УНИВЕРЗИТЕТ У БЕОГРАДУ
ФАКУЛТЕТ ЗА ОБРАЗОВАЊЕ УЧИТЕЉА И ВАСПИТАЧА
UNIVERSITY OF BELGRADE
FACULTY OF EDUCATION

PWSZ
State University of Applied Sciences
in Nowy Sącz

FACULTY OF HUMANITIES AND SOCIAL SCIENCES
UNIVERSITY OF SPLIT

DIGITAL TECHNOLOGIES IN EDUCATION – POSSIBILITIES AND LIMITATIONS

Edited by
Ivica Radovanović, PhD
Zdzisława Zacłona, PhD
Ivana Visković, PHD

Belgrade – Nowy Sącz – Split

Digital technologies in education – possibilities and limitations

University of Belgrade, Faculty of Education
Serbia

State University of Applied Sciences in Nowy Sącz
Poland

University of Split, Faculty of Humanities and Social Sciences
Croatia

Digital technologies in education – possibilities and limitations

Themed Proceedings for the year 2024

Edited by

Ivica Radovanović, PhD
Zdzisława Zacłona, PhD
Ivana Visković, PhD

Belgrade – Nowy Sącz – Split 2026.

Scientific Board
prof. Danimir Mandić, PhD; prof. Ivica Radovanović, PhD;
assoc. prof. Zdzisława Zacłona, PhD; assoc. prof. Przemysław Piotrowski, PhD;
prof. Ina Reić Ercegovac, PhD; assoc. prof. Ivana Visković, PhD

Editorial Boards
Dragana Bogavac, PhD; Zorica Cvetanović, PhD; Nataša Janković, PhD;
Miroslava Ristić, PhD Gordana Miščević, PhD (University of Belgrade, Serbia)

Krzysztof Jasiński, PhD; Joanna Jachimowicz, PhD; Agata Kalinowska, PhD;
Beata Lisowska, PhD; Tamara Bolanowska-Bobrek, PhD
(University of Applied Sciences in Nowy Sącz, Poland)

Morana Koludrović, PhD; Toni Maglica, PhD; Antonela Marić, PhD;
Branimir Mendeš, PhD; Gloria Vickov, PhD (University of Split, Croatia)

Milena Ivanuš Grmek, PhD (University of Maribor, Slovenia)

Alicja Sadownik, PhD (Western Norway University of Applied Sciences, Bergen, Norway)

Edited by
prof. Ivica Radovanović, PhD; assoc. prof. Zdzisława Zacłona, PhD;
assoc. prof. Ivana Visković, PhD;

Reviewers
prof. Nevena Buđevac, PhD; prof. Božena Muchacka, PhD; assist. prof. Toni Maglica, PhD

Translation
assoc. prof. Nataša Janković, PhD; PHU GALAY Tetyana Baran; Andriana Marušić, MA

Proofreading
assoc. prof. Nataša Janković, PhD

Technical Editing
Zoran Tošić

ISBN Serbia: 978-86-7849-368-3
ISBN Poland: 978-83-67661-52-2

ISBN Croatia: 978-953-352-144-2 (Tisak);
ISBN Croatia: 978-953-352-187-9 (Online)

Themed Proceedings for the year 2024

CONTENTS

Word from editors 7

Technology-enhanced learning and digital education

Beata Lisowska: The use of drama in working with selected fairy tales at the first stage of general education 13
- Примена драме у раду са одабраним бајкама у првом циклусу општег образовања 35
- Wykorzystanie dramy w pracy z wybranymi baśniami na pierwszym etapie edukacyjnym kształcenia ogólnego 36
- Uporaba drame u radu s odabranim bajkama na prvoj obrazovnoj razini općeg školovanja 37

Verica Milutinović: Modelling pre-service teachers' ICT adoption in education: competencies, perceptions, and support 38
- Моделовање прихватања ИКТ-а у образовању од стране будућих учитеља: компетенције, перцепције и подршка 56
- Modelowanie akceptacji ICT w edukacji przez przyszłych nauczycieli: kompetencje, percepcje i wsparcie 57
- Modeliranje prihvaćanja IKT-a u obrazovanju od strane budućih učitelja: kompetencije, percepcije i podrška 58

Sofija Matović, Jelica Babić: Integration of AI tools in education: a TPACK analysis and pedagogical implications 59
- Интегрисање алата вештачке интелигенције у образовање: *TPACK* анализа и педагошке импликације 83
- Integracja narzędzi AI w edukacji: analiza w modelu TPACK i implikacje pedagogiczne 84
- Integriranje alata umjetne inteligencije u obrazovanje: TPACK analiza i pedagoške implikacije 85

Mario Dumančić, Maja Ružić, Sandra Kadum: Transformation of Higher Education: the potentials and challenges of GenAI implementation . . 86
- Трансформација високог образовања: потенцијали и изазови примене генеративне вештачке интелигенције (GenAI) 101
- Transformacja szkolnictwa wyższego: potencjały i wyzwania zastosowania GenAI 102
- Transformacija visokog obrazovanja: potencijali i izazovi primjene GenAI 103

Language, networking, and communication in education

Julia Klapa, Jolanta Rybska-Klapa: Learning Polish as a foreign language – motives, expectations and difficulties experienced by foreign students . . 107
- Учење пољског као страног језика – мотиви, очекивања и тешкоће које доживљавају страни студенти 124
- Nauka języka polskiego jako obcego – motywy, oczekiwania i trudności studentów obcokrajowców 125

• Učenje poljskog kao stranog jezika – motivi, očekivanja i poteškoće koje doživljavaju strani studenti 126

Ivana Visković, Andriana Marušić: Networking in a virtual environment . 127
• Умрежавање у виртуелном окружењу 143
• Sieciowanie w wirtualnym środowisku 144
• Umrežavanje u virtualnom okruženju 145

Zbigniew Ostrach: The culture of relations between teachers and parents of children attending nursery schools 146
• Култура односа између васпитача и родитеља деце која похађају вртић 161
• Kultura relacji nauczycieli z rodzicami dzieci w wieku przedszkolnym 162
• Kultura odnosa između odgojitelja i roditelja djece koja pohađaju vrtić 163

Digital society: ethics, culture, and human behaviour

Ana Žnidarec Čučković: Children's rights and digital technologies: urgent considerations in today's rapidly evolving digital age 167
• Дечја права и дигиталне технологије: хитна разматрања у данашњем убрзаном дигиталном добу 180
• Prawa dziecka i technologie cyfrowe: pilne zagadnienia w dzisiejszej szybko ewoluującej erze cyfrowej 181
• Dječja prava i digitalne tehnologije: hitna razmatranja u današnjem brzo mijenjajućem digitalnom dobu 182

Vlaho Kovačević: Media and collective memory in late modernity 183
• Медији и колективно памћење у касној модерности 195
• Media i pamięć zbiorowa w późnej nowoczesności 196
• Mediji i kolektivno pamćenje u kasnoj modernosti 197

Krzysztof Jasiński: Re-adaptive determinants of acceptance of legal norms among Polish and Slovak penitentiary habitual offenders 198
• Реадаптивне детерминанте прихватања правних норми међу пољским и словачким затворским повратницима 215
• Readaptacyjne determinanty akceptacji norm prawnych wśród polskich i słowackich recydywistów penitencjarnych 216
• Readaptivni determinanti prihvaćanja pravnih normi među poljskim i slovačkim zatvorskim povratnicima 217

Roman Kurzeja: Temperamental determinants of stress coping styles in young adults 218
• Детерминанте темперамента од значаја за стилове суочавања са стресом код младих 232
• Temperamentalne uwarunkowania stylów radzenia sobie ze stresem młodych dorosłych 233
• Temperamentalne odrednice stilova suočavanja sa stresom kod mladih odraslih 234

Information about the authors 235

Word from editors

The seventeenth Book of Proceedings, published jointly by the Faculty of Education of the University of Belgrade, the State University of Applied Sciences in Nowy Sącz, and as of 2023 by the Faculty of Humanities and Social Sciences of the University of Split, brings together eleven contributions that explore contemporary educational, technological and social challenges from Serbian, Polish and Croatian perspectives. The papers collectively highlight how learning, communication, and social processes evolve under digital, cultural, and institutional change. Organised into three thematic chapters, they offer coherent yet diverse insights into pedagogy, digital transformation, human development, and societal dynamics. relevant to current academic and professional debates.

The first chapter examines educational practices and digital competencies in contemporary teaching and learning contexts. The paper by Beata Lisowska introduces drama as an educational method that supports creativity, communication, empathy, and deeper literary understanding, showing its potential for integrating traditional and digital approaches in the classroom. Verica Milutinović investigates factors that shape pre-service teachers' intention to use ICT. The study identifies perceived usefulness, ease of use, and pupil-oriented ICT competences as the strongest predictors, and highlights the crucial role of institutional support in strengthening these competencies. A broader perspective on technology-enhanced learning is offered by Sofija Matović and Jelica Babić, who review studies employing the TPACK framework to analyse the integration of artificial intelligence in education. They highlight the strong impact of intelligent tutoring systems and emphasise the need for further empirical research and responsible AI implementation in educational settings. Mario Dumančić, Maja Ružić and Sandra Kadum analyse the opportunities and challenges surrounding the introduction of generative AI in higher education, noting its potential for personalised learning and assessment. They also point to ethical, privacy-related, and integrity risks that call for clear institutional guidelines for its responsible and purposeful use.

The second chapter focuses on learning experiences, communication, and the interpersonal dimensions of educational practice. Julia Klapa and Jolanta Rybska-Klapa explore the experiences of foreign students learning Polish as a foreign language, identifying both practical motivations and recurring linguistic challenges. The study contributes important recommendations for improving language instruction and enhancing the integration

of international students through both traditional teaching approaches and reliance on modern technology use. Complementing this perspective, Ivana Visković and Andriana Marušić examine networking as a learning and professional development strategy. They emphasise both its benefits for collaboration and rapid knowledge exchange on the one hand, and its vulnerabilities regarding information reliability and accountability on the other, pointing to the need for deeper exploration of networking practices in formal educational contexts. In his paper, Zbigniew Ostrach considers the complexities of communication between nursery school teachers and parents, underscoring the teacher's responsibility for maintaining professional, cooperative, and trust-based relationships. Practical guidance is offered to strengthen mutual trust and maintain effective interaction in early childhood education settings.

The final chapter turns toward ethical, social, psychological, and behavioural dimensions of life in a digital and late-modern society. Ana Žnidarec Čučković analyses the ways in which digital technologies both support and endanger children's rights within the UNCRC framework. While enhancing access to information and participation, digital tools also introduce privacy concerns, unequal access, and safety risks. The paper calls for responsible regulation, digital literacy, and balanced approaches that protect and empower children online. On a broader cultural plane, Vlaho Kovačević explores the role of media in shaping collective memory in a networked society. The impact of digital communication on how societies perceive time and relate to the past across generations is highlighted through the transformative influence of new communication media. Societal debate is continued by Krzysztof Jasiński, who examines social re-adaptation programmes for habitual offenders in Poland and Slovakia and factors that influence attitudes towards the legal order. He offers practical recommendations for promoting more constructive reintegration. As global developments in digital era pose new challenges, this chapter concludes with Roman Kurzeja's investigation of the relationship between temperamental traits and stress-coping styles among young adults. Based on the Regulative Theory of Temperament, the study demonstrates how specific traits correlate with particular coping strategies, suggesting that temperament can serve as a useful predictor of an individual's dominant style of managing stress.

Taken together, the contributions gathered in this volume illuminate different facets of contemporary educational and social realities. They show how pedagogical practices, technological developments, interpersonal relations, and human behaviour interact across diverse contexts. Special focus is placed on the use of digital technologies in education and the vast pos-

sibilites, but also limitations they introduce into our professional contexts and daily lives. We hope that this collection will stimulate further research, inspire new collaborations, and support ongoing reflection on the challenges and opportunities that shape education and society today. Finally, in the era marked by flourishing multilingualism and multiculturalism, and following the initiative of the Faculty of Education in Belgrade as a founding member of this international scholarly series, we proudly continue to provide extended summaries in Serbian, Polish and Croatian at the end of each paper – the innovation we introduced in the previous volume to celebrate our national Slavic languages.

Ivica Radovanović, PhD
Zdzisława Zacłona, PhD
Ivana Visković, PhD

Technology-enhanced learning and digital education

Beata Lisowska
University of Applied Sciences in Nowy Sącz
Faculty of Social Sciences and Arts

https://doi.org/10.5937/int-themed-bg25013L

The use of drama in working with selected fairy tales at the first stage of general education

Abstract
The aim of this article is to explain what drama is and to present the author's own proposals for how this method can be used in working with fairy tales. This is an important issue because drama, as an educational and upbringing method, can be applied in Polish language education to enhance understanding of the deeper meanings in literary work. In the article, the author outlines the essence of drama, noting that while it shares many features with theatre, it differs from it significantly. Above all, drama is based on the spontaneous role-taking by students, meaning there is no place for rehearsals or a director. Another distinctive feature of drama is conflict, through which participants learn how to cope with difficult situations in everyday life. The paper also discusses the functions of drama, highlighting its role in developing key competences such as: communication in the mother tongue, learning skills, interpersonal, intercultural and social competences, as well as civic competence, entrepreneurship, and cultural expression. Additionally, drama fosters a creative attitude, imagination, emotional development, and empathy. The author also presents practical applications of using drama in working with the following fairy tales: "Cinderella", "Thumbelina", "The Little Match Girl", "The Ugly Duckling", and "The Emperor's New Clothes". Working with fairy tales and drama, one can also use modern technologies, which will certainly make the classes more engaging.

Keywords*: drama, definition and functions of drama, essence of drama, use of modern technologies in education, use of drama in fairy tale analysis.*

1. Drama and its definitions

The etymology of the word drama comes from the ancient Greek language, where *drao* means to do, to perform, to act, although according to some researchers the word can also be translated as to fight, to struggle. In this context, drama should be considered as an activity consisting in coping with adversities (Pankowska, 2000).

The analysis of the subject literature in terms of the meaning of the word "drama" itself allows us to draw generalizations that this concept appears in four meanings. Firstly, drama should be treated as a method of creative education, used to support subject teaching, stimulating pupil's intellectual skills on the one hand, but primarily influencing his or her comprehensive emotional development on the other. As A. Dziedzic emphasizes, it is impossible to separate educational and upbringing activities in the educational process, as they intertwine, creating a whole. The use of drama in various classes during conveying different subject content also enables shaping personality "towards emotional, volitional, moral and philosophical maturity" (Dziedzic, 1999: 9).

In this method, pupils' activity is important, as it allows pupils to be better motivated to work and demonstrate their vivid imagination and creativity. By taking on a role, pupils can identify with other people who find themselves in a difficult situation, which allows them to look for solutions, try to look at the topic from a different point of view, and also teaches pupils how to make decisions. In a word, as B. Way (1995: 23) emphasizes, this method comes down to "practising life".

It should also be noted that in the English educational system, drama is not only used as a teaching and educational method, but has a more established position because it appears as a separate subject (Szymik, 2017). A. Dziedzic shares the following on this subject: "English drama, as a school subject of an educational and artistic nature, is actually unique among other world education systems. Although in many countries separate classes called theatre exist, said classes are primarily focused on theatre education" (Dziedzic, 1999: 13). It is worth emphasizing that drama classes are taught by teachers with theatrical and pedagogical training, and take place in a theatre hall specially equipped for this purpose.

Drama can also have another meaning: as a type of stage work with origins dating back to the first half of the 19th century. Typical features of such stage work are: not adhering to the principle of three unities, i.e. time, place and action, the presence of characters from different backgrounds and combining tragedy, pathos, drollness and triviality. These theatrical forms gained popularity among viewers owing to touching plots and bright effects manifested in decorations, costumes or exaggerated acting (Zielińska, 2013). The current shape of this artistic form was influenced by the pedagogical and artistic activities of K. Stanislavski, the works of B. Brecht, the ritual theatre and the psychotherapeutic activities of J. Grotowski. This type of stage work comes down to improvisation, but not for the benefit of the audience, but for resolving life conflicts through fictional events and situations (Dziedzic, 1999).

The last meaning in which the word drama appears is a therapeutic method created by Dr. J. L. Moreno in Vienna in the early 1920s. This method is based on role-playing and the use of spontaneous expression of emotions. It is a form of group therapy in which participants explore their emotions, conflicts and experiences by staging various situations in a controlled environment. Psychodrama is used in psychotherapy, education, coaching and personal development (Pankowska, 2000).

After this general review of the literature, it can be concluded that drama, even due to its etymology and being identical to the word drama in the literary meaning, primarily denotes a type of theatrical form and this understanding of the word seems to be the oldest, at least in the Polish language. However, for the purposes of this study, drama will be used in its meaning as a teaching and educational method used in subject classes to activate pupils. Obviously, this method is derived from stage techniques, but it cannot be equated with theatre classes and traditional staging of literary texts developed as part of Polish language education.

2. The essence of drama

In school reality teachers very often use theatre-based games, stage illustrations, puppet shows and other paratheatrical forms, incorrectly calling them drama. Therefore, it is important to discuss the essence of this method to avoid its infantilization and confusing it with theatre (Kucharska, 2010). Of course, drama draws a lot from theatre as it is primarily based on playing a role which, thanks to its spontaneity, comes close to a life role, which is "natural, authentic behaviour determined by specific family relationships, professional, social and societal situations" (Szymik, 2011). It is also worth adding in this context that in drama, pupils do not play roles written by the director, but the participants "are in the character" and are therefore completely engrossed in it. It is important for the role offered to the pupil to have clearly defined features that are relevant to the problem that will be solved thanks to drama (Królica, 2006). Remaining in the character serves to build a boundary between fiction and reality, which is related to the smooth transition from the sphere of reality to the sphere of fiction and vice versa. M. Królica (2006) writes that when engaging in drama the participant operates in a borderland space, i.e. in the area existing between the real world and fiction. This creates a sense of security because it allows one to face a difficult situation in an "unreal" reality, where one can relieve his or her anxieties or look for a solution to a difficult problem.

An important element of drama is conflict, which is necessary to interest and engage pupils and to motivate them to work. This conflict is naturally associated with a struggle that may end in an undivided victory or a compromise. From a social point of view, the latter solution is more desirable because it does not entail significant emotional losses but provides satisfaction to both parties. Drama is a method that allows pupils to acquire the ability to play out conflicts, through enacting conflicts in the safe environment, hidden behind a role. Moreover, drama provides the opportunity to recreate the situation with new elements developed on the basis of accumulated experience. Dramas also allow one to gain knowledge about how others resolve a given conflict and whether it falls within the boundaries of values and attitudes accepted by the individual (Jezierska-Wiejak, 2004).

Drama is always based on a certain story in which characters appear trying to solve a problem in a specific situation. We can therefore quote J. Bruner (2006) who claims that drama is a kind of narrative that structures experience. However, to better understand the narrative nature of the drama, it is worth quoting the words of K. Witerska (2011):

> "Drama, however, is not only a fictional story that begins with the allocation of roles, which consists in performance through the creation and presentation of roles, and ends with a discussion. The drama plot is repeatedly interrupted and subjected to various cognitive procedures thanks to the use of expansion strategies which utilize tools consisting of drama techniques (conventions) and didactic means. The strategies used by the teacher, such as stopping or slowing down the drama, transferring the experience to a symbolic level, using analogies or paraphrases, provide the opportunity to look at the plot from different points of view, expand understanding, solve problems and develop new meanings for the analyzed elements of the real world." (Witerska, 2011: 75)

For the sake of completeness, it should be recorded that drama has a two-dimensional character, because it cannot be limited only to building a story, but when working with this method, one should pay attention to the reflective sphere, which comes down to processing experiences into abstract categories. If this area is omitted, the main idea behind drama will be lost, as pupils will not be given the opportunity to understand the mechanisms of operation of the individuals and society (Witerska, 2011).

3. Functions of drama

Within the framework of international cooperation between twelve countries, including Poland, research was conducted to examine how drama influences the development of Lisbon Key Competences (*DICE – Drama Improves Lisbon Key Competences in Education*). The obtained results confirmed that the use of drama in education enables and facilitates the development of five of the eight key competences:

- communication in the native language,
- ability to learn,
- interpersonal, intercultural and social competences as well as civic competences,
- entrepreneurship,
- cultural expression (DICE Report).

The results of the conducted research indicate that drama influences many areas of children's/pupils' development. It should be emphasized, however, that these are certainly not complete data, because, as K. Pankowska (2000) notes, not all impacts are measurable, and their positive effect is not always immediately visible and can sometimes be delayed.

In addition to the competences mentioned, the literature on the subject emphasizes that drama allows for better self-knowledge. When a pupil takes on a role, they draw on their own knowledge and experiences, referencing social stereotypes and imparting their own personality traits to the character. However, after analyzing one's role and role of others, the image of a given person and one's own characteristics are often verified, which allows one to get to know oneself and often to change and better understand one's image of the world (Witerska, 2020).

Drama is intended to trigger person's creative attitude because it is based on spontaneity, often requiring a departure from stereotypes and the search for new solutions. Drama theorists (Michałowska, 2008; Pankowska, 2000) emphasize that this method provides the opportunity to express oneself and one's thoughts without the feeling of being criticized or not accepted. This strengthens the confidence of young people, who become more independent from their environment, are not afraid to express their own opinions and tackle challenges, and expand the boundaries of their capabilities, as they have a strongly developed need to be involved in their own lives.

Development of the creative attitude indicated above requires imagination i.e. the ability to create new images, objects or phenomena based on previously acquired experiences. Everyone is born with this ability, but it may not be fully developed due to a family environment that suppresses

the fantasies of children who are eager to invent various stories. Modern schools are also frequently not conducive to developing imagination, as they mainly focus on acquiring knowledge and practical skills verified through tests. However, thanks to drama, pupils have the opportunity to come up with many situations, behaviours and statements. This gives them the opportunity to experience things they would never have had the opportunity to experience in their lives. Imagination is necessary in adult life; it is used, for example, when planning many different situations related to home or work life. Imagination is used when designing a house, a garden, furnishing interiors, but also when planning the course of a business meeting, a conference and many other professional tasks (Pankowska, 2000).

Another advantage of using drama is the development of interpersonal relationships. This method is based on working in cooperation with others, which opens participants to other people and teaches mindfulness and respect for others. Moreover, in drama one plays different roles, sometimes he or she is directed by someone and sometimes he or she has to direct someone else, which leads to the acquisition of maturity in taking responsibility for one's own partner. D. Michałowska (2008) adds that thanks to this form of activity, participants become more tolerant towards other people's opinions, values and beliefs and learn to be open and honest in their words and behaviour.

Another benefit of using drama is its impact on pupils' emotional development. D. Dziamska (2010) notes that currently in the home and school environment, the main requirement is for pupils to be polite, which leads to suppression of emotions, which then often manifest themselves in the form of violent or uncontrolled outbursts. Working with drama allows pupils to express emotions, name them and analyze them, as G. Zielińska (2013) writes on this topic:

> "Drama allows you to read emotions and feelings from body language and learn how to deal with them. Drama has many excellent strategies for dealing with quick, thoughtless reactions when the emotional mind does not think about what it is doing, is faster than the rational mind and the speed of its reactions excludes reflection or analysis." (Zielińska, 2013: 54)

Some opponents of drama believe that this method should not be used because it affects emotions, which is dangerous. K. Witerska aptly responds to this accusation by stating: "Yes, drama touches on emotions, but life touches on emotions every day. We can avoid methods such as drama, but we cannot avoid life" (Witerska, 2014: 23). Working with drama allows for a better understanding of emotions in a safe environment, and in a way

creates the conditions for testing certain behaviours, which also prepares participants for everyday situations.

It should be added that owing to drama, participants learn empathy because they have the opportunity to observe different human behaviours and reactions to the same situation. They can look at a given problem from different perspectives, and during exercises said participants talk and name the feelings experienced by different people, which makes them more sensitive to other people. This is what A. Gałązka (2019) says about it:

> "The capacity for empathy encourages a person to follow certain moral principles and undertake moral actions. Drama is a method that has a huge impact on the development of empathic abilities and verbal and non-verbal social communication skills in children of preschool and early school age." (Gałązka, 2019: 153)

It can therefore be observed that owing to drama, the teacher can develop pupil's personality in a comprehensive manner, bringing out the desired personality traits in a pupil, important for the achievement of teaching and educational goals. Drama not only affects the individual participant, developing their intellectual, emotional and creative abilities, but also helps shape peer relationships, which in the future translates into social attitudes and develops cooperation skills.

