredina naseljava učionice 21. veka, potreba za kulturološki odgovornom pedagogijom čini se više nego neophodnom. U ovom radu pokušaćemo da predstavimo i kritički analiziramo neke ključne aspekte kulturološki odgovorne pedagogije, kao i da predložimo agendu za pripremu nastavnika u skladu sa njenim zahtevima. U prvom delu rada definišemo značenje kulturološki odgovorne pedagogije i ukazujemo na njen istorijski razvoj. U drugom delu ističemo značaj kulturološki odgovorne pedagogije i njenu primenu u svakodnevnoj praksi u učionici i ukazujemo na poteškoće koje ometaju njenu uspešnu implementaciju. U završnom delu rada dajemo predlog holističkog okvira suštinskih karakteristika i strategija koje nastavnici treba da usvoje i primene kako bi efikasno osmislili i implementirali kulturološki odgovornu pedagogiju i neke implikacije za dalja istraživanja u ovoj oblasti.

Ključne reči: Kulturološki odgovorna pedagogija, nastavnici, kurikulum, strategije, praksa



A REVIEW OF THE LGBTQ+ STUDIES IN TÜRKİYE: A GLIMPSE AT EDUCATIONAL RESEARCH

UDC 342.726-055.3(560)

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Abstract. *Türkiye is a constitutionally secular country with a dominantly Muslim population. Although it is not a crime to have non-binary sexual orientations, LGBTQ+ citizens have serious problems in benefiting equally from the basic rights in healthcare, education, housing and employment. In this research, I aimed to review the general situation of LGBTQ+ research in Türkiye, and scrutinize the educational research in detail. I applied narrative research review, and used 11 online academic research platforms as BASE, EbscoHost, OVID, ProQuest, PubMed, Science Direct, Scopus, Web of Science, Wiley Online Library and ULAKBİM-TR Dizin. In the search process, I primarily employed the keywords “LGBT” and “Turkey” (or Türkiye) along with the other terms representing non-binary sexual and gender orientations. I screened 2950 records and included 96 full texts according to availability as full text in English or Turkish, categorization as original research, reviews, or meta-analyses. The results show that the LGBTQ+ research literature in Türkiye has investigated a wide array of topics, and created a rich literature discussing LGBTQ+ rights, their religious beliefs, court cases reflecting their legislative conditions, media representations etc. However, in a total contrast with the picture in other disciplines, LGBTQ+ research in education settings is very limited, resulting in a huge drawback in understanding the educational experiences of LGBTQ+ citizens. The extant educational research provides a limited but valuable insight in the important issues such as the discrimination LGBTQ+ teachers and academics experience, the life of a gay student in a university, prospective teachers’ homophobic attitudes, the effect of multicultural education on the teachers’ LGBTQ+ attitudes. In conclusion, the educational researchers in Türkiye are recommended to attend more carefully into the conditions of sexual minority members, in order to contribute to the research literature that is in short supply now, but required to be enriched soon for making correct educational policy decisions.*

Keywords: *LGBTQ+, research literature, Türkiye*

Received December 23, 2023/Accepted March 05, 2024

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1. INTRODUCTION

Even if it has been 50 years since homosexuality was taken out of American Psychiatric Association's Diagnostic and Statistical Manual of Manual Mental Disorders (1973), and has been 33 years since World Health Organization removed homosexuality from the International Classification of Diseases (Costa, Bandeira & Nardi, 2013), there are various challenges for the LGBTQ+ individuals to thrive in equal rights and freedoms. LGBTQ+ individuals face several discriminations in almost everywhere (Bayrakdar & King, 2023), discriminations affect these individuals negatively in health (Nama, MacPherson, Sampson & McMillan, 2017), housing (Romero, Goldberg & Vasquez, 2020), education (Fields & Wotipka, 2022), and employment (Sears & Mallory, 2014). According to the European Commission (2015) LGBTQ+ issues has become one of the main topics of the political agenda and social reform across the globe. However, the most remarkable characteristic for the current situation of the LGBTQ+ society is the fact that their conditions, rights and problems differ hugely in different countries, regions and contexts. In some countries the debates on the rights and freedoms of the sexual minorities have a longer history and as a result significant progress has been made, while in some others (e.g. Iran) non heteronormative sexual tendencies and preferences are criminalized. In some contexts the condition differs from region to region, from city to city. That is, national, religious or regional settings are of great importance in the LGBTQ+ rights and liabilities discussions. The knowledge produced about the LGBTQ+ has a very small reflection on the debates and/or policies except from the non English speaking world or the academic settings. Especially in the developing and under developed countries, it is more probable for sexual minorities to be the victim of severe discrimination. One of the most discriminative settings for the LGBTQ+ people are schools/other educational institutions in which they can access and and taste their basic educational rights.

1.1. LGBTQ+ Students at Educational Settings

Similar to various realm of life as employment, housing and health, LGBTQ+ youth worldwide are deprived of exercising their educational rights truly because of different reasons. As Munoz-Plaza, Quinn and Rounds (2004) indicated LGBTQ+ youth faces extreme instances of discrimination at school settings, and suffers a variety of health concerns and social struggles ranging from suicidal thoughts and suicide attempts, drug abuse, homelessness to academic failure. Having a comprehensive discussion about the sexual minorities at educational settings is a matter of great significance, since discrimination and bullying have serious effects on the student success (European Union Agency for Fundamental Rights, 2014). Schools are critical micro environments for creating changes in sexual biases, marginalization and suppression (Kosciw, Greytak, Zongrone, Clark, Truong & Gay, 2018). Heterosexism induced by the schools creates safety, security, resource and humanforce deficiency (Stargell, Jones, Akers & Parker, 2020). The feelings of unsafe at school can influence the variables as school attendance which might have direct effect on success. Figure 1 shows the LGBTQ+ students' missing days from the school in 30 days because of feeling unsafe or uncomfortable.

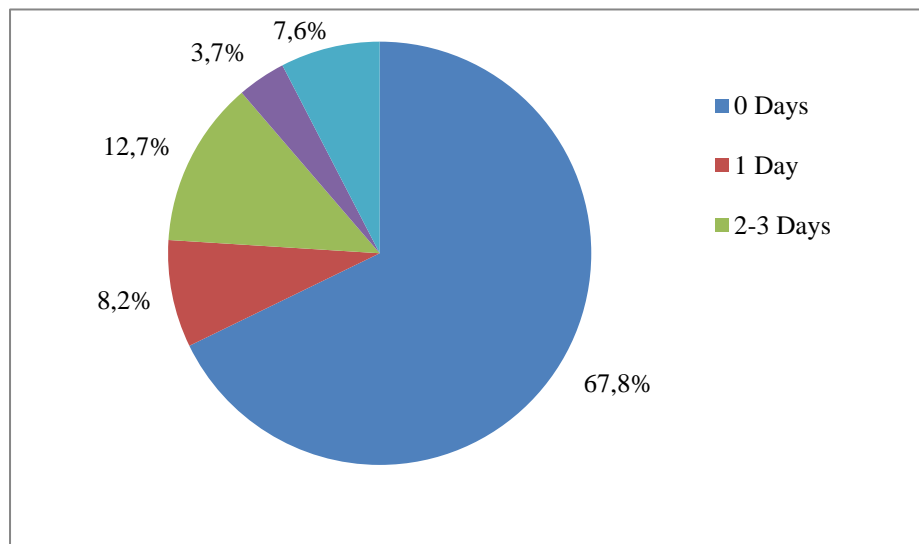


Fig. 1 Frequency of Missing School Days in the Past Month Because of Feeling Unsafe or Uncomfortable (GLSEN, 2021)

As seen in Figure 1, more than 30% of the LGBTQ+ students missed the school days because they felt unsafe and uncomfortable (Koswic, Clark & Menard, 2022). While this situation is a sign of need for an inclusive approach to sexual minority students in educational settings, a majority of the schools lack clear and efficient harassment policies especially against the LGBTQ+ students (Meyer, 2010). According to Higgins et al. (2019) because of different reasons as cultural norms and religious beliefs educators, educational methods, and curriculum ignore the LGBTQ+ issues, or even worse exhibit negative attitudes towards them.

Schools and teachers designed to spread the social norms have an immense effect on the student attitudes and perspectives about the non heteronormative preferences (De Witte, Iterbeke & Holz, 2019). Frequently victimized by bullying and harassment, LGBTQ+ students are hesitant in reporting the cases and getting help from the school staff. According to GLSEN 2021 National School Climate Report the 69.6% of the bullied and harassed LGBTQ+ students believes that the school staff would do nothing, or they wouldn't intervene in properly or efficiently (60.6%) when they are informed about the cases. Even more, 28.7% of the students participated in the thinks that school staff themselves were transphobic/homophobic, too. A big portion of the pupils who reported the harassment cases indicated that the school staff advised them to just "ignore the situation". In some cases the abuser might be directly the school staff like teachers or principals.

1.2. Turkish Context

Türkiye is a constitutionally secular country with a dominantly Muslim population. Although it is not a crime to have non-binary sexual orientations and identities, like in

many other countries, LGBTQ+ citizens have serious problems in benefiting equally from the basic rights in healthcare, education, housing and employment. According to Sertoğlu (2021) from early stages of their lives, LGBTQ+ children, are systematically ignored, rejected, excluded, marginalized, demeaned, pressured to conform to norms, and subjected to discrimination in almost every aspect of societal life. In fact, the European Region of the International Lesbian, Gay, Bisexual, Trans, and Intersex Association (ILGA-Europe) ranked Türkiye near the bottom of the index on LGBT equality; at position 48 out of 49 countries (ILGA Europe, 2022). De Witte et al. (2019) argue that heavily influenced by conservative and religious values, the Turkish government is not willing to create legislation against discrimination and human rights violations based on sexual orientation and identity. Homosexuals do not have the right to enter in a registered partnership, marry, adopt children as a couple, or serve in the military. Even though it is a requirement to protect LGBTQ+ rights for long awaited EU membership, sexual minorities are targeted by state and non-state repressive campaigns (Acconcia, Perego & Perini, 2022). Accordingly, homosexual individuals in Türkiye are not protected legally and face physical and social violence, in both public and private spheres, as a whole empirical studies indicate negative attitudes towards homosexuals among the population (Yılmaz & Göçmen, 2016).

In Turkish educational settings, non-binary orientations are often regarded as taboo and to this date, are not addressed in the classroom settings (Ördem & Ulum, 2020). KAOS-GL Hate Crimes Report of 2013 indicates that at schools LGBTQ+ students face discrimination, assaults and bullying both from their peers and teachers. In one of the rare studies on the educational experiences of the LGBTQ+ people in Türkiye, it was observed that 82.3% of the participants didn't find their current/previous schools safe for the LGBTQ+ students. 59.7% of them agreed that their schools, either current or previous, were not safe for the heterosexual people who support the LGBTQ+ rights. 57% of the participants reported that in their past school lives they were generally the address of the assaulting language from their peers. While 81% were harassed and bullied in different frequencies, 46% of them had been the victim of harassment or bullying for more than four times (Çavdar & Çok, 2016). In educational contexts, the studies shows that not only the students but the educators can be the target of such mistreatments and the LGBTQ+ educators face various biases and challenges regarding their sexual orientation or identity (Taşkın, Nayır & Demirdiş, 2022).

The lack of comprehensive information about LGBTQ+ students has been the primary inspiration of this study. In line with this cause, the general aim of this research is to present the current state of the LGBTQ+ research and provide a deeper insight into educational research on the LGBTQ+ issues in Türkiye, in which it can be a challenge to discuss, support or research non heteronormative sexual orientations and identities because of cultural and religious reasons. In this frame, the research questions of this study are;

1. What are the main characteristics of the research literature on the LGBTQ+ people in Türkiye?
2. What are the main characteristics of the educational research literature on the LGBTQ+ people in Türkiye?

2. METHOD

The methodology deployed was a narrative literature review, which is a comprehensive, critical and objective analysis of the current knowledge on a topic and helps to shed light on the gaps in the literature. Although the presentation of the results has resemblances with a scoping review, it cannot purely a scoping review as the researcher didn't start the process with a predefined protocol but just with an idea. So, one may call this study as a mixed literature review method, benefiting from the processes of narrative and scoping review. During the review process 11 online academic research platforms as BASE, EbscoHost, OVID, ProQuest, PubMed, Science Direct, Scopus, Web of Science, Wiley Online Library and ULAKBİM-TR Dizin were used. The first 10 databases were selected in accordance with Gusenbauer and Haddaway's (2020) article examining the qualities of 28 widely used academic search systems, and ULAKBİM-TR Dizin was added to the list as it is the high quality Turkish database. In the search process, the researcher primarily employed the keywords "LGBT" and "Turkey" (or Türkiye) in Turkish and English Languages along with the other terms representing non-binary sexual orientations and identities. The search terms used in English are listed in Figure 2.

<p>Turkey/Türkiye/Turkish and LGBT/LGBT+/LGBTQ+/lesbian/gay/bisexual/trans/transgender/homosexual/ homosexuality and education/school(s)/teacher(s)/student(s)/principal(s)/higher education/academic/lecturer(s) and/or Heteronormativity/cisnormativity/homophobia/transphobia</p>
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Fig. 2 Search Terms

With the terms in Figure 2, 2 950 records were screened. The criteria for the articles to be included in this study were (1) availability as full text in English or Turkish, (2) to be categorised as original research, reviews, and meta-analyses. The screening excluded thesis, reports, and book chapters and included the articles only from the scientific journals (with a review process). No time period was applied to either include or exclude the studies. Database screening was completed on 31 October 2023. Titles and abstracts were reviewed to verify these criteria. If all inclusion requirements were present or if they remained unclear, the articles were fully read. In case the full text didn't have all requirements were present, the paper was excluded.

An article pool with 96 articles, 27 of which were listed as either educational research/research in an educational setting were created on Mendeley Reference Management Program. On the Microsoft Excel program, the articles were coded on a code table, with seven codes as: 1. *Authors*, 2. *Date of Publication*, 3. *Nationality of the Authors*, 4. *Discipline*, 5. *Research (Sample/Subject) Location*, 6. *Research Method – Design – Technique*, 7. *Variables/Main Themes* and for the focus of educational research, 8. *The role of the LGBTQ+ individuals* was added as the subject or object of the research. The results were analyzed with the frame of these codes. The code for the nationality of the authors

may sound like an irrelevant criteria to some, but during the screening process the researcher noticed that a significant portion of studies on this sensitive topic was conducted by the Turkish expats or with collaborations among non Turkish, Turkish and Turkish expat researchers. The researcher aimed to scrutinise the role of the LGBTQ+ individuals in the articles by coding as the LGBTQ+ as the subject or object of the research.

3. FINDINGS

Table 1 summarises the 69 selected studies, which were based on quantitative and/or qualitative research including reviews, and conducted in Türkiye and along with different countries, namely: Belgium, Botswana, Burundi, Egypt, Finland, Holland, India, Indonesia, Iraq, Israel, Italy, Jamaica, Mongolia, Serbia, Southern Cyprus, the Philippines, Rwanda, Tunisia, the UK, and the United States, Uganda, Ukraine, 57 member states of the Organization of Islamic Cooperation. The researchers employed in Turkey conducted 39 of the selected studies, and co-authored six of them. The rest (n: 25) was conducted by the Turkish expats and non-Turkish researchers. It was observed that the LGBTQ+ research in Türkiye didn't have a long history, as the earliest study was published in 2010 by non-Turkish researchers (Austin, Johnson & Wojcik, 2010) comparing supreme court decisions in 12 countries on discrimination of sexual minority groups. 2022 has been the most prolific year in terms of research number on the topic. There is a rising trend in the number of publications year by year. The studies covered a range of disciplines; however Health Sciences (including Nursing and Medicine Ethics) has the biggest proportion (n: 17), and followed by Sociology (including Social Work, Social Anthropology and Social Geography) (n: 13), Gender Studies (including women studies and feminist studies) (n: 8), Psychology (n: 8), and Political Sciences (n: 7). In terms of the methodological approach the researches deployed; the 21 studies applied quantitative methods (scale development, bibliometric analysis, experimental design, quasi-experimental design, descriptive, comparative, correlational and causal designs) with the sample sizes ranging from n = 18 to n = 6.600 participants. While none of the studies employed mixed-method, the qualitative studies (n: 31) had a wide range of different designs (case study, grounded theory, ethnography, field research, phenomenology, semiotic-analysis), and reviews (critical, literature and systematic) had a significant diversity, as well.