4. The influence of fairy tales on pupils' development

Fairy tales are universal works, appreciated, read and discussed with pupils in every culture. Their popularity does not wane despite the development of technology and civilizational changes. Due to the incredible value of these works, parents reach for fairy tales to introduce their children to these texts. Fairy tales also constitute a "core repertoire" of school reading, frequently introduced in nursery schools and then discussed in more detail in primary schools. Thanks to this, fairy tales become a cross-cultural link, connecting children speaking different languages and living in different countries. It is worth recalling the words of B. Bettelheim (2010), who wrote about works belonging to this genre: "a fairy tale is a primer from which a child learns to read in his own mind, a primer written in the language of images. It is the only language through which we can understand ourselves and others before we mature intellectually" (Bettelheim, 2010: 10).

It is therefore clear that fairy tales have a huge impact on the development of young readers, and many publications have been written on this subject. These publications strongly emphasize, above all else, that these

works of literature reach the subconscious of the recipients, thus allowing recipients to better understand many complex issues of human life (Bettelheim, 1989; Chęcińska, 2003; Kulikovskaya & Andrienko, 2016; Rutka, 2016; Zipes, 2006, 2007).

Now, when many young people have mental health issues, it is important to support pupils in their emotional development. Fairy tales provide an opportunity for aiding recipients in emotional development because the reader can identify him or herself with the protagonist, which makes these works important in shaping attitudes to life, which is also confirmed in the subject literature, where the following words can be found:

> "The special contribution of fairy tales in the psychosocial development of children is seen in the timeless message they convey: difficulties, often unexpected and unfair, necessarily accompany the human path, but if one could face them with courage, then he dominates the obstacles and is declared a winner. Understanding the dynamics prevalent in the fairy tale hero/heroine's journey, which typically leads from misery to the highest development, could reveal to us as therapists and youth workers, some ways to help children but also adults, on their uphill path of their lives." (Koutsompou, 2016: 217-218).

In addition to the fact that fairy tales can support pupils' psychological development, they also bring numerous educational benefits: fairy tales help develop aesthetic sensitivity, which allows for openness to the values conveyed by literature, and also allow for a better understanding of which behaviours are accepted in society and which, however, are not conducive to building relationships.

Fairy tales stimulate the intellectual development of the pupil, creating in his mind a kind of pattern that organizes the world. While listening to or reading a literary work, many processes of analysis and synthesis, comparison, and noticing cause-and-effect connections occur in the mind of a young reader, and this, in turn, translates into the ability to think logically. Contact with literature also improves memory and focus. We must also bear in mind that fairy tales, especially those written by H.Ch.Andersen, improve pupil's speech, developing it in terms of lexis, grammar, and syntax, and introduce the young reader to the world of cultural symbols expressed through language. This allows the recipient to understand the cultural code, because owing to fairy tales a pupil knows the values assigned to colours, objects or characters, e.g. gold is reserved for everything that is good, hence the golden-haired princesses, etc. (Lisowska, 2013).

Only the most important benefits that pupils draw from being exposed to the content of fairy tales are listed here. One thing is certain, fairy tales

must be included in the repertoire of works read and discussed, because they are based on universal moral truths and express the human longing for beauty, goodness and justice, i.e. the values that give meaning to human existence. When discussing a fairy tale, it is worth using new technologies, such as an audio recording of the story read by an actor. Such a professional performance will additionally serve an expressive function, as it will influence the emotional sphere of the students. One can also use a film adaptation of the fairy tale, especially when working with younger learners.

5. Own research methodology

This section will discuss the methodological premises behind the research. First of all, it is worth determining the subject of the research, which consists in drama based on selected fairy tales discussed with younger school-age pupils. Fairy tales were selected due to their comprehensive impact on child's development. The theoretical goal of the research is to describe the general and specific objectives included in the core curriculum of the first stage of education in the Polish education system, which can be achieved through the use of drama techniques in work with selected fairy tales. The practical goal is to describe practical solutions based on drama, concerning selected fairy tales discussed with pupils of younger school age.

Research problems were established for the purposes of the study. The first problem is theoretical in nature and asks: What general and specific goals, as defined in the core curriculum for the first stage of education in the Polish educational system, are achieved through discussing fairy tales using drama techniques? The second problem is practical in character and addresses the following question: What drama-based activities can be implemented when working with younger school-age pupils and discussing selected fairy tales?

In order to answer the research problems, the hermeneutic method was used, which is utilized both in the humanities and pedagogy (Maszkiewicz, 2015; Adamska-Staroń & Łukasik, 2012). Hermeneutics as a methodological orientation enables understanding and interpretation regarding "the process of identifying the meanings and values organizing educational reality and its interpretation" (Milerski, 2011: 13). The use of hermeneutics allows for the understanding of a text through the coexistence of two planes: the meanings recorded in the work, as well as the experiences and beliefs of the reader. It is important because, as Gadamer (2004) indicates, the interpretive situation would not come into existence without interpreter's own ideas, as the interpreter participates in bringing the meaning of the text back to life.

For the purposes of this study, an analysis was conducted of the core curriculum of the first stage of education (Journal of Laws, item 356, as amended), i.e. grades I-III. This document analyses the general and specific objectives that can be achieved by working with fairy tales through utilizing drama. The analysis took into account the findings regarding the role of drama and fairy tales presented in the earlier sections of the article.

Selected fairy tales were also analyzed in terms of their educational content, which should be highlighted when working with younger school-age pupils. The extracted meanings were also translated into practical activities using drama, which will allow pupils to better understand and interpret the universal content inscribed in fairy tales. The solutions developed in this way can be used in Polish language education at the first stage of school education or in theatre classes.

6. The general and specific objectives of the core curriculum achieved by discussing fairy tales through utilizing drama

The discussion on the results of the analysis should begin by emphasising that the general objectives of education at the first stage of education were included in the core curriculum in relation to four areas of development: physical, emotional, social and cognitive. The analysis shows that working with fairy tales through using drama allows for achievement of goals in as many as three areas.

Regarding the aspect of the emotional development of the pupil, the goals will be as follows:

1. the ability to recognize and understand one's emotions and feelings and to name them;
2. the ability to recognize, understand and name the emotions and feelings of others; the need to create relationships;
3. the ability to present one's emotions and feelings through simple oral or written expression and various artistic forms of expression;
4. the ability to become aware of the feelings experienced by other people while trying to understand why these feelings occur, as well as to differentiate the forms of their expression depending on age (Journal of Laws item 356, as amended).

It is clear that by using drama to analyse and interpret fairy tales, skills will be developed which will aid in developing awareness of own feelings and feelings of others, as well as the ability to express experienced emotional states and an empathetic view of another person.

Drama activities conducted when discussing fairy tales will also allow for the achievement of the goals set out in the core curriculum in the next area, i.e. the social area. It is worth mentioning here those goals that are closely related to the issues under discussion, and these goals are as follows:

1. awareness of values recognized by the home, school, local and national environment; the need for social activity based on these values;
2. the ability to name learned values and evaluate other people's behaviour
3. the ability to independently express one's social expectations and needs;
4. the ability to show respect to colleagues and adults, including older ones, and to show it through simple forms of expression and appropriate behaviour (Journal of Laws item 356, as amended).

It is worth emphasizing that the above-mentioned records show that drama activities implemented on the basis of fairy tales help develop pupils' important skills related to identifying values and understanding their importance in interpersonal relationships. Above all, however, these activities aid in developing the need to act consistently with the adopted axiological system.

Combining drama activities with discussing fairy tales will also enable the achievement of cognitive objectives, which are included in the core curriculum of the first stage of education as follows:

1. the need and ability to think independently, reflectively, logically, critically and creatively;
2. the ability to use Polish language correctly in speech and writing, allowing for independent activity, communication and effective learning;
3. the ability to understand legends, historical facts, traditions, elements of material and spiritual culture and the concepts and symbols associated with them, such as: family, home, nation, homeland, country;
4. the ability to independently explore the world, solve problems and apply acquired skills in new life situations (Journal of Laws, item 356, as amended).

The above-mentioned provisions show that drama activities utilizing fairy tales serve to stimulate the intellectual, linguistic and cultural development of the pupil, and their primary goal is to prepare him or her for independent and critical thinking and conscious functioning in the world of culture.

The core curriculum of the first stage of education also includes specific objectives, formulated in the form of outcomes assigned to scientific disciplines, bearing in mind, however, that education in grades I-III is of an integrated character. With reference to Polish language education, working with fairy tales through using drama will allow for the achievement of various goals related to the development of listening, speaking and reading skills.

In the case of listening, the skills of experiencing and taking in a literary work, i.e. a fairy tale, will be developed, which usually takes place before the analysis and interpretation of the work. Furthermore, pupils will improve their ability to attentively perceive the messages spoken by their peers during the performance of the drama.

Thanks to the integration of drama activities and fairy tales, the following goals related to speaking will be achieved, i.e. a pupil:

1. selects an appropriate form of verbal communication and own behaviour, expressing empathy and respect for the interlocutor;
2. speaks fluently and clearly, using spoken language techniques appropriate to the situation: pauses, changes in intonation, tempo and volume;
3. expresses himself/herself in a structured and developed form on topics related to experiences, tasks, school situations, reading or cultural events;
4. discusses the content of consumed texts and illustrations; gives meaning and titles to images and text fragments; selects an appropriate form of verbal communication and own behaviour, expressing empathy and respect for the interlocutor (Journal of Laws, item 356, as amended).

These provisions indicate that the implementation of drama techniques based on fairy tales will serve to develop the ability to create logical statements, adapted to the communication situation and the recipient.

In the context of the discussed issue it is also necessary to recall the goals that relate to the development of reading skills. Fairy tales can be read by the teacher, but they can also be read independently by the pupil, which can help improve the technique of reading aloud or silently. In addition, reading comprehension should also be developed. This was expressed in the language goals, according to which a pupil completing early school education performs the following procedures on a literary text:

1. identifies characters and events in literary works, establishes the order of events and their interdependence, distinguishes important from less important events, distinguishes between the main and secondary characters; indicates traits and evaluates characters, justifies his/her assessment;

2. indicates an event that changes protagonist's behaviour, defines the mood in the work; distinguishes elements of the fictional world from reality; real entities from media entities, realistic entities from fictional entities;
3. experiments, transforms the text, creates creative stories, e.g. the further fate of the hero, composes the beginning and ending of the text based on illustrations or a read fragment of the work (Journal of Laws item 356, as amended).

It should be noted that analysing fairy tales through drama techniques allows not only for isolating elements of the presented world, but also for experimentation, which serves to develop pupils' creativity.

The analysis of the core curriculum for the first stage of education shows that drama activities based on fairy tales allow for the achievement of many general and specific goals. Active pupil involvement guarantees high-quality education that will enable the development of key skills, but also a fuller understanding of oneself and the world.

7. Practical solutions – using drama in working with selected fairy tales at the first stage of school education

This part presents practical solutions for using drama to better understand fairy tales and, above all, to reach figurative meanings related to the humanistic values contained in these works. Of course, these solutions are merely suggestions that the teacher can freely modify depending on his or her group of pupils. Below are solutions for the fairy tale "Cinderella" as written by C. Perrault and the works of H.Ch. Andersen: "Thumbelina", "The Little Match Girl", "The Ugly Duckling" and "The Emperor's New Clothes". When working on a fairy tale, it is also worth using modern technologies, especially professional actor recordings, film adaptations, as well as an interactive whiteboard, which can be used to conduct short reading-comprehension quizzes. These activities will precede the drama-based tasks.

"Cinderella" by C. Perrault

First we shall present solutions regarding "Cinderella" fairy tale. In this work, children's attention should be drawn to the relationships that exist within the main character's family. Therefore, after briefly explaining who Cinderella lived with, pupils should be divided into groups of 4 or 5 and asked to present what a typical day in a fairy-tale family was like. Pupils should also be instructed to try to imagine examples of actions performed

by the characters and dialogues between the stepmother and her daughters, as well as between them and Cinderella. After assigning roles, pupils can begin acting out sample scenes.

After this activity, a teacher should discuss children's experiences. It is worth asking pupils to answer the following questions:

- How was Cinderella treated by her stepmother and her daughters?
- How did Cinderella feel?
- What behaviours and statements from the stepmother and her daughters hurt Cinderella?
- How did Cinderella react to being mistreated?
- What characteristics did Cinderella have?
- What kind of treatment did Cinderella deserve?

During the discussion, it will probably be said that Cinderella was used in the family for hard work, that she was treated in a disrespectful way, even though she did not deserve it, and on the contrary ? she required support because she had experienced the difficult loss of her mother. Pupils will also notice that the fairy-tale heroine was a good-hearted person, subordinate to her stepmother and her daughters.

After this discussion, pupils can be asked to divide into new groups of 4-5 and act out scenes in which they show what the atmosphere in Cinderella's house should be like. After completing this exercise the drama participants should answer the following questions during a group discussion:

- How was Cinderella treated – what was said to her, how was she addressed?
- How did Cinderella feel now?
- How should people treat each other so as not to hurt others?

The proposed exercises are intended to develop pupils' imagination and empathy towards other people. Said exercises are also supposed to lead pupils to the general conclusion that one should treat others with respect and offer them support, and thanks to such an attitude, interpersonal relationships will function properly.

"Thumbelina" by Hans Christian Andersen

Another fairy tale read and analyzed during early school education is "Thumbelina" by Hans Christian Andersen (H. Ch. Andersen). This fairy tale is a longer story and includes numerous secondary characters, which, of course, serves to make the story of the main character more attractive and show that a person has to struggle with various obstacles before he or she achieves happiness. Due to the size of this piece of literature, after briefly discussing who the main character is and listing the supporting

characters, it is worth dividing the pupils into groups of 2 or 3. The task of each group will be to reenact a specific event from Thumbelina's life. Below we list some suggested example scenes.

1. Visiting a fortune teller and receiving a seed.
2. Thumbelina is born from a flower bud.
3. Kidnapped by a toad.
4. Thumbelina is freed by the fish.
5. Journey with a butterfly.
6. Kidnapping by a beetle.
7. Staying with the mouse and caring for the swallow.
8. Mole's wedding plans.
9. Escape with the Swallow.
10. Meeting the elf.

Before acting out the scenes, it is worth asking pupils to try to get into character, present what the protagonists might have said and how Thumbelina might have felt in these different situations. It should be emphasized that pupils should try to show, through words and gestures, what emotions the main character experienced.

It is worth ensuring that pupils present individual scenes consistently with the plot of the work, which will allow for arranging events in proper order and reconstructing the content of the work. After completing this task, a teacher can make a timeline of events or give pupils the events already written down in chronological order. We can use an interactive whiteboard for this purpose, or a quiz created with tools such as Kahoot, Quizizz, or Wordwall. Then, referring to children's experiences from the drama exercise, teacher and pupils can together write down Thumbelina's emotions.

This activity will aid children in realising that Thumbelina experienced many painful emotions: fear, terror, rejection by the beetle family, helplessness, anxiety, and a sense of being misunderstood when the mouse pressured her to marry the mole. However, in the end she was able to experience happiness thanks to swallow's help. It is therefore advisable for children to realise that life consists of various situations, and that difficult moments are often followed by moments of peace.

"The Little Match Girl" by H. Ch. Andersen

Another fairy tale worth working on through using the drama method is "The Little Match Girl". Ending of this work differs from other fairy tales because it ends with the death of the main character, which is quite unusual for a fairy tale. This text will certainly be very moving for young readers due to its difficult subject matter – abandoned, lonely children, deprived

of support from their loved ones. According to G. Leszczyński, such literary texts can be categorized as "rogue books" – that is, "deeply moving, disturbing the rhythm of everyday life, changing the world" (2007: 7). However, the same researcher points out that touching on difficult topics may imply the danger of brutality and "treating previously silenced topics with too much literalness and anatomical precision" (Leszczyński, 2007: 135). However, in the case of H.Ch. Andersen's fairy tale, this does not happen, as the author softens the painful meaning of this work by writing that the girl moved to a "wonderful, blessed place" (Leszczyński, 2007: 301) and was thus freed from the cold and hunger, i.e. her painful earthly life. The confirmation that she had moved to a better world was supposed to be the smile on her frozen face.

Reading this text is significant for educational reasons, as it familiarizes pupils with difficult topics such as death and suffering. Here it is worth recalling the words of J. Strzelecka: "Pedagogy that does not undertake education in the aspect of suffering alienates from reality and creates an untrue, wishful, almost virtual image of the world" (2011: 211).

Regarding the proposal for drama exercises, in order to develop empathy in pupils, a teacher can ask them to trace the outline of a human figure of one of the pupils on a large sheet of paper. Pupils' task will then be to sit around this outline and try to imagine that they are a selected part of frozen heroine's body, e.g. her fingers, feet, mouth, stomach, eyes, etc. Then, sitting in silence and with their eyes closed, pupils should try to imagine it and take on the role of selected body parts and talk beginning their statement as follows: I am girl's feet, we are... ? here pupils should put their suggestions. This exercise is intended to make children aware of girl's difficult situation and her suffering.

An interview with the heroine might be an interesting proposition. One of the female pupils would have to take on the role of a fairy-tale character, and the children would ask questions, e.g. What did you feel when you lit the first match? Why didn't you want to go home? In a larger group children can be divided into smaller groups, with one person taking on the role of a fairy-tale character and the others asking questions.

To ease the painful ending of the fairy tale, a teacher can suggest that pupils try to imagine a different ending. Drama participants will work in teams trying to show how the story could have ended differently. Usually, pupils show that the main character is seeking help from other people, which can be a good opportunity to reflect that if pupils are in a difficult situation, suffering for some reason, they need to tell someone else about it – parents, teachers, and a solution will certainly be found.

"The Ugly Duckling" by H. Ch. Andersen

Another popular fairy tale that is most often discussed with pupils as part of Polish language education is "The Ugly Duckling". In this text attention should be drawn to the emotions of the protagonist, who is not accepted because of his different appearance. This fairy tale will be an excellent opportunity to develop pupils' sensitivity and empathy. This text offers many possibilities that can be selected depending on the specificity of the class group.

One of the simplest tasks will be for pupils to take on the role of the ugly duckling. In the case of working with younger participants who have trouble verbalizing their feelings, there is a drama exercise called "walking in hero's shoes". During this exercise pupils will move around the room to the rhythm of the main character's different emotions:

- as a duckling on the farm – e.g. uncertain, curled up, sad;
- as a duckling during its winter migration – e.g. withdrawn, frightened;
- as a swan after discovering that it is a beautiful bird – e.g. proudly, joyfully, lightly.

After completing this exercise, you can try to describe how the ugly duckling felt at different stages of his life.

Another variant of this exercise will be an activity requiring from pupils to take on the role of an ugly duckling who endured humiliation on the farm where he was hatched by a duck. Pupils are to move around the room as if a chick were doing so, and at a specific mark given by the teacher they must freeze while striking a pose. The teacher would approach each pupil to hear how the ugly duckling felt. The task can be repeated by asking participants to imagine two other situations in which the main character found himself. The first should be his lonely journey during the winter, during which he stayed for a while in old woman's cottage, and then lived in moorland. The next scene should be about the time when the ugly duckling discovered that he was a swan.

This exercise will be an introduction to discussing, on the example of the ugly duckling, how people who are different from their peers in some way feel and what they experience, thus providing an opportunity to develop an attitude of tolerance and acceptance of otherness.

It is also worth moving on to the social drama exercise after discussing the feelings experienced by the main character, so that pupils can better understand the figurative meaning of this work. For this purpose, a teacher can use a technique called "expert's mantle", in which a teacher will play the role of an expert who will give his fictitious name and surname and intro-

duce himself as an employee of the municipal office. The teacher can tell the pupils that the local authorities have received numerous reports that there are children in schools, who are disliked, rejected and not accepted, and are often ridiculed by their peers, and therefore a team of experts should be appointed to help solve this problem. Pupils will be divided into small groups (depending on class size) and will present the views of experts: parents, teachers, psychologists, and school principals. The goal of the drama participants will be to develop ideas on how to solve this problem and then present solutions.

Finally, the teacher should thank the pupils for presenting their proposals and close the meeting. In the next step, in order to fully disengage pupils from their role, a teacher can tell them that they have just watched a report from a meeting between a representative of the municipal authorities and various experts who provided valuable ways to help pupils who are not accepted at school. Maybe now they, as pupils, can say what they would do if they found out that there was a child at school who was being rejected by his or her peers. Finally, it is worth asking pupils to complete the sentence: "Today's class made me realize that..." This will provide feedback to the teacher on whether and to what extent pupils have understood the figurative meaning of the text (Gudro-Homicka, 2015).

"The Emperor's New Clothes" by H. Ch. Andersen

Another interesting piece of children literature is "The Emperor's New Clothes" fairy tale, which provides opportunities to work through utilizing drama methods to discover important life truths presented under the amusing story of the emperor pretending to be wearing beautiful and unique clothes when in fact he is parading naked before the crowd.

In order to better understand the motivations behind the actions of the servants, as well as the monarch himself, pupils can be asked to act out short improvisations concerning the following events presented in the fairy tale:

1. Watching the weavers work by the good old minister.
2. Inspection of garments by an honest courtier.
3. The emperor trying on clothes.

Pupils' task will be to take on the roles of the characters, and first of all they are to present dialogues between the impostors and the people looking at the fabrics. Then the pupils who will play the minister, the courtier and the emperor are asked to express aloud their thoughts and doubts related to the fact that they cannot see any results of weavers' work. After acting out these scenes, pupils should discuss what the characters were saying as

they looked at the robes. It would be good if this activity became a basis for reflection on the issues of why people sometimes lie, what guides them in their actions, and what will now happen to the old minister and the courtier.

The pupils can then be asked to act out the scenes again, but this time show how the fairy tale characters should have behaved when they uncovered weavers' lie. It is worth emphasizing that pupils must address each other in a polite manner, because one should never insult another person. After the drama participants have replayed their scenes, the teacher can invite them to analyze what they said to the cheaters. This, in turn, will become the basis for drawing conclusions about how to react to lies.

Conclusion

In the conclusion, it is necessary to refer to the research problems presented in the methodological part of the work. The first one concerned the general and specific objectives included in the core curriculum for the first stage of education and implemented through the use of drama activities based on selected fairy tales. The analysis shows that the use of drama exercises in working with fairy tales allows for the development of many skills of pupils in grades I-III, which mainly concern development in the emotional, social and cognitive areas. The use of this teaching method also enables the development and improvement of pupils' skills in the field of Polish language education, including listening, speaking and reading.

Regarding the second problem, concerning practical solutions for working with fairy tales through using drama techniques, an attempt was made to select appropriate techniques for each fairy tale so that, through practical activities, pupils could better understand the topics presented in the text. Thanks to various techniques, such as improvisation, taking on a role, interviewing the protagonist, creating a different ending, walking in protagonist's shoes and the mantle of an expert, the authors aimed to present universal issues, the awareness of which is important in shaping the right attitude towards life.

The proposed practical solutions provide an example for early school education teachers of how to work with fairy tales in order to develop awareness of feelings pupils are experiencing, ways of expressing them, as well as to develop understanding of the emotional states of others, which will allow, in turn, for the development of empathy and a reflective attitude towards other people. These methods and techniques also aim to build awareness of social relations and the values that should guide pupils in in-

terpersonal relationships. Of course, this is not possible without the ability to think logically and the capacity for critically evaluating the surrounding reality – traits which are also developed through drama.

It should be added that when analysing and interpreting a fairy tale, it is worth using modern technologies that stimulate students' motivation. Tools such as Kahoot, Quizizz, or Wordwall work particularly well when identifying the elements of the story world. In addition, one can use professional recordings of these works or interactive versions of the fairy tales, which are very popular among students.

References

Adamska-Staroń, M., & Łukasik, B. (2012). Hermeneutyka pedagogiczna jako orientacja metodologiczna. *Podstawy Edukacji, 5*, 119-138.

Andersen, H.Ch. (2007). *Skarbiec baśni*. Warszawa: Cykada sp. z o.o.

Bettelheim, B. (2010). *Cudowne i pożyteczne. O znaczeniach i wartości baśni*. Ożarów: Grupa Wydawnicza Foksal.

Bruner, J. (2006). *Kultura edukacji*. Kraków: Towarzystwo Autorów i Wydawców Prac Naukowych UNIVERSITAS.

Chęcińska, U. (2003). Baśń była na początku. In U. Chęcińska (ed.), *Barwy świata baśni* (pp. 7-14). Szczecin: Wydawnictwo Naukowe Uniwersytetu Szczecińskiego.

Chęcińska, U. (2003). *Barwy świata baśni*. Szczecin: Wydawnictwo Naukowe Uniwersytetu Szczecińskiego.

Dziamska, D., & Gudro, M. (2010). *Edukacja przez ruch i drama w kształceniu wczesnoszkolnym*. Kielce: Wydawnictwo Pedagogiczne ZNP Spółka z o.o.

Dziedzic, A. (1999). *Drama a wychowanie*. Warszawa: Centralny Ośrodek Doskonalenia Nauczycieli.

Gadamer, H-G. (2004). *Prawda i metoda*. Warszawa: Wydawnictwo Naukowe PWN.

Gałązka, A. (2019). Drama w rozwijaniu kompetencji społecznych i emocjonalnych dzieci w wieku wczesnoszkolnym. *Chowanna* (tom jubileuszowy), 145-158.

Gudro-Homicka, M. (2015). *Jak rozwijać aktywność twórczą dzieci i młodzieży? Drama w nauczaniu, wychowaniu i biblioterapii*. Warszawa: Difin SA.

Iwanicka, A. (2019). Nowe technologie w pracy nauczyciela edukacji wczesnoszkolnej. Raport z badań. *Studia Edukacyjne, 54*, 283-296.

Janus-Sitarz, A. (2012). Drama w edukacji polonistycznej. In A. Janus-Sitarz (ed.), *Twórczość i tworzenie w edukacji polonistycznej* (pp. 192-206). Kraków: Towarzystwo Autorów i Wydawców Prac Naukowych UNIVERSITAS.

Jezierka-Wiejak, E. (2004). *Możliwości i ograniczenia dramy jako metody kształtowania rozumienia pojęć moralnych*. Toruń: Wydawnictwo Adam Marszałek.

Koutsompou, V.I. (2016). The Child and the Fairy Tale: The Psychological Perspective of Children's Literature. *International Journal of Languages, Literature and Linguistics, 2*(4), 213-218.

Królica, M. (2006). *Drama i happening w edukacji przedszkolnej*. Kraków: Oficyna Wydawnicza "Impuls".

Kto rzuca kostką? (2010). *Raport strategiczny projektu DICE i rekomendacje dotyczące zastosowań teatru i dramy w edukacji do kompetencji kluczowych*.

Kucharska, B. (2010). Drama – możliwości i zagrożenia. Zarys problematyki. In P. Mazur & D. Sikora (eds.), *Współczesne strategie i wyzwania edukacyjne* (pp. 1-17). Lublin: Państwowa Wyższa Szkoła Zawodowa w Chełmie: Chełmskie Towarzystwo Naukowe.

Kulikovskaya, I.E., & Andrienko, A.A. (2016). Fairy-Tales for Modern Gifted Preschoolers: Developing Creativity, Moral Values and Coherent World Outlook. *Procedia – Social and Behavioral Sciences, 233*, 53-57.

Leszczyński, G. (2007). *Magiczna biblioteka. Zbójeckie książki młodego wieku*. Warszawa: Centrum Edukacji Bibliotekarskiej, Informacyjnej i Dokumentacyjnej.

Lisowska, B. (2013). Znaczenie literatury w procesie stymulowania rozwoju dziecka. In T. Senko (ed.), *Terapia psychologiczno-pedagogiczna i wspomaganie rozwoju dzieci i młodzieży* (pp. 121-133). Nowy Sącz: Wydawnictwo Państwowej Wyższej Szkoły Zawodowej.

Maksymowicz, L. (2002). *Drama jako metoda wspomagania rozwoju osobowości dziecka w wieku szkolnym*. Słupsk: Wydawnictwo Uczelniane PAP.

Maszkiewicz, M. (2015). Hermeneutyka i teoria intertekstualności jako metodologia badań modernizmu w poezji serbskiej drugiej połowy XX w. na przykładzie cyklu Deset soneta nerođenoj kćeri Ivana V. Lalicia. *Adeptus, 6*, 1-10.

Michałowska, D. (2008). *Drama w edukacji*. Poznań: Wydawnictwo Naukowe Instytutu Filozofii Uniwersytetu im. Adama Mickiewicza w Poznaniu.

Milerski, B. (2011). *Hermeneutyka pedagogiczna. Perspektywy pedagogiki religii*. Warszawa: Wydawnictwo Naukowe ChAT.

Pankowska, K. (2000). *Pedagogika dramy. Teoria i praktyka*. Warszawa: Wydawnictwo Akademickie „Żak".

Pankowska, K. (2013). *Drama. Konteksty teoretyczne*. Warszawa: Wydawnictwo Uniwersytetu Warszawskiego.

Perrault, C. (2010). *Najpiękniejsze baśnie*. Warszawa: Wydawnictwo Zielona Sowa Sp. z o.o.

Rozporządzenie w sprawie podstawy programowej wychowania przedszkolnego oraz podstawy programowej kształcenia ogólnego dla szkoły podstawowej, w tym dla uczniów z niepełnosprawnością intelektualną w stopniu umiarkowanym lub znacznym, kształcenia ogólnego dla branżowej szkoły I stopnia, kształcenia ogólnego dla szkoły specjalnej przysposabiającej do pracy oraz kształcenia ogólnego dla szkoły policealnej (Dz.U. poz. 356, z późn. zm.).

Rutka, W. (2016). Wartości baśni w pracy z dziećmi przedszkolnymi. *Edukacja Elementarna w Teorii i Praktyce, 24*/2, 27-44.

Sala-Suszyńska, J. (2021). Fairy Tales – Yesterday and Today. *Prima Educatione, 5*, 193-204.

Strzelecka, J. (2011). „Tracę swoją przestrzeń" – tanatopedagogika w szkole. In B. Grzeszkiewicz & B. Walak (eds.), *Dziecko-rzeczywistość, szanse, wyzwania*. Gorzów Wielkopolski: Naukowe Państwowej Wyższej Szkoły Zawodowej.

Szymik, E. (2011). *Drama w nauczaniu języka polskiego*. Kraków: Oficyna Wydawnicza „Impuls".

Szymik, E. (2016). *Drama w procesie wychowania dzieci i młodzieży w Polsce i Czechach: (pedagogiczne studium porównawcze)*. Cieszyn: Oficyna Drukarsko-Wydawnicza „Akant".

Szymik, E. (2017). Drama jako remedium na problemy wychowawcze. *Doświadczenia i Propozycje Naukowo-Metodyczne, 3*(63), 105-113.

Witerska, K. (2011). Drama kreatywna – perspektywa rozwojowa. *Chowanna, 1*, 71-82.

Way, B. (1998). *Development through Drama*. London: Humanities Press.

Witerska, K. (2014). *Drama. Przewodnik po koncepcjach, technikach i miejscach*. Warszawa: Difin Sp. z o.o.

Witerska, K. (2020). *Drama procesualna w pracy z dziećmi w przedszkolu i klasach I-III*. Warszawa: Difin Sp. z o.o.

Zielińska, G. (2013). *Filozofia dramy w procesie twórczym*. Kraków: Towarzystwo Autorów i Wydawców Prac Naukowych UNIVERSITAS.

Zipes, J. (2006). *Fairy Tales and the Art of Subversion. The Classical Genre for Children and the Process of Civilization*. New York – London: Routledge.

Zipes J. (2007). *When Dreams Came True. Classical Fairy Tales and Their Tradition*. New York – London: Routledge.

Примена драме у раду са одабраним бајкама у првом циклусу општег образовања

Циљ чланка је да објасни шта је драма, као и да представи ауторкине предлоге како ова метода може да се користи у раду на бајкама. То је важно питање, јер драма као дидактичко-васпитна метода може да се користи у настави матерњег језика за боље разумевање скривеног значења у књижевним делима, односно за читање са разумевањем на вишем нивоу. Ауторка приближава суштину драме, указујући да има много заједничког са позориштем, као што је спонтано преузимање улоге од стране ученика („улазак у лик"), али и да се веома разликује од њега. Додатна карактеристика драме је конфликт, који омогућава учесницима да уче како да се носе са тешким ситуацијама у свакодневном животу. У раду је такође објашњена функција драме, са нагласком на то да она развија кључне компетенције: комуникацију на матерњем језику, вештину учења, интерперсоналне, међукултурне, друштвене и грађанске компетенције, предузетнички дух и културно изражавање. Поред тога, драма омогућава развој креативности и маште и помаже у развијању емоција и емпатије.

Ауторка је представила практичне могућности рада са драмом у следећим бајкама: „Пепељуга", „Палчица", „Девојчица са шибицама", „Ружно паче" и „Царево ново одело". „Пепељуга" нуди прилику да се инсценирају поједине ситуације, у којима ученици најпре показују како је изгледао типичан дан јунакиње и како су је третирале мећеха и полусестре. Након тога изводе сцене које представљају идеалну породицу. Ова вежба показује колико је важно како се односимо према другој особи и значај начина на који комуникацирамо. „Палчица" се обрађује кроз кратке импровизоване сцене, у којима ученици приказују најважније догађаје и осећања јунакиње. Та активност помаже ученицима да схвате да човек у животу наилази на тешкоће, али да после лоших тренутака долази срећа. У „Девојчици са шибицама" ученици се уживљавају у изабране делове тела смрзнуте девојчице како би боље замислили ситуацију у којој се јунакиња налази. Могу да предложе и другачији завршетак како се не би задржали у осећају туге и потиштености. „Ружно паче" омогућава примену драме у приказу друштвеног карактера, када се ученици уживљавају у улоге стручњака (наставника, родитеља, психолога, директора школе) и предлажу решења за проблеме одбачених вршњака, развијајући емпатију. „Царево ново одело" омогућава рад кроз импровизоване сцене, анализу понашања и мотива цара и његових слуга и схватање да, иако се лагање на први поглед чини најбољим решењем, на крају носи непријатне последице.

На крају је наглашено да је при анализи и тумачењу бајки вредно користити савремене технологије, посебно алате као што су Kahoot, Quizizz или Wordwall, који повећавају мотивацију ученика и помажу у тумачењу приказаног света. Поред тога, могу да се користе снимци ових дела у професионалном извођењу или интерактивне верзије бајки, које су веома популарне међу ученицима.

***Кључне речи**: драма, дефиниција и функције драме, суштина драме, употреба модерних технологија у васпитању и образовању, примена драме у анализи бајки.*

Wykorzystanie dramy w pracy z wybranymi baśniami na pierwszym etapie edukacyjnym kształcenia ogólnego

Celem artykułu jest wyjaśnienie, czym jest drama, a także zaprezentowanie autorskich propozycji, jak można wykorzystać tę metodę w pracy nad baśniami. Jest to ważne zagadnienie, gdyż drama jako metoda dydaktyczno-wychowawcza może być wykorzystana w edukacji polonistycznej do lepszego zrozumienia sensów ukrytych w utworach literackich, czyli czytania ze zrozumieniem na wyższym poziomie. Autorka przybliża istotę dramy, wskazując, że ma ona wiele wspólnego z teatrem, ale też bardzo się od niego różni. Dodatkową cechą dramy jest konflikt, dzięki któremu uczestnicy mają się uczyć radzenia sobie z trudnymi sytuacjami w codziennym życiu. W opracowaniu omówiono także funkcję dramy, z uwzględnieniem tego, że rozwija ona kompetencje kluczowe, takie jak: porozumiewanie się w języku ojczystym, umiejętność uczenia się, kompetencje interpersonalne, międzykulturowe, społeczne i obywatelskie, przedsiębiorczość oraz ekspresję kulturalną. Oprócz tego drama pozwala na kształtowanie postawy twórczej, wyobraźni, służy rozwijaniu emocji i empatii.

Autorka zaprezentowała praktyczne możliwości pracy z dramą w następujących bajkach: „Kopciuszek", „Calineczka", „Dziewczynka z zapałkami", „Brzydkie kaczątko" i „Nowe szaty cesarza". W „Kopciuszku" można wykorzystać technikę scenek inscenizowanych, w których uczniowie najpierw pokażą, jak wyglądał typowy dzień bohaterki i jak była traktowana przez macochę i jej córki. Następnie wykonają scenki przedstawiające idealną rodzinę. To ćwiczenie pokazuje, jak ważne jest traktowanie drugiej osoby i sposób komunikacji. „Calineczka" omawiana jest z wykorzystaniem krótkich scenek improwizowanych, w których uczniowie przedstawiają najważniejsze wydarzenia i uczucia bohaterki. Taka aktywność pomaga zrozumieć, że w życiu człowiek napotyka trudności, ale po złych chwilach przychodzi szczęście. W „Dziewczynce z zapałkami" uczniowie wcielają się w wybrane części ciała zmarzniętej dziewczynki aby lepiej wyobrazić sobie sytuację bohaterki. Mogą także spróbować zaproponować inne zakończenie. „Brzydkie kaczątko" pozwala na dramat o charakterze społecznym, gdy uczniowie wcielają się w role ekspertów (nauczycieli, rodziców, psychologów, dyrektorów szkół) i proponują rozwiązania problemów osób odrzuconych przez rówieśników, kształtując empatię. „Nowe szaty cesarza" umożliwiają pracę z improwizowanymi scenkami, analizę zachowań i motywacji cesarza i jego sług oraz zrozumienie, że kłamstwo, choć początkowo wydaje się najlepszym rozwiązaniem, wiąże się z przykrymi konsekwencjami.

Na koniec podkreślono, że przy analizie i interpretacji baśni warto wykorzystywać nowoczesne technologie, zwłaszcza narzędzia takie jak Kahoot, Quizizz lub Wordwall, które zwiększają motywację uczniów oraz wspierają określanie świata przedstawionego. Ponadto można wykorzystać nagrania tych utworów w wykonaniu profesjonalistów lub wersje interaktywne baśni, które cieszą się bardzo dużą popularnością wśród uczniów.

***Słowa kluczowe**: drama, definicja i funkcje dramy, istota dramy, wykorzystanie nowoczesnych technologii w edukacji, zastosowanie dramy w analizie baśni.*

Uporaba drame u radu s odabranim bajkama na prvoj obrazovnoj razini općeg školovanja

Ovaj rad analizira drama-metode i usmjerava na mogućnosti primijene te metode u radu s bajkama. Drama kao nastavno-odgojna metoda može koristiti u nastavi materinskog jezika za bolje razumijevanje skrivenih značenja u književnim djelima, odnosno za višu razinu čitanja s razumijevanjem. Autorica predstavlja bit drame, ističući da ona ima mnogo zajedničkoga s kazalištem, ali se istodobno od njega bitno razlikuje. Drama se temelji na spontanom preuzimanju uloga od strane učenika („ulazak u lik"), što znači da u drami nema mjesta probama ni redatelju. Dodatna značajka drame jest sukob, zahvaljujući kojem sudionici uče kako se nositi s teškim situacijama u svakodnevnom životu. U radu se razmatraju i funkcije drame, uzimajući u obzir da drama razvija ključne kompetencije poput: komunikacije na materinskom jeziku, sposobnosti učenja, međuljudskih, interkulturnih, socijalnih i građanskih kompetencija, poduzetnosti te kulturnog izražavanja. Osim toga, drama omogućuje razvoj kreativnog stava i mašte te pridonosi razvoju emocija i empatije.

Autorica prikazuje praktične mogućnosti rada s pomoću drama-tehnika na sljedećim bajkama: „Pepeljuga", „Palčica", „Djevojčica sa šibicama", „Ružno pače" i „Carevo novo ruho". U slučaju bajke „Pepeljuga", učenici najprije, kroz tehniku insceniranog igranja uloga, prikazuju tipičan dan glavne junakinje i način na koji su se prema njoj odnosile maćeha i polusestre, a zatim izvode prizore idealne obitelji u Pepeljuginu domu. Ova vježba pokazuje koliko je važno kako se odnosimo prema drugima i kako im se obraćamo. „Palčica" se obrađuje kroz kratke improvizirane prizore u kojima učenici prikazuju ključne događaje, posebno naglašavajući osjećaje glavne junakinje. Cilj ove aktivnosti jest osvijestiti učenicima da se ljudi u životu susreću s mnogim teškoćama, ali da nakon loših razdoblja dolazi i sreća. Primjena drame u obradi „Djevojčice sa šibicama" služi razvoju empatije: učenici trebaju uprizoriti dio priče i uživjeti se u dijelove tijela smrznute djevojčice, a mogu i osmisliti drukčiji završetak kako se ne bi zadržali u osjećaju tuge i potištenosti. Bajka „Ružno pače" pruža mogućnost primjene društvene drame u kojoj učenici, nakon razgovora o sadržaju priče, preuzimaju uloge stručnjaka (učitelja, roditelja, psihologa, ravnatelja) koji će predložiti rješenja problema odbačenih vršnjaka, razvijajući empatičan odnos. „Carevo novo ruho" – nudi mogućnost za improviziranje prizora za analizu ponašanja i motivacije cara i njegovih slugu, pokazujući da laganje, iako prividno najbolje rješenje, dovodi do neugodnih posljedica.

Na kraju se naglašava važnost korištenja modernih tehnologija pri analizi i interpretaciji bajki. Posebno su korisni alati poput Kahoot, Quizizz ili Wordwall, koji povećavaju motivaciju učenika i pomažu u tumačenju prikazanog svijeta. Osim toga, mogu se koristiti snimke djela u profesionalnoj izvedbi ili interaktivne verzije bajki, koje su vrlo popularne među učenicima.

***Ključne riječi*:** drama, definicija i funkcije drame, bit drame, uporaba suvremenih tehnologija u obrazovanju, primjena drame u analizi bajki.

Verica Milutinović
University of Kragujevac, Faculty of Education, Jagodina

https://doi.org/10.5937/int-themed-bg25056M

Modelling pre-service teachers' ICT adoption in education: competencies, perceptions, and support

Abstract
In recent years, integrating Information and Communication Technologies (ICT) into teaching has become essential. This study aims to examine the factors that influence pre-service teachers' intention to adopt ICT in their future teaching, with a particular focus on faculty support and ICT competencies. Grounded in the extended Technology Acceptance Model, the research investigates whether Perceived Usefulness (PU), Perceived Ease of Use (PEU), and ICT Competencies for Instructional Design (ICTC_ID) and Pupil Use (ICTC_PU), along with faculty support measured as Synthesis of Qualitative Evidence (SQD), predict Behavioural Intention (BI) to use ICT. Data from 315 pre-service teachers at the University of Kragujevac, Faculty of Education, were analysed using structural equation modeling. The model explained 66.3% of the variance in BI, with PU, PEU, and ICTC_PU directly influencing BI, while SQD significantly predicted both ICT competencies directly and indirectly through PU and PEU. These findings underscore the pivotal role of faculty support in developing ICT competencies and strengthening BI, offering valuable pedagogical implications for teacher education programmes to enhance instructional strategies, mentorship, and hands-on technology experiences.

Keywords: *ICT integration in education, faculty support, pre-service teachers, ICT competencies, Structural Equation Modeling (SEM).*

Introduction

The integration of Information and Communication Technology (ICT) in education is crucial for modern teaching and learning. Institutions increasingly focus on equipping students with digital skills, making ICT adoption a key area of research (Milutinović & Mandić, 2022; Teo, 2009; Teo & Milutinović, 2015). The Technology Acceptance Model (TAM) highlights the perceived usefulness and ease of use as critical determinants of ICT adoption (Lawrence & Tar, 2018).

For pre-service teachers, ICT competencies and faculty support play a vital role in technology integration (Tondeur et al., 2018). Research shows that teachers' and students' attitudes toward ICT, their digital skills, and institutional support influence technology adoption (Buchanan et al., 2013). Faculty often face structural barriers and question the utility of learning technologies, emphasising the need for better institutional support and training (Buchanan et al., 2013).

Pre-service teachers' ICT competency levels vary, affecting their ability to design interactive instructional materials. Studies highlight challenges in developing digital resources and call for improved training (McGarr & McDonagh, 2020). Similarly, research in Spain identified gaps in digital teaching skills, reinforcing the need for ICT training in teacher education (Tárraga-Mínguez et al., 2021). Understanding the relationships between the perceived usefulness, ease of use, ICT competencies, and faculty support is crucial for enhancing ICT adoption.

This paper proposes a comprehensive model of ICT adoption in education, examining how these factors collectively shape pre-service teachers' intentions to integrate ICT into their teaching. The findings offer insights for institutions aiming to support educators in leveraging technology for improved learning outcomes.

Literature Review

The integration of ICT in education is essential for modern teaching, enhancing accessibility, flexibility, and interactivity (Lawrence & Tar, 2018). Beyond the classroom, ICT improves administrative efficiency and supports online instruction (Lawrence & Tar, 2018). However, successful adoption depends on teacher readiness, institutional support, and professional development (Akram et al., 2022). Despite its benefits, challenges like teachers' resistance and lack of competencies hinder full ICT integration (Ghavifekr & Rosdy, 2015). Addressing these barriers is crucial for maximising the potential of ICT in education.

TAM (Davis et al., 1989) explains technology adoption through the perceived usefulness (PU) and perceived ease of use (PEU). Studies confirm the relevance of TAM in education (Milutinović & Mandić, 2022; Milutinović, 2024a; Teo, 2009; Teo & Milutinović, 2015), showing its effectiveness in predicting behavioural intentions (BI) to use technologies (Granić & Marangunić, 2019). In Serbia, TAM-based research highlights the importance of PU and PEU in technology adoption (Milutinović & Mandić, 2022; Teo et al., 2017).

Based on the TAM we hypothesise:

H1: PU significantly influences BI.

H2: PEU significantly influences BI.

H3: PEU significantly influences PU.

ICT competencies involve integrating digital skills, knowledge, and attitudes to enhance teaching and learning (Tondeur et al., 2016). These competencies support instructional design and student engagement, influenced by PU, PEU, and behavioural intention (Tondeur et al., 2018). Training programmes incorporating role models and reflective practices significantly improve pre-service teachers' ICT competencies (Ristić, 2018).

Research highlights two key ICT competencies: (1) using ICT to enhance pupil learning (ICTC_PU) and (2) managing ICT for instructional design (ICTC_ID) (Tondeur et al., 2016). Studies show a strong correlation between self-perceived ICT competencies and the likelihood of integrating ICT in future teaching (Aslan & Zhu, 2017). Structured training, collaborative lesson planning, and continuous feedback improve instructional innovation with ICT (Chen et al., 2022).

Therefore, we formulated the following hypotheses:

H4: PU significantly influences ICTC_PU.

H5: PU significantly influences ICTC_ID.

H6: ICTC_PU significantly influences BI.

H7: PEU significantly influences ICTC_ID.

H8: ICTC_ID significantly influences ICTC_PU.

Faculty support and institutional training play a crucial role in pre-service teachers' ICT adoption. Teacher educators serve as role models, providing authentic technology experiences that shape ICT competencies (Tondeur et al., 2018). Structured training enhances pedagogical knowledge and technological skills, facilitating ICT integration into teaching (Aslan & Zhu, 2017).

Strategies like reflection, design-based learning, collaborative environments, and authentic experiences strengthen ICT competencies (Tondeur et al., 2018). Continuous feedback further supports technology integration, improving perceptions of the usefulness of ICT and ease of use (Petko et al., 2019).

Based on the above said, we formulated the following hypotheses:

H9: SQD significantly influences ICTC_PU.

H10: SQD significantly influences PU.

H11: SQD significantly influences PEU.

H12: SQD significantly influences ICTC_ID.