Table 1 Selected Studies Representing the LGBTQ+ Research Scope in Türkiye

Author(s) – Date	Nation ¹³	Discipline	Research (Sample/Subject) Location	Research Method – Design – Technique – Sample size	Variables/Main Themes
1. Acconcia, Perego & Perini, 2022	NT	Sociology	Egypt, Tunisia and Türkiye	Qualitative (Case Study) 44 semi-structured interviews	LGBTQ+ mobilizations, activism
2. Akgül & Güneş, 2023	T	Business and Economics	Türkiye	Qualitative (Grounded Theory) 36 semi-structured interviews	Minority Stress, internal customer performance
3. Aksoy, Carpenter, Haas, Dolls & Windsteiger, 2023	TE+NT	Politics and Management	Serbia, Türkiye and Ukraine	Quantitative (Experimental design) Sample size: 6,600	Information treatments, equal employment opportunities, attitudes
4. Altay, 2022	TE	Gender Studies	Türkiye	Qualitative (Ethnography) 20 in-depth and semi-structured interviews	COVID 19, Queer strategies of everyday life
5. Atalay & Doan, 2020	TE+NT	Gender Studies	Türkiye	Qualitative Document analysis, 5 in-depth interviews	Queer spaces, space making, space of activism
6. Austin, Johnson & Wojcik, 2010	NT	Law	Botswana, Burundi, India, Indonesia, Iraq, Jamaica, Uganda, Mongolia, USA, Philippin Rwanda, and Turkey	Qualitative Report Reviews	Supreme court decision, discrimination
7. Aydın & Özeren, 2019	T	Management	Türkiye and UK	Qualitative 40 semi-structured interviews	Inclusion and exclusion at work, in politics, in LGBT organisations
8. Ayten & Anık, 2014	T	Theology	Türkiye	Qualitative 30 semi structured interviews	Religiosity/spirituality, religious coping, God representation
9. Baba, 2011	T	Gender Studies	Türkiye	Critical Review	Heteropatriarchal family, homosexual parenting
10. Ben-Porata, Filca, Ozturk & Ozzano, 2023	NT+TE	Politics	Israel, Italy and Türkiye	Critical Review	Right wing parties, politics of family values
11. Beydağ & Alp-Dal, 2022	T	Health Sciences	Türkiye	Quantitative (Descriptive, comparative), 375	Nursing students parents' homophobia
12. Boyacıoğlu, Dinç, Özcan & Şahin, 2020	T	Health Sciences	Türkiye	Quantitative (Descriptive, Comparative) Sample size: 436	LGBT+ sexual and mental health, heterosexuals sexual and mental health
13. Çakırlar, 2017	TE	Visual Arts	Türkiye	Qualitative 3 Documentaries	LGBTQ politics, identity formation

¹³ The nationality code was used to identify if the researchers were employed at a university in Türkiye (T: Turkish), were foreigners studying Türkiye/Turkish LGBTQ+ citizens as subject (NT: Non-Turkish), were Turkish expats employed abroad (TE: Turkish Expat).

14. Çiçek, Turanlı ve Sapanlı, 2017	T	Psychology	Türkiye	Quantitative (Scale development) Sample size: 220	Alienation, excessiveness, disease, attitude scale
15. D'Amico & Nardocci, 2016	NT	Law	Finland and Türkiye	Qualitative 2 court cases	Transgender rights, European Convention, court cases
16. Duyan, 2022	T	Radio, Television and Cinema	Türkiye	Critical Review	Social media, queer celebrities, Muslim references
17. Engin, 2015	TE	Political Sciences	Türkiye	Qualitative Speech analysis, 25 semi-structures interviews	Trans-individuals experience, state discriminatory policies
18. Erdoğan & Köten, 2014	T	Sociology	Türkiye	Critical Review	Social movements, class, proletarianized new middle class
19. Ergin & Gökşen, 2023	T	Sociology	Türkiye	Quantitative (Descriptive, Causal) Sample size: 1893	Moral boundaries, religiosity, public morality, mistrust toward sexual minorities
20. Faizin, Mansur & Abdillah, 2021	NT	Political Sciences	Türkiye	Qualitative in-depth interviews, literature studies, focused groups discussion	Islamist parties, human rights, legislation
21. Görkemli, 2012	TE	Sociology	Türkiye	Critical Review	Internet as a closet, coming out, lesbian and gay activism
22. Güleç, Torun, Prado, Bauer, Rummel-Kluge & Kohls, 2022	TE+T +NT	Psychology	Türkiye	Quantitative (Descriptive, causal) Sample size: 440	Mental health, eating attitudes, symptoms, sexual minority stressors
23. Güvendik, 2018	T	Gender and Women Studies	Türkiye	Qualitative (Document/Speech Analysis)	Queer Turkish musicians, hetero normativity
24. Hunt, et. al., 2023	NT	Health Sciences	Türkiye	Systematic Review	Social inclusion, mental health
25. İnce-Yenilmez, 2017	T	Gender Studies	Türkiye	Critical Review	Lesbians, discrimination, policy, sociopolitical attitudes
26. İnce-Yenilmez, 2020	T	Gender Studies	Türkiye	Qualitative (Systematic review) 21 articles	Discrimination in employment, at the workplace, in health, in public service, by the government
27. Kabasakal-Arat & Nunez, 2016	TE+NT	Sociology	Türkiye	Critical Review	Tolerance, laws, protection
28. Kamasak, Özbilgin, Baykut & Yavuz, 2020	T+TE	Organizational Management	Türkiye	Qualitative 11 Semi-structured interviews	Intersectional hostility, intersectional struggle, adjustment and intersectional solidarity
29. Kara, 2022	T	Social Work	Türkiye	Qualitative (Phenomenology) 17 semi-structured interviews	Discrimination, coming-out, self-disclosure, violence.

30. Kara, 2023	T	Social Work	Türkiye	Quantitative (Quasi-experimental) Sample size: 18	Ecology-based group work, well-being, stress, anxiety
31. Kara & Duyan, 2022	T	Social Work	Türkiye	Quantitative (Quasi-experimental) Sample size: 20	Emotion-based group work, psycho social functioning, need for affect
32. Kara, Karataş & Duyan, 2023	T	Social Work	Türkiye	Qualitative (Phenomenological) 19 semi-structured interviews	COVID 19, sexuality
33. Karakaya & Kutlu, 2020	T	Psychiatric Nursing	Türkiye	Qualitative, (Phenomenological) 18 semi-structured interviews	Health care experiences, awareness, status of benefiting from health care
34. Kaya & Calpbiniçi, 2021	T	Nursing	Türkiye	Quantitative (Descriptive, causal, comparative) Sample size: 184	LGBTQ experiences, homophobia, healthcare
35. Keçeci, Keçeci & Kanlı, 2019	T	Art	Southern Cyprus	Qualitative (semiotic analysis) Three graffiti	LGBTI, protest communication, graffiti
36. Keleş, Kavas & Yalım, 2018	T	Medicine Ethics	Türkiye	Qualitative 55 semi-structured interviews	Access to healthcare, stigmatizing and segregating
37. Keleş, Yılmaz-Özpolat, & Yalım, 2020	T	Medicine Ethics	Türkiye	Qualitative 35 in-depth interviews	Discrimination, access to mental healthcare services
38. Koç & Vignoles, 2016	TE+NT	Psychology	Türkiye	Quantitative (Causal) Sample size: 219	Global identification, gay–male identity integration, subjective well-being, alternative masculinity representations
39. Koçak, 2020	TE	Social Anthropology	Türkiye	Critical Review	Queer refugees, queer migration, UNHCR policies, fake cases
40. Kumpasoğlu, Hasdemir & Canel-Çınarbaş, 2022	T	Psychology	Türkiye	Qualitative 12 semi-structured interviews	Relationship with Islam, conflict, coping mechanisms
41. Kurnaz, 2020	T	Law	Türkiye	Critical Review	Turkish Constitutional Court, ECHR, homophobia
42. McClain & Wright, 2016	NT	Law	Türkiye	Critical Review	Discrimination, violence, equality struggles
43. Mermer, Yılmaz & Öncel, 2021	T	Nursing	Türkiye	Qualitative 25 in-depth interviews	Sexual minority problems, sexual identity, stigma
44. Muehlenhoff, 2019	NT	Political Science	Türkiye	Critical Review	EU, neoliberalism, depoliticization, LGBT Rights
45. Mumcu, 2023	T	Philosophy	Türkiye	Critical Review	Hate crimes, tolerance, philosophical perspective
46. Nazlıpınar Subaşı, 2022	T	Literature	Türkiye	Analysis of <i>Sexing the Cherry</i>	Fluid identities, assigned sex, gender roles, phallogentrism

47. Nuhurat, 2022	T	Sociology	Türkiye	Qualitative (Fieldwork)	Linguistic taboo, homophobia, women football team
48. Oktay, Boğan, Sabak, Sultanoğlu & Narcı, 2021	T	Health Sciences	Türkiye	Quantitative (Descriptive, comparative) Sample size: 151	Emergency departments, homophobia, LGBT experiences
49. Orta & Camgöz, 2018	T	Psychology	Türkiye	Literature Review 35 articles	Homophobic attitudes, LGBT perceptions, scale development, research trends
50. Oz, Yanik & Batu, 2023	TE+T	Communication	Türkiye	Qualitative 20 semi-structured interviews	Social media activism, culture, politics
51. Ozbilgin, Erbil, Baykut & Kamasak, 2022	TE+T	Organizational Studies	Türkiye	Qualitative 14 semi structured interviews	Passing and coming out, variants of passing
52. Savcı, 2016	TE	Political Sciences	Türkiye	Critical Review	Islam, national belonging, homosexuality, Muslim head scarf activists, post-secularism
53. Savcı, 2021	TE	Gender Studies	Türkiye	Critical Review	Perception of Islam, Western neocolonialism, burdens and challenges of studying LGBT, epistemological challenges
54. Sezer & Oktan, 2020	T	Gender Studies	Türkiye	Quantitative (Comparative, causal) Sample size: 245	Loneliness, life satisfaction and social adjustment
55. Şahin, Aslan & Emiroğlu, 2020	T	Health Sciences	Türkiye	Quantitative (Descriptive) Sample size: 140	Health status, access to healthcare
56. Taslim, Ahmad, Ur Rehman, Alghamdi, Alkatheri, Iqbal & Jbeen, 2022	NT	Health Sciences	57 member states of the Organization of Islamic Cooperation	Quantitative (Bibliometric analysis) 106 articles	Muslim countries, transgender research
57. Taşkiran Eskici, Alan, Eskin Bacaksız, Gümüş, Çakır, Harmancı, 2021	T	Health Sciences	Türkiye	Quantitative (Descriptive, correlational) Sample size: 626	Homophobic attitudes, discriminatory attitudes
58. Tüzün, Başar & Akgül, 2022	T	Psychology	Türkiye	Quantitative (Descriptive, causal) Sample size: 49	Transgender youth, COVID 19, anxiety, depression, social connectedness and support
59. Ul, 2021	T	Literature	Türkiye	Qualitative 15 Books	Publishing houses as cultural agents, queer theory, cultural repertoire

60. Ummak, Demirtaş, Pope & Moe, 2023	TE+NT	Psychology	Belgium and Türkiye	Quantitative (Comparative, causal) Sample size: 559	Minority stress theory, internalized heterosexism, life satisfaction
61. Uysal, Uluğ, Kanık & Aydemir, 2022	TE+T	Psychology	Türkiye	Quantitative (Descriptive, causal) Sample size: 1065	Heterosexual feminist women, feminist identification, support for solidarity based collective action
62. Uysal-Toraman, Agartioğlu Kundakci & Sahin, 2020	T	Health Sciences	Türkiye	Quantitative (Descriptive, comparative, correlational) Sample size: 192	Homophobic attitudes, LGBTQ experiences
63. van Gent, Brugman & de Craene, 2023	NT	Social Geography	Holland (Turkish-Dutch and Moroccan-Dutch non-heterosexual cismen)	Qualitative 17 semi-structured interviews	Homonationalism, islamaphobia, racism, intersectionality
64. Yabancı & Sağlam, 2023	TE+T	Political Science	Türkiye	Qualitative (Field research)	Right-wing populism, civic groups, negotiated conformism
65. Yasin, Çebi & Şapçı, 2018	T	Health Sciences	Türkiye	Quantitative (Descriptive) Sample size: 278	Health status, access to health services
66. Yılmaz, Irmak & Oskay, 2021	T	Health Sciences	Türkiye	Qualitative 18 semi-structured interviews	Coming out, reactions
67. Yılmaz & Göçmen, 2021	T+TE	Social Policies	Türkiye	Qualitative 14 focus group interviews – 139 participants	Housing, health care, employment
68. Yolaç & Meriç, 2021	T	Health Sciences	Türkiye	Quantitative (Descriptive, correlational) Sample size: 110	Internalized homophobia, depression
69. Zengin, 2019	TE	Social Anthropology	Türkiye	Qualitative (Ethnography)	Transgender Muslim funerals

As seen in Table 1, LGBTQ+ research in Türkiye covers a wide range of topics including activism, religiosity, politics, transgender rights, intersectionality, COVID 19, eating disorders, laws, language, hate crimes and feminism in relation with the LGBTQ+.

Table 2 summarises the 27 selected studies in the field of education, which were based on quantitative and/or qualitative research including reviews and conducted in Türkiye and along with different countries, Belgium, Hungary, Germany, Spain, Poland, the Netherlands, the UK, and the USA. Compared to the general scope of the LGBTQ+ research above, the researchers in the educational field were generally employed in Türkiye (n:21). Similar to the history of the LGBTQ+ research history in Türkiye, the research of the LGBTQ+ issues in the educational field is quite young. The earliest research in this field was conducted in 2012 by Saraç (2012) and Dedeoğlu, Ulusoy and Lamme (2012). In the educational research 2022 was the most prolific year, and similar to general scope presented above in Table 1, the LGBTQ+ research in education has been increasing year by year. Similar to the domination of the Health Sciences in Table 1, in the educational research Health Education field had the highest number of publication (n: 13). In terms of the methodological approach the researches deployed; quantitative method dominated the field (n: 20) with the sample sizes ranging from n = 48 to n = 5 336 cross-national participants, but didn't apply a wide arrange of designs (quasi-experimental design, descriptive, comparative, correlational and causal). Only one study employed mixed-method, and the qualitative studies (n: 5) didn't apply as diverse designs as other abovementioned disciplines in Table 1 did (case study, resrospective narrative inquiry, phenomenology). Besides, reviews (n: 1) didn't hold a significant place in the educational research.

The most striking characteristic of the studies was about the role of the LGBTQ+ individuals in the research. Almost 90% of the educational studies (n: 24) on LGBTQ+ issues didn't include LGBTQ+ individuals as the subject of the study, that is the studies were generally about the attitudes, beliefs or approaches towards those people; the studies didn't provide a perspective from the LGBTQ+ people but about/towards them; so they became not the subject but the object of the research.