Present Study

The primary goal of this research is to evaluate whether the Perceived Usefulness, Perceived Ease of ICT Use, ICT Competencies for Pupil Use, ICT Competencies for Instructional Design, and Faculty Support for ICT Use (with subscales: Collaboration, Role Modeling, Reflection, Instructional Design, Feedback, and Authenticity) predict pre-service teachers' intentions to integrate ICT. It also examines the interconnections among these factors, providing insights for teacher educators and researchers (Milutinović, 2016; Milutinović & Mandić, 2022).

Focusing on Serbian pre-service teachers, this study aligns with national efforts to enhance digital competencies through policies, infrastructure upgrades, and training (Ministry of Education, Science and Technological Development, 2021). Serbia's digital education strategies follow European frameworks such as DigCompEdu and DigCompOrg, guiding teacher digital competence development (Kampylis et al., 2015; Redecker, 2017). The revised 2023 national framework underscores the role of ICT in modern education, equipping educators with essential digital skills.

Serbian researchers, like those in other developing nations, aim to identify factors influencing ICT adoption among pre-service teachers, particularly ICT competencies and faculty support. The study's research model (Figure 1) includes six key factors: Behavioural Intention (BI), Perceived Ease of Use (PEU), Perceived Usefulness (PU), ICT Competencies for Instructional Design (ICTC_ID), ICT Competencies for Pupil Use (ICTC_PU), and Faculty Support (SQD) with subscales: Collaboration (COL), Instructional Design (DES), Reflection (REF), Role Modeling (ROL), Feedback (FEE), and Authentic Experiences (AUT).

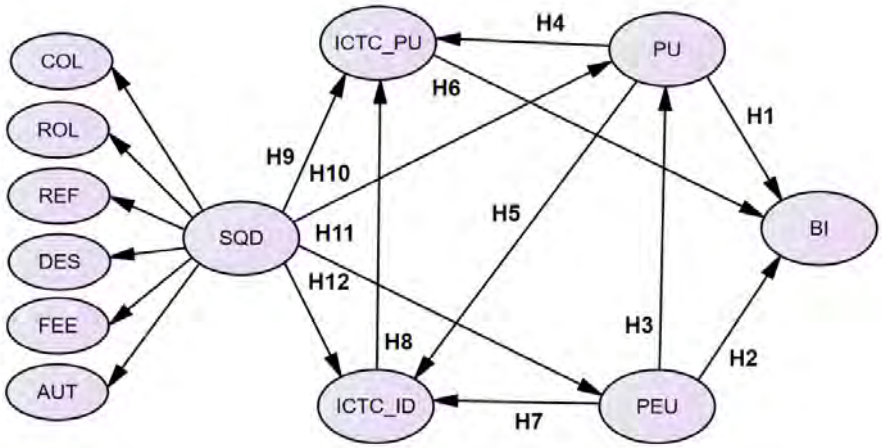


Fig. 1 *Research model*

This study aims to address the following research question in line with the hypotheses: How effectively does the research model predict pre-service teachers' behavioural intention (BI) to use ICT in their future teaching?

Methodology

Participants in the Research

A total of 315 students from the University of Kragujevac, and a well-established Serbian teacher education faculty, participated in this study. These students were randomly selected from a single public university, which reflects the typical structure of teacher education programmes in Serbia. Participants were enrolled in two compulsory courses, Pedagogical Informatics and Methodology of Informatics Education, which combined theoretical and practical ICT training. They also gained additional ICT exposure in other courses throughout their studies.

Each participant provided informed consent, which assured data anonymisation and clarified that the study was voluntary and for research purposes only. Ethical principles such as autonomy, respect, fairness, confidentiality, and compassion were maintained throughout the study. The online survey, available in Serbian, took approximately 10 minutes to complete. Participants' average age was 21.46 years (SD = 4.08), with 9.2% male, reflecting the gender distribution of Serbian education programmes, consistent with previous studies (Milutinović, 2022).

Instrument

This study used a two-part survey (questionnaire, Appendix 1) to explore key research variables. The first section collected demographic data (age, gender), while the second gathered self-reports on six variables using validated subscales: BI (3 items), PU (4), PEU (4), ICTC_ID (6), ICTC_PU (9), and SQD (24). All items used a five-point Likert scale, except SQD, which had six points.

Survey items for PU, PEU, and BI were adapted from established studies (Davis et al., 1989; Teo, 2009). To assess the support of teacher training institutions (TTIs), we modified Tondeur et al.'s (2016) instrument, evaluating six SQD strategies: role modelling, reflection, design-based learning, peer collaboration, authentic experiences, and feedback. The adapted ICTC scale (Tondeur et al., 2017) was used, where the ICTC_PU scale measured pre-service teachers' ability to teach ICT, and ICTC_ID assessed their ICT integration skills.

Items unsuitable for this context were excluded, and those with low factor loadings were removed after an exploratory factor analysis (EFA). The survey was translated by the author, reviewed by an EFL professor, and refined by a bilingualism expert through multiple iterations.

Data Analysis

We used structural equation modelling (SEM) to analyse the data, first assessing normality and then developing the study model. SEM, suitable for examining relationships between observed and latent variables (Hoyle, 2011), was conducted using Amos 23.0 and SPSS 17.0 with maximum likelihood estimation.

Following Anderson and Gerbing's (1988) two-step approach, we first evaluated the measurement model to confirm how well items represented latent variables, then tested the structural model for variable relationships. The measurement model included six components with uncorrelated errors. Based on Kline's (2011) N:q ratio of 20:1, a minimum of 120 participants was needed for six parameters. With 315 participants, SEM was appropriate.

Results

Descriptive Statistics of the Variables

Table 1 shows the descriptive statistics of the variables as calculated by SPSS. The mean values for all components exceed the scale means (3.5 for the SQD scale and 3.0 for the other scales), suggesting predominantly positive responses to the model's constructs. Following the guidelines of Schumacker & Lomax (2010) and Kline (2011), skewness and kurtosis values were within the acceptable range of |3|, and |10| respectively. Consequently, the data in this study were assumed to adhere to the principles of univariate normality.

Table 1 *The descriptive statistics, reliability and convergent validity of the study's constructs*

Construct	Mean	Std. Deviation	Skewness	Kurtosis	α	CR	AVE
SQD	4.566	0.801	-0.188	-0.519	0.957	0.968	0.835
ICTC_ID	4.119	0.662	-0.330	-0.753	0.869	0.859	0.504
ICTC_PU	4.274	0.637	-0.801	0.046	0.871	0.921	0.565
BI	4.306	0.716	-0.863	0.006	0.851	0.852	0.658
PU	4.444	0.645	-1.005	0.087	0.922	0.873	0.632
PEU	4.236	0.637	-0.545	-0.263	0.843	0.843	0.573

Note. α = Cronbach's Alpha; CR= composite reliability;
AVE = average variance extracted.

Assessment of the Measurement Model

Maximum likelihood estimation (MLE) and confirmatory factor analysis (CFA) were used to assess the measurement model with uncorrelated errors. Mardia's (1970) normalised multivariate kurtosis (586.074) was below the threshold (2600) for 50 observed items (Raykov & Marcoulides, 2008), confirming multivariate normality.

Table 2 presents discriminant validity results based on Fornell and Larcker's (1981) criteria. The square root of the AVE for each construct exceeded its correlations with other constructs, except for the ICTC subscales (ICTC_PU and ICTC_ID). While they were designed as distinct dimensions, high intercorrelations suggest partial overlap in practice. Despite this, each sub-scale offers valuable insights, and both will be analysed separately and together, consistent with our theoretical framework.

Table 2 *Assessment of discriminant validity and correlations among the constructs of the measurement model (N=315)*

	PEU	PU	ICTC_PU	BI	SQD	ICTC_ID
PEU	0.757					
PU	0.718	**0.795**				
ICTC_PU	0.681	0.724	0.752			
BI	0.739	0.758	0.683	**0.811**		
SQD	0.552	0.560	0.625	0.515	**0.914**	
ICTC_ID	0.716	0.698	**0.861**	0.647	0.606	0.710

Evaluations were conducted to examine the measurement model's internal consistency, convergent validity, and indicator reliability. Data reliability was assessed using the average variance extracted (AVE) and composite reliability (CR), with values of 0.50 or above deemed acceptable (Fornell & Larcker, 1981). As shown in Table 2, all constructs exhibited CRs, and AVEs within acceptable limits. Furthermore, the standardised estimates for the items were reviewed, with values above 0.50 indicating a satisfactory representation of the underlying construct (Hair et al., 2010), and all estimates met this criterion, ranging from 0.62 to 0.86.

The fit of the measurement model was evaluated using the minimum fit function ($\chi 2$) and the ratio of $\chi 2$ to the degrees of freedom ($\chi 2/df$), with a ratio below 3.0 regarded as optimal (Kline, 2011). Furthermore, a Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI) values greater than 0.90 were considered to indicate a good fit (Hair et al., 2010; Schumacker & Lomax, 2010).

Additionally, we examined the standardised root mean square residual (SRMR) and the root mean square error of approximation (RMSEA). According to Hu and Bentler (1999), a good model fit is achieved when the

RMSEA is below 0.05 and the SRMR is under 0.08. Based on the CFA results, the measurement model used in this study fits the data well ($\chi2$ = 1865.616, $\chi2/df$ = 1.627, CFI = 0.927, TLI = 0.923, RMSEA = 0.045 [90% CI: 0.041–0.048], SRMR = 0.045).

Structural Model Assessment

We assessed the structural model's fit using the same goodness-of-fit indices and criteria applied to the CFA model. The results confirmed that the structural model demonstrated a good fit to the data ($\chi2$ = 1865.971, $\chi2/df$ = 1.623, CFI = 0.929, TLI = 0.924, RMSEA = 0.045 [90% CI: 0.041–0.048], SRMR = 0.045).

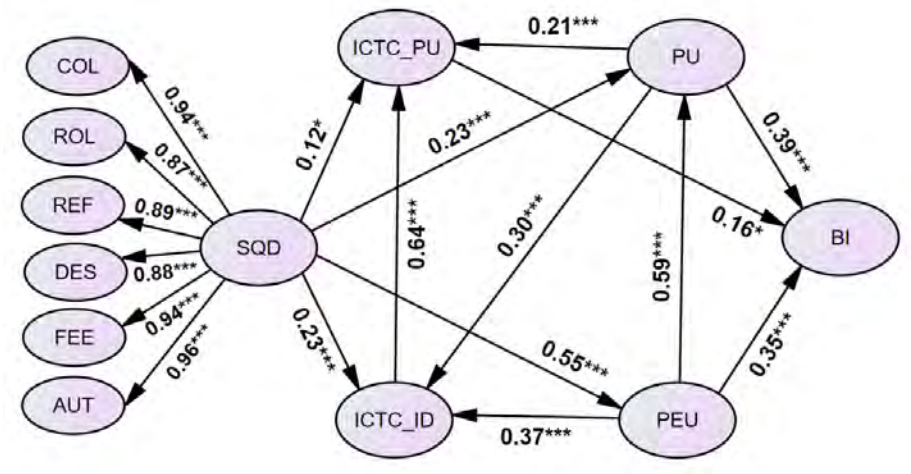


Fig. 2 *Standardised path coefficients for hypothesis outcomes*

Note. * p < 0.05; ** p < 0.01; *** p < 0.001.

Hypothesis Testing

Figure 2 presents the findings from testing all 12 hypotheses, along with the five endogenous variables (PU, PEU, ICTC-ID, ICTC-PU, and BI).

Table 3 presents the breakdown of effects derived from the path model, displaying the standardised total, direct, and indirect effects for each of the five endogenous variables and the exogenous variable.

The results showed that PU, PEU, and ICT_PU directly influenced pre-service teachers' intention to use ICT in the classroom. Five variables—SQD, PU, PEU, ICT_PU, and ICT_ID—accounted for 66.3% of the variance in behavioural intention (BI), with positive effects.

SQD significantly influenced both ICTC_PU and ICTC_ID directly and indirectly through PU and PEU, explaining 78.0% and 61.6% of the variance in ICTC_PU and ICTC_ID, respectively. SQD, along with PEU, explained 55.4% of the variance in PU, while SQD explained 30.6% of PEU's variance.

The findings highlight SQD as essential in developing ICT competencies for both pupil use and instructional design, influencing these competencies directly and indirectly through PU and PEU. Overall, the model explains 66.3% of the variance in BI, underscoring the key role of faculty support in fostering ICT competencies and shaping pre-service teachers' intentions to integrate ICT into their teaching.

Table 3 *Results of research model testing (standardised estimates of direct, indirect, and total effects)*

Outcome	Factor	Direct	Indirect	Total
Behavioral intention ($R^2 = 0.663$)	SQD	—	0.512	0.512
	ICTC_ID	—	0.104	0.104
	PEU	0.346	0.308	0.654
	ICTC_PU	0.162	—	0.162
	PU	0.393	0.065	0.458
Perceived Usefulness of ICT ($R^2 = 0.554$)	SQD	0.235	0.325	0.560
	PEU	0.588	—	0.588
Perceived Ease of Use ($R^2 = 0.306$)	SQD	0.553	—	0.553
ICT competencies - Pupil use ($R^2 = 0.780$)	SQD	0.117	0.508	0.625
	PU	0.211	0.192	0.403
	PEU	—	0.477	0.477
	ICTC_ID	0.643	—	0.643
ICT competencies - Instructional design ($R^2 = 0.616$)	SQD	0.232	0.374	0.606
	PU	0.298	—	0.298
	PEU	0.374	0.175	0.549

Discussion

This study aimed to evaluate whether Perceived Usefulness (PU), Perceived Ease of Use (PEU), ICT Competencies for Instructional Design (ICTC_ID), ICT Competencies for Pupil Use (ICTC_PU), and Faculty Support for ICT Use (SQD) serve as significant predictors of pre-service teachers' behavioural intention (BI) to use ICT in their future teaching. The findings indicate that these factors collectively explain 66.3% of the variance in BI, highlighting their importance in shaping pre-service teachers' technology adoption. Additionally, faculty support, represented by SQD,

plays a crucial role in developing ICT competencies for both pupil use and instructional design, with direct and indirect effects through PEU and PU.

Predicting Pre-Service Teachers' Behavioural Intention to Use ICT

The model in this study demonstrated a good fit to the data, supporting the validity of the relationships and the overall framework for understanding pre-service teachers' ICT integration.

The results showed that all 12 hypotheses were supported. PU, PEU, and ICTC_PU directly impacted pre-service teachers' intention to use ICT in the classroom. PU had the strongest effect ($\beta = 0.393$), followed by PEU ($\beta = 0.346$) and ICTC_PU ($\beta = 0.162$). The study also found that ICTC_PU is influenced by ICTC_ID ($\beta = 0.643$), highlighting the importance of instructional design competencies in supporting pupil use of ICT. These findings align with previous research that underscores the role of the perceived usefulness, ease of use, and competencies in driving technology adoption (Davis et al., 1989; Milutinović, 2022; Teo, 2009).

SQD significantly influenced both ICTC_PU and ICTC_ID, with direct and indirect effects. SQD explained 78.0% of the variance in ICTC_PU and 61.6% in ICTC_ID. Faculty support directly impacted PEU ($\beta = 0.553$) and PU ($\beta = 0.560$), while also indirectly influencing ICTC_ID ($\beta = 0.104$). These results emphasise the key role of faculty support in developing ICT competencies and fostering positive perceptions of ICT integration, consistent with research by Petko et al. (2019) and Tondeur et al. (2016, 2017), who highlighted the importance of faculty role modelling, feedback, and collaboration in technology adoption.

SQD also influenced ICTC_PU and ICTC_ID through PU and PEU, demonstrating the importance of practical training, collaboration, and feedback. The study suggests that teacher training programmes should focus on real-world ICT applications, enhancing both instructional design and pupil-use competencies to improve pre-service teachers' ICT adoption. These findings align with the work of Mandić et al. (2017), who found that innovative teaching approaches contributed to improved ICT competencies among students, and Tondeur et al. (2025), who emphasised the importance of continuous adaptation of teacher education programmes to digital teaching practices.

Theoretical and Practical Contributions, Limitations, and Future Research

This study contributes to the literature by extending the Technology Acceptance Model (TAM) framework through the inclusion of faculty support and ICT competencies. While prior research has focused on self-efficacy and attitudes toward ICT (Teo et al., 2016), this study emphasises the institutional and instructional factors that shape teachers' ICT competencies and acceptance.

The study emphasises the importance of faculty support in shaping pre-service teachers' intention to use ICT and the development of their ICT competencies. Although SQD did not directly predict behavioural intention, its strong indirect impact highlights its vital role in ICT integration. Teacher education programmes should focus on key SQD elements like role modelling, reflection, instructional design, collaboration, authentic experiences, and feedback to enhance ICT integration. Given the rapid evolution of digital learning, these programmes must continuously adapt to equip pre-service teachers with relevant competencies, as highlighted by Tondeur et al. (2025).

Furthermore, the study underscores the significant impact of PU and PEU on ICT competencies and BI. Programmes should enhance pre-service teachers' perceptions of ICT's usefulness and ease of use through hands-on experiences, modelling, and collaborative learning. Additionally, ICTC_ID serves as a foundational skill for effective ICTC_PU which directly influences BI, emphasising the need to prioritise both instructional design and pupil-centred applications.

By fostering ICTC_ID and ICTC_PU through faculty support, teacher education programmes can ensure that future educators feel competent and motivated to integrate ICT. The successful integration of ICT depends on sustained institutional support, as Ristić (2018) pointed out, as well as Janković and Ristić (2018), who emphasised the importance of faculty support in shaping pre-service teachers' intention to use ICT and develop their competencies. They advocate for teachers to transition from being mere knowledge providers to facilitators, fostering a dynamic learning environment with the use of ICT that motivates continuous development among educators and students alike. Ristić (2024) emphasises that achieving digital maturity is imperative for educational institutions, underscoring the necessity of faculty support in shaping pre-service teachers' intentions, attitudes, and ICT competencies.

Overall, the study highlights the importance of holistic, practice-based, interdisciplinary (Milutinović, 2024b) ICT training that combines techni-

cal proficiency with pedagogical competencies. Faculty involvement should include role modelling, collaborative learning, authentic experiences, and continuous feedback to strengthen pre-service teachers' ICT competencies and foster a technology-integrated teaching environment.

This study has some limitations. First, reliance on self-reported data may introduce bias, as participants could overestimate or underestimate their ICT competencies. Second, the sample was from a single university in Serbia, limiting the generalisability of the findings.

Future research should focus on longitudinal studies to assess the long-term impact of faculty support on ICT adoption, cross-cultural comparisons to explore variations across educational systems, and experimental or intervention studies to examine the effects of faculty-led ICT training on pre-service teachers' competencies.

Conclusion

This study highlights key factors influencing pre-service teachers' behavioural intention (BI) to integrate ICT into their teaching. The results show that the perceived usefulness (PU), perceived ease of use (PEU), and ICT competencies for pupil use (ICT_PU) significantly impact BI. Together, five factors – SQD, PU, PEU, ICT_PU, and ICT_ID – explain 66.3% of the variance in BI, emphasising the interconnected role of faculty support (SQD), ICT competencies, and technology perceptions in shaping ICT adoption intentions. Notably, ICT_PU's strong influence suggests that pre-service teachers' confidence in using ICT for student engagement is crucial, reinforcing the need for hands-on ICT training and pedagogical integration in teacher education.

The study also underscores the importance of faculty support in developing pre-service teachers' ICT competencies. By demonstrating how SQD influences both ICTC_PU and ICTC_ID directly and indirectly, it stresses the need for teacher education programmes that promote active engagement with technology. Emphasising role modelling, continuous feedback, and collaborative learning can better prepare future educators to effectively integrate technology into their classrooms. Future research should examine other contextual factors that may influence ICT adoption in teacher education.

References

Akram, H., Abdelrady, A., Al-Adwan, A., & Ramzan, M. (2022). Teachers' Perceptions of Technology Integration in Teaching-Learning Practices: A Systematic Review. *Frontiers in Psychology*, 13.

Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, *103*(3), 411–423.

Aslan, A., & Zhu, C. (2017). Investigating variables predicting Turkish pre-service teachers' integration of ICT into teaching practices. *British Journal of Educational Technology*, 48, 552-570.

Buchanan, T., Sainter, P., & Saunders, G. (2013). Factors affecting faculty use of learning technologies: implications for models of technology adoption. *Journal of Computing in Higher Education*, 25, 1 - 11.

Chen, W., Pi, Z., Tan, J., & Lyu, Q. (2022). Preparing pre-service teachers for instructional innovation with ICT via co-design practice. *Australasian Journal of Educational Technology*.

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science, 35*(8) , 982–1003.

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 48*, 39–50.

Ghavifekr, S., & Rosdy, W. (2015). Teaching and Learning with Technology: Effectiveness of ICT Integration in Schools. *Indonesian Journal of Educational Research and Technology*, *1*(2), 175.

Granić, A., & Marangunic, N. (2019). Technology acceptance model in educational context: A systematic literature review. *British Journal of Educational Technology.*, 50, 2572-2593.

Hair, J. F., Jr., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (seventh ed.). New Jersey: Prentice-Hall International.

Hoyle, R. H. (2011). *Structural equation modeling for social and personality psychology*. London: Sage.

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural equation modeling: a multidisciplinary journal*, *6*(1), 1-55.

Janković, N., & Ristić, M. (2018). Hand in hand – developing university teachers' and pre-service teachers' cross-curricular competences. In: Zacłona, Z. and Radovanović, I. (Eds.) *Chosen issues of education in the modern era* (38–50). Nowy Sacz - Belgrade: State University of Applied Sciences - Teacher Education Faculty.

Kampylis, P., Punie, Y. and Devine, J. (2015). *Promoting Effective Digital-Age Learning: A European Framework for Digitally-Competent Educational Or-*

ganisations, EUR 27599 EN, Publications Office of the European Union, Luxembourg, ISBN 978-92-79-54005-9.

Kline, R. B. (2011). *Principles and practice of structural equation modelling.* 3rd ed. New York: Guilford Press.

Lawrence, J., & Tar, U. (2018). Factors that influence teachers' adoption and integration of ICT in teaching/learning process. *Educational Media International*, 55 (1), 79 - 105.

Mandić, D., Jauševac, G., Jotanović, G., Bešić, C., Vilotijević, N., & Ješić, D. (2017). Educational innovations in the function of improving students' ICT competences. *Croatian Journal of Education*, *19*(Sp. Ed. 3), 61-74.

Mardia, K. V. (1970). Measures of multivariate skewness and kurtosis with applications. *Biometrika, 36*, 519–530.

Mcgarr, O., & McDonagh, A. (2020). Exploring the digital competencies of pre-service teachers on entry onto an initial teacher education programme in Ireland. *Irish Educational Studies*, *40* (1), 115 - 128.

Milutinović, V. (2016). An exploration of acceptance of innovative computer use in teaching mathematics among pre-service class teachers and mathematics teachers. *Zbornik Instituta za pedagoška istraživanja 48*(2), 339-366.

Milutinović, V. (2022). Examining the influence of pre-service teachers' digital native traits on their technology acceptance: A Serbian perspective. *Education and Information Technologies, 27*, 6483–6511.

Milutinović, V. (2024a). Unlocking the code: Exploring predictors of future interest in learning computer programming among primary school boys and girls. *International Journal of Human-Computer Interaction*, 1–18.

Milutinović, V. (2024b). An iterative algorithm for determining the greatest common divisor of two or more univariate polynomials. *Mathematics and Informatics*, 67(4), 392–405.

Milutinović, V., & Mandić, D. (2022). Predicting Teachers' Acceptance to Use Computers at Traditional and Innovative Levels in Teaching Mathematics in Serbia. *Teaching Innovations, 35*(2), 71–88.

Ministry of Education, Science and Technological Development of the Republic of Serbia. (2021). *Strategy for the development of education in Serbia until 2030*. (Official Gazette of the Republic of Serbia, No. 63, June 23, 2021).

Petko, D., Schmid, R., Müller, L., & Hielscher, M. (2019). Metapholio: A Mobile App for Supporting Collaborative Note Taking and Reflection in Teacher Education. *Technology, Knowledge and Learning*, 24, 699 - 710.