Table 2 Selected Studies Representing the LGBTQ+ Research Scope in Türkiye in Education

Author(s) - Date	Nation.	Discipline	Research (Sample/ Subject) Location	Research Method – Design – Technique Sample size	Variables/Main Themes	The Role of the LGBTQ+ Individuals
1. Aker, Mıdık & Böke, 2023	T	Health Education	Türkiye/ Samsun	Quantitative, (Quais-experimental, comparative-pretest-post test) 325 students	Education homophobia, homophobic attitudes	About
2. Alaçam & Yılmaz, 2022	T	-	Türkiye	Quantitative, (Descriptive, comparative) 180 faculty members	Homophobic attitudes	About
3. Arslantas, Gokdemir, Dagbagli, Mustan & Guldal, 2022	T	Health Education	Türkiye/ İzmir – Muğla	Quantitative, (Descriptive, comparative) 233 medicine faculty members	Homophobia, discrimination	About
4. Aslan, Şahin & Emiroğlu, 2019	T	Health Education	Türkiye	Quantitative, (Descriptive, comparative) 61 nurse educators	Homophobia, healthcare of LGBT individuals	About
5. Bilgic, Daglar, Sabanciogullari, Ozkan, 2018	T	Health Education	Türkiye	Quantitative, (Descriptive, comparative) 1321 midwifery and nursing students	Attitudes towards homosexuals, care approaches for homosexuals	About
6. Dedeoğlu, Ulusoy & Lamme, 2012	T+NT	Teacher Training	Türkiye/ Ankara	Qualitative (Descriptive) 92 pre-service teachers-Group response	Children's book, LGBTQ Themes	About
7. De Witte, Iterbeke & Holz, 2019	NT	-	Belgium, Netherlands, Germany, UK, Spain, Poland, Hungary and Turkey	Quantitative (Descriptive, comparative) 3594 pupils and 1742 teachers	Perspectives on homosexuality	About
8. Ercan-Şahin & Aslan, 2020	T	Health Education	Türkiye/ Ankara	Qualitative (Descriptive) 17 semi-structured interviews with the nursing students	Nursing curriculum, health equity	About
9. Geunis & Holz, 2020	NT	Curriculum Development	Belgium, Germany, Netherlands, Poland, Spain, Turkey, Hungary and UK	Critical Review	LGBTQ awareness	About

10. Gönenç & Erenel, 2019	T	Health Education	Türkiye	Quantitative, (Descriptive, comparative) 295 Nursing students	Homophobia, predictors of homophobic attitudes	About
11. Lo, Hu, Sungur & Lin, 2022	NT+TE	Educational and Counseling Psychology	USA (Turkish HEI students in America)	Qualitative (retrospective narrative inquiry) 9 semi-structured interviews with the LGBTQ+ Students	Developing gender identity, gifted LGBTQ people, self-acceptance, stress coping strategies	With
12. Mert-Karadas, Sahan & Ozçirpan, 2023	T	Health Education	Türkiye/ Ankara	Quantitative, (Descriptive, causal) 860 health care students	Homophobia, predictors of attitudes	About
13. Mert-Karadas & Ozçirpan, 2023	T	Health Education	Türkiye/ Ankara	Quantitative, (Quasi-experimental pre-test post-test) 48 nursing students	Education, intervention, homophobia, homophobic attitudes	About
14. Orta & Camgöz, 2020	T	-	Türkiye/ Ankara	Quantitative, (Descriptive, causal) 345 university students	Predictors of the Attitudes Toward Homosexuality	About
15. Ördem & Ulum, 2020	T	-	Türkiye	Mixed method Quantitative: 113 Qualitative: 12 semi-structured interviews with the adult ELT learners	Attitudes towards homosexuals, religion taboo, freedoms	About
16. Özcan, Özdil, Büyüksoy, Öztürk, 2021	T	Health Education	Türkiye	Quantitative, (Descriptive, comparative) 429 nursing students	Attitudes towards homosexuals, stigmatization, emphatic tendency	About
17. Özdemir & Büyükgöze, 2016	T	Teacher Training	Türkiye/ Ankara	Quantitative, (Descriptive, causal) 368 nursing students pre-service teachers	multicultural education, democratic values, Attitudes toward LGBT individuals	About
18. Özdemir & Erenoğlu, 2022	T	Health Education	Türkiye	Quantitative, (Descriptive) 287 nursing students	Attitudes toward LGBT individuals	About
19. Öztürk & Demirden, 2023	T	Health Education	Türkiye	Quantitative, (Descriptive, comparative) 274 nursing students	Homophobia, empathy	About
20. Özyer & Özcan, 2022	T	Health Education	Türkiye	Quantitative, (Descriptive, comparative) 183 nursing students	Attitudes towards LGBTI individuals	About

21. Saraç, 2012	T	Physical Education	Türkiye/ Mersin	Quantitative, (Descriptive, comparative, Relational) 173 PE pre-service teachers	Attitudes toward homosexuals, religiosity	About
22. Saraç, 2015	T	-	Türkiye/ Mersin	Quantitative, (Descriptive, comparative) 262 Freshmen university students	Attitudes toward homosexuals, religiosity	About
23. Saraç & McCullick, 2017	T+NT	Physical Education	Türkiye/ Mersin	Qualitative (Case study) 1 Semi-structured interview with an LGBTQ+ individual	Coming out, conflict, roots of homophobia	With
24. Taşkın, Nayır & Demirdiş, 2022	T	-	Türkiye	Qualitative (Phenomenology) 12 semi-structured interviews the LGBTQ+ teachers and academicians	Identity disclosure, coping mechanisms	With
25. Unlu, Bedük & Duyan, 2016	T	Health Education	Türkiye/ Ankara	Quantitative (Descriptive, comparative) 964 nursing students	Attitudes towards homosexuals, religiosity, family type	About
26. Ünver & Taşkın, 2021	T	Theology	Türkiye	Quantitative, (Descriptive, comparative) 582 Theology students	Sexual orientation myths, religious education	About
27. Vefikuluçay Yılmaz, Değirmenci, Aksoy, Koptur & Aksu, 2022	T	-	Türkiye	Quantitative, (Descriptive, comparative) 317 Senior university students	Homophobic attitudes	About

It is very important to underline some specifics in this table (Table 2); one might think that there is a prominent literary research repertoire of the LGBTQ+ issues in the educational research. However, when we scrutinise the aims and sample of the studies, it is very well understood that majority of the research couldn't be classified directly within the field of educational sciences. Except from a couple of studies (n: 8) (e.g. Aker et. al. 2023; Ercan-Sahin & Aslan, 2020; Mert-Karadas & Yucel-Ozcirpan, 2023; Ordem & Ulum, 2020; Ozyer & Ozcan, 2022; Sarac & McCullick, 2017; Unver & Turan, 2021; Taskin et. al. 2022), the rest were conducted in an educational setting, with students or educators, yet they didn't have a word on the possible educational disparities the people of sexual minority experience, or they didn't have words for the certain improvements needed in curriculum, teacher training, methods and techniques or educational law in relation with the LGBTQ+ pupils or staff. There were barely any policy recommendation for educational policy makers, moreover no studies were conducted with school principals and school teachers

4. DISCUSSION AND CONCLUSION

In this research it was aimed to present a picture of the LGBTQ+ research in Türkiye, which is a secular country with a high Muslim population and doesn't have a good performance in protecting and improving the sexual minority rights. It was observed that LGBTQ+ research in Türkiye in education and other disciplines is very young, it has only been a little more than a decade since the earliest research was published. Moreover, as a natural result of the young history of the topic, the number of the studies is very low in all the disciplines; health sciences playing a leading role in terms of the publication. As İnce-Yenilmez (2021) pointed LGBTQ+ society has had a turbulent relationship with the government, although same-sex sexual activity was not illegal since 1858, the Ottoman Empire period and the modern Turkish Republic didn't legalize it. Homosexuality and asexuality are both allowed in the country, but Turkey continues to remain at the second spot for the most restrictive country in Europe for lesbian, gay, bisexual, and transgender (LGBTQ+) equality policies and laws (ILGA, 2019). This situation might have reflected itself onto the research trends. That is, the complicated relationship between the authorities and the LGBTQ+ society, and the sensitiveness of the issue among the Turkish public might cause the LGBTQ+ topics to be neglected in the research community. As Yılmaz and Göçmen (2016) point insufficient attention has been paid to the study of experiences of discrimination against LGBTQ+ individuals in Turkey in social policies including – but not limited to – employment, housing, health care, social work, care and education.

Although it's young history, the extant LGBTQ+ literature covers a wide range of topics, varying from religious beliefs, court cases, and media representations regarding the LGBTQ+ people. One of the noticeable results is that, health sciences have a leading role in the general research scope and in the educational research in specific. There is not a concrete explanation why health sciences lead the literature, but it might be because the number of studies published in health sciences is higher than other disciplines and the health researchers can have the opportunity to cover the issues left aside; or because of their work settings, health practitioners, even from the very early periods of their education, can have the conveniences to come across with the sexual minorities.

Similar to the limited number of researches in the other disciplines, LGBTQ+ studies are in limited number in the Turkish educational research. Moreover the studies are hugely “about” LGBTQ+ people; that is the research is generally conducted with heterosexual people and their attitudes about non-heterosexuals. This creates an important drawback in understanding the real conditions the sexual minority people are in. One of the reasons why the LGBTQ+ research is confined in heterosexual sample might be that in Türkiye coming out is very problematic and can cause various troubles in daily lives. In fact, not only in Türkiye but around the world many lesbians and gay men are raised in an environment in which homosexuality and homosexuals have traditionally been undervalued, disrespected and excluded by society (Petersen & Hyde, 2010). Due to these concerns, many hide their sexual orientation from their family, friends and even from themselves (Herek, 2004). Their effort for hiding their identities can prevent them from being the subjects of research and understand them better. Another cause of having very little research with the LGBTQ+ people is that Türkiye doesn’t have consistent and concrete statistics about most of the “so-called” marginal groups like the LGBTQ+ community. As a matter of fact, apart from the reports a few NGOs (Lambdaistanbul, Kaos GL) published, it is almost impossible to reach any informative statistics about those people, let have a research with them or debate on educational concerns alone.

This research has been one of the preliminary research which sheds a light on the present condition of the LGBTQ+ research literature in Türkiye. The main limitation of this study is language restrictions: the database searches were conducted in Turkish or English language. Even though one might not expect to find studies about the LGBTQ+ people in Türkiye in other languages than English or Turkish, there might be some precious studies across the world in other languages which are waiting to be discussed and helpful understanding the situation across the globe from a wider perspective. As it was pointed out LGBTQ+ research is very scarce that is why the educational researchers in Türkiye are recommended to attend more carefully into the conditions of sexual minority members, since in order to make correct educational policy decisions, a rich research and practice repertoire is needed, immediately.

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PREGLED LGBTQ + STUDIJA U TURSKOJ: POGLED NA ISTRAŽIVANJA U OBRAZOVANJU

Apstrakt

Turska je ustavno sekularna država s pretežno muslimanskim stanovništvom. Iako u njoj nije krivično delo biti nebinarne seksualne orijentacije, LGBTQ+ građani imaju ozbiljne probleme da, kao i ostali stanovnici, koriste osnovna prava u zdravstvu, obrazovanju, stanovanju i zapošljavanju. Cilj ovog rada bio je detaljan pregled opštih i istraživanja u obrazovanju koja su se bavila LGBTQ+ populacijom u Turskoj. Primenjen je pregled narativnog istraživanja, pri čemu je pregledano 11 onlajn akademskih istraživačkih platformi, i to: BASE, EbscoHost, OVID, ProQuest, PubMed, Science Direct, Scopus, Veb of Science, Vilei Online Librari i ULAKBIM-TR Dizin. Prilikom pretraživanja prvenstveno su korišćene ključne reči „LGBT“ i „Turska“, kao i ostali termini koji ukazuju na nebinarne seksualne i rodne orijentacije. Pregledano je ukupno 2950 radova, od čega je analizirano 96, i to u odnosu na njihovu dostupnost u celini na engleskom ili turskom jeziku i na osnovu kategorizacije – originalni naučni rad, pregledni rad ili meta-analiza. Dobijeni rezultati pokazuju da, kada su u pitanju opšta istraživanja, postoji širok spektar razmatranih tema koje se bave pravima LGBTQ+, njihovim verskim uverenjima, odgovarajućim sudskim slučajevima, medijskim predstavljajima itd. S druge strane, objavljen je ograničen broj radova koji se bave istraživanjem u obrazovanju, što je rezultiralo velikim nedostatkom u razumevanju obrazovnih iskustava LGBTQ+ građana. Ipak, postojeća istraživanja u obrazovanju pružaju dragocen uvid u pitanja kao što su: diskriminacija LGBTQ+ nastavnika i njihovo akademsko iskustvo, život gej studenata na univerzitetu, homofobični stavovi budućih nastavnika, efekat multikulturalnog obrazovanja na stavove LGBTQ+ nastavnika. U zaključku studije istraživačima u oblasti obrazovanja u Turskoj preporučuje se da pažljivije prate stanje pripadnika seksualnih manjina kako bi doprineli obogaćivanju istraživačke literature u cilju donošenja ispravnih obrazovnih politika.

Ključne reči: LGBTQ+, istraživačka literatura, Turska



**WHEREVER THERE IS SOCIETY, THERE IS LAW: A
CONTRIBUTION TO THE STUDY OF THE SOCIOLOGICAL
ASPECT OF LEGAL PROTECTION AGAINST GENDER-BASED
VIOLENCE IN THE FAMILY**

UDC 343.54:343.62-055.2; 343.95/97:316.356.2

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Abstract: *The research problem focuses on the investigation of current phenomena of domestic violence as specific socio-pathological phenomena. The research questions focus on examining the responses of sociology and law to the dynamics, forms and types of violence in pre-modern and contemporary, more advanced legal and social systems. The study will utilize a descriptive method to describe and elucidate contemporary trends in sociological theory and social practice. The aim is to demystify the “invisibility” of the female population in all age categories, the dynamics, forms and “hidden statistics” of femicide in Serbia. We will also conduct a content analysis of international documents, conventions, declarations, recommendations and strategies, up to the preparation of the Regulations on Prevention and Protection against Violence, Sexual Violence, Harassment and Blackmail (2023) at the Faculty of Education in Vranje (the author of the paper participated in its preparation), which justifies the development of conditions for gender-sensitive education within the curriculum of general education subjects. This will promote the acquisition of a gender-sensitive approach when considering significant social situations, relationships and problems, identifying the causes of sociopathological phenomena and mitigating them, both in the personal attitudes of students - future educators - and in reconsidering the interpretation and application of legal norms from the point of view of overcoming elements of the patriarchal matrix of family relations in real life. Finally, we recommend integrating the sociological aspect of legal protection against gender-based violence in the family as a subject matter in the mandatory course Sociology of the Family in the Early Childhood Education study program at the Pedagogical Faculty in Vranje. This integration aims to strengthen the students' social competencies by enhancing personal autonomy, promoting equitable partner relationships within families and fostering a critical approach to gender-based violence. The contribution to the quality of all forms of teaching in the subject's curriculum will indirectly influence the promotion of human rights and freedoms as fundamental issues of democracy and the civilizational progress of family organization in the future. In conclusion, we emphasize that despite the acquired women's rights, their quality lags*

Received February 01, 2024/Accepted April 27, 2024

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behind the quality of norms and their implementation, which is an important indicator of the increase in femicide and gender-based violence in Serbian families. The significance of this work lies in providing examples for the promotion of gender-sensitive early childhood education and university education for the benefit of the profession of early childhood educator and the improvement of gender relations in Serbia.