Raykov, T., & Marcoulides, G. A. (2008). *An introduction to applied multivariate analysis*. New York, NY: Taylor & Francis.

Redecker, C. (2017). European Framework for the Digital Competence of Educators: DigCompEdu. Punie, Y. (ed). EUR 28775 EN. Publications Office of the European Union, Luxembourg, ISBN 978-92-79-73494-6, JRC107466

Ristić, M. (2018). Digitalne kompetencije nastavnika i saradnika. *Digitalizacija Visokog Obrazovanja: XXIV Skup Trendovi Razvoja: Zbornik Radova* (Paper No. T1. 4-6, pp. 1-4). Novi Sad: Fakultet tehničkih nauka.

Ristić, M. (2024). A proposal of a multidimensional model for the assessment of OER quality standards. In: Visković, I., Zacłona, Z. and Radovanović, I. (Eds.) *Pedagogy in Education Practice*, 197-217. University of Split, Faculty of Humanities and Social Sciences

Schumacker, R. E., & Lomax, R. G. (2010). *A beginner's guide to structural equation modeling (3rd ed.)*. New York: Routledge.

Tárraga-Mínguez, R., Suárez-Guerrero, C., & Sanz-Cervera, P. (2021). Digital Teaching Competencies Evaluation of Pre-Service Teachers in Spain: A Review Study. *IEEE Revista Iberoamericana de Tecnologias del Aprendizaje*, 16, 70-76.

Teo, T. (2009). Modeling technology acceptance in education: A study of pre-service teachers. *Computers & Education*, 52, 302–312.

Teo, T., & Milutinović, V. (2015). Modelling the intention to use technology for teaching Mathematics among pre-service teachers in Serbia. *Australasian Journal of Educational Technology, 31*(4), 363–380.

Teo, T., Milutinović, V., & Zhou, M. (2016). Modelling Serbian pre-service teachers' attitudes towards computer use: A SEM and MIMIC approach. *Computers & Education, 94*, 77-88.

Teo, T., Milutinović, V., Zhou, M., & Banković, D. (2017). Traditional vs. innovative uses of computers among mathematics pre-service teachers in Serbia. *Interactive Learning Environments*, *25*(7), 811–827.

Tondeur, J. (2018). Enhancing future teachers' competencies for technology integration in education: Turning theory into practice. *Seminar.Net, 14*(2), 216–224.

Tondeur, J., Aesaert, K., Prestridge, S., & Consuegra, E. (2018). A multilevel analysis of what matters in the training of pre-service teacher's ICT competencies. *Computers & Education*, *122*, 32-42.

Tondeur, J., Aesaert, K., Pynoo, B., Van Braak, J., Fraeyman, N., & Erstad, O. (2017). Developing a validated instrument to measure preservice teachers' ICT competencies: Meeting the demands of the 21st century. *British Journal of Educational Technology*, *48*(2), 462-472.

Tondeur, J., Trevisan, O., Howard, S. K., & van Braak, J. (2025). Preparing preservice teachers to teach with digital technologies: An update of effective SQD-strategies. *Computers & Education*, 105262.

Tondeur, J., van Braak, J., Siddiq, F., & Scherer, R. (2016). Time for a new approach to prepare future teachers for educational technology use: Its meaning and measurement. *Computers & Education, 94*, 134-150.

Appendix 1:

List of Constructs and Corresponding Items

Perceived ease of use (adapted from Davis et al. 1989; Teo 2009)
(PEU1) I find it easy to interact with ICT;
(PEU2) I find it flexible to interact with ICT;
(PEU3) It would be easy for me to become skillful at using ICT in educational practice;
(PEU4) In general, I consider ICT to be easy to use.

Perceived usefulness (adapted from Davis et al. 1989; Teo 2009)
(PU1) The use of ICT improves the educational practice;
(PU2) The use of ICT makes the educational practice more effective;
(PU3) The use of ICT makes it easier to carry out educational tasks;
(PU4) In general, I consider that ICT are useful in education.

Behavioural intention (adapted from Teo 2009)
(BI1) I intend to use ICT frequently in my future educational practice;
(BI2) I will probably use ICT in my educational practice as soon as I start working;
(BI3) I will use ICT in my future educational practice.

ICT competencies - Pupil use (adapted from Tondeur et al., 2017)
I am able to . . .
(ICTC-PU1) motivate pupils to use ICT in a positive way;
(ICTC-PU2) provide pupils with activities to exercise knowledge/skills by means of ICT;
(ICTC-PU3) provide pupils with activities on subject matters to learn with ICT;
(ICTC-PU4) offer pupils opportunities to express ideas in a creative way by means of ICT;
(ICTC-PU5) support pupils in searching information by means of ICT;
(ICTC-PU6) support pupils in processing and managing information by means of ICT;
(ICTC-PU7) support pupils to present information by means of ICT;
(ICTC-PU8) support pupils to communicate with ICT in a safe, responsible and effective way;
(ICTC-PU9) support pupils to work together with ICT;

ICT competencies - Instructional design (adapted from Tondeur et al., 2017)

I am able to . . .

(ICTC-ID1) use ICT to differentiate learning and instruction;
(ICTC-ID2) track the learning progress of pupils in a digital way;
(ICTC-ID3) evaluate pupils with the help of ICT;
(ICTC-ID4) use ICT appropriately to communicate with pupils;
(ICTC-ID5) design a learning environment with the available infrastructure;
(ICTC-ID6) select ICT applications effectively in creating a learning environment (e.g, in view of the group size).

Faculty support measured as Synthesis of Qualitative Evidence (SQD) (Tondeur et al., 2016)

During my pre-service training, …

(ROL1) I saw many examples of ICT use in an educational setting;
(ROL2) I observed sufficient ICT use in an educational setting in order to integrate applications myself in the future;
(ROL3) I saw good examples of ICT practice that inspired me to use ICT applications in the classroom myself;
(ROL4) The potential of ICT use in education was demonstrated concretely;
(REF1) I was given the chance to reflect on the role of ICT in education;
(REF2) We discussed the challenges of integrating ICT in education;
(REF3) We were given the opportunity to discuss our experiences with ICT in the classroom
(i.e., during internships);
(REF4) There were specific occasions for us to discuss our general attitude towards ICT in education;
(DES1) I received sufficient help in designing lessons that integrated ICT;
(DES2) We learnt how to thoroughly integrate ICT into lessons;
(DES3) We received help to use ICT when developing educational materials;
(DES4) I received a great deal of help developing ICT-rich lessons and projects to use for my internship;
(COL1) There were enough occasions for me to work together with other students on ICT use
in education (i.e., we developed ICT-based lessons together);
(COL2) I was convinced of the importance of co-operation with respect to ICT use in education;
(COL3) Students helped each other to use ICT in an educational context;
(COL4) Experiences using ICT in education were shared;
(AUT1) There were enough occasions for me to test different ways of using ICT in the classroom;
(AUT2) I was able to learn to use ICT in the classroom through the internships;

(AUT3) I was encouraged to gain experience in using ICT in a classroom setting;
(AUT4) Students were encouraged when they attempted to use ICT in an educational setting;
(FEE1) I received sufficient feedback about the use of ICT in my lessons;
(FEE2) My competences with ICT were thoroughly evaluated;
(FEE3) I received sufficient feedback on how I can further develop my ICT competences;
(FEE4) My competences in using ICT in the classroom were regularly evaluated.

Моделовање прихватања ИКТ-а у образовању од стране будућих учитеља: компетенције, перцепције и подршка

Иако је значај интегрисања информационо-комуникационих технологија (ИКТ) у наставу широко признат, многи наставници и даље избегавају или не успевају да користе ИКТ у својим учионицама. Уркос бројним предностима, разне баријере ометају њихову широко распрострањену употребу у образовању. Ово истраживање бави се факторима који утичу на намеру будућих учитеља да прихвате ИКТ у својој будућој настави, с посебним фокусом на подршку факултета и ИКТ компетенције. Разумевање ових фактора кључно је за развој ефикасних програма за обуку наставника.

Истраживање је засновано на проширеном Моделу прихватања технологије (TAM) и истражује да ли доживљај корисности (PU), доживљај лакоће употребе (PEU), ИКТ компетенције за дизајн наставе (ICTC_ID), ИКТ компетенције за коришћење са ученицима (ICTC_PU) и подршка факултета (SQD), предвиђају намеру (BI) да се користи ИКТ у настави. SQD укључује подскале као што су сарадња, моделовање, рефлексија, дизајн наставе, повратне информације и аутентичност, које су кључни фактори у развоју ИКТ компетенција будућих учитеља.

Подаци који су прикупљени од 315 будућих учитеља на Факултету педагошких наука Универзитета у Крагујевцу, анализирани су коришћењем моделовања структуралним једначинама (SEM). Резултати су показали да модел има добру подесност са подацима и објашњава 66,3% варијансе у BI за употребу ИКТ у будућој настави. PU, PEU и ICTC_PU директно су утицали на BI, док је подршка наставника (SQD) значајно предвидела ИКТ компетенције, како директно, тако и индиректно кроз PU и PEU. SQD, заједно са PU и PEU, објаснили су 61,6% варијансе у ICTC_ID, а заједно са ICTC_ID, PU и PEU, чинили су 78,0% варијансе у ICTC_PU. SQD и PEU објаснили су 62,5% варијансе у PU, а SQD самостално објашњава 55,5% варијансе у PEU. Ови резултати истичу кључну улогу подршке факултета у обликовању ИКТ компетенција будућих учитеља и њихове намере да интегришу ИКТ у своје наставне праксе.

Истраживање има важне педагошке импликације, наглашавајући потребу за ефикасним наставним стратегијама које развијају ИКТ компетенције. Програми образовања учитеља требало би да подстичу укљученост наставног особља у моделовање, менторство, сарадњу и аутентична ИКТ искуства. Обезбеђивање практичних искустава уз коришћење ИКТ и континуираних повратних информација помогло би будућим учитељима да побољшају своје перцепције о корисности и лакоћи употребе ИКТ-а, што би их охрабрило да интегришу ИКТ у своје учионице.

Закључак овог истраживања пружа вредне увиде у факторе који утичу на намеру будућих учитеља да прихвате ИКТ у образовању. Резултати потврђују важност подршке факултета и развоја ИКТ компетенција у обликовању њихових намера. Интегисањем ових налаза у програме образовања учитеља, образовне институције могу их боље припремити за ефикасну употребу ИКТ у настави, што би допринело побољшању образовних пракси и интеграцији ИКТ у учионицама.

Кључне речи: *интегрисање ИКТ у наставу, подршка факултета, будући учитељи, ИКТ компетенције, моделовање структуралним једначинама (SEM).*

Modelowanie akceptacji ICT w edukacji przez przyszłych nauczycieli: kompetencje, percepcje i wsparcie

Choć znaczenie integracji technologii informacyjno-komunikacyjnych (ICT) w nauczaniu jest powszechnie uznawane, wielu nauczycieli wciąż unika korzystania z ICT lub nie potrafi skutecznie wykorzystywać tych technologii w swoich klasach. Pomimo licznych korzyści, różne bariery niestety utrudniają ich szerokie zastosowanie w edukacji. Niniejsze badanie dotyczy czynników wpływających na zamiar podjęcia przez przyszłych nauczycieli starań w zakresie wdrażania ICT w ich pracy dydaktycznej, ze szczególnym uwzględnieniem wsparcia ze strony wydziału i kształtowania kompetencji z obszaru ICT. Zrozumienie tych czynników ma kluczowe znaczenie dla tworzenia efektywnych programów kształcenia nauczycieli.

Badanie opiera się na rozszerzonym Modelu Akceptacji Technologii (TAM) i analizuje, czy postrzegana użyteczność (PU), postrzegana łatwość użycia (PEU), kompetencje ICT w projektowaniu nauczania (ICTC_ID), kompetencje ICT w pracy z uczniami (ICTC_PU) oraz wsparcie wydziału (SQD) przewidują zamiar (BI) korzystania z ICT w nauczaniu. SQD obejmuje takie podskale jak współpraca, modelowanie, refleksja, projektowanie zajęć, informacja zwrotna i autentyczność, które stanowią kluczowe czynniki w rozwijaniu kompetencji ICT przyszłych nauczycieli.

Dane zebrane od 315 przyszłych nauczycieli Wydziału Nauk Pedagogicznych Uniwersytetu w Kragujevcu przeanalizowano z wykorzystaniem modelowania równań strukturalnych (SEM). Wyniki wykazały, że model dobrze dopasowuje się do danych i wyjaśnia 66,3% wariancji BI dotyczącej wykorzystania ICT w przyszłej pracy dydaktycznej. PU, PEU i ICTC_PU miały bezpośredni wpływ na BI, a wsparcie wykładowców (SQD) istotnie przewidywało kompetencje ICT - zarówno bezpośrednio, jak i pośrednio poprzez PU i PEU. SQD wraz z PU i PEU wyjaśniały 61,6% wariancji ICTC_ID, a wspólnie z ICTC_ID, PU i PEU stanowiły 78,0% wariancji ICTC_PU. SQD i PEU wyjaśniały 62,5% wariancji PU, a samo SQD wyjaśniało 55,5% wariancji PEU. Wyniki te podkreślają kluczową rolę wsparcia wydziału w kształtowaniu kompetencji ICT przyszłych nauczycieli oraz ich gotowości do integracji ICT w praktyce dydaktycznej.

Badanie niesie istotne implikacje pedagogiczne, podkreślając potrzebę stosowania skutecznych strategii dydaktycznych, rozwijających kompetencje w zakresie ICT. Programy kształcenia nauczycieli powinny sprzyjać zaangażowaniu kadry w modelowanie, mentoring, współpracę i tworzenie autentycznych doświadczeń związanych z ICT. Zapewnienie praktycznych doświadczeń z wykorzystaniem ICT i ciągłej informacji zwrotnej pomogłoby przyszłym nauczycielom w kształtowaniu pozytywnego nastawienia do tego zagadnienia i w efekcie łatwości użycia ICT, co z pewnością zachęciłoby ich do integrowania technologii w ich klasach.

Wnioski z niniejszego badania dostarczają cennych informacji na temat czynników wpływających na zamiar podjęcia przez przyszłych nauczycieli starań w zakresie wdrażania ICT w edukacji. Wyniki potwierdzają znaczenie wsparcia wydziału i dużą rolę rozwijanych kompetencji ICT. Uwzględniając te ustalenia w programach kształcenia nauczycieli, instytucje edukacyjne mogą lepiej przygotować przyszłych nauczycieli do skutecznego wykorzystania ICT w nauczaniu, przyczyniając się do poprawy praktyk dydaktycznych oraz integracji ICT w klasach.

Słowa kluczowe: *integracja ICT w nauczaniu; wsparcie wydziału; przyszli nauczyciele; kompetencje ICT; modelowanie równań strukturalnych (SEM).*

Modeliranje prihvaćanja IKT-a u obrazovanju od strane budućih učitelja: kompetencije, percepcije i podrška

Iako je važnost integracije informacijsko-komunikacijskih tehnologija (IKT) u nastavi široko prepoznata, mnogi nastavnici i dalje izbjegavaju ili ne uspijevaju koristiti IKT u svojim učionicama. Unatoč brojnim prednostima, razne prepreke ometaju njihovu široku primjenu u obrazovanju. Ovo istraživanje bavi se čimbenicima koji utječu na namjeru budućih učitelja da prihvate IKT u svojoj nastavi, s posebnim naglaskom na podršku fakulteta i IKT kompetencije. Razumijevanje ovih čimbenika ključno je za razvoj učinkovitih programa obrazovanja učitelja.

Istraživanje se temelji na proširenom Modelu prihvaćanja tehnologije (TAM) i ispituje predviđaju li percipirana korisnost (PU), percipirana lakoća uporabe (PEU), IKT kompetencije za oblikovanje nastave (ICTC_ID), IKT kompetencije za rad s učenicima (ICTC_PU) te podrška fakulteta (SQD) i namjeru (BI) korištenja IKT-a u nastavi. SQD uključuje podskale poput suradnje, modeliranja, refleksije, oblikovanja nastave, povratnih informacija i autentičnosti, koje su ključni čimbenici u razvoju IKT kompetencija budućih učitelja.

Podaci prikupljeni od 315 budućih učitelja na Fakultetu pedagoških znanosti Sveučilišta u Kragujevcu analizirani su korištenjem modeliranja strukturnim jednadžbama (SEM). Rezultati su pokazali da se model uklapa u podatke i objašnjava 66,3% varijance u BI za uporabu IKT-a u budućoj nastavi. PU, PEU i ICTC_PU izravno su utjecali na BI, dok je podrška nastavnika (SQD) značajno predviđala IKT kompetencije, i izravno i neizravno putem PU i PEU. SQD, zajedno s PU i PEU, objasnila je 61,6% varijance ICTC_ID, a zajedno s ICTC_ID, PU i PEU činila je 78,0% varijance ICTC_PU. SQD i PEU objasnili su 62,5% varijance PU, a SQD sama objašnjava 55,5% varijance PEU. Ovi rezultati ističu ključnu ulogu podrške fakulteta u oblikovanju IKT kompetencija budućih učitelja i njihove namjere da integriraju IKT u svoju nastavnu praksu.

Istraživanje ima važne pedagoške implikacije, naglašavajući potrebu za učinkovitim nastavnim strategijama koje razvijaju IKT kompetencije. Programi obrazovanja učitelja trebali bi poticati uključivanje nastavnog osoblja u modeliranje, mentorstvo, suradnju i autentična IKT iskustva. Osiguravanje praktičnih iskustava u korištenju IKT-a te kontinuiranih povratnih informacija pomoglo bi budućim učiteljima poboljšati njihovu percepciju korisnosti i lakoće uporabe IKT-a, što bi ih ohrabrilo u integriranju IKT-a u nastavi.

Nalazi istraživanja pružaju uvid u čimbenike koji utječu na namjeru budućih učitelja da prihvate IKT u nastavi. Naglašena je važnost podrške fakulteta i razvoja IKT kompetencija u oblikovanju njihovih namjera. Integracija nalaza ovog istraživanja u programe obrazovanja učitelja doprinijela bi boljoj pripremi za učinkovitu uporabu IKT-a u nastavi što što može doprinijeti kvaliteti nastavne prakse i integraciji IKT-a u učionicama.

Ključne riječi: *integracija IKT-a u nastavu, podrška fakulteta, budući učitelji, IKT kompetencije, modeliranje strukturnim jednadžbama (SEM).*

Sofija Matović, Jelica Babić
University of Belgrade, Faculty of Education

https://doi.org/10.5937/int-themed-bg25083M

Integration of AI tools in education: a TPACK analysis and pedagogical implications

Abstract
Artificial intelligence (AI) requires a more profound methodological understanding of its integration within pedagogical frameworks. This theoretical study aims to analyze the didactic and methodological implications of applying AI tools in education through the framework of the TPACK model (Technological, Pedagogical, and Content Knowledge). A comparative analysis of 23 studies published between 2020 and 2025 were conducted according to inclusion and exclusion criteria and also through TPACK model, focusing on identifying the key pedagogical implications. Findings indicate that expert and intelligent tutoring tools demonstrate the strongest pedagogical implications, particularly in student monitoring, personalization, assistive support, reducing administrative tasks for teachers, and diagnostic assessment. The role of linguistic-generative tools in adaptive learning and feedback is narrower but remains important, while VR simulation and meta tools show selective effects, proving most effective in immersive and experiential learning contexts. Given the theoretical nature of the study, the findings represent conceptual rather than empirically confirmed implications. Future research should use longitudinal and empirical approaches to examine the long-term effects of AI in education, informing regulatory frameworks for its responsible integration and helping educators effectively incorporate AI tools to support students' lifelong learning.

Keywords**:** *AI tools, pedagogical implications, TPACK model, innovative education.*

Introduction

Education is a dynamic process that is constantly evolving, facing methodological challenges that encompass the preservation of traditional paradigms as well as the adoption of constructivist approaches aimed at fostering active student engagement. In response to these challenges, educational systems worldwide are transitioning from reproductive teaching

methods to personalised learning models that adapt to the diverse needs of students at all levels of education (Huang et al., 2023, p. 194). The applications of AI in education include different kinds of AI tools for personalised learning, evaluating, and monitoring students' development. The effective integration of AI requires a structured framework that incorporates an understanding of technical capabilities (core AI concepts) along with pedagogical methodologies and content knowledge. The digital transformation of education calls for changes in learning approaches, teaching methods, and student assessment and evaluation practices (Mandić et al., 2024, p. 7). This approach places the educational component at the forefront, which is often overlooked in the modern educational system (Mandić, 2024, p. 84). The Digital Competence Framework – Teacher for the Digital Age (2024) highlights the increasing role of AI at various levels of education, emphasising its potential to enhance teaching quality through personalised learning, data-driven decision-making, and intelligent support systems.

It becomes increasingly clear that further research is needed to explore how AI can be effectively utilised in educational practices. National and global strategies foresee the application of AI in education as one way to enhance it in the future. The Artificial Intelligence Development Strategy of the Republic of Serbia (2020–2025) emphasises the dual role of AI in education: training professionals to advance AI technologies and adapting the educational system to technological changes that shape the learning environment for students. The next Artificial Intelligence Development Strategy (2025–2030) aims to further integrate AI methodologies into national educational policies and teaching practices.

This study uses the TPACK model (Mishra & Koehler, 2006, p. 1025): technological, pedagogical, and content knowledge as a theoretical framework to analyse AI tools in education. By exploring the intersections of AI opportunities through the TPACK model, the findings contribute to the broader discourse on the transformation of education under the influence of AI and provide insights into its effective application to support pedagogical innovations. Using the TPACK framework, this research offers a structured approach to understanding how the implications of AI tools can be effectively implemented to support these transformative changes. A starting point for this research was found in recent studies (Gunder & Ford, 2025, pp. 3-5; Sahin, 2025, p. 4; Feldman-Maggor et al., 2025, p. 3), which indicate that the TPACK model can provide not only a foundation but also a valuable theoretical framework for further empirical research.

1. Review of educational ai tools

Most educational AI tools are based on machine and deep learning that works in the background of AI tools that enable the creation of adaptive learning environments, where the content is adapted to the needs of each student. A fundamental understanding of how machine learning and deep learning function serves as the starting point for comprehending the concept on which AI tools are based. These tools play the role of assistants or partners, which improve the learning process at all levels (Nguyen et al., 2021, p. 4223).

The concept of machine learning is regarded as a fundamental part of AI (Dhall et al., 2020, p. 49), grounded on the premise that computers should not be taught but should be allowed to learn independently (Samuel, 1959, p. 212). The term that was based then is now the commonly accepted definition of machine learning. One of the fields where machine learning has applications and can contribute to its advancement is education. Key areas of application include predicting student performance through data analysis, enabling the identification of weaknesses, and personalised learning recommendations. This reduces the impact of bias and the *Pygmalion effect* in classrooms, ensuring a more objective education process. Particular attention is given to the development of advanced assessment methods, which balance summative and formative evaluations by using algorithms to analyse test results, learning styles, and student engagement levels (Zhai, 2021, p. 141).

Deep learning (DL) is a subfield of machine learning that uses neural networks to model complex patterns in data, allowing systems to learn from large datasets. The core of DL consists of artificial neural networks (ANN), which are made up of interconnected layers of neurons that process and transform data neural networks are inspired by the structure of the human brain, with each neuron receiving input, applying mathematical transformations, and passing the result to the next layer. This hierarchical structure enables neural networks to learn progressively more abstract features, making them particularly effective in tasks such as pattern recognition (Okewu et al., 2021, p. 984). This approach enables effective pattern recognition, especially in areas like speech recognition, computer vision, and natural language processing (NLP). In NLP, deep learning is used in natural language generation (NLG), where neural networks are trained to recognise linguistic patterns and generate coherent text. These techniques enable advanced tasks such as machine translation, text summarisation, and sentiment analysis (Okewu et al., 2021, p. 990). Certain educational AI tools are built upon other AI concepts, such as big data analytics and

computer vision. Firstly, predictive analytics driven by large datasets supports better decision-making and enhances student performance. Secondly, computer vision tracks student engagement through facial recognition.