Keywords: *domestic violence, gender-sensitive education, violence against women, family law and criminal law protection, Sociology of the Family*

1. INTRODUCTION

Domestic violence is an endemic social phenomenon, recognized in all religions and cultures of contemporary society, and it ranks among the most severe forms of violence. Its manifestation involves the violation of fundamental human rights and freedoms of family members, such as the right to life, the right to freedom and security, the right to physical, psychological, moral, and sexual integrity. This social phenomenon is inherently risky and dangerous, especially for women, children, and elderly family members. The dark side of domestic violence as a social problem stems from the fact that, in most cases, it is gender-based, that such violent behavior repeats at least twice towards the same victim, and that there is continuity in the manifestation of violence over a specific, extended period of time.¹ Some estimates suggest that gender-based violence, or violence against women, has immeasurable consequences both on an individual and societal level. We live in a time filled with various forms of violence where it becomes one of the negative symbols of postmodern society, a deviant 'lifestyle'. Daily, we confront the promotion of examples of gender-based violence in seemingly harmonious families, which often end with serious, and sometimes tragic, consequences, regardless of the type of violence. In defining various forms of violence, the literature recognizes "concentric circles models". According to one model, the "narrower" definition of violence would encompass systematic (repeated, planned) violent behavior and uncontrolled behavior manifested by simultaneous disruption of physical and psychological integrity. The "broader" definition would include passive-aggressive or verbal-aggressive acts targeting psychological integrity initially, with the potential to disrupt physical integrity as well (Polovina, 1997). Globalization, international concerns, and transnational connections have influenced the understanding of the phenomenon of violence, as well as the emergence and spread of specific forms of violence, directing policies and actions in this field.²

The Committee of Ministers of the Council of Europe emphasizes the fact that domestic violence against women is on the rise and is present in every member state of the Council of Europe. It knows no geographical boundaries, is not limited by age, does not represent a specific preference for any particular race, and is present in all types of family relationships and in every social environment. It is one of the most widespread forms of human rights violations globally, a consequence of unequal power dynamics between men and women, leading to serious discrimination against the female gender within society and the family. It deprives women of the ability to enjoy basic freedoms and must be prevented.

¹ I. Markus, "Dark Figures: Research on Domestic Violence in Central and Eastern Europe," *Women's Rights and Social Transition*, Center for Women's Studies, Research and Communication, Belgrade, 1997, p. 101.

² More about this in: Hester, M. (2004). *Future Developments: Violence against women in Europe and East Asia. Violence Against Women*, 10(12), 1431-1448.

The main motivation for this descriptive examination of domestic violence as a specific socio-pathological phenomenon lies in understanding the responses of sociology and legal sciences, as well as related disciplines, to the dynamics, forms, and types of violence in pre-modern and subsequent advanced legal systems (from the second half of the 20th century until today, departing from legal norms and their application in the field of protection and the mitigation of gender-sensitive domestic violence).

Building on the established fact that „the increase in societal violence is directly linked to the rise in domestic violence, that an individual can be exposed to violence throughout their entire life, from early childhood to old age, and that the most common victims of domestic violence are women, children, and the elderly“³, as well as the prevailing belief that „a person's home is their castle“, that domestic violence is a private matter, and that conflicts should be resolved by the family members themselves⁴ lead to the definition of the problem of our research which involves tracking shifts in society's attitude towards domestic violence, specifically violence against women. *The research goal* is to highlight the fact that domestic violence is gender-based, despite the adoption of women's rights as a factual state of legal and overall gender equality. There are deviations from legal visibility and providing real protection and assistance to women today. Introducing and implementing gender-sensitive educational content in the university education of future educators will involve preparedness to reassess legal norms, understand situations from the perspective of gender equality, and recognize the possibilities and limitations of legal protection against gender-based violence. *The research tasks* stem from the goal itself: to describe the concept, characteristics, forms, and types of domestic violence, particularly gender-sensitive violence; to provide an overview of international documents in the field of domestic violence, including gender-sensitive violence; to analyze family law and criminal law protection against domestic violence as well as legal possibilities and limitations in preventing domestic violence and providing protection and support; to promote gender equality at the Faculty of Pedagogy, University of Niš; to recommend syllabus changes for the mandatory course *Sociology of the Family* at the mentioned Faculty. The research will employ descriptive and content analysis methods, utilizing a set of procedures to draw valid conclusions from laws, documents, protocols, conventions, NGO reports, activist associations, and newspaper articles.

The social significance of this paper is reviewed encourage and promote the acquisition of a gender-sensitive approach in contemplating significant social situations, relationships, and issues. This includes identifying the causes of sociopathological phenomena and their mitigation, both in the personal attitudes of students – future preschool and school teachers, and in reassessing the interpretation and application of legal norms from the perspective of overcoming elements of the patriarchal matrix. Therefore, the need arises from various social changes, such as domestic violence, for appropriate legal norms to be promoted during the learning and teaching process for students of pedagogical faculties. They should be educated in the field of family and criminal legal protection, as the Latin adage itself suggests: 'ubi societas, ibi ius' (where there is society, there is law).

³ M. Ajduković, "Definition and Forms of Violence in the Family," *Violence Against Women in the Family*, Society for Psychological Assistance, Zagreb, 2000, p. 11.

⁴ The contribution to the shift in such dominant perspectives was made by the feminist movement. For more information on this, see: Z. Mršević, "Legal Aspects of Structural Causes of Violence," *Law Against Domestic Violence*, Women's Information and Counseling Center, Niš, 2002, pp. 38-42.

2. FAMILY VIOLENCE: CONCEPT AND CHARACTERISTICS

For many years, family has been treated in science, popular literature, and everyday life as a private aspect of social life, well-known to everyone, always present, and unchanging. In other words, the family was clearly delimited from the public sphere of social life and was not of interest to researchers for a long time. It was considered a *sui generis* irreplaceable organization in social communities throughout the entire history of human society. Until the end of the 1960s, domestic violence was not recognized as a behavior pattern that destabilizes society.

However, this is only an apparent state, given that many studies demonstrate the evolution of the formation of the family and the significant changes it undergoes due to economic and social changes throughout the history of societal development. Nevertheless, theories arising from a micro perspective regarding the family are responsible for gradually eliminating the static image of the family. Connecting the internal dynamics of the family with the existing emphasis on its historical variability has created, towards the end of the last century, a perception of the family as an exceptionally sensitive, mobile, dynamic, and social entity, pointing out the illusory nature of the social myth of the family as a 'refuge or fortress' (Milić, 2007, p. 39). Marriage and family are social constructs that, throughout the development of society, are always in mutual social dynamics over time and space. They are sensitive to both internal and external factors of change, dating back to tribal communities, and they reveal their dark sides in the alterations of behavioral models within family relationships (husband and wife). Unfortunately, these changes often favor deviance and risk, which can escalate and tragically conclude.

In this regard, based on grim statistics about postmodern behavioral models in the family and the frequency of domestic violence, professional and scientific literature (results of empirical research conducted by sociologists in three phases over time cycles of five years each) have implied numerous gender-sensitive indicators regarding the manifestation of societal breakdown and negative trends in partner relationships within Serbian society).⁵

This all suggests that the family is the most aggressive social group. Women are stated to have a higher likelihood of experiencing harassment, neglect, abuse, injury, and even death within their own families than in any other social relationship or situation.

Domestic violence is an extremely complex socio-pathological behavior that draws the attention of experts from the fields of sociology, psychiatry, criminology, family and criminal law, social psychology, psychopathology, and other scientific disciplines. There is still no universally accepted theoretical definition of domestic violence. In contemporary literature, it is defined as any form of physical, sexual, psychological, or economic abuse perpetrated by one family member against another, regardless of whether such behavior is criminalized by legal regulations and whether the perpetrator has been reported to law enforcement authorities. On the normative level, the most detailed definition of domestic violence is provided in the Council of Europe Convention on Preventing and Combating Violence Against Women and Domestic Violence from 2011. According to this

⁵ See: At the Institute for Social Research of the Faculty of Philosophy in Belgrade (ISI FF), longitudinal studies have been published within three time cycles - from 1991 to 1994, from 1995 to 2000, and from 2000 to 2004. The results obtained are published in the following books: *Social Changes in Everyday Life: Serbia in the Early 90s* (ed. S. Boličić), ISI FF, Belgrade 2002 (2nd edition; 1st edition 1995); *Serbia and the End of the Millennium. Destruction of Society, Social Changes and Everyday Life* (ed. S. Boličić, A. Milić) ISI FF, Belgrade 2002; *Social Transformation and Strategies of Social Groups. Everyday Life in Serbia at the Beginning of the Third Millennium* (ed. A. Milić) ISI FF, Belgrade 2004.

convention, domestic violence 'shall imply all acts of physical, sexual, psychological or economic violence that occur within the family or domestic unit or between former or current spouses or partners, whether or not the perpetrator shares or has shared the same residence with the victim' (Petrušić, 2019, p. 199).

For the purposes of describing the gender-based model of behavior Domestic violence, researchers in the field of sociology and law are also focused on the forms in which domestic violence occurs. In other words, family and criminal law define domestic violence as a specific form of crime because it affects very close family members who should ideally have understanding, support, assistance, emotional harmony, and harmonious social interaction.

Empirical findings from previous studies on domestic violence have confirmed that: domestic violence represents a behavioral pattern rather than a sporadic occurrence, the prevalence of violence in society is connected to the prevalence of violence in families; a family member can be exposed to domestic violence throughout their entire life, from early childhood to old age; the most common victims of domestic violence are women, children, and elderly individuals; domestic violence encompasses various activities that pose harm and danger to the safety, health, and lives of other family members⁶.

In the 1970s, society began to focus on activities that support efforts to protect and promote the rights of domestic violence victims, as well as efforts to find an effective mechanism for preventing and protecting against domestic violence. The perspective emerged that domestic violence must be treated as a crime, and by demystifying the concealment of facts about the frequency of its occurrences within families, its societal danger was illuminated. Consequently, the officially recognized behavioral model of domestic violence shifted from the realm of private social life to the domain of legal regulation.

By analyzing the specific provisions in international documents related to the protection against domestic violence, the results indicate that despite a good legal framework in Serbia, dating back to the adoption of the first convention in 2014, there are still challenges in providing effective protection against domestic violence and other forms of gender-based violence against women. Additionally, preventive measures have not yielded significant positive effects. Research into past legal practices has revealed many systemic problems and negative occurrences in the work of the police, public prosecutors, and courts in preventing and providing protection against domestic violence. However, the most significant issue appears to be the crisis in the institution of marriage as a family form in social life.

These findings are corroborated by official reports from state authorities, independent reports from women's non-governmental organizations, and concluding comments from the Committee on the Elimination of Discrimination against Women⁷ directed towards Serbia. Among other recommendations, the state is encouraged to intensify its efforts in

⁶ For more information on this, refer to the following sources: I. Markus, "Dark Figures: Research on Domestic Violence in Central and Eastern Europe," *Women's Rights and Social Transition*, Center for Women's Studies, Research and Communication, Belgrade, 1997, p. 101. M. Ajduković, "Definition and Forms of Violence in the Family," *Violence Against Women in the Family*, Society for Psychological Assistance, Zagreb, 2000, p. 11.

⁷ In 1982, the Committee on the Elimination of Discrimination against Women (CEDAW) was established - a supervisory body within the United Nations system. For more details on this, refer to: N. Petrušić, "Monitoring the Implementation of the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW)," *Legal Gender Studies*, collection of papers, Faculty of Law, Niš, 2007, pp. 67-79.

overcoming stereotypical attitudes towards the roles and responsibilities of women and men in the family and society. It is also advised to continue implementing measures to eliminate gender stereotypes by promoting a positive image and substantive equality for women.

We have identified the main causes for which mechanisms designed to combat and protect against domestic violence do not achieve their projected goals in practice. One part of the causes relates to problems in the functioning of the judicial system, while another arises from the fact that certain legal solutions are not adequate and aligned. However, the key causes of the unsatisfactory state of affairs stem from the fact that the state's response to domestic violence largely depends on institutional sexism – sexist attitudes deeply ingrained and widely spread among officials within institutions of the system responsible for handling cases of domestic violence (Petrušić, 2019, p.218).

Equally important is the fact that, within the spectrum of causes of domestic violence, the patriarchal model of family relationships in Serbia plays a crucial role, wherein violence is deemed an acceptable and common form of disciplining disobedient family members. In this sense, domestic violence is a behavioral pattern through which the perpetrator exercises control over the victim and asserts their power. Consistent with previous research, this described phenomenon is illustrated vividly as the so-called 'Power and Control Wheel' (see Figure 1).

Among the causes of domestic violence, the patriarchal model of family relationships plays a crucial role, where violence is considered an acceptable and common form of disciplining disobedient family members. However, other societal factors, especially economic factors, as well as intergenerational transmission of violence, also influence the occurrence of domestic violence. Domestic violence is a behavioral pattern through which the perpetrator exercises control over the victim and asserts their power.

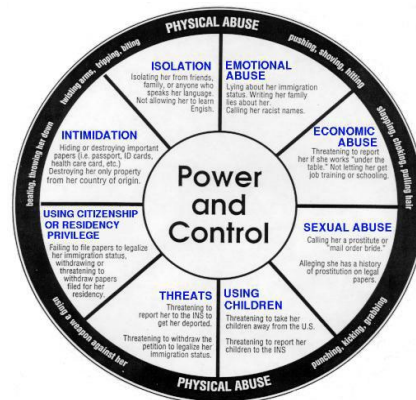


Fig.1. Power and Control Wheel

(<https://www.futureswithoutviolence.org/power-and-control-tactics-used-against-immigrant-women/>)

The contemporary approach to domestic violence is based on the understanding that it is a very serious societal problem and a social pathology with deep roots in the patriarchal structure of society. The most common victims of domestic violence are often women,

confirming that this violence is rooted in gender conditioning and facilitated by gender discrimination and the lack of societal responsibility for violence against those who lack power or the ability to resist. Although perpetrators of violence against family members can sometimes be women, the gender dimension of this form of violence is its essential and defining characteristic. Therefore, it is categorized as gender-based violence, and arguments advocating for its prevention are grounded in the domain of human rights protection and the prohibition of gender-based discrimination (Petrušić, 2019, p. 199).

3. DISCUSSION: ON MANIFESTATIONS AND PHASES OF VIOLENCE AGAINST WOMEN

The importance of the findings in the paper is fundamentally contained in encouraging and promoting the acquisition of a gender-sensitive approach in contemplating important social relationships and resolving conflict situations, identifying the causes of sociopathological phenomena and mitigating them, as well as the necessity of collaboration between theory and experiential practice within certain educational content. A critical approach by students – future school and preschool teachers, in re-evaluating the interpretation and application of legal norms regarding the recognition, prevention, and protection from domestic violence, should be promoted throughout university education at all three levels of study for students of pedagogical faculties. They should be continuously educated in the field of family law and criminal law protection.

So, let us go through the list of main forms and phases of violence against women. Violence against women is a severe violation of human rights and freedoms. This pattern of behavior consists of actions by perpetrators that inflict or provoke psychological, physical, sexual, and mental injuries and suffering on women. This form of violence is related to customary law, based on socially determined or presumed differences between men and women (patriarchal society). Due to its characteristics, violence against family members seriously jeopardizes the institution of the family, as the basic cell of society.⁸

Violence against women represents the dominant form of gender-based violence, which, in certain situations such as family crises, illness of the perpetrator, economic crises, or other types of humanitarian crises, becomes more frequent and turns into a societal problem. Violence against women manifests in various forms, such as causing mild and severe physical injuries, restricting movement and speech, forced marriage, child marriage, coercion into prostitution, rape, sexual harassment, sexual assault on minors, human trafficking, and physical attacks. There are other forms of violence, such as attempted honor killings or threats, revenge marriages, survival sex, food, and shelter. Some women experience violence continuously, and the nature of violence can vary, or women may endure it from different individuals. “Violence against women can be characterized as a violation of fundamental human rights encompasses the right to life, bodily integrity, and human dignity” (Lubura, 2017, p. 117).

The most common form of violence against women is domestic violence. Perpetrators are, in the majority of cases, partners or other members of the immediate or extended family. Violence is often mislabeled with nonspecific terms such as conflicts, disputes, disturbed family relations, or only recognized and classified in drastic forms, such as severe physical injuries.

⁸ More detail in: Konstantinovic S. Vilic, Nikolic V. Ristanovic, Kostic, M.: *Kriminologija [Criminology]*, Nis, 2009, p. 193-194.

The definition of violence against women according to the United Nations' Declaration on the Elimination of Violence Against Women (UN 2012/93) from 1993 is as follows: "Violence against women is the manifestation of historically unequal power relations between men and women, which have led to discrimination and domination of women by men and to the prevention of the full advancement of women. Violence against women is one of the fundamental social mechanisms by which women are forced into a subordinate position in relation to men. Violence against women is an obstacle to achieving equality, development, and peace." Additionally, in the context of violence against women, it is important to highlight violence against persons with disabilities, particularly women with disabilities. This type of violence can be defined as a form of endangering their physical integrity (Mirić & Vasiljević Prodanović, 2018).

It is common to mention six phases of violence: Tension-building phase; Control phase; Explosive phase; „Sorry phase“; Buy Back Phase; “Honeymoon Phase” (Petrušić, 2019, p. 202).

Experiences in providing support, assistance, and understanding to women who experience domestic violence⁹ based on the mentioned phases, reveal the dynamics of the cycle of violence, which repeats from the initial phase of intimidation to the sixth phase of reconciliation, which actually contributes to the reinforcement of violence. The second, third, fourth, and fifth phases involve the concrete execution of physical, psychological, and sexual violence and emerge with the first problems in the relationship between the perpetrator and the victim of violence (starting from intimidation, control, intimidation, provocation, manifestation of physical and sexual violence, regret, reconciliation, forgiveness, and alleged forgetting of what happened; however, it is precisely these latter activities that lead to the repetition of the violence cycle).

3.1. Overview of international documents in the field of domestic violence

The international documents establishing standards of conduct for signatory states in the field of domestic violence, particularly noteworthy, include documents from the UN and the Council of Europe:

- UN Convention on the Elimination of All Forms of Discrimination Against Women since 1979;
- Declaration on the Elimination of Violence Against Women since 1993;
- Beijing Declaration and Platform for Action since 1995;
- Declaration on Policies to Combat Violence Against Women in Democratic Europe since 1993 and Council of Europe Recommendation 1582;
- Violence against Women in the Family since 2002.

By signing and ratifying international instruments, states have a moral and political obligation to legislate against the violation of women's human rights that occur within families and to take specific preventive and protective measures. In international documents, among other things, states are urged to consider domestic violence as a specific form of gender-based violence in their laws and policy documents. When defining domestic violence in their legislation, they should take into account that it is a unique form of gender-based violence, encompass a broad range of protected individuals (people in marriage, cohabitation, romantic relationships, or former spouses, etc.), cover at least three

⁹ For more detailed information on this, see: Handbook for Volunteers of the S.O.S. Helpline: Women for Life Without Violence, S.O.S. Helpline for Women and Children Victims of Violence, Belgrade, 1999.

types of violence (physical, sexual, and psychological violence), as well as controlling tactics. It is also important to clearly specify what constitutes economic violence, and the causes of domestic violence should be clearly identified in the definition as the basis for developing effective preventive and protective measures.

Therefore, the following international human rights documents are important for the field of protection against domestic violence:

1. Universal Declaration of Human Rights from 1948 – guarantees freedom and equality in dignity and rights to all people.
2. International Covenant on Civil and Political Rights from 1966 – guarantees a set of rights, including the right to life, prohibition of torture, inhuman or degrading treatment or punishment, and the right to liberty and security of the person.
3. UN Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) from 1979, which requires taking all necessary measures to eliminate discrimination against women and combat domestic violence, including the adoption of specific legislation on domestic violence. In General Recommendation No. 19 from 1992, the Committee on the Elimination of Discrimination Against Women emphasized that violence against women, as "the most insidious form of gender-based violence, is a form of discrimination that seriously undermines women's ability to exercise their rights and freedoms on the basis of equality with men" (Petrušić, 2019: 204).
4. UN Declaration on the Elimination of Violence Against Women from 1993 defines violence against women, and states are obliged to enhance criminal, civil, and administrative sanctions to protect women from violence.
5. Beijing Declaration and Platform for Action from 1995, containing provisions on strategic goals to eliminate violence against women, perceived as an obstacle to achieving equality, development, and peace, violating, threatening, and nullifying women's enjoyment of human rights and fundamental freedoms.
6. UN Declaration on the Policy of Confrontation with Violence Against Women in Democratic Europe from 1993.
7. Council of Europe Recommendation 1582 Violence Against Women in the Family from 2002 - very important for building an adequate system of protection against domestic violence.

One of the most significant international documents in the field of protection against domestic violence and other forms of gender-based violence is the Council of Europe Convention on preventing and combating violence against women and domestic violence from 2011, commonly known as the Istanbul Convention, which entered into force in 2014.

The Istanbul Convention is an instrument that obliges states to combat violence against women. It has been adopted by the Republic of Serbia (see image 2). Out of the 47 Council of Europe member states, 34 have ratified it. In the chapter of the Istanbul Convention related to substantive criminal law, civil remedies, and legal remedies, it is emphasized that for effective prevention and combating of all forms of violence, it is necessary to strengthen legal protection and draw on good practices when introducing changes into the legislative systems of all countries.



Fig. 2 What is the Istanbul Convention

(<https://francais.radio.cz/le-senat-tcheque-bloque-la-ratification-de-la-convention-distanbul-8806669#&gid=asset&pid=1>)

In the 1980s, the adoption of international regulations important for the protection of women from domestic violence began. During that time, the United Nations adopted the Convention on the Elimination of All Forms of Discrimination Against Women, which initially did not have legal force. In 1993, the Declaration on the Elimination of Violence Against Women was adopted, emphasizing equality and the improvement of women's status in all forms of societal functioning. The same principles underlie the Beijing Declaration, which highlights the importance of equal sharing of family responsibilities.

Every third woman in the world, approximately 736 million women, experiences physical or sexual violence during her lifetime, according to the latest analysis by the World Health Organization (WHO). The new report shows that, although the number of women who have experienced violence has remained largely unchanged since the last global WHO study in 2013, this violence begins at a young age. Every fourth woman aged between 15 and 24 has already experienced violence from an intimate partner before reaching her mid-twenties. The WHO claims that this is the largest study of its kind conducted, updating previous estimates published in 2013. The organization analyzed data from existing surveys conducted in 161 countries between 2000 and 2018 to make new projections. The study does not include data collected during the COVID-19 pandemic. Intimate partner violence has proven to be the most widespread reported form of abuse worldwide, with approximately 641 million women stating that they have experienced it (Petrušić, 2019, p. 219).

Empirical findings and reports indicate that women are more likely to experience physical and/or sexual violence from an intimate partner during their lifetime in underdeveloped and impoverished countries, including Pacific Islands such as Fiji, South Asia, and sub-Saharan Africa. Since the outbreak of the COVID-19 pandemic, collected data and reports have shown that all types of violence against women and girls, especially domestic violence, have intensified in what is referred to as the Shadow Pandemic.

To summarize, the most important document in the field of protection is the Convention on Preventing and Combating Violence against Women and Domestic Violence, better known as the Istanbul Convention. The Republic of Serbia is among the first ten countries to have ratified this convention. It is defined as "violations of human rights and a form of discrimination against women that constitutes all acts of gender-based violence that cause

or may cause physical, sexual, psychological, or financial harm or suffering to women, including threats of such acts, coercion, or arbitrary deprivation of liberty, whether occurring in public or private life." (Istanbul Convention, Article 3, Paragraph 1 NN 1105/11) Thanks to this convention, our state system has comprehensively regulated interventions carried out by competent authorities, institutions, and organizations to protect victims of gender-based domestic violence. We hope that the mentioned "dark" figures will serve as a serious warning to governments. Five years ago, there was talk about this, but now it is necessary to do more to achieve the Sustainable Development Goals targets for eliminating violence against women by 2030. A significant part of the Convention consists of risk assessment and risk management. It is particularly emphasized that gender biases and the lack of necessary knowledge about gender (in)equality and gender-based violence are serious obstacles to establishing an effective system for protection against domestic violence. Accordingly, member states are expected to work on eradicating sexism and establishing both *de jure* and *de facto* gender equality. This includes taking necessary measures to promote changes in social and cultural behavior patterns of women and men with the aim of eradicating prejudices, customs, traditions, and other practices based on the idea of women's inferiority or stereotypical roles of women and men (Petrušić, 2019, p. 207).

3.2. Family law and criminal law protection regarding domestic violence

Women's non-governmental organizations emphasize the influence of patriarchy, social factors, and intergenerational transmission of violence on the occurrence of domestic violence. They also highlight the lack of consideration for the impact of broader societal factors on the daily lives of women and men concerning prevention and protection. This results in the adoption of solutions relying solely on repression rather than harnessing the potential of restorative justice.

The demand of women and women's organizations is always based on the paradigm that the victim has the right to be protected. In other words, the state has the obligation to build a system of legal instruments to protect the right to life, freedom, and personal security, and to prevent violence wherever it occurs. Furthermore, the state should provide various forms of support – social, economic, and health-related – to individuals who have survived violence and create a societal climate of "zero tolerance." The longstanding efforts of women's non-governmental organizations have made domestic violence socially visible, concluding the process of building legal mechanisms for preventing and combating domestic violence in Serbia.

The first normative step was taken with the adoption of the new Family Law in 2005, and in 2016, the Law on the Prevention of Domestic Violence was adopted. This law regulates the actions of state authorities and institutions in preventing domestic violence and providing protection and support to victims of domestic violence. Other laws, such as the Law on the Prohibition of Discrimination, the Law on Gender Equality of the Republic of Serbia, the Law on the Prevention of Discrimination against Persons with Disabilities, the Law on Social Welfare and Social Security of Citizens, and many others, are also significant for an effective fight against domestic violence.

Family legal protection from violence is regulated by expressly prohibiting domestic violence, recognizing the right of family members to protection from domestic violence (Article 10 of the Family Law), regulating measures of family legal protection and the

conditions under which they are determined, and providing for a specific procedure governing the rules for proceedings in a lawsuit filed for protection from domestic violence (Articles 197-200 and 283-289 of the Family Law). Domestic violence is defined in Article 197 and commonly manifests as causing bodily harm, attempting to cause bodily harm, compelling to engage in sexual relations or engaging in sexual relations with a person under the age of 14 or with an incapacitated person, restricting freedom of movement or communication with third parties, insulting (named forms of violence), and any other insolent, reckless, and malicious behavior (unnamed forms of violence). According to Article 197, paragraph 3 of the Family Law, individuals entitled to family legal protection from domestic violence include spouses or former spouses, children, parents, and other blood relatives, individuals in affinity or adoptive relationships, individuals in foster care, individuals living or having lived in the same household, unmarried partners or former unmarried partners, individuals who have been or are still in an emotional or sexual relationship, or who have a common child or are expecting a child, even if they have never lived in the same household (Petrušić, 2019, p. 211). Measures for protection from domestic violence, by their nature, have a temporary character, and it is therefore necessary for them to be time-limited from the outset. According to Article 198, paragraph 3, the court, at its discretion, determines the duration of each imposed measure, with a maximum duration of one year for each measure.

In the positive law of Serbia, the criminal offense of domestic violence is criminalized by the Criminal Code, in Article 194, in Chapter Nineteen – "Criminal Offenses against Marriage and Family". Five forms of the criminal offense of domestic violence are provided for, as well as the possibility for the court in criminal proceedings to impose a security measure prohibiting approach and communication with the victim for the protection of the person against whom the violence was committed.

The act of the first form of the criminal offense of domestic violence consists of endangering the peace, bodily integrity, or mental state of a member of one's family by using violence, threatening to attack life and body, or engaging in insolent and reckless behavior (Article 194, paragraph 1 of the Criminal Code).

The second form of the criminal offense of domestic violence exists if a weapon, dangerous tool, or a means suitable for causing serious bodily harm or seriously impairing health was used in the commission of the act from paragraph 1 of this article.

The third form of the criminal offense of domestic violence exists in the case where violence has caused serious bodily injury or permanent and severe impairment of the health of a family member, or the act was committed against a minor.

The fourth, most severe form of the criminal offense of domestic violence exists when violence has led to the death of a family member.

The fifth form of the criminal offense of domestic violence exists when the perpetrator of violence, to whom the court has imposed a protection measure against domestic violence, violates that measure (Petrušić, 2019, p. 214).

3.3. Preventing domestic violence and providing protection and support

It is known that protection from domestic violence is defined by the Family Law in Article 197, which specifies protective measures against a family member who perpetrates violence. These measures include eviction from the family home, prohibition of approaching the family member at a specified distance, prohibition of further harassment

of the family member, detention, and deprivation of liberty. To achieve this, coordinated action from all relevant institutions and services in the community is necessary. Those involved in the protection of victims of violence include Centers for Social Work, the police, the prosecution, healthcare professionals, and non-governmental organizations. The priority for all is the safety of the victim.

The Law on the Prevention of Domestic Violence from 2016 regulates the actions of state authorities, institutions, and services in situations where domestic violence has already occurred or there is a threat of it happening. This ensures protection in the period following the report of violence or the threat of violence until the commencement of the appropriate judicial proceedings, as it is during this period that the victim is particularly exposed to the risk of repeated or escalated violence. The law also establishes, through provisions from Article 10 to 20, a special procedure for preventing domestic violence, reflecting the efforts to implement key provisions of the Istanbul Convention.

Domestic violence is an urgent societal problem that feminists began to fight against only in the 20th century. Domestic violence as a deviant phenomenon will not prevent itself, and the consequences it leaves behind are difficult to eliminate, having a lasting impact on the lives of victims and those who witnessed or indirectly participated in the violence. Among the severe consequences are the most serious - the death of women. For several years now, specifically since 2018, unofficial information has been released by the relevant ministry in Serbia indicating that over twenty women have been killed in the current year. The prevalence of this social phenomenon is a scourge of modern times, and judging solely by unofficial statistical indicators (there is no unified register of femicides or attempted femicides in Serbia), one can only speculate about the direction in which the statistics of "dark" figures are progressing (since the beginning of 2024, seven femicides have been committed in Serbia). Considering that not every act of violence is reported and that it often occurs far from the public eye, within the confines of the family, domestic violence is characterized by a much higher "dark" figure than what is presented in the media.

The disruption of the fundamental question of democratic order and the inconsistent measures of democracy in contemporary society, along with statistical data on femicide that have alarmed the global public and decision-makers, have led the majority of European countries, including Serbia, to adopt legal protection, following the methodology of measures prescribed by the Istanbul Convention (see Figure 3).



Fig. 3 Providing legal protection from domestic violence
(<https://wave-network.org/methodology-csos-istanbul-convention>)

Originally, preventive measures are determined by implementing the Law on the Prevention of Violence. If violence occurs and consequences arise, a criminal procedure is

initiated for the committed criminal offense of domestic violence. The victim is protected if she desires it and initiates a separate civil procedure where protective measures for the victim against the perpetrator are imposed, regulated by the Family Law, to potentially prevent further violence. Initiating a misdemeanor procedure for disturbing public order with elements of domestic violence is also an option for imposing a protective measure. However, the Misdemeanor Law does not provide for the relationship between the injured party and the accused, as is the case with the Criminal Code and the Family Law (family member, household, marital, extramarital partner, or emotional status). Encouraging institutions to collaborate for better functioning and preventing domestic violence is one way the state fights against violence. Social welfare centers take professional measures and work with victims and perpetrators, providing them assistance in overcoming problems to prevent future violent behavior. The establishment of shelters for victims and their children, in the form of Safe Houses, by local self-governments is another way to provide assistance and support to victims, promote their resocialization, and complete the cycle of state protection and the fight against violence.