In the literature review, researchers emphasise different classifications of AI tools for education. It depends on the perspective of analysis and the level of education (from kindergarten to university). From classifying educational AI tools in K-12 based on instructional, administrative, and analytical (Kwid et al. 2024, p. 8) to generative AI tools for planning, content creation, evaluation, and teaching assistants (Moundridou et al. 2024, p. 4), which can be adapted to different educational levels. AI educational tools, as identified in the selected studies included in the theoretical analysis (Table 1), represent the most prevalent tools in current educational practice and have demonstrated positive effects in enhancing various aspects of the educational process. These tools can be classified into five groups: linguistic generative tools, expert systems, intelligent tutoring systems, VR simulation tools, and meta tools. By classifying these tools, this study aims to provide a comprehensive understanding of their role in fostering intelligent learning environments.

Table 1. Review of AI Tools in Education and Associated Studies

EDUCATIONAL AI TOOLS	RELEVANT STUDIES
LINGUISTIC GENERATIVE	Fitria, 2021; Huang et al., 2022; Belda-Medina & Kokošková; 2023, Labadze et al., 2023; Mandić et al., 2024; Aldulaimi et al., 2024; Huang et al., 2024
EXPERT	Inusah et al., 2021; Sridharan et al., 2021, Lourdusamy & Gnanaprakasam, 2023; Yang & Zhu, 2024
INTELLIGENT TUTORING	Fitria, 2021; Yim, Su 2024; Chinnasamy et al. 2025; Yarlagadda K.C., 2025
VR SIMULATION	Radianti et al., 2020; Ristić, 2022; Ristić et al., 2023
META	Hirsh-Pasek et al. 2022; Hwang & Chien, 2022; Flores-Castañeda et al. 2024; Mandić et al., 2025a; Babić et al., 2025

1.1. Linguistic generative tools

The first thought of the concept of AI language generation tools is associated with the term *chatbots*. The development of chatbots dates back to the second half of the 20th century, when automated communication systems became essential for technological advancement. One of the first chatbots, ELIZA, operated by analysing user statements and providing responses through keyword recognition, creating the illusion of meaningful conversation (Weizenbaum, 1966:36; Labadze et al., 2023, p. 56). Modern

chatbots like ChatGPT (Mandić et al., 2024, p. 13) are software systems based on AI, designed to conduct natural and interactive conversations with users via digital platforms. AI methods, such as speech recognition and semantic analysis, play a crucial role in their functionality, enabling the interpretation of user input and the generation of natural responses (Aldulaimi et al., 2024, p. 611).

Chatbots are widely used in education, particularly in providing personalised support to students by assisting with out-classroom learning, preparing assignments and tests, and encouraging discussion and collaboration (Labadze et al., 2023, p. 58). Key challenges in implementing chatbots include the repetition or provision of irrelevant responses, which complicates their application in educational contexts (Huang et al., 2022, p. 238). Additionally, chatbots often struggle with understanding complex questions and recognising the context of user requests. These limitations are caused by chatbot design rather than the technology itself, but advancements in AI are expected to improve their performance (Belda-Medina & Kokošková, 2023, p. 2). The effective application of chatbots in education requires teacher training for the appropriate use of AI-based technologies, as well as the development of their digital competencies, which should become an integral part of the curricula in teacher education programs (Matović, 2024b, p. 281). Also, these kinds of tools employ natural language processing (NLP) and are recognised as *voice assistants* (Fitria, 2021, p. 143) or *conversational agents* (Huang et al., 2024, p. 7), which leverage cloud computing technologies to simulate human dialogue and deliver spoken information and provide explanations in a manner resembling a personal assistant.

1.2. Expert tools

Expert systems (ES) are computer systems that use AI algorithms to mimic the human decision-making process (Lourdusamy & Gnanaprakasam, 2023, p. 218). Relying on sophisticated knowledge bases and reasoning mechanisms, these systems enable the resolution of complex problems with high accuracy and adaptability in specific contexts. Such systems facilitate the automatisation of decision-making in specialised domains, where expert evaluation plays a crucial role across various fields (Yang & Zhu, 2024, p. 88562). ES in the education area uses AI algorithms to support decision-making and the management of educational resources, enabling a more efficient and personalised learning process (Inusah et al., 2021, p. 434). These systems operate by analysing student data, identifying specific needs, and proposing appropriate educational interventions, such

as tailored instructional materials or exercises. The use of *data mining* in educational systems allows for the identification of learning patterns, the detection of areas where students face difficulties, and the suggestion of targeted interventions based on these insights (Sridharan et al., 2021, p. 5898). Additionally, expert systems provide personalised feedback to help students better understand their strengths and weaknesses, thereby optimising their learning experience. Successful implementation of these systems requires ensuring infrastructure and continuous teacher training for the effective integration of digital tools into educational practice (Matović, 2024a, p. 288).

1.3. Intelligent tutoring tools

Through the combination of expert, student, and pedagogical domains with a specially designed interface, Intelligent Tutoring Systems (ITS) are digital agents that provide students with personalised feedback, guidance, and learning experiences tailored to their prior knowledge and individual needs. Also known as Intelligent Computer-Aided Instruction to provide teaching that can adapt to students' abilities (Fitria, 2021, p. 143) is based on techniques such as deep learning and neural networks, enabling them to analyse user behaviour, recognise intentions, and detect emotions, such as motivation or frustration (Winkler et al., 2021, p. 3). By applying machine learning and deep learning techniques, ITS follows students' responses, behaviours and emotional states to supply customised feedback (Winkler et al., 2021, p. 26). Rather than replacing teachers, ITS supports them by monitoring students' progress and enhancing the personalisation of the learning process (Graesser et al., 2018, p. 248). "Intelligent agents, such as Google Teachable Machine, Learning ML, and Machine Learning for Kids, which make decisions based on environmental inputs by using their sensors and actuators, are the most popular learning tools for enhancing students' computational thinking skills within K-12 contexts" (Yim, Su 2024, p. 10). In addition to ITS, robots are increasingly emerging as educational agents that promote the development of students' social and cognitive skills, enabling them to do problem-solving tasks (Yueh et al., 2020, p. 1987).

Intelligent tutoring systems provide step-by-step guidance through complex problem-solving processes (Yarlagadda, 2025: 15) and can deliver customized learning experiences, offering support that mimics human interaction and adjusts to learners' individual styles and paces (Chinnasamy et al. 2025: 239). As such, they are becoming integral components at the core of AI literacy activities and programs, transitioning from supplementary tools to central elements within the broader educational framework.

1.4. VR simulation tools

Virtual Reality (VR) represents one of the key tools of AI for creating an immersive environment that is becoming increasingly prevalent in education, thanks to more accessible hardware and advanced software solutions (Ristić et al., 2023, p. 275). It is a technology that creates interactive three-dimensional (3D) environments, simulating real or fictional situations that users experience in a highly realistic way (Mikropoulos & Natsis, 2011, p. 770). In the context of education, VR simulation tools are used for teaching, learning, and training in the development of specific skills (Radianti et al., 2020, p. 4). Through immersive experiences and learning from experience, VR offers the opportunity for active learning that fully engages students' abilities and contributes to their individual achievement development (Ristić, 2022, p. 292). Thanks to the advanced hardware components of the Oculus Go or HTC Vive headsets, users are fully immersed in virtual environments and experience every interaction as if it were occurring in the real world. AI algorithms within virtual scenarios enable users' decision-making, while the virtual environment provides feedback based on the results of machine learning. Additionally, the algorithms follow the environment's activities and generate statistical reports on students' achievements.

1.5. Meta tools

Metaverse infrastructure is still under construction (Hirsh-Pasek et al. 2022, p. 2) as 3.0. web platform (UNESCO IITE & NetDragon, 2023), which could represent a completely new paradigm of creating 3D teaching scenarios through a high level of hyper-realistic experiences (UNICEF & DIPLO, 2023; Babić et al., 2025, p. 9) and interaction with avatars (Mandić et al., 2025a, p. 903). These AI meta tools will incorporate all the benefits of extended reality and predictive AI algorithms, as well as network computing, digital twins, and blockchain. The distinction between the virtual and physical realms will be significantly reduced, or potentially eradicated, within the metaverse. This convergence will enhance user experiences, rendering them more immersive, multi-sensory, and increasingly akin to real-world interactions. Both students and teachers can participate in the metaverse from entirely different physical locations by using avatars, which they can customise to alter their appearance. Within this virtual space, they can interact not only with other real users represented by avatars but also with AI-driven avatars capable of assuming various roles, such as non-player character (NPC) tutors, tutees or peers (Hwang & Chien, 2022, p. 1). These technologies will facilitate immersive experiences by simulating real-

world environments within virtual spaces, enabling dynamic interaction among users. Additionally, they will enhance the educational landscape through innovative content delivery methods while simultaneously fostering learner engagement by capturing and maintaining attention (Flores-Castañeda et al. 2024, p. 61).

2. Methodology

A comprehensive review of relevant literature was carried out, and the 23 studies included in the theoretical analysis (Table 1) were chosen based on the following inclusion criteria: 1) the level of education addressed by the research; 2) keywords: education, AI tools, TPACK model; 3) availability of the article in English; 4) open access to the full text of the article; 5) publication period (2020–2025). Although the inclusion criteria encompassed studies from all educational levels, the majority focused on the use of educational AI tools in higher education settings, particularly at the university level (Zhai et al., 2021). In contrast, the K-12 level has received comparatively less attention (Kwid et al., 2024; Yim & Su, 2024), while the preschool education level remains the least explored (Huang et al., 2024). Meta-analyses served as the initial foundation for identifying and mapping relevant studies and defining key educational AI tools. The exclusion criterion referred to studies that do not address the application of AI tools in education, lack a scientific character, or are not available in full text.

This theoretical study aims to analyze AI tools in education, with a particular focus on their pedagogical implications in enhancing the learning process and developing strategies for the effective application of AI technologies in teaching. For each of the analysed AI tools, key advantages were identified through the integration of the TPACK model. Technological, pedagogical and content knowledge represent three key components for effective teaching (Moreno et al., 2019, p. 2): 1) Technological Knowledge (TK) refers to the purposeful use of technology in teaching to enhance educational processes; 2) Pedagogical Knowledge (PK) includes teaching methods and strategies for achieving educational goals; 3) Content Knowledge (CK) refers to the content knowledge that the teacher possesses in specific teaching areas. This model is commonly represented in the literature through the intersection of a Venn diagram, illustrating the union of pedagogical-psychological, didactic-methodological, and digital technology competencies within blended teaching models (Ristić, 2019, p. 118).

Based on the main aim, the following research tasks were defined: 1) to identify the most prevalent educational AI tools; 2) The application of

the three-phase TPACK model (Technological Knowledge-TK, Pedagogical Knowledge-PK and Content Knowledge-CK) served as an analytical framework for examining the three fundamental forms of knowledge that teachers need in order to effectively integrate technology into the educational process (Maor, 2017, p. 73), particularly in the context of AI educational tools; 3) to determine which pedagogical implications emerge based on the TPACK model and 4) to conduct a comparative analyse of AI educational tools and their pedagogical implications in order to evaluate their applicability for specific educational purposes. The instrument of analysis is a TPACK scheme adapted for examining AI tools through the TK, PK, and CK components (Mishra & Koehler, 2006, p. 1025). Each AI tool was assessed in relation to the identified pedagogical implications using a theoretical evaluation scale with the categories STRONG and WEAK, representing the extent to which a given tool supports the corresponding TPACK-implications. Since the study does not include an empirical sample, the findings remain within the domain of theoretical implications derived from the literature.

3. Results & discussion

The advantages of integrating AI into the educational process were determined after analysing five groups of AI educational tools using the TPACK model (Table 2). Each analysed tool group contributes to enhancing teaching through the synergistic interaction of technological, pedagogical and content knowledge, enabling the development of more effective educational strategies. This integration not only improves the quality of teaching but also brings benefits for both students and teachers to use advanced technologies in improving various aspects of the educational process.

Table 2. Technological, Pedagogical and Content Knowledge analysis for AI tools in Education.

TOOLS GROUP	Technological Knowledge (TK)	Pedagogical Knowledge (PK)	Content Knowledge (CK)
linguistic generating	Speech recognition and generating responses.	Engagement in dialogue-based learning.	Providing individualised explanations.
expert	Simulate human decision-making.	Recommending tailored learning strategies.	Personalised educational content and support.

intelligent tutoring	Monitoring activity and detecting intentions and emotions.	Identifying learning gaps and providing adaptive support.	Make suggestions for challenging learning content and assessment.
VR simulation	Creating immersive learning with interactive simulations.	Experiential learning by immersing and doing by trial and error.	Simulation of abstract, temporally and spatially distant contents.
meta	Building a hyper-realistic environment for real-time avatar interaction.	Opportunity for collaborative learning using avatars.	Generating and visualising abstract concepts through interactive collaboration.

After analysing technological, pedagogical and content knowledge separately, there has been a TPACK analysis to examine how AI education tools could be integrated into teaching. This process involved analysing each component of the TPACK model in the context of specific AI educational tools and then synthesising these components to form a comprehensive understanding of how technology, pedagogy, and content interact in the educational process and contribute to define a framework of TPACK-implications.

TPACK-implications

The TPACK analysis enabled us to identify the key implications of integrating AI tools into the educational process, representing a significant step toward innovative education. The cross-analysis conducted within the TPACK framework revealed numerous implications that AI educational tools bring, not only in terms of improving teaching quality but also in supporting educators in implementing more creative and effective pedagogical strategies. In the context of applying AI tools in education, the key TPACK-implications have been identified, indicating the areas in which these tools can contribute most to improving the teaching and learning process: 1) Continuous Monitoring and Evaluation; 2) Personalized and Adaptive Learning; 3) Assistive Support to Inclusion; 4) Reducing Administrative Tasks for Teachers; 5) Immersive Learning by Experience and 6) Diagnostic Assessment.

To provide a clear overview, the following table cross-references different AI tools with the pedagogical implications they support, highlighting areas where each tool can most effectively contribute to the teaching and learning process.

3.1. Continuous monitoring and evaluation

Expert and intelligent tools integrated into AI-driven platforms provide a transformative approach to continuous monitoring and evaluation of student progress (Meng, 2023, p. 18). *Coursera* has integrated AI tools which use machine learning algorithms and ensure the course recognises every incorrect answer and provides feedback in the form of explanations or suggestions (Verma, 2018, pp. 6-7). These systems offer real-time feedback that enables students to take an active role in their learning journey, allowing them to track their performance and make informed decisions regarding areas that require further attention. From the perspective of teachers, AI-powered platforms offer a more nuanced and accurate assessment of individual student strengths and weaknesses compared to traditional evaluation methods. In practice, *Quizizz AI, Eduaide.ai, and MagicSchool* are very useful for generating assessment content or the assessment items themselves (Moundridou et al. 2024, p. 5). Linguistic generating tools provide instant feedback allows for timely adjustments in instructional strategies, addressing specific learning gaps and ensuring more personalised support for each student. Furthermore, these platforms provide detailed analytics that offers educators valuable insights into broader patterns of class performance (Mahmood et al., 2022, p. 1). This data-driven approach empowers teachers to make informed decisions about teaching methodologies, curriculum modifications, and targeted interventions. By continuously tracking and evaluating student progress, AI-driven platforms with specific tools contribute to more precise, informed, and effective evaluations, ultimately leading to improved educational outcomes.

3.2. Personalised and adaptive learning

AI tools for education are most often described through the concept of individualised or adaptive learning because they provide "automatisation of support for students in learning" via AI tools for personalised and/or adaptive learning (Standen et al., 2020, p. 1750). An analysis of numerous studies reveals that the boundary between these two processes is becoming increasingly unclear, meaning that they are often used as interchangeable terms (synonyms) when associated with AI-enhanced learning (Xie et al., 2019, p. 14).

The present capabilities of AI-driven avatars (Mandić et al., 2025b, p. 122) in education can be categorised into three primary areas: Adaptive Teaching, Personalised Instruction, Instant Feedback. When AI tools are described from the perspective of empowering individualisation in the learning process, it is assumed that the intelligent tutoring system's algo-

rithms will identify the individual characteristics of the learner and, based on this, initiate the next steps in providing support. If we analyse this from the perspective of offering adaptive assistance to students in the learning process (adaptive learning), it is sufficient to identify only the outcomes, i.e., learning results, without identifying relevant, personalised information, including individual characteristics and preferences that may further influence on their progress or achievements (Xie et al., 2019, p. 3). Scheiter and colleagues emphasise that adaptive systems differ in how they collect information about students, i.e., whether they diagnose their process behaviour or identify their current level of knowledge, skills, or motivation (Scheiter et al., 2019, p. 33), and their pace during learning activities (Lancrin & Vlies, 2020, p. 7; Verma, 2018, p. 6), time spent on tasks, and the number of attempts and errors. Based on this data, the teacher can more effectively initiate the zone of proximal development. According to this, they note relevant information can be collected explicitly (by asking students to respond to a questionnaire or test) or implicitly (by analysing how students interact with the system). Moundridou et al. (2024, p. 5) emphasise tools to accommodate diverse student needs and differentiate instruction for various learning styles and abilities: *Learnt.ai* and *MagicSchool* with accommodation suggestion generators and behaviour intervention suggestions.

3.3. Assistive support to inclusion

It is widely observed that teaching methods are not tailored to the developmental needs of students with speech or motor difficulties (Neamtu et al., 2019, p. 2). There are AI educational tools that detect dyslexia, dyscalculia, speech impairments, and attention deficit hyperactivity disorder (ADHD) (Drigas & Ioannidou, 2013, p. 387), as well as those designed for students with visual, hearing impairments, or certain forms of autism. *AI Seeing* application (Microsoft): automatically detects and shows in textual form any content within a photograph (e.g., a picture of a classroom board) thanks to optical character recognition technology, subsequently, using text-to-speech technology to process an audio message. AI education ensures students with autism, disabilities, or learning difficulties can develop and enhance social skills through "judgment-free environment" (Mandić et al., 2025a, p. 903; Verma, 2018, p. 7,) through trial and error in interaction with virtual characters (avatars) and digital objects (Lancrin & Vlies, 2020, p. 13). Research findings (Porayska-Pomsta et al., 2018, p. 6) support the idea that AI can be used as an assistive technology in working with children aged 4 to 14 years with Autism Spectrum Conditions (ASC). With the technology known in the literature as ECHOES, conditions are created for

educational staff, together with the AI system, to foster a more stimulating environment for learning and the development of socio-communicative skills.

3.4. Reducing administrative tasks for teachers

The use of AI in education allows teachers to significantly reduce administrative tasks, which in turn lowers their overall workload (Nikitina & Ishchenko, 2024, p. 98). AI tools integrated into *NetDragon's One Stop learning platform,* can automatically handle key tasks, such as tracking student attendance, recording their activities during class, monitoring homework completion, and grading. Additionally, these tools make it easier to generate reports on student progress, plan lessons, and document activities. *Curipod* and *Auto Classmate* (AI-powered Lesson Plan Generator) are tools designed to create learning activities or complete lesson plans based on specific teaching methods, such as project-based learning and direct instruction (Moundridou et al., 2024, p. 4). By using these technologies, teachers can improve the efficiency of the educational process and dedicate more time to working with students. This allows them to focus more on the pedagogical aspects, such as developing students' socio-emotional skills, critical thinking, and value-based attitudes (Polak, 2022, p. 2).

3.5. Immersive learning by experience

In practice, the most advanced AI educational tools are found in the field of natural sciences (STEAM education). For example, subjects such as mathematics, physics, and chemistry provide sufficiently precise content, meaning they contain adequate data that can be used to train, test, and later implement AI systems in education. This implies that intelligent tutoring tools will be better equipped to monitor students' achievements in the natural sciences than in subjects like history, philosophy, or poetry (Schiff, 2021, p. 348). However, virtual reality, as a distinct branch of AI, offers solutions for learning not only natural but also social phenomena. From a didactic perspective, virtual reality provides conditions for learning through exploration, applying the principle of obviousness. 3D simulations in *NetDragon's SandBox* or *101VRLab* platform are particularly useful when it is necessary to illustrate abstract natural phenomena such as the rotation and revolution of the Earth, distant regions (e.g., another continent, the appearance of other planets), or risky situations (e.g., simulating experiments in a virtual laboratory). Through the immersive experience in virtual reality or the metaverse via VR glasses, various senses are activated (Ristić, 2022, p.

282), and interaction with avatars and digital objects takes place, thereby enhancing a deeper experience and motivation, which are essential factors for the effective acquisition of knowledge.

Traditional pedagogical approaches should be strengthened with the capabilities of AI technology in combination with an integrative teaching method and content for STEAM education, as well as content related to cultural heritage (Ristić, 2019, p. 43). Various metaverse scenarios have been proposed, such as Ancientcraft, where students can learn from experience and develop cultural identity by raising cultural awareness and heritage in learning situations where the student, as an avatar, creates a "ćilim" (type of Serbian traditional rug or carpet) (Ristić et al., 2022, p. 164). The purposes of learning in the metaverse can closely align with the learners' real-life needs if they do not have opportunities to experience or practice in the real world. NPCs can play key roles such as tutors or advisors, providing specialised guidance in learning, but also NPC tutees could be of great help to pre-service teachers to simulate typical student behaviour and create a teaching environment where they need to exercise pedagogical decision-making (Hwang & Chien, 2022, p. 5).

3.6. Diagnostic assessment

Information systems in educational institutions should provide notifications not only about past conditions but also data and information about the current state and future possibilities (Lalić et al., 2011, p. 68). Various methods of machine learning and deep learning are successfully used to predict potential outcomes in educational work, making them a reliable diagnostic tool in educational policy and practice. These methods can predict the decisions of high school graduates regarding further education (Miljkovic et al., 2011), the success of student achievement (Chen et al., 2014), identify students who may potentially drop out of education (Tsai et al., 2020), or detect students who need a higher level of motivation during the learning process (Đurđević-Babić, 2017). All studies used real data from school and university information systems to train prediction models with machine learning and deep learning techniques. A comparative analysis of the results was conducted, identifying the most effective methods. The findings confirm that AI methods are valuable tools for predicting outcomes in education. Recent studies also highlight the role of diagnostic assessment in identifying students' strengths and weaknesses and supporting the design of personalized interventions and learning strategies (Kholid et al., 2024, pp. 445-458).

Table 3. *Theoretical Assessment of AI Educational Tools Based on Key TPACK-Implications*

TOOLS GROUP	**continuous monitoring and evaluation**	**personalized and adaptive learning**	**assistive support to inclusion**	**reducing administrative tasks for teachers**	**immersive learning by experience**	**diagnostic assessment**
linguistic generating	STRONG	STRONG	WEAK	WEAK	WEAK	STRONG
expert	STRONG	STRONG	STRONG	STRONG	WEAK	STRONG
intelligent tutoring	STRONG	STRONG	STRONG	STRONG	WEAK	STRONG
VR simulation	WEAK	WEAK	STRONG	WEAK	STRONG	WEAK
meta	WEAK	STRONG	WEAK	WEAK	STRONG	STRONG

Based on the theoretical assessment presented in the table, expert systems and intelligent tutoring tools demonstrate the strongest pedagogical implications for educational use, as they are rated STRONG in almost all identified TPACK domains. These tools most effectively support continuous monitoring and evaluation, personalized and adaptive learning, assistive support to inclusion, reducing administrative tasks for teachers and diagnostic assessment, indicating their significant potential to enhance the quality and improving of the teaching process. On the other hand, linguistic generative tools have a more limited but still meaningful impact, mainly in personalized learning and assessment, showing that they can effectively support communication and feedback in teaching. VR simulation and meta tools have more specific implications, being most effective in immersive and experiential learning. However, their weaker link to administrative and evaluative functions suggests they are better suited for specific contexts than for overall instructional support.