The main idea of the Law is that the perpetrator of domestic violence should not remain at home, not only when violence has already occurred but also when there is an immediate danger of any form of violence. The initial and crucial role in the system of coordinated action by authorities and services belongs to the police officer for preventing domestic violence, who is a specially trained coordinator preventing domestic violence and ensuring the protection of the victim. All remaining activities to protect and support the victim depend on his actions and risk assessment. After learning about domestic violence or the threat of it, the relevant officer assesses the risk of immediate danger of violence, which serves as the basis for involving and implementing the activities of other participants in the process of preventing violence and providing protection and support to the victim.

3.4. On the promotion of gender equality (uni fp)¹⁰

In its dedication to gender equality, the Faculty of Education in Vranje relies on the existing relevant national legal framework in this field: Constitution of the Republic of Serbia, Law on the Prohibition of Discrimination, Law on Gender Equality, Law on the Commissioner for the Protection of Equality, Law on Gender Equality, National Strategy for Gender Equality for the period 2021-2030.

In addition to the national legal framework for promoting gender equality, the Faculty of Education in Vranje bases its activities on international documents regulating the field of higher education. Principles of gender equality and anti-discriminatory policies are to some extent integrated into the key document of the Faculty of Education in Vranje - the Statute. Besides that, the Faculty of Education in Vranje fully respects and applies the legal regulations of the University of Niš, which, among other things, relate to the prohibition of discrimination, such as the Code of Professional Ethics, the Gender Equality Plan of the University of Niš until 2025, and most importantly, the Statute of the University of Niš.

The first Risk Management Plan for the violation of the principles of gender equality has been prepared at the Faculty of Education in Vranje, University of Niš. The main goal of this document is the transparency of initiating the process of drafting and then adopting the Risk Management Plan for the violation of the principles of gender equality at the

¹⁰ Note: The abbreviation UNI FP stands for University of Niš Faculty of Pedagogy in Vranje.

Faculty of Education in Vranje, University of Niš, as well as promoting gender equality at all levels, including the consistent implementation of principles, main goals, and central measures in this area, and ultimately forming teams. Furthermore, in accordance with the adopted Risk Management Plan for the violation of the principles of gender equality at the Faculty of Education in Vranje, University of Niš, and the formed teams, the Faculty of Education in Vranje is considering the possibility of appointing equality officers. The Faculty of Education in Vranje, University of Niš, commits to taking necessary actions to create structural changes to achieve and maintain a higher level of gender equality at all levels and in all areas of work and research, in order to avoid risks, by implementing the following measures:

- Building institutional capacities for the identification of relevant data and their continuous tracking, as well as establishing systematic procedures and information systems to improve data collection and address data deficiencies,
- Enhancing the visibility of gender equality and raising awareness of the importance and benefits of appropriate gender balance at all levels,
- Promoting gender diversity within academic structures, with a strong emphasis on increased participation of women in decision-making bodies and decision-making processes, in line with institutional, national, and other regulatory.¹¹

After a thorough analysis of the state of gender equality, based on the principles of gender equality and anti-discrimination policies, as well as key documents at the Faculty of Education in Vranje, the University of Niš embarked on the preparation and adoption of the Regulation on the Prevention and Protection against Violence, Sexual Violence, Harassment, and Blackmail. The mentioned Regulation was adopted on June 20, 2023, by the Council of the Faculty of Education in Vranje. It defines the concepts of violence, sexual harassment, and blackmail, as well as the measures that the Faculty of Education in Vranje implements to prevent and prohibit all forms of behavior that violate the integrity and dignity of all participants in the higher education process and scientific-research work, or result in unequal treatment of these individuals, preventing the realization of their rights.

4. CONCLUSION

We conclude that the sociological aspect of legal protection against gender-based violence in the family needs to be integrated as part of the curriculum for Family Sociology within the Early Childhood Education program at the Faculty of Education in Vranje. From the broad societal changes in the context of globalization (family violence), there arises a significant need for both theoretical integrations (sociological aspects of the phenomenon of violence, upbringing, family, and legal protection) and the social implications contained in relevant legal norms (in the field of family and criminal law protection). This aligns with the Latin proverb "ubi societas, ibi ius" (wherever there is society, there is law). It is important to emphasize that despite a relatively good legal framework and numerous activities undertaken in recent years, there are still problems in providing effective protection against domestic violence and other forms of gender-based violence against

¹¹ Source: General and Public Affairs Office of the Faculty of Pedagogy in Vranje, University of Niš, proposal of the mentioned measures publicly available on the Faculty's website; (<https://www.pfvr.ni.ac.rs/wp-content/uploads/2024/02/Management-Plan-Risks-from-Violating-the-Principle-of-Gender-Equality.pdf>)

women in Serbia. Preventive measures have not yielded significant positive effects. This is best evidenced by the number of women killed as victims of domestic violence. In Serbia, during just the year 2014 nearly thirty women were killed in domestic-partner violence. Legal practice research has identified many problems and negative phenomena in the work of the police, public prosecution, and courts in preventing and providing protection against domestic violence.

The latest data shows that since the beginning of 2020, more than 110 women have been killed in the context of family and partner violence (highlighted at the regional forum on preventing femicide titled “Joint Fight Against Femicide”, organized on December 6, 2023, on the *International Day for the Elimination of Violence against Women*). In the absence of official statistics and a unified registry, we rely on data from the non-governmental sector, social welfare centers, activists, and media.

These findings are confirmed by official reports from state authorities, independent reports from women's non-governmental organizations, and the concluding comments of the Committee on the Elimination of Discrimination against Women addressed to Serbia. In these comments, among other things, the state is encouraged to intensify its efforts to overcome stereotypical attitudes towards the roles and responsibilities of women and men in the family and society. The state is also urged to continue implementing measures to eliminate gender stereotypes by promoting a positive image and substantive equality for women.

Undoubtedly, there are various reasons why mechanisms designed to combat and protect against domestic violence do not achieve their projected goals in practice. Some of the causes are of a general nature and relate to problems in the functioning of the judicial system. Another part of the causes stems from the fact that certain legal solutions are not adequate and harmonized. However, the key causes of the unsatisfactory situation arise from the fact that the state's response to domestic violence largely depends on institutional sexism – sexist attitudes deeply rooted and widely spread among officials in institutions within the system responsible for handling cases of domestic violence (Petrušić, 2019, p. 218).

In conclusion, it can be summarized that research on legal regulations and legal practices has identified shortcomings, as well as problems and inconsistencies between the work of relevant institutions and the non-compliance with international regulations in the field of protection and prevention of this deviant behavior within families. Serbian society and the state are expected to nurture a more effective approach to justice, eliminate the “invisibility of women” and address the tardiness in resolving cases of violence against women. In this regard, it is crucial to start implementing measures through educational policies from an early age to eliminate gender stereotypes and promote a positive image of women, mothers, and grandmothers on the one hand, and to work on promoting gender-sensitive violence in educational institutions, as well as elucidating the detrimental consequences of gender-sensitive violence on the other hand. Postmodern society is characterized by risk and uncertainty. The public sphere of life predominates over the private, i.e., family sphere of life, and all deviant behaviors in society are reflected in family relationships. Although Serbia, as a state, has committed itself as a member of all relevant international agreements to continuously and adequately work on the protection and prevention of domestic violence, primarily against women, the results are lacking. There are two reasons: the inability to overcome stereotypical societal and cultural attitudes about gender and equality between men and women, and institutional sexism – as evidence of

ineffective suppression and protection of women from domestic violence”¹². In this regard, we believe that changes are necessary in the curriculum for teacher education faculties, as well as in the development of gender-sensitive theoretical and empirical approaches to supplement the content of the Sociology of the Family course at the Pedagogical Faculty in Vranje, University of Niš. We expect that this will also stimulate new research questions on the topic of developing gender-sensitive education. Lastly, but certainly not least, it is of great importance to implement mental, cognitive, and social sensitivities regarding gender equality, precisely because it holds civilization significance for the advancement of science and profession. This ensures the improvement of interpretation and implementation of women's rights and freedoms, the right to protection and prevention from violence, which serve as a sort of compass for the overall development of quality and the application of legal norms prescribed by the state, as well as moral norms arising from society as a whole.

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GDE JE DRUŠTVO TU JE I PRAVO: PRILOG PROUČAVANJU SOCIOLOŠKOG ASPEKTA PRAVNE ZAŠTITE OD RODNO ZASNOVANOG NASILJA U PORODICI

Apstrakt

Problem istraživanja je ispitivanje aktuelnih fenomena nasilja u porodici kao specifične sociopatološke pojave. Istraživačka pitanja su sadržana u sagledavanju odgovora sociološke i pravničke nauke na dinamiku, oblike, kao i vrste nasilja u predmodernim i savremenim naprednijim pravnim i društvenim sistemima. U radu će biti korišćena deskriptivna metoda, kako bismo opisali i pojasnili savremene tendencije u sociološkoj teoriji i društvenoj praksi, u cilju demistifikovanja "nevidljivosti" ženske populacije u svim uzrasnim kategorijama, dinamike, oblika i "skrivenih statistike" femicida u Srbiji. Koristićemo se i analizom sadržaja međunarodnih dokumenata, konvencija, deklaracija, preporuka, strategija, sve do pripreme Pravilnika o sprečavanju i zaštiti od nasilja, seksualnog nasilja, uznemiravanja i ucenjivanja (2023) na Pedagoškom fakultetu u Vranju (autorka rada je učestvovala u pripremi istog), što opravdava razvijanje uslova za rodno senzitivno obrazovanje u okviru nastavnih sadržaja opšteobrazovnih predmeta. Razmatranje navedenog problema će podstaći promovisanje rodno senzitivnog pristupa u promišljanju važnih društvenih situacija, odnosa, problema, u pronalaženju uzroka sociopatoloških pojava i njihovom ublažavanju kako u ličnom stavu studenata – budućih vaspitača, tako i u preispitivanju tumačenja i primene pravnih normi iz perspektive prevazilaženja elemenata patrijarhalne matrice porodičnih odnosa u realnom životu. U zaključnom delu rada preporučujemo da se sociološki aspekt pravne zaštite rodno zasnovanog nasilja u porodici integriše kao nastavni sadržaj za obavezni predmet Sociologija porodice u okviru SP OAS obrazovanje vaspitača na Pedagoškom fakultetu u Vranju, kako bi se pojačale socijalne kompetencije studenata u smislu jačanja autonomije ličnosti, ravnopravnih partnerskih odnosa u porodici, ali i kritičkog odnosa prema rodno-senzitivnom nasilju. Doprinos kvalitetu svih oblika nastave u silabusu predmeta posredno će uticati i na negovanju ljudskih prava i ljudskih sloboda kao temeljnih pitanje demokratičnosti i civilizacijskog napretka porodične organizacije u budućnosti. Na samom kraju rada zaključujemo da stečena ženska prava zaostaju za kvalitetom normi i njihovom primenom, te upravo to predstavlja važan indikator porasta femicida i rodno uslovljenog nasilje u srpskoj porodici. Značaj ovog rada ogleda se u davanju primera podsticanja rodno senzitivnog univerzitetskog obrazovanja vaspitača, a za dobrobit vaspitačke struke i unapređenja rodnih odnosa u Srbiji.

Ključne reči: nasilje u porodici, rodno senzitivno obrazovanje, nasilje nad ženama, porodičnopravna i krivičnopravna zaštita, Sociologija porodice.



**QUALITY IN EDUCATION AND SUSTAINABLE
DEVELOPMENT GOALS THROUGH THE PROTECTION OF
SEAS AND OCEANS: GENDER EQUALITY AND GLOBAL
CITIZENSHIP PERSPECTIVES**

UDC 371.26/.27:005.6; 551.46:504; 371.26/.27:004

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Abstract. *The concept of sustainable development is also inextricably bound with quality education (SDG4) but is also embedded within the 14th Goal – ‘Life Below Water’. Education has a crucial role in transmitting values, ideologies, attitudes, and behaviours that work towards the protection of the environment, and specifically of water, as a core compound of the Earth’s ecosystem. The cultivation of a school ethos oriented toward the protection of marine resources is also intertwined with global citizenship and additionally, it is gendered. The present paper raises the above topics both theoretically and practically. It suggests ideas for intervention activities addressed to students in the first three grades of primary education. Also, videos, digital activities, web resources, books, drawings, and posters, along with brainstorming, collaborative learning and debates, will be used for the activities’ implementation. The main aims are the transmission of knowledge that focuses on the importance of the planet’s largest water ecosystem and environmental values about the protection of marine resources, in an extended scope that covers many related areas, but also with a critical perspective that raises both gender equality issues and global awareness. Additionally, the use of ICT will promote the enhancement of students’ digital skills. Students will be able to expand their scope of knowledge, shift from local perceptions, develop global environmental connections, make more informed decisions, and transform their ecological attitudes toward more equitable, inclusive, and democratic development.*

Keywords: *Sustainable Development Goals, oceans, gender equality, digital skills, global citizenship, inclusive development*

Received February 03, 2024/Accepted March 03, 2024

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1. INTRODUCTION

‘Quality’, as a concept, is tightly linked with education. It is both a pre-requisite and a goal for education. Additionally, it is a broad term that encompasses many aspects, which actually function as mechanisms for its realization. Also, it is a social, economic, and political imperative, justifying the fact that it is high on the agenda of global organizations and policies. More specifically, ‘Quality Education’ is the 4th Sustainable Development Goal (SDG) among the other 16 Sustainable Development Goals, which overall form the UN’s Agenda 2030 for Sustainable Development. However, the targets of the 4SDG are closely interrelated with other global targets, highlighting, thus, the interrelationship and powerful interaction of quality education with other spheres of social life, such as decent work and economic growth, good health and wellbeing, gender equality, responsible consumption and production and climate action. Quality education is not only an isolated SDG but also a strategy and a tool to achieve all the remaining 16 SDGs (Odell et al., 2019).

The interconnected world we are living in is facing a sweeping, accelerated and long-term global polycrisis in all aspects of human life: identities, morality, social structures and environment (Granados-Sánchez, 2023). As long as these challenges endure, it is widely acknowledged that financial investments, technological innovations and political incentives (UNESCO, 2014) alone cannot tackle poverty, environmental degradation, the climate crisis and the impact of the inequitable access and distribution of resources. On the contrary, in recent years, there has been a growing recognition that education has a crucial role in promoting sustainable development (SD) and can be the driving force toward social transformation. The argument is two-fold. On the one hand, Education for Sustainable Development (ESD) intends to equip all learners, individually and collectively, with the appropriate knowledge, skills, values, attitudes and cultivate their critical awareness to understand human interaction with the entire ecosystem as a source of life and, also, to confront the challenges of SD toward a more prosperous, democratic, inclusive and resilient world (UNESCO, 2016; UNESCO, 2014). Therefore, ESD is a form of transformative education (Odell et al., 2019), which transcends the state where learners have awareness, but, going a step further, instils, attitudes that inspire action and active engagement to a greater SD. Drawing from the insights of Biesta’s theory (2011), ESD has a transcendental character, as it shifts from the learning of societal norms to a learning that focuses on the experiencing of SD and the core of democracy. In other words, education becomes itself an integral part of the SD (Granados-Sánchez, 2023).

On the other hand, there is an increased assertion of the concept of citizenship, the decisive role of citizens and the anthropogenic and social factor, generally, both as part of the problem (global threats) and solutions toward SD (McKinley et al., 2020; Granados-Sánchez, 2023). Citizens not only assert more individual awareness but also develop a connection with the global context in terms of rights, duties, and agency requirements and better grasp the impact of individual and collective decisions, attitudes and actions on a global scale (UNESCO, 2016). Thus, the global agenda, which is a priority, becomes part of the citizens’ agenda (Granados-Sánchez, 2023), something that applies to all aspects of environmental sustainability, such as marine ecosystems and coastal management (McKinley et al., 2020).

2. THEORETICAL CONSIDERATIONS

2.1. The importance of the sustainable use and conservation of oceans, seas, and marine resources toward sustainable development. The 14th Goal – Life under Water

Seas, coastal areas, and oceans occupy more than two-thirds of the Earth and concentrate 97% of the planet's water, forming an indispensable component of the ecosystem while being a huge reservoir of biodiversity. Seas and oceans provide over three billion people with marine and coastal resources, which are necessary for their survival and livelihoods. Also, they protect human health, as they are the main providers of water and 50% of the oxygen needed for our survival, regulate the global climate, absorb 30% of carbon dioxide, and shield the planet against greenhouse gases (Cicin-Sain, n.d.; UN, n.d.). Generally, they offer food security, decent work, and economic growth on a global scale. Specifically, marine resources are crucial for local and global economic progress and prosperity, as ocean economic activities contribute to the world economy in three to six trillion US dollars in various ways. Out of twenty megacities, thirteen are coastal, and coastal tourism is one of the largest and most profitable markets in the world economy, accounting for 5% of the global gross domestic product and 6%–7% of employment globally. 95% of global telecommunications rely on submarine cables, aquaculture, and fisheries, which are the main suppliers of animal protein to 4.3 billion people, while the seas and oceans provide globally more than 30% of oil and gas. Also, 90% of global trade uses marine transport. Marine biodiversity provides a huge source for innovations in various sectors, such as aquaculture, food production, and pharmaceuticals. Coastal countries depend on sustainable forms of energy drawn from the seas and oceans. At the same time, renewable forms of energy, ecotourism, sustainable fishing, and eco-friendly shipping provide good sanitation, decrease pollution, malnutrition, poverty, and unemployment. The benefits for human well-being in all sectors of social life are immense. Thus, the 14th Sustainable Development Goal (SDG14) is inextricably bound with other goals, highlighting the interdependence and intersectionality of all goals, such as SDG1 (poverty), SDG2 (zero hunger), SDG6 (clean water and sanitation), SDG7 (affordable and clean energy), SDG8 (economic growth), SDG9 (infrastructure), SDG10 (reduction of inequalities), SDG11 (cities and communities), SDG12 (sustainable consumption and production), SDG13 (climate change), SDG15 (life on land), and SDG17 (partnerships for the goals) (Cicin-Sain, n.d.; OECD, 2021; UN, 2022).

However, intensified, and unregulated human activities are threatening, degrading, or destroying seas, oceans, and marine resources. Some of the most significant threats are multiple forms of marine pollution, which are mainly land based, increased acidification, something that results in the inability of oceans to moderate climate change and the loss of coral reefs that are considered the sea's rainforest and eutrophication. Also, plastic pollution is becoming increasingly accelerated. In 2021, it is estimated that 17 million metric tons of plastic ended up in oceans, while this amount is expected to double or triple by 2040 (UN, 2022). At the same time, the impacts of climate change are increasing for island and coastal populations, who are mostly vulnerable and exposed to more frequent and intensified climate extremes and sea level rise (Cicin-Sain, n.d.; OECD, 2021). These changes are already obvious, but it is estimated that by 2050, 50 to 200 million people globally will have to be displaced due to the negative effects of climate change, something

that has further global economic and social implications. Furthermore, it has to be considered that the overconsumption of fish and their unsustainable extraction (overfishing or illegal fishing) are heavily affecting fish stocks, which are under threat on a global scale. Indicatively, in 2021, 35.4% of fish stocks were overfished, something that is crucial for global food security and for local and global economies, as half a billion people depend on small-scale fisheries, at least partially, which is estimated to account for 90% of employment in fisheries on a global scale. Policies and approaches also consider other important critical issues of socio-economic equality, as 97% of small-scale fisheries are located in developing countries, which means that vulnerable groups, indigenous peoples, and people inflicted by high levels of poverty are further deprived of socio-economic opportunities for producing economic growth and equitable development, as they are highly dependent on natural resources and their well-being is tightly linked to ecosystem resources and services (UN, 2022).

2.2. The interrelationship of gender, marine resources, and sustainable development

Another important aspect is that the sustainably oriented development of the broader area of ocean governance is intertwined with gender perspectives. By the term ‘governance’, we are referring to the social, political, including administrative, and economic systems and the related institutional arrangements, both formal and informal, concerning the management of natural resources (Gissi et al., 2018). Critical approaches should also consider, along with socio-economic equality, gender equity, which is part of global gender-mainstreaming policies and initiatives (Amani & Hanson, 2022), but mostly as a means to realize the entire scope of the interconnectedness of human relations to the protection of the environment. Additionally, it is a separate Sustainable Development Goal (SDG5-Gender Equality), which is pivotal in promoting effectively inclusive and sustainably driven access, protection, management, and benefit of marine and coastal resources (Amani & Hanson, 2022; Novovic, 2023), while ensuring human rights, social justice, societal resilience, equitable economic progress, and democratic prosperity. Gender inequity (or the gender gap) in the field is apparent in two ways. First, women are discriminated against, underpaid, underrepresented, invisible, or even excluded from production, management, conservation, decision-making, governance, leadership, policies, and initiatives either related to marine/coastal resources or to risk reduction induced by disasters (Amani & Hanson, 2022; Gissi et al., 2018; OECD, 2021). Second, women, along with children (boys and girls), which are mutually vulnerable, feel in a very different way the impacts of the degradation of marine and coastal resources (Amani & Hanson, 2022). In other words, they are disproportionately inflicted by the overlapping impacts of the human-induced environmental crisis (including climate change), such as natural disasters that hit coastal or island populations, and, additionally, by all forms of marine pollution (OECD, 2021). The unequal distribution of power and agency along gender divisions is largely defined by societal norms, intersects with other identities, such as age, race, ethnicity, nationality, religion, and physical ability, and is highly contextual, according to different socio-cultural and geographic backgrounds (Amani & Hanson, 2022; Gissi et al., 2018). Undoubtedly, the disempowerment of women creates a privilege for men, but distorted societal norms are equally harmful for all (Wabnitz et al., 2021). Across time and space, both men and women have different knowledge, needs, and capabilities related to

marine and coastal resources, and, therefore, they interact differently with marine ecosystems. The above are crucial aspects of gender-transformative approaches (Wabnitz et al., 2021) and gender-equal (or gender-responsive) SD (Ray, 2016; UN Women, 2014), which are holistic, address equally males and females, and are also culturally sensitive. Also, in most cases, while gender-mainstreaming policies are globally acknowledged, there is insufficient practical knowledge and tools to implement gender parity in each different context (Amani & Hanson, 2022; Pliogou, 2021).

The contribution of women in many fields of ocean governance (traditional fisheries, marine conservation, SD, maritime industry, and coastal management) (Barreiro-Gen et al., 2021; Gissi et al., 2018), although it is significant and has a long history, is often neglected, silenced, overlooked, downgraded in informal low-paid and low-skilled jobs, not depicted in statistics, or judged under gender essentialist approaches (Gissi et al., 2018; OECD, 2021). The female presence in this field is not a uniform phenomenon but geographically and culturally bound, as all coastal areas are not the same around the globe. On the contrary, there appear to be significant differences. Additionally, other maritime activities, such as navigation, sailing, and surfing, are considered mostly male-dominated. In OECD countries, women account only for 20% of the entire workforce occupied in the fishing industry, while the percentage is low (30%), even in the largest coastal countries (i.e., the UK and Finland) and even lower in countries of the Aegean, such as Greece (12%) and Turkey (0.5%), that traditionally depend on the fishing industry (OECD, 2021). Norway faces the same gender-equity challenges, as the entire fishing industry belongs exclusively to men. Fishing associations are male-dominated, and women make up the first half of their male colleagues.

Although there has been progress in the last few years, women still face fewer opportunities to get involved in the fishing industry, and the main obstacles are both structural and cultural. Also, it is equally important to consider historically the offshore female participation, the ‘hidden fisheries’, as it is called, where women usually support the entire household and nurture children, and without their valuable contribution, the coastal traditional community would not have survived (Kilden, 2023). The OECD (2021) reports that men are occupied with fish harvesting (81% in 2014) and women mainly in the secondary field of fish processing (90%), which is often a low-skilled area, usually underpaid or even unpaid. On a global scale, the 100 most known seafood companies were run exclusively by men, except for one, while for 54% there was no female leadership on boards. Research in Brazil and the Mexican and Colombian areas of the Pacific Ocean supports the idea that women in small-scale fisheries implement more sustainable practices in comparison to men (Gissi et al., 2018). Notwithstanding, it is important that female ocean researchers account for 38%, which means that female representation in the specific field is 10% higher than in the entire research field (Gissi et al., 2018). Finally, we have to mention global initiatives that promote the inclusion of women in ocean governance and gender-equity SD while taking into account local socio-cultural factors, for example the International Maritime Organization, that focuses on areas such as education, law, administration, ports, seafaring and transportation (Gissi et al., 2018), the ‘Women in Fisheries Network Fiji’ (2017), in Sweden the ‘Swedish Leadership for Sustainable Development’ network in collaboration with the ‘Swedish Development Cooperation Agency’, in Mexico the ‘Gender Equality at Sea’ initiative held by the organization ‘Comunidad y Biodiversidad’ (UN, 2020) and also European funded initiatives, such as ‘The Galician Foundation for Fishing and Shell Fishing’, along with FARNET, held by the

‘European Maritime and Fisheries Fund’, which overall support women to acquire knowledge and expand local partnerships (OECD, 2021).

2.3. Global Citizenship and Sustainable Development

Although ‘sustainable development’ is not a new term and is largely contested, two facts are crucial. The first is that the term has been evolved and even more expanded after the Rio +20 Conference of the UN (2012), building upon the previous Millennium Development Goals (2016), in a way that supersedes them by actually setting 17 specific goals, which function as a measurable global matrix for their implementation’s assessment (Gough, 2018; Leite, 2022). The second is that the 17 SDGs are promoting more effectively the ‘Agenda 21’, by adapting a holistic approach that encompasses three pillars that cover all main areas of human activities involved in the concept of sustainability, and, more importantly, they have a transformative aim (Gough, 2018). The three pillars are economic, environmental, and social. The fundamental concept behind the ‘Agenda 21’ is that economic growth and human progress must not come into direct conflict with environmental and social sustainability, or even if they create risks against them, they must be reduced or resolved in a democratic, participatory, transparent way that involves the community while considering social justice, equity issues (Gough, 2018), and socio-cultural aspects, which are locally bound (Rao et al., 2017). Similarly, the ‘Earth Charter’ (2000–2023) entails four pillars: 1. respect and care for the community of life; 2. ecological integrity; 3. social and economic justice; and 4. democracy, non-violence, and peace (Sharma, 2020), highlighting thus the human rights perspective. The common value underpinning all the above is that they are built upon the concept of a universal morality or ethos, integrated within the concept of global citizenship under a cosmopolitan perspective that transcends local boundaries and connects individuals with a global worldview (Sharma, 2020).

It has to be acknowledged that ‘sustainability’, ‘gender equity’ and ‘global citizenship’, are terms embedded within the 4.7 Target of the 4th SDG for ‘Quality Education’, something that further highlights their interconnectedness for the realisation of the specific SDG and the added value of education. ESD and Global Citizenship Education (GCE), although, as it has been suggested, they appear to have significant convergence and overlapping themes and goals (Khoo & Jørgensen, 2021) or, in some other cases, they have received critique regarding the realistic dimension of their transformative goals (Granados-Sánchez, 2023), appear to have a close association, which has lately been increasingly advanced and reinforced (Gough, 2018). Furthermore, unblurring the limits of each one might be disorienting, as the most imperative demand is for both types of education to become consciously and coherently an integral and pervasive part of the entire curriculum and shift away from its margins as a separate subject (Garcia et al., 2017; Gough, 2018), aiming at more holistic and interdisciplinary approaches (Garcia et al., 2017).

ESD can be summarized as the ‘learning of a sustainable way of life’ (Leite, 2022). It spans from non-formal and informal to formal learning (Sarabhai, 2013), and it entails specific learning content and outcomes, oriented mostly toward societal transformation (UNESCO, 2016). Therefore, it aims to empower students, who will be able to both take informed decisions and actively become responsible for the entire array of aspects encapsulated within the concept of sustainability, such as economic growth, environmental stability, protection of biodiversity, the green economy, responsible production and

consumption, poverty reduction, disaster risk reduction, and climate change, in a way that promotes social justice that will extend to all generations, present and future (Leite, 2022; UNESCO, 2016; UNESCO, 2014). Thus, the learning environment and pedagogy should be aligned with these goals and adapt learner-centered, interactive teaching and learning along with participatory decision-making, while there are suggestions for increased implementation of multi-method (dramatization, art, debating, and writing) in such a way that will enable exploration, action, and transformative learning (Garcia et al., 2017). For fulfilling these goals, learning environments (physical and digital) must be both re-examined and redesigned, not just to promote knowledge acquisition and awareness, but to urge learners to actively engage in action toward sustainability (UNESCO, 2016). Similarly, GCE intends to confer power to students, most importantly to become active citizens who will be mobilised both locally and globally against challenges and risks, to eventually transform the world (Leite, 2022; Gough, 2018). GCE combines three learning domains, aligned with relevant goals: 1. cognitive (knowledge and skills acquisition), 2. socio-emotional (values, social skills, and attitudes), and 3. behavioural (conduct, active engagement, tolerance to diversity, respect for human rights, promotion of peace, and gender equality) (Chung & Park, 2016; Leite, 2018; UNESCO, 2016). Furthermore, it is important to mention that GCE is differentiated into two types, ‘soft’, which is oriented toward awareness and empowerment, and ‘critical’, where individuals are empowered, independent, well informed, but also acquire a critical perspective for self-reflection and active mobilisation against social inequalities and inequitable structural relationships (Chung & Park, 2016). Finally, GCE uses the knowledge driven by ESD to promote its goals more effectively (Gough, 2018).

3. THE PROTECTION OF SEAS AND OCEANS: SUGGESTED IDEAS FOR INTERVENTION ACTIVITIES

The specific section outlines some ideas for intervention activities that have as a main theme seas and oceans and the culture of water. This set of intervention activities appeals to students in the first three grades of primary education. They are expanded upon three main concepts: ‘sustainability’, ‘gender equity’ and ‘global citizenship’. Also, they draw insights from the theoretical framework both of ESD and GCE, as it is promoted by UNESCO (2016), and they comprise teaching strategies from inquiry-based, explorative, experiential, and collaborative learning, capitalising the learning cycle of the ‘5 E’ instructional model (Bybee & Landes, 1990) – engagement, exploration, explanation, elaboration, and evaluation (Duran & Duran, 2004). Additionally, they can be implemented with ICT, work sheets, drawings, posters, videos, and dramatization.

The learning outcomes that have as a main theme seas and oceans and the culture of water are expanded in the main three areas:

1. In relevance to the **learning/subject content**, activities aim to:
 - Become familiar with the concept of SD and specifically with the 14th SDG – Life Below Water: conserve and sustainably use of seas and oceans.
 - Expand knowledge on the entire spectrum related to the value of seas and oceans.
 - Create critical awareness about environmental degradation, socioeconomic and gender inequalities on a global scale.

- Promote the concept of counteraction toward global resilience, gender equality, prosperity, and environmental integrity.
2. In relevance to **the use of ICT**, activities aim to:
 - Develop skills that will enable them to deploy digital resources as tools for searching, inquiring, and producing.
 - Use YouTube for searching and watching audio-visual materials.
 - Use the Google Search service for finding information.
 3. In relevance to the **learning process**, activities aim to:
 - Understand and promote the value of group learning and inquiry through collaboration and problem-solving.
 - Communicate and collaborate with their peers and teacher through dialogue while articulating arguments.
 - Learn by doing, as students will receive feedback while engaging with digital activities.

3.1. Intervention activities

In line with the stated learning outcomes, we have listed in the following text some ideas for intervention activities focussing on seas and oceans and the culture of water, with explanations of the teacher's activities and some appropriate tasks and questions for the students on specific activities.