Conclusion

Building on the theoretical framework provided by the Technological Pedagogical Content Knowledge (TPACK) model, this study highlights the

pedagogical implications of educational AI tools and their potential to enhance teaching and learning processes. The analysis emphasizes that the effective application of each AI tool relies on teachers' mastery of technological, pedagogical, and content knowledge (TK, PK, and CK), which together enable purposeful integration of AI into educational practice. (Moreno et al., 2019, p. 2). The results confirm that AI has the potential to significantly enhance the educational process through the integration of various AI educational (linguistic generative, expert, intelligent tutoring, VR simulation and meta) tools. By leveraging these technologies, AI-driven education facilitates personalised and adaptive learning, continuous student assessment, and assistive support for inclusive education. It is expected that AI tools further enhance learning environments, particularly for students with developmental challenges, enabling more inclusive and supportive educational experiences through avatar support (Mandić et al., 2025a, p. 903). Additionally, AI reduces the administrative workload of teachers, allowing them to focus more on pedagogical work and the development of students' critical thinking and value-based attitudes. Different levels of education necessitate a tailored application of AI tools, ensuring their selection aligns with students' developmental characteristics (Yim, Su 2024, p. 28), the specific demands of individual subjects, and the pedagogical activities undertaken by teachers, such as monitoring, assessment, evaluation, and reporting. In this context, teachers can develop their models for the purposeful integration of AI tools adapted to the specific educational level. This process requires a comprehensive consideration of three key aspects of technology implementation in education: technological knowledge (TK), pedagogical knowledge (PK), and content knowledge (CK). However, the effective implementation of educational AI tools depends on teachers' ability to recognise and purposefully integrate AI into their practice.

In conclusion, expert systems and intelligent tutoring tools demonstrate the strongest pedagogical implications, showing high applicability across most TPACK domains. Their capability to support monitoring, personalized learning, inclusion, and assessment highlights their potential to enhance teaching quality. Linguistic generative tools have a more limited yet valuable role, mainly in communication and feedback, while VR simulation and meta tools show selective implications, proving most effective in immersive and experiential learning contexts.

IMPLICATIONS

Given the rapid development of artificial intelligence, measuring the effects of educational AI tools on the quality of pedagogical implications requires a thoughtful and purposeful integration of AI as an educational technology. This process involves the continuous development of valid methodological instruments and the implementation of longitudinal research designs adapted to diverse participant groups, age levels, and educational contexts. Therefore, future research should adopt a longitudinal perspective and place emphasis on establishing national regulatory frameworks that define clear guidelines for the responsible and ethical use of AI technologies in education.

To ensure the early achievement of positive pedagogical effects, continuous professional development programs are essential, aiming to enhance teachers' digital competencies (Mandić, 2023, p. 12). In addition, initial teacher education programs should systematically integrate both theoretical foundations and practical applications of AI in education, ensuring that future educators are adequately prepared to harness its full pedagogical potential (Matović, 2024a, p. 288).

LIMITATIONS

Despite the promising implications, the integration of AI in education also poses certain risks (Babić & Matović, 2025). These include concerns related to the over-reliance on AI systems, which could reduce teachers' agency and impact their connection with students. To effectively mitigate these risks, future research should report evidence of the reliability and validity of their findings where applicable since such data are crucial to evaluating the quality of their recommended learning tools (Yim, Su 2024, p. 28).

The main limitation of this study is its theoretical nature, based on literature interpretation without empirical validation. Consequently, the findings represent the potential capabilities of educational AI tools rather than conclusively proven effects.

References

Aldulaimi, S., Abdeldayem, M., & Keir, M. Y. A. (2024). AI-Powered Chatbots in Higher Education: A UTAUT2 and ECM Analysis. *Journal of Management World*, (4), 610-617. https://doi.org/10.53935/jomw.v2024i4.483

Babić, J., Bujišić, Lj., Vorkapić, M., Čomić, S. (2025). Teacher's perspective for didactic-methodological potentials of metaverse, in In D. Miljković & M. Dumančić (Eds.): *Teaching (Today for) Tomorrow: Bridging the Gap between the Classroom and Reality - STOO 4, 3rd International Scientific and Art Conference Faculty of Teacher Education*, (September 26-27, 2024), Croatia: University of Zagreb Faculty of Teacher Education. Retrived from: https://hub.ufzg.hr/books/zbornikbook-of-proceedings-stoo4/page/teachers-perspective-for-didactic-methodological-potentials-of-metaverse

Babić, J. Z., & Matović, S. M. (2025). Risks assessment of using artificial intelligence in education. *Sociološki pregled*, 59(2), 610-634. https://doi.org/10.5937/socpreg59-57266

Belda-Medina J. & Kokošková. (2023). Integrating chatbots in education: insights from the Chatbot-Human Interaction Satisfaction Model (CHISM). *International Journal of Educational Technology in Higher Education,* 20:62. https://doi.org/10.1186/s41239-023-00432-3

Chen, J. F., Hsieh, H. N., Do, Q. H. (2014). Predicting student academic performance: A comparison of two meta-heuristic algorithms inspired by cuckoo birds for training neural networks. *Algorithms, 7(4),* 538-553.

Chinnasamy, P., Rani, R. M., Ayyasamy, R. K., Sujithra, L. R., Mounika, T., & Cherukuvada, S. (2025). Transforming Education With AI-Driven Intelligent Tutoring Systems. In T. Murugan, K. P., & A. Abirami (Eds.), *Driving Quality Education Through AI and Data Science* (pp. 239-258). IGI Global Scientific Publishing. https://doi.org/10.4018/979-8-3693-8292-9.ch011

Dhall, D., Kaur, R., and Juneja, M. (2020). Machine learning: A review of the algorithms and its applications, In P. Singh, A. Kar, Y. Singh, M. Kolekar & S. Tanwar (Eds.), *Proceedings of ICRIC 2019, Lecture Notes in Electrical Engineering*, Springer International Publishing, 47–63. https://doi.org/10.1007/978-3-030-29407-6_5

Drigas, A., Ioannidou, R. (2013), A Review on Artificial Intelligence in Special Education. In M. D. Lytras, D. Ruan, R.D. Tennyson, P. Ordonez De Pablos, F. J. García Peñalvo & L. Rusu (Eds.), Information Systems, E-learning, and Knowledge Management Research, Communications. *Computer and Information Science*, Springer Berlin Heidelberg, Berlin, Heidelberg, http://dx.doi.org/10.1007/978-3-642-35879-1_46

Đurđević-Babić, I. (2017). Machine learning methods in predicting the student academic motivation. *Croatian Operational Research Review,* 8(2), 443–461 https://doi.org/10.17535/crorr.2017.0028.

Fitria, T. N. (2021). Artificial intelligence (AI) in education: Using AI tools for teaching and learning process. In *Prosiding seminar nasional & call for paper STIE AAS* (pp. 134-147).

Feldman-Maggor, Y., Blonder, R., & Alexandron, G. (2025). Perspectives of generative AI in chemistry education within the TPACK framework. *Journal of Science Education and Technology*, 34(1), 1-12. https://doi.org/10.1007/s10956-024-10147-3

Flores-Castañeda, R. O., Olaya-Cotera, S., & Iparraguirre-Villanueva, O. (2024). Benefits of Metaverse Application in Education: A Systematic Review. *International Journal of Engineering Pedagogy* (iJEP), 14(1), 61–81. https://doi.org/10.3991/ijep.v14i1.42421

Graesser, A. C., Hu, X., & Sottilare, R. (2018). Intelligent tutoring systems. *International handbook of the learning sciences* (pp. 246–255). Routledge. https://doi.org/10.4324/9781315617572-24

Gunder, A., Ford, C. 2025. AI Literacies and the TPACK Framework: Insights from a Global Study on AI in Education. *Ubiquity Proceedings*, 6(1), 36. https://doi.org/10.5334/uproc.204

Hirsh-Pasek, K., Zosh, J. M., Hadani, H. S., Golinkoff, R. M., Clark, K., Donohue, C., & Wartella, E. (2022). *A Whole New World: Education Meets the Metaverse*. Policy Brief. Center for Universal Education at The Brookings Institution.

Huang, A. Y., Lu, O. H., & Yang, S. J. (2023). Effects of artificial intelligence–enable personalized recommendations on learners' learning engagement, motivation, and outcomes in a flipped classroom. *Computers & Education*, 194, Article 104684. https://doi.org/10.1016/j.compedu.2022.104684

Huang, R., Bao, Y., Wang, Y., & Wei, J. (2024). Exploring AI Tools in Early Childhood Education: Usage Patterns, Functions, and Developmental Outcomes. In: N. Ozturk (Ed.) *Contemporary Issues in Early Childhood Education and Care* http://dx.doi.org/10.5772/intechopen.1007116

Huang, W., Hew, K. F., & Fryer, L. K. (2022). Chatbots for language learning—are they really useful? A systematic review of chatbots supported language learning. *Journal of Computer Assisted Learning*, 38(1), 237–257. https://doi.org/10. 1111/jcal.12610

Hwang, G. J., & Chien, S. Y. (2022). Definition, roles, and potential research issues of the metaverse in education: An artificial intelligence perspective. *Computers & Education*: *Artificial Intelligence*, 3, 100082. https://doi.org/10.1016/j.caeai.2022.100082

Inusah, F., Missah, Y. M., Ussiph, N., & Twum, F. (2021). Expert System in Enhancing Efficiency in Basic Educational Management using Data Mining Techniques. *International Journal of Advanced Computer Science and Applications* (IJACSA), 12(11), 2021. http://dx.doi.org/10.14569/IJACSA.2021.0121148

Kholid, B., Rahman, A., & Irawan, L. A. (2024). Implementing diagnostic assessment in designing differentiated learning for English language learning

at the junior high schools. *Journal of Language and Literature Studies*, 4(2), 445–458. https://doi.org/10.36312/jolls.v4i2.1934

Kwid, G., Sarty, N., & Yang, D. (2024). A Review of AI Tools: Definitions, Functions, and Applications for K-12 Education. *AI, Computer Science and Robotics Technology* 3(1), 1–22. https://doi.org/10.5772/acrt.20240048

Labadze, L., Grigolia, M. & Machaidze, L. (2023). Role of AI chatbots in education: systematic literature review. *International Journal of Educational Technology in Higher Education* 20, 56 https://doi.org/10.1186/s41239-023-00426-1

Lalić, N., Vilotijević, M., Mandić, D. (2011). *Menadžment u obrazovanju*, Bijeljina: Pedagoški fakultet

Lancrin, S-V., Vlies, R. (2020) Trustworthy artificial intelligence (AI) in education: promises and challenges. *Education Working Paper* OECD, no. 218, EDU/WKP(2020)6, https://dx.doi.org/10.1787/a6c90fa9-en

Lin, H., Wan, S., Gan, W., Chen, J., & Chao, H. C. (2022). Metaverse in education: Vision, opportunities, and challenges. *Proceedings of 2022 IEEE International Conference on Big Data (Big Data)*, pp. 2857-2866.

Lourdusamy, R., & Gnanaprakasam, J. (2023). Expert systems in AI: Components, applications, and characteristics focusing on chatbot. *Data Science with Semantic Technologies,* (pp. 217-231). ISBN: 9781003310792

Mahmood, M. R., Matin, M. A., Sarigiannidis, P., & Goudos, S. K. (2022). A comprehensive review on artificial intelligence/machine learning algorithms for empowering the future IoT toward the 6G era. *IEEE Access*, 10, 87535–87562.
https://doi.org/10.1109/ACCESS.2022.3199689

Mandic, D. (2023). Report on Smart Education in the Republic of Serbia. In: Zhuang, R., et al. Smart Education in China and Central & Eastern European Countries. *Lecture Notes in Educational Technology*. Springer, Singapore. https://doi.org/10.1007/978-981-19-7319-2_11

Mandić, D. (2024). Nova paradigma obrazovanja i potencijali veštačke inteligencije. *Napredak - časopis za političku teoriju i praksu*, 5(2), 83-96.
https://doi.org/10.5937/napredak5-51939

Mandić, D., Miščević, G., & Bujišić, Lj. (2024). Evaluating the quality of responses generated by ChatGPT. *Metodička teorija i praksa*, 27(1), 5-19.
https://doi.org/10.5937/metpra27-51446

Mandić, D., Miščević, G., Babić, J., & Matović, S. (2024). Educational robots in teachers' education. *Istraživanja u pedagogiji*, 14(2), 361-376.
https://doi.org/10.5937/IstrPed2402361M

Mandić, D. P., Miščević, G. M., & Džinović, M. G. (2025a). AI-driven interactive educational avatars for smart education. *Sociološki pregled*, 59(3), 889-907.
https://doi.org/10.5937/socpreg59-61153

Mandić, D., Miščević, G., & Ristić, M. (2025b). Teachers' perspectives on the use of interactive educational avatars: Insights from non-formal training

contexts. *Istraživanja u pedagogiji*, 15(1), 115-124. https://doi.org/10.5937/IstrPed2501115M

Maor, D. (2017). Using TPACK to develop digital pedagogues: a higher education experience. *Journal of Computers in Education*, *4*, 71-86. https://doi.org/10.1007/s40692-016-0055-4

Matović, S. (2024a). Percepcija (budućih) vaspitača o obrazovnim robotima u radu sa decom. *Istraživanja u pedagogiji*, 14(2), 278-291. https://doi.org/10.5937/IstrPed2402278M

Matović, S. (2024b). Model povezivanja teorije i prakse u okviru inicijalnog obrazovanja vaspitača. In: D. Mandić, B. Dimnić, D. Stefanović, i dr. (Ur.), *XXX skup Trendovi razvoja: Nastavnici i saradnici kao centar promena u visokom obrazovanju* (pp. 7-10). Vrnjačka Banja. ISBN: 978-86-6022-635-0

Meng, S. (2023). Enhancing teaching and learning: Aligning instructional practices with education quality standards. *Research and Advances in Education*, 2(7), 17–31. https://doi.org/10.56397/RAE.2023.07.04

Mikropoulos, T. A., & Natsis, A. (2011). Educational virtual environments: A ten-year review of empirical research (1999–2009). *Computers & Education*, 56(3), 769-780. https://doi.org/10.1016/j.compedu.2010.10.020

Miljković, Z, Gerasimović, M., Stanojević, Lj., Bugarić, U. (2011) Using artificial neural networks to predict professional movements of graduates, *Croatian Journal of Education, Vol: 13 (3/2011)* 117-141.

Mishra, P.; Koehler, J. (2006). Technological pedagogical content knowledge: A new framework for teacher knowledge. *The Teachers College Record*. 108, 1017-1054. https://doi.org/10.1111/j.1467-9620.2006.00684.x

Moundridou, M., Matzakos, N., & Doukakis, S. (2024). Generative AI tools as educators' assistants: Designing and implementing inquiry-based lesson plans. *Computers and Education: Artificial Intelligence*, 7, 100277. https://doi.org/10.1016/j.caeai.2024.100277

Neamtu, R., Camara, A., Pereira, C., Ferreira, R. (2019). Using artificial intelligence for augmentative alternative communication for children with disabilities. In D. Lamas, F. Loizides, L. Nacke, H. Petrie, M. Winckler & P. Zaphiris (Eds.) IFIP Conference on Human-Computer Interaction, *Lecture Notes in Computer Science,* Springer, Cham (pp. 234-243). https://doi.org/10.1007/978-3-030-29381-9_15

Nguyen, A., Ngo, H.N., Hong, Y. et al. (2023). Ethical principles for artificial intelligence in education. *Education and Information Technologies,* 28, 4221-4241. https://doi.org/10.1007/s10639-022-11316-w

Nikitina, I., & Ishchenko, T. (2024). THE IMPACT OF AI ON TEACHERS: SUPPORT OR REPLACEMENT?. *Scientific Journal of Polonia University*, 65(4), 93-99. https://doi.org/10.23856/6511

Okewu, E., Adewole, P., Misra, S., Maskeliunas, R., & Damasevicius, R. (2021). Artificial Neural Networks for Educational Data Mining in Higher Educa-

tion: A Systematic Literature Review. *Applied Artificial Intelligence*, 35(13), 983–1021.
https://doi.org/10.1080/08839514.2021.1922847

Polak S., Schiavo, G., & Zancanaro, M. (2022). Teachers' Perspective on Artificial Intelligence Education: an Initial Investigation. *2022 CHI Conference on Human Factors in Computing Systems (CHI EA '22)*. Association for Computing Machinery, New York, NY, USA, Article 431, 1–7. https://doi.org/10.1145/3491101.3519866

Porayska-Pomsta, K., Alcorn, A. M., Avramides, K., Beale, S., Bernardini, S., Foster, M. E., ... & Smith, T. J. (2018). Blending human and artificial intelligence to support autistic children's social communication skills. *ACM Transactions on Computer-Human Interaction (TOCHI),* 25(6), 1-35. https://doi.org/10.1145/3271484

Radianti, J., Majchrzak, T. A., Fromm, J., & Wohlgenannt, I. (2020). A systematic review of immersive virtual reality applications for higher education: Design elements, lessons learned, and research agenda. *Computers & Education*, *147*, 103778.
https://doi.org/10.1016/j.compedu.2019.103778

Ristić, J. (2019). Integrativni pristup u razumevanju poslovica i idioma kao metodičke građe, *Metodička teorija i praksa,* 1/2019, (31-44), Beograd: Učiteljski fakultet, ISSN 0354-9801

Ristić, J. (2022). Pedagoški okvir za dizajn imerzivnog nastavnog okruženja. *Metodička teorija i praksa*, 2/2022, Vol 25, (281295), Beograd: Učiteljski fakultet.

Ristić, J., Marković I., Ristić, M., (2023). Prospektivni model virtuelne realnosti u nastavi. In B. Dumnić (Ed.), *XXIX Skup Trendovi razvoja – Univerzitet pred novim izazovima* (pp. 274–277). Vranjačka Banja, Fakultet tehničkih nauka Univerziteta u Novom Sadu. ISBN: ISBN: 978-86-6022-554-4

Ristić, J., Vorkapić, M., Čomić, S., Bojanić, Lj., Bogićević, D. (2022). The empowered teacher for the META future, *GCD4FE The Global Competition on design for future education*, Beijing Normal University, UNESCO IITE, Smart Learning Institute of Beijing Normal University.

Ristić, M. R. (2019). Model digitalnog nastavnog okruženja za strani jezik struke. *Inovacije u nastavi - časopis za savremenu nastavu*, 32(2), 106-121.
https://doi.org/10.5937/inovacije1902106R

Rodríguez Moreno, J., Agreda Montoro, M., & Ortiz Colón, A. M. (2019). Changes in Teacher Training within the TPACK Model Framework: A Systematic Review. *Sustainability*, *11*(7), 1870. https://doi.org/10.3390/su11071870

Sahin, M. (2025) Analyzingthe Foundations of Social Sustainability in Teacher Education: A Studyof Self-Regulation, Social-Emotional Expertise, and AI-TPACK. *Sustainability*, 17, 8613. https://doi.org/10.3390/su17198613

Samuel, A.L. (1959) Some Studies in Machine Learning Using the Game of Checkers, IBM *Journal of Research and Development*, vol. 3, no. 3, pp. 210-229,

https://doi.org/10.1147/rd.33.0210

Scheiter, K., Schubert, C., Schüler, A., Schmidt, H., Zimmermann, G., Wassermann, B., ... & Eder, T. (2019). Adaptive multimedia: Using gaze-contingent instructional guidance to provide personalized processing support. *Computers & Education*, *139*, 31-47. https://doi.org/10.1016/j.compedu.2019.05.005

Schiff, D. (2021). Out of the Laboratory and into the Classroom: The Future of Artificial Intelligence in Education. *AI & Society*, 36, 331-348. https://doi.org/10.1007/s00146-020-01033-8

Sridharan, S., Saravanan, D., Srinivasan, A. K., & Murugan, B. (2021). Adaptive learning management expert system with evolving knowledge base and enhanced learnability. *Education and Information Technologies*, 26 (5), 5895–5916. https://doi.org/10.1007/s10639-021-10560-w

Standen, P. J., Brown, D. J., Taheri, M., Galvez Trigo, M. J., Boulton, H., Burton, A., ... & Hortal, E. (2020). An evaluation of an adaptive learning system based on multimodal affect recognition for learners with intellectual disabilities. *British Journal of Educational Technology*, *51*(5), 1748-17. https://doi.org/10.1111/bjet.13010

Strategy for the Development of Artificial Intelligence in the Republic of Serbia for the Period 2020–2025: *Official Gazette of the RS* No. 30/18. (accessed on 27 January 2025), at

https://www.media.srbija.gov.rs/medsrp/dokumenti/strategy_artificial_intelligence.pdf

Tsai, S. C., Chen, C. H., Shiao, Y. T., Ciou, J. S., Wu, T. N. (2020). Precision education with statistical learning and deep learning: a case study in Taiwan. *International Journal of Educational Technology in Higher Education*, *17*, 1-13. https://doi.org/10.1186/s41239-020-00186-2

UNESCO IITE & NetDragon. (2023). *E Library for Teachers*. (accessed on 7th November 2024) at www.elibrary.iite.unesco.org

UNICEF & DIPLO. (2023). Vosloo, S., Penagos, M., Radunovic, V., Begovic, B. & Psaila, SP. The Metaverse, Extended Reality and Children (RAPID ANALYSIS). (accessed on 1st February 2025) at https://www.unicef.org/innocenti/reports/metaverse-extended-reality-and-children

Verma, M. (2018). Artificial intelligence and its scope in different areas with special reference to the field of education. *International Journal of Advanced Educational Research*, Volume 3; Issue 1; January 2018; Page No. 05-10, ISSN: 2455-6157.

Weizenbaum, J. (1966). ELIZA—A computer program for the study of natural language communication between man and machine. *Communications of the ACM*, 9(1), 36–45.

Winkler, R., Söllner, M., & Leimeister, J. M. (2021). Enhancing problem-solving skills with smart personal assistant technology. *Computers & Education*, *165*, 104148. https://doi.org/10.1016/j.compedu.2021.104148

Xie, H., Chu, H. C., Hwang, G. J., & Wang, C. C. (2019). Trends and development in technology-enhanced adaptive/personalized learning: A systematic review of journal publications from 2007 to 2017. *Computers & Education*, *140*, 103599. https://doi.org/10.1016/j.compedu.2019.103599

Yang, X., & Zhu, C. (2024). Industrial Expert Systems Review: A Comprehensive Analysis of Typical Applications, *IEEE Access*, vol. 12, pp. 88558-88584. https://doi.org/10.1109/ACCESS.2024.3419047

Yim, I.H.Y., & Su, J. (2024). Artificial intelligence (AI) learning tools in K-12 education: A scoping review. *Journal of Computers in Education.* https://doi.org/10.1007/s40692-023-00304-9

Yarlagadda K.C. (2025) AI in Education: Personalized Learning and Intelligent Tutoring Systems, *European Journal of Computer Science and Information Technology*, 13 (32), 15-27 https://doi.org/10.37745/ejcsit.2013/vol13n321527

Yueh, H. P., Lin, W., Wang, S. C., & Fu, L. C. (2020). Reading with robot and human companions in library literacy activities: A comparison study. *British Journal of Educational Technology*, *51*(5), 1884-1900. https://doi.org/10.1111/bjet.13016

Zhai, X. (2021). Practices and theories: How can machine learning assist in innovative assessment practices in science education. *Journal of Science Education and Technology*, 30(2), 139-149. https://doi.org/10.1007/s10956-021-09901-8

Zhai, X., Chu, X., Chai, C.S., Jong, M.S., Istenic, A., Spector, M., Liu, J., Yuan, J., & Li, Y. (2021). A Review of Artificial Intelligence (AI) in Education from 2010 to 2020. *Complex*, 8812542:1-8812542:18.

Интегрисање алата вештачке интелигенције у образовање: *TPACK* анализа и педагошке импликације

Кроз оквир TPACK (енг. Technological, Pedagogical, and Content Knowledge) модела, ова студија бави се квалитативним сагледавањем могућности интеграције вештачке интелигенције у наставни процес и заснована је на компаративној анализи образовних AI алата, са фокусом на лингвистичко-генеративне и експертне алате, алате за интелигентно туторисање, виртуелне симулације и мета алате. Анализа наглашава да ефикасна примена сваког од ових алата захтева од наставника знања о техничким могућностима алата (TK), педагошким импликацијама за наставу (PK) и могућностима алата да подрже конкретне садржаје предмета (CK).