1. Visit the UN webpage for the *17 SDGs* and watch the video (UN. Department of Economic and Social Affairs, n.d.). The teacher has to explain to the students what sustainability is and present all the SDGs, among them the 14th. A small discussion may follow. Students should take notes and discuss which goal they find most important and why.
2. The *14SDG - Life Below Water: conserve and sustainably use of seas and oceans* – is introduced. Students keep notes that will be later discussed.
 - Visit the UN's link, <https://sdgs.un.org/topics/oceans-and-seas>, which analytically describes all relevant information about the 14SDG.
 - Also, the UN's infographic: <https://sdgs.un.org/goals/goal14> summarises visually all the main themes related to the sustainability of seas and oceans.
 - Use the slides from the presentation (United Nations Environment, 2017) (Pictures 1, 2, and 3).

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Sustainable Development Goals
Policy Brief

About

The Sustainable Development Goals Policy Briefs highlight a hotspot of environmental change. The evidence provided builds on the scientific data and information hosted on the online platform Environment Live and is complemented by stories collected around the world. Readers may find out what is happening to their changing environment and the consequences of everyday choices, and think about future directions for policy in the framework of the 2030 Agenda for Sustainable Development.

Marine pollution is the result of deliberate or accidental discharges of untreated wastewater, dumping of solid wastes and other polluted runoff from a variety of land-based activities directly into our rivers and coastal waters. Healthy oceans are productive oceans, and resilient marine and coastal ecosystems are essential to achieve sustainable development.

14 *Life Below Water*

UN Environment as Custodian Agency for some key indicators related to "Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development"


- 14.1.1 Index of Coastal Eutrophication (ICEP) and Floating Plastic debris Density
- 14.2.1 Proportion of national Exclusive Economic Zones managed using ecosystem based approaches
- 14.5.1 Coverage of protected areas in relation to marine areas


Oceans: Marine pollution

UN environment

Keep the oceans clean

An integrated approach to address pollution from land to ocean is needed to sustainably manage marine and coastal resources






Addressing marine pollution helps achieving:

- SDG 2 Zero Hunger
- SDG 3 Good Health and Well-Being
- SDG 6 Clean Water and Sanitation
- SDG 12 Responsible Consumption and Production
- SDG 14 Life Below Water
- SDG 15 Life on Land

Joining the #CleanSeas campaign accelerates the global efforts to tackle marine litter



Picture 1 Sustainable Development Goals – Oceans: Marine pollution

Sustainable Development Goals | Policy Brief SCIENCE DIVISION

Facts and figures

Main contributors to marine pollution

- +37% increase in domestic waste consumption in 20 years
- 322 million tonnes of plastic produced in 2015
- 270 billion m³ of municipal wastewater produced annually while in many parts of the world as much as 80% is discharged untreated
- 123 kg of fertiliser per hectare of arable and consumed in 2013 with low use efficiency, losses to the environment can be as high as 80%
- 116 chemical and agricultural products as a result of routine accidents between 1987 and 2013
- 8 million tonnes of plastic leak into the ocean every year
- Ingestion and entanglement from marine litter harms over 600 marine species, of which 10% are endangered

Nutrient pollution from excess fertilisers and manure are the primary sources of nitrogen loads in marine ecosystems, causing an over-enrichment process called eutrophication. This involves a shift from oligotrophic to eutrophic systems, algae that consume oxygen and can cause fish and invertebrate deaths.

16% of Large Marine Ecosystems at high risk of eutrophication. Most of these are located in Western Europe, Southern and Eastern Asia and the Gulf of Mexico.

13% National Exclusive Economic Zones protected


45% Marine key biodiversity areas protected

Action


Towards solutions ...

- 109** Countries committed to a Global Programme of Action for the Protection of the Marine Environment from Land-based Activities
- 143+** Countries have joined 18 Regional Seas Conventions and Action Plans, of which
 - 5 already have an incident-based monitoring mechanism in place
 - 12 already issued Policies or Directives on Land-based Sources of Pollution
- 30** Countries already joined the #CleanSeas campaign on marine litter


... for achieving SUSTAINABLE DEVELOPMENT GOALS




Efficiency of household further use efficiency



14 Life Below Water



Wastewater treatment



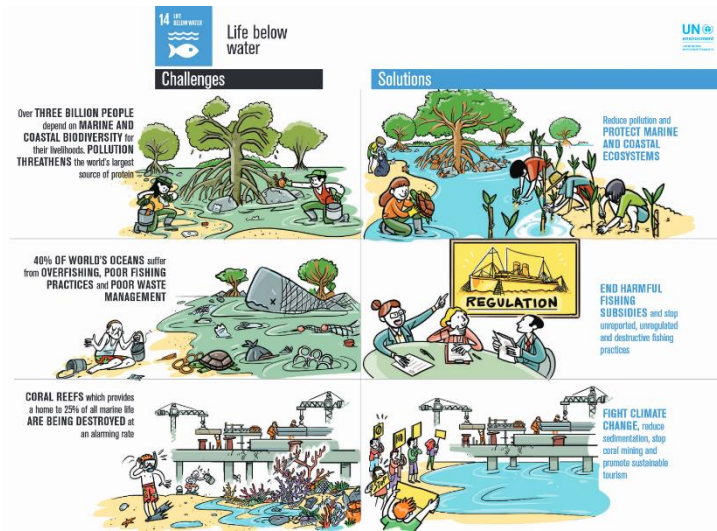
Improved plastic management
Reduction of single-use plastics

Picture 2 Sustainable Development Goals – Main contributors to marine pollution



Picture 3 Sustainable Development Goals – Initiatives from the ground

Tasks and questions for students: What do you know about marine pollution? Write down what you know and then visit the following link to study the “Policy Brief”. Did you cover most of this information? Can you suggest some solutions? Write them down and then visit the UN Environment Programme (n.d.) to get a clear view of possible solutions for the protection and sustainable development of marine and coastal ecosystems (Picture 4).

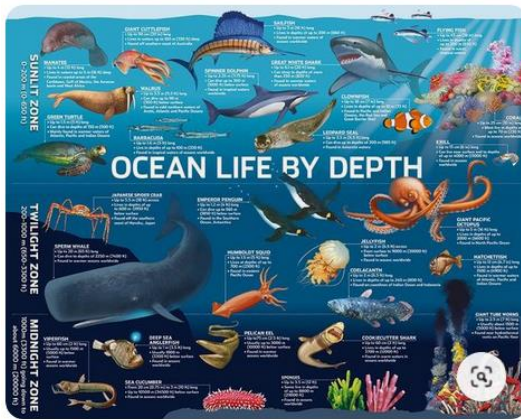


Picture 4 Life below water – Challenges and Solutions

3. When learning about *Continents and the Oceans* students can watch the video on the YouTube channel Coding for Kids (Coding for Kids, 2021). Then they can complete “The Five Oceans – Match” (Math Worksheets 4 Kids, n.d.).

4. Learn about the *ocean zones and sea creatures*.

Tasks and questions for students: What do you know about sea creatures? Can you name them? In what depth do they live? Do we find everywhere on Earth the same sea creatures? Explore: “Ocean Life by Depth” (Picture 5). What did you learn? Find the hidden words and circle them on Picture 6.



Picture 5 Life before water – Challenges and Solutions



Picture 6 Find the hidden words

5. *Water towns around the world.*



Picture 7 Water towns around the world

Explore: “Water towns around the world” on Discover talking pen (n.d.).

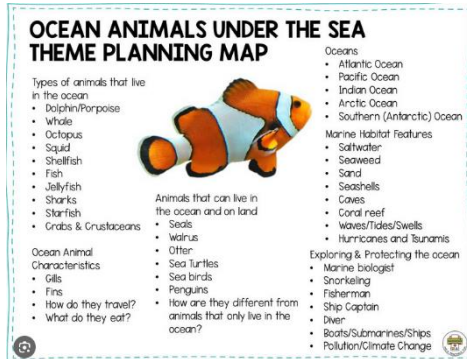
Tasks and questions for students:

Are all towns the same?

Can a town be covered in water or under the sea level?

Discuss the following picture (Picture 7). Where are these cities located?

6. Concept map



Picture 8 Theme planning map

Task for students:

Divided into groups of two, students will create a concept map either digitally (with Cmap tools, for example) or in physical form on paper.

They can draw ideas from the following link <https://www.prekprintablefun.com/under-the-sea.html> and then create their own one (Picture 8).

7. *Draw your own aquarium.* The class will create collaboratively on a large cardboard an aquarium. Each group will be responsible for each separate facility.

Tasks and questions for students:

What kind of facilities/spaces/services do we find in an aquarium? Have you ever visited an aquarium? Is there an aquarium or a sea world in your country? Students can find and print out pictures on the internet to help them categorise the different facilities and stick them on the cardboard. In the following pictures, we have shown some of them as examples.



Picture 9 Aquarium tickets (Source:

https://www.prekprintablefun.com/store/p217/Aquarium_Dramatic_Play_Pack.html)



Picture 10 Aquarium facilities Source: <https://www.tynemouthaquarium.co.uk/visitor-info/gift-shop/>

and <https://www.cntraveler.com/galleries/2014-07-28/7-underwater-restaurants-and-bars-around-the-world>

8. *Gender and ocean management.* Students see the following photos (traditional fisheries and marine transportation) and compare them.

Questions for students: What is the common feature of them? What are the differences? Which is the gender of the people in each photo and with what are they occupied? If students live in a coastal area, have they ever seen who is fishing? Why do we only have fishermen and not fisherwomen? Can you guess from which part of the planet they are? Are there any women and with what are they occupied? Can you describe women's work?



Picture 11 Helping young fisherman join the industry



Picture 12 The unique leg-rowing fisherman of Inle Lake, Myanmar

(Sources: <https://www.nationalfisherman.com/national-international/generation-next-helping-young-fishermen-join-industry> and <https://www.theculturemap.com/leg-rowing-fishermen-inle-lake-myanmar/>)



Picture 13 Fishermen restart fishing after 20-month fishing ban



Picture 14 A captain controlling a cruise ferry from the cockpit

(Sources: <http://en.people.cn/n3/2018/0916/c90000-9500702.html> and https://unsplash.com/photos/XdIrwH98K_E)



Picture 15 Women Harvest Half-Pearls In Fiji (Source: <https://www.karipearls.com/women-harvest-halfpearls-in-fiji.html>)

9. World Ocean Day – Ocean/Sea Protection.



Questions and tasks for students: Do you know when we celebrate the ‘World Ocean Day’? All students will participate in the creation of a poster for the ‘World Ocean Day’. The poster will depict a wave made of plastic things that pollute seas and oceans, similar to the poster in Picture 16, which is downloaded from TPT (n.d.). It will also have to refer to the 8th of June - World Ocean Day and ways to protect the marine ecosystem. The poster will decorate the classroom for the entire year. Children can produce a video protesting against the pollution of marine ecosystems, and in case they live in a coastal area, they can arrange, along with other classes, an earth action, such as cleaning a beach.

Picture 16 The poster example (Curiosity and the Hungry Mind, n.d.)

4. CONCLUSION

This set of suggested intervention activities aims to cultivate a culture of water and sustainability toward marine resources, while addressing issues of social and gender inequality. The intertwining of ESD and GCE highlights that the important function and future potentiality of education, as an overarching driving force for establishing and further supporting global sustainability beyond local imperatives, is widely recognised, while considering social and gender inequalities (Pliogou, 2021). ESD and GCE entail crucial commonalities. They form a holistic pedagogic approach, in terms of learning content, processes, outcomes and learning environments. They share the same vision and transformative goals (UNESCO, 2016), both aim at wider skill acquisition (attitudes, values, collaborative, communicative and critical thinking skills), and while ESD is built

upon the concept of relevance with the local community (Garcia et al., 2017), at the same time GCE inspires to strengthening the sense of belonging to the global community (Sarabhai, 2013). To fulfill these goals, learning environments must be redesigned, not just to promote knowledge acquisition and awareness but to urge learners to actively engage in action toward SD.

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KVALITET U OBRAZOVANJU I CILJEVI ODRŽIVOG RAZVOJA KROZ ZAŠTITU MORA I OKEANA: RODNA RAVNOPRAVNOST I PERSPEKTIVE GLOBALNOG GRAĐANSTVA

Apstrakt

Koncept održivog razvoja je neraskidivo povezan sa kvalitetnim obrazovanjem (SDG4), ali je takođe ugrađen u 14. cilj – „Život ispod vode“. Obrazovanje ima ključnu ulogu u prenošenju vrednosti, ideologija, stavova i ponašanja u vezi sa zaštitom životne sredine, a posebno vode, kao ključnog spoja Zemljinog ekosistema. S druge strane, negovanje školskog etosa orijentisanog na zaštitu morskih resursa isprepletano je sa globalnim građanstvom i dodatno je rodno determinisano. Ovaj rad pokreće navedene teme i teorijski i praktično. Predlaže ideje za interventne aktivnosti upućene učenicima prva tri razreda osnovnog obrazovanja. Za implementaciju aktivnosti korišćeni su odgovarajući video snimci, digitalne aktivnosti, veb resursi, knjige, crteži i posteri, a dati su i primeri saradničkog učenja i debata učenika za svaku pojedinu aktivnost. U radu, autori se bave prenošenjem znanja koje se fokusira na značaj najvećeg vodenog ekosistema planete i ekoloških vrednosti o zaštiti morskih resursa, u proširenom obimu koji pokriva mnoga srodna područja, sa kritičkom perspektivom koja unapređuje pitanja rodne ravnopravnosti i globalne svesti. Osim toga, korišćenjem IKT u aktivnostima promovise se unapređenje digitalnih kompetencija učenika koji će biti u mogućnosti da povećaju obim znanja, da pređu sa lokalnih na globalne percepcije i da, u skladu sa tim, razviju globalne veze sa životnom sredinom, da donose bolje odluke i transformišu svoje ekološke stavove u pravcu pravednijeg, inkluzivnijeg i demokratskog razvoja.

Ključne reči: *ciljevi održivog razvoja, okeani, rodna ravnopravnost, digitalne kompetencije, globalno građanstvo, inkluzivni razvoj*

University of Niš
Pedagogical Faculty in Vranje
1st International Scientific Conference
Teaching, Learning and Teacher Education (TLTE)
**Quality of Teaching and Learning (QTL) –
Reality and Possibilities**

BOOK OF PROCEEDINGS

Computer design

Darko Stojanović

Cover design

Lidija Tasić

Printed by

DAS sistem, Vranje

Printed in 50 copies

Vranje, 2024

CIP – Каталогизација у публикацији
Народна библиотека Србије, Београд

37.091.3(082)
371.13(082)
376.1-056.26/.36(082)
37.091::004(082)

**INTERNATIONAL Scientific Conference Teaching, Learning and Teacher Education (1 ;
2023 ; Vranje)**

Conference theme: Quality of Teaching and Learning (QTL) – Reality and Possibilities : book of proceedings / 1st International Scientific Conference Teaching, Learning and Teacher Education (TLTE), Vranje, November 17–18, 2023 ; [organizer Pedagogical Faculty in Vranje, University of Niš, Serbia] ; [co-organizers Faculty of Education, Nevşehir Hacı Bektaş Veli University, Türkiye ... [et al.]] ; [editor in chief Nela Malinović-Jovanović]. - Vranje : Pedagogical Faculty, University of Niš, 2024 (Vranje : DAS sistem). - 521 str. : ilustr. ; 30 cm

Tiraž 50. - Str. 11-12: Foreword / Nela Malinović-Jovanović, Milica Ristić. - Bibliografija uz svaki rad. - Apstrakti.

ISBN 978-86-6301-055-0

а) образовање -- Зборници б) образовање -- Информациона технологија -- Зборници в)
Настава -- Методика -- Зборници г) Наставници -- Стручно усавршавање -- Зборници д)
Инклузивно образовање -- Зборници

COBISS.SR-ID 149039369