Вршењем унакрсне анализе унутар компоненти TPACK модела, идентификоване су импликације које се односе на примену алата вештачке интелигенције за потребе поучавања на свим нивоима образовања: континуирано праћење и вредновање, персонализовано и адаптивно учење, асистивна подршка инклузији, дијагностичка процена, смањење административних послова за наставнике и имерзивно искуство учења.

Лингвистичко-генеративни алати у литератури су приказани као алати чији потенцијал може да буде доминантан у пружању синхроне повратне информације за персонализовано и адаптивно окружење. Експертни и алати за интелигентно туторисање могу да олакшају административне послове, подрже наставничке одлуке и омогуће континуирано праћење, формативно вредновање и дијагностичку процену у инклузији. Алати за VR (virtual reality) симулације и мета алати, према релевантној литеаратури, погодни су за пружање имерзивног искуства које подстиче критичко размишљање, креативност и активно решавање проблема.

Полазећи од низа импликација према TPACK моделу, интеграција образовних алата вештачке интелигенције може да допринесе оснаживању позиције наставника, али захтева континуирано стручно усавршавање за сврсисходну примену ових алата у наставној пракси у циљу стварања предуслова за равијање не само дигиталних већ и компетенција за целоживотно учење код ученика.

Кључне речи: *алати вештачке интелигенције, педагошке импликације, TPACK модел, иновације у образовању.*

Integracja narzędzi AI w edukacji: analiza w modelu TPACK i implikacje pedagogiczne

Niniejsze badanie prezentuje jakościową analizę możliwości integracji sztucznej inteligencji w procesie nauczania w oparciu o ramy modelu TPACK. Opiera się ono na analizie porównawczej edukacyjnych narzędzi AI, koncentrując się na narzędziach językowo-generatywnych, eksperckich, systemach inteligentnego nauczania, symulacjach wirtualnych i narzędziach meta. Z analizy wynika, że skuteczne wykorzystanie każdego z tych narzędzi wymaga od nauczycieli znajomości zarówno technicznych możliwości narzędzi (TK) i ich implikacji pedagogicznych dla procesu nauczania (PK), jak też sposobów, w jakich narzędzia te mogą wspierać określoną treść przedmiotową (CK).

Przeprowadzona analiza krzyżowa komponentów modelu TPACK pozwala zidentyfikować implikacje związane z zastosowaniem narzędzi AI w dydaktyce na wszystkich etapach edukacji, takie jak: ciągłe monitorowanie i ocenianie, uczenie spersonalizowane i adaptacyjne, wspomaganie inkluzji, ocenianie diagnostyczne, redukcja zadań administracyjnych nauczycieli oraz immersyjne uczenie się poprzez doświadczenie.

Narzędzia językowo-generatywne w literaturze przedstawiane są jako te, których potencjał jest najbardziej widoczny w zapewnianiu synchronicznej informacji zwrotnej w środowiskach uczenia się spersonalizowanego i adaptacyjnego. Systemy eksperckie i inteligentnego nauczania mogą ułatwiać zadania administracyjne, wspierać proces podejmowania decyzji przez nauczycieli, a także umożliwiać ciągłe monitorowanie i ocenianie zarówno formatywne, jak i diagnostyczne, sprzyjające inkluzji. Symulacje VR i narzędzia meta, zgodnie z literaturą, nadają się do tworzenia immersyjnych doświadczeń, sprzyjających myśleniu krytycznemu, kreatywności i aktywnemu rozwiązywaniu problemów.

W oparciu o szeroki zakres implikacji wynikających z modelu TPACK integracja edukacyjnych narzędzi opartych na AI może przyczynić się do wzmocnienia roli nauczyciela, lecz jednocześnie wymaga ciągłego rozwoju zawodowego, aby zapewnić celowe i świadome wykorzystanie tych narzędzi w praktyce dydaktycznej ? z zamiarem tworzenia warunków dla rozwoju nie tylko kompetencji cyfrowych, lecz także kompetencji uczenia się przez całe życie u uczniów.

Słowa kluczowe*: *narzędzia AI; implikacje pedagogiczne; model TPACK; innowacyjna edukacja.

Integriranje alata umjetne inteligencije u obrazovanje: TPACK analiza i pedagoške implikacije

Ova studija, kroz okvir TPACK modela (engl. Technological, Pedagogical, and Content Knowledge), kvalitativnom analizom, razmatra mogućnosti integracije umjetne inteligencije u nastavni proces. Temelji se na komparativnoj analizi obrazovnih AI alata, s fokusom na jezično-generativne i ekspertne alate, alate za poučavanje, virtualne simulacije i meta alate. Analiza naglašava da učinkovita primjena svakog od ovih alata zahtijeva od nastavnika poznavanje tehničkih mogućnosti alata (TK), njihovih pedagoških implikacija za poučavanje (PK) te načina na koje ti alati mogu podržati konkretne predmetne sadržaje (CK).

Provedbom unakrsne analize unutar komponenti TPACK modela identificirane su implikacije koje se odnose na primjenu alata umjetne inteligencije u svrhu poučavanja na svim razinama obrazovanja: kontinuirano praćenje i vrednovanje, personalizirano i adaptivno učenje, asistivna podrška inkluziji, dijagnostička procjena, smanjenje administrativnih poslova nastavnika te imerzivno iskustveno učenje.

Jezično-generativni alati u literaturi se opisuju kao alati čiji potencijal može biti najizraženiji u pružanju sinhronizirane povratne informacije u personaliziranom i adaptivnom okruženju. Ekspertni alati i alati za inteligentno poučavanje mogu olakšati administrativne zadatke, podržati odlučivanje nastavnika te omogućiti kontinuirano praćenje, formativno vrednovanje i dijagnostičku procjenu koja podupire inkluziju. Alati za VR (virtual reality) simulacije i meta alati, prema relevantnoj literaturi, pogodni su za pružanje imerzivnog iskustva koje potiče kritičko mišljenje, kreativnost i aktivno rješavanje problema.

Polazeći od niza implikacija prema TPACK modelu, integracija obrazovnih alata umjetne inteligencije može pridonijeti osnaživanju uloge nastavnika. Zahtijeva kontinuirano stručno usavršavanje kako bi se osigurala svrhovita primjena ovih alata u nastavnoj praksi. Cilj je stvaranje preduvjeta za razvoj ne samo digitalnih, nego i kompetencija za cjeloživotno učenje pojedinca.

Ključne riječi: *alati umjetne inteligencije, pedagoške implikacije, TPACK model, inovacije u obrazovanju.*

Mario Dumančić
University of Zagreb, Faculty of Teacher Education

Maja Ružić, Sandra Kadum
Juraj Dobrila University of Pula, Faculty of Educational Sciences

https://doi.org/10.5937/int-themed-bg25101D

Transformation of Higher Education: the potentials and challenges of GenAI implementation

Abstract
This paper explores the possibilities and challenges of implementing generative artificial intelligence (GenAI) in higher education. Based on the analysis of relevant literature, the paper identifies the transformative elements of GenAI technology, focusing on its advantages and disadvantages. The research emphasises the potential for personalised learning, adaptive assessment, and virtual assistants, as well as ethical dilemmas, privacy concerns, and bias. The analysis has shown that GenAI offers the potential for personalised learning and more efficient evaluation, but at the same time raises issues related to bias and plagiarism. The conclusion is that embracing GenAI requires awareness of its capabilities and limitations, as well as the establishment of clear guidelines and standards to maximise its potential while minimising negative effects.

Keywords: *GenAI, Higher Education, artificial intelligence, transformative approaches to artificial intelligence.*

The development of Generative Artificial Intelligence (GenAI) is undoubtedly one of the socio-technological phenomena of our time that requires careful consideration. Continuous advancements in the fields of machine learning and computer systems have enabled a new leap in the development of artificial intelligence. Generative Artificial Intelligence (GenAI) focuses on generating new content through sophisticated algorithms and models that mimic human intelligence. The development of artificial intelligence dates back several decades (to the 1950s), while its application in education began in the 1960s.

Artificial intelligence (AI) can be spoken about from the moment when scientists gathered at a summer school in the American resort of Dartmouth to consider the possibilities of creating algorithms and machines which could imitate human intelligence. It was at that time, among other things, that the term "artificial intelligence" was coined (Russell and Norvig 2022). The de-

velopment of artificial intelligence has progressed in leaps, but what drew special attention was the victory of IBM's computer over then-world champion Garry Kasparov in chess, which strongly resonated in both the social and academic communities (Table 1) (Buchanan 2005). It was then already that we could anticipate the next major leap in the development of AI capabilities.

Table 1. *The development of artificial intelligence*

year	event	description
1956	The Dartmouth Summer School, marking the beginning of artificial intelligence development	Gathering of scientists working on research into the possibilities of 'creating' intelligent machines. The term "Artificial Intelligence"
1966	The first chatbot ELIZA	Developed by Joseph Weizenbaum, aimed at simulating conversations with humans
1997	IBM's Deep Blue defeats chess grandmaster Garry Kasparov	The first time a computer programme defeated the world chess champion
2012	Success of deep learning at the ImageNet competition	A model based on deep neural networks made significant progress in image recognition
2022	Rise in popularity of generative models like GPT-3 and DALL-E	Generative artificial intelligence becomes accessible to wider population

This paper assumes that the transformative potential of GenAI in higher education depends on the interplay between pedagogical innovation, ethical responsibility, and institutional readiness

Theoretical background: from Artificial Intelligence to Generative Transformation in Higher Education

The evolution of Artificial Intelligence (AI) from its conceptual beginnings in the 1950s to the emergence of Generative AI (GenAI) in the 2020s illustrates not only the progression of computing power but also a paradigm shift in how knowledge is created and shared. The symbolic and rule-based AI models of the mid-twentieth century sought to simulate reasoning processes, while the later advent of machine learning and deep neural networks enabled systems that could learn from data and autonomously generate new content. This transition from automation to generation represents a critical turning point with far-reaching implications for higher education.

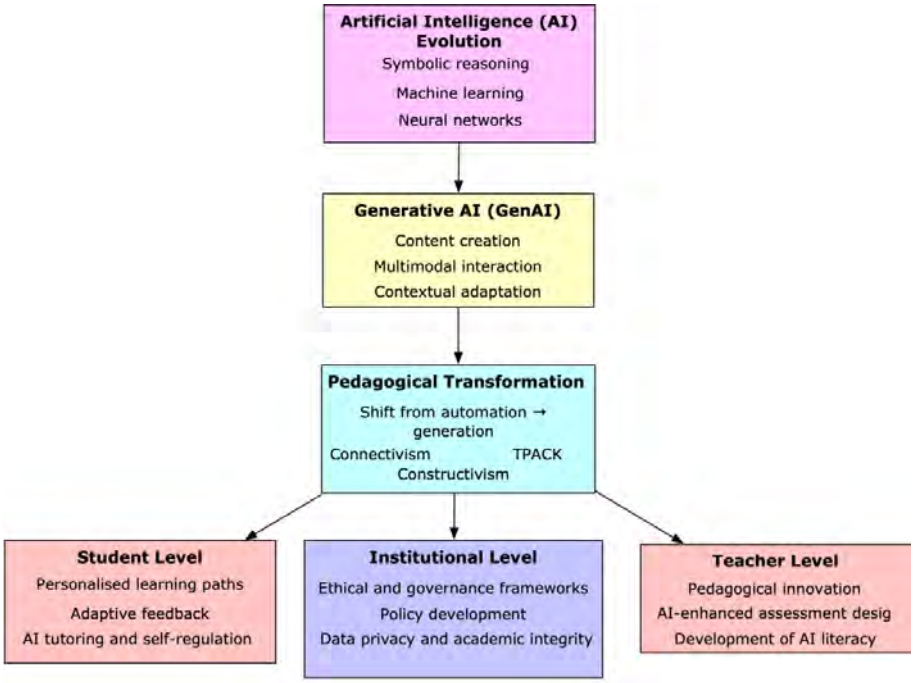
Generative AI, exemplified by large language models such as GPT, marks a qualitative transformation in the relationship between humans and intelligent systems. Unlike previous forms of AI that focused on pattern recognition and

decision support, GenAI enables the co-creation of knowledge through natural language, multimodal interaction, and context-sensitive output. Within the educational domain, this redefines how learners access, process, and construct knowledge.

The emergence of GenAI thus coincides with the shift from transmissive to learner-centred pedagogies. Theoretical foundations such as constructivism and connectivism (Siemens 2004) conceptualise learning as an active, networked, and socially mediated process—conditions now mirrored in GenAI environments where information is dynamically generated and negotiated. Contemporary frameworks such as TPACK (Mishra and Koehler 2006) and the Integrated Smart Learning Ecosystems (ISLE) model extend this perspective by emphasising the systemic interplay between technology, pedagogy, and context.

In this sense, GenAI should not be viewed merely as a tool for efficiency but as a transformative element that challenges traditional educational epistemologies. It prompts universities to reconsider the roles of creativity, authorship, and ethical responsibility in academic practice. The theoretical framework of this paper therefore positions GenAI as both a technological evolution and a pedagogical transformation—an intersection that frames the subsequent analysis of its potentials and challenges in higher education. The conceptual relationships discussed above are illustrated in Figure 1.

Figure 1. *Conceptual Framework of GenAI in Higher Education*



Source: author's elaboration (2025)

Figure 1 illustrates the conceptual relationship between the evolution of Artificial Intelligence and its transformative role in higher education. The framework emphasises the transition from traditional AI to Generative AI, which enables content generation and multimodal learning interactions. This transition fosters a pedagogical shift towards learner-centred, constructivist, and connectivist models of education. The right side of the diagram presents three interdependent levels of impact:

- Student level – personalisation, adaptive learning, and AI-supported self-regulation;
- Teacher level – innovation in pedagogy, assessment, and AI literacy;
- Institutional level – ethical governance, policy development, and data-protection frameworks.

Literature review

We live in a digital era where social and economic development are driven by information and technology. This statement places great expectations on education. The importance of education may have never been greater, making the way it is delivered especially significant. The Fourth Industrial Revolution is transforming industries and the labour market. Lifelong learning is now a reality rather than a necessity, and personalised learning ensures that learners are equipped with the skills and knowledge needed to thrive in a rapidly changing world, fostering adaptability and critical thinking(BaiDoo-Anu and Owusu Ansah 2023; Salih et al. 2025).

The traditional education system, still based on conventional curricula, traditional classroom environments, and outdated teaching methods, appears inconsistent with the dynamic and interconnected digital world. Nartey argues that the traditional educational model, which promotes rote learning and teacher-centred instruction, may not be effective in preparing students for the complexities of the modern world (Nartey 2025). Student-centred pedagogical approaches that integrate technology are necessary. Nartey further states that contemporary teaching pedagogy should leverage digital tools to foster critical thinking, creativity, and collaboration – skills that are essential in the digital age.

The Potentials and Challenges of Using GenAI in Higher Education

The adoption of GenAI offers several advantages in teaching and research efforts within the academic community. Researchers anticipate that GenAI will lead to innovative curricula and new or improved teaching

methods aimed at enhancing student and faculty engagement.One significant opportunity lies in educating graduates who meet societal needs, with the use of GenAI in business likely to become one of the key skills of the future. In academic research, the community can now use GenAI to discover new approaches that were previously inaccessible, create complex simulations, and analyse large volumes of data – whether textual, photographic, or video – much faster than was previously possible (Zhang and Zhang 2024).The methodology of this paper is based on a literature review aimed at exploring the perspectives, potential benefits, and drawbacks of GenAI and its related tools in higher education, particularly in the context of their transformative effects. The paper will examine sources from the IEEE Xplore and Wiley Online Library databases, due to their broad coverage of key journals relevant to this topic.

To define the scope of our search, we decided to analyse papers published during the year 2024. Since ChatGPT was introduced in 2022, and is still a relatively new technology, we believe its impact on higher education can only truly be observed in studies published in 2024.

After selecting the time frame, we proceeded to identify the key elements for our search and then for the analysis of papers based on the topic. For the analysis, we selected the most cited papers that included the following keywords: *GenAI in higher education*, *advantages*, *disadvantages*, and *implementation*. Within these search parameters, we reviewed around thirty articles that included the defined keywords. During the review process, we selected papers that, to a greater or lesser extent, addressed the topic of the positive and negative implications of using artificial intelligence in higher education.

Through the analysis of these papers, we classified the positive and negative implications, as shown in Table 2A/2B.

Table 2A. *Positive Implications of GenAI in Higher Education*

Dimension	Description	Illustrative Sources
Pedagogical	Personalised and adaptive learning; creation of customised content and simulations; support for multilingual and inclusive learning; increased student motivation through gamification.	(Duong, Vu, and Ngo 2023; Salinas-Navarro et al. 2024a, 2024b)
Ethical / Integrity	Development of awareness about responsible AI use; institutional adoption of ethical frameworks; fostering academic honesty.	(Böhm and Schedlberger 2023; Foltynek et al. 2023)11/11/2025 20:57:00

Dimension	Description	Illustrative Sources
Evaluation / Assessment	Adaptive testing aligned with student ability; data-driven feedback; efficiency in grading and formative assessment.	(Alam and Mohanty 2022a; Dumitru 2024)
Organisational / Institutional	AI-driven virtual assistants and chatbots; improved communication and administrative efficiency; enhanced institutional innovation capacity.	(Dai, Liu, and Lim 2023; Giannakos et al. 2025)

Table 2B. *Negative Implications of GenAI in Higher Education*

Dimension	Description	Illustrative Sources
Pedagogical	Superficial understanding and over-reliance on AI outputs; reduced creativity and critical thinking; student dependency on automation.	(Mariani and Dwivedi 2024; Ogunleye et al. 2024)
Ethical / Integrity	Bias in datasets and outputs; lack of transparency and explainability; privacy and data-protection risks; authorship and plagiarism dilemmas.	(Crompton and Burke 2023; Nguyen et al. 2023)
Evaluation / Assessment	Algorithmic bias in scoring; limited human judgment and contextualisation; accessibility issues for diverse learners.	(Duong et al. 2023; K Nartey 2025)
Organisational / Institutional	Insufficient governance frameworks; lack of clear policies; ethical uncertainty; institutional resistance to technological change.	(Strielkowski et al. 2024; Zhang and Zhang 2024)

Tables 2A and 2B present a synthesis of the positive and negative implications of GenAI implementation in higher education, organised across four analytical dimensions – pedagogical, ethical, evaluative, and institutional. The thematic categorisation reflects recurring concepts identified in the reviewed literature between 2022 and 2024.

The results show that the **pedagogical dimension** dominates both sides of the spectrum: while GenAI supports personalised and adaptive learning, it also raises concerns regarding creativity, critical thinking, and over-reliance on automation. The **ethical dimension** highlights the dual nature of AI integration – the emergence of institutional ethical frameworks on one hand, and persistent risks of bias, transparency, and privacy on the other. Within the **evaluation dimension**, adaptive assessment and AI-assisted feedback appear as promising innovations, yet issues of fairness and accessibility remain unresolved. Finally, the **institutional dimension** illustrates how universities benefit from AI-driven administrative efficiency but still lack comprehensive governance and data-protection policies.

These findings suggest that the transformative role of GenAI in higher education cannot be understood solely as a technological improvement. Instead, it should be interpreted as a systemic shift that demands new pedagogical strategies, ethical frameworks, and institutional adaptability.

Customised support through personalised learning could significantly reduce achievement gaps among students, considering their prior education and individual abilities. People have different learning styles – visual, auditory, etc. – as outlined in the VARK model and Dunn-Dunn model (Dunn n.d.; Fleming and Mills 1992). By using algorithms to adapt to individual learning needs, disparities in performance can be mitigated.

While most studies confirm the potential of GenAI to personalise the learning experience and improve engagement (Duong et al. 2023; Lahby 2024), some authors highlight that such effects are still largely theoretical and depend on the institutional capacity to collect high-quality learning data (Salih et al. 2025). Empirical studies conducted in Asian and Middle Eastern contexts, for instance, demonstrate greater readiness for AI-driven personalisation than those from European universities, which remain more cautious regarding ethical and privacy standards (Crompton and Burke 2023; Nartey 2025). These contextual discrepancies indicate that the transformative potential of GenAI cannot be generalised across higher education systems without considering local technological and cultural infrastructures.

Using sophisticated algorithms, generative artificial intelligence is capable of processing large volumes of data in a short amount of time – including student performance, preferences, and prior learning outcomes – in order to generate personalised content, recommendations, and assessments tailored to individual learning styles. This not only increases student engagement and motivation but also provides educators with valuable insights into student progress, enabling targeted interventions and support (Duong et al. 2023; Lahby 2024). With generative artificial intelligence in education, a new era of personalised and effective learning is within reach, ensuring that every student has the opportunity to thrive and reach their full potential.

As we delve deeper into the potential of generative artificial intelligence in education, the concept of enhancing learning through personalised algorithms emerges as a potentially transformative approach (Levi 2023). With reliance on the power of sophisticated algorithms, tailored learning experiences can be adapted to the individual needs and preferences of each student. These algorithms analyse vast amounts of data, including student achievement, learning patterns, and feedback. One of the fundamental issues is that very few systems collect high-quality data. Student monitoring

systems are often too limited – they do not gather enough data to support reliable predictions, which are essential for algorithms to make meaningful adjustments. Therefore, we can expect a growing need for the development of new information systems that collect real-time data on each student, such as Brightspace[1] or Blackboard[2]. What I personally see here is the need for a systematic solution within higher education institutions – one that adheres to ethical standards and complies with GDPR, at least within the framework of EU data protection regulations.[3]

Given the nature of higher education institutions and higher education itself, GenAI has transformative potential – primarily in adapting to the learning styles of each student, but also in building entirely new student models.

Artificial intelligence tools that facilitate student-centred learning include adaptive learning platforms (e.g., DreamBox[4], Knewton[5]) or intelligent tutoring systems (e.g., ASSISTments[6]). By creating new tools based on GenAI, which have the ability to process video content and new images, there will soon be the possibility to create rich multimedia content and multimedia-enriched simulations tailored for instructional materials (Mariani and Dwivedi 2024; Salinas-Navarro et al. 2024b). Based on student preferences, algorithms will be able to modify materials according to the learning styles of each student. This is where I see a great opportunity for progress, as enhanced algorithms will create multimedia content of a higher quality than what is currently produced by teachers. Researchers also expect significant advances in the use of virtual reality, augmented reality, and mixed reality. The progress and increased availability of these technologies will make them more accessible in education.

We are aware that traditional methods of assessing students are not tailored to individual student needs and that, due to their rigidity and inability to adapt, they can sometimes be completely ineffective. For example, the use of standardised tests follows a fixed format that does not account for variations in students' knowledge and skills. Adaptive assessments re-

1 https://www.d2l.com/brightspace/

2 https://www.anthology.com/products/teaching-and-learning/learning-effectiveness/blackboard

3 Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the Protection of Natural Persons with Regard to the Processing of Personal Data and on the Free Movement of Such Data, and Repealing Directive 95/46/EC (General Data Protection Regulation) (Text with EEA Relevance), 2016.

4 https://www.dreambox.com

5 https://www.wiley.com/en-us/education/alta/features

6 https://new.assistments.org

present a paradigm shift in how we evaluate learning. These assessments use algorithms to generate customised tests that can adjust in real-time, providing students with questions that match their current abilities. As such, adaptive assessments are perfectly aligned with the goals of personalised learning (Dumančić 2019; Dumitru 2024).

Artificial intelligence models used in adaptive assessments must be trained and rigorously tested to mitigate bias and ensure fairness in evaluation (Alam and Mohanty 2022b). Bias in artificial intelligence models can result in inequality in assessment outcomes. The use of technology in assessment can present challenges regarding accessibility for inclusive students, but it can also significantly enhance and tailor it (Dumitru, 2024).

The introduction of adaptive assessment can change the role of the teacher, who may need to adjust their teaching strategies based on the results of the assessment. The use of tools such as Gradescope[7] or Turnitin[8], powered by generative artificial intelligence, represents a significant step toward achieving the goals of personalised learning.

Despite notable advantages of adaptive testing and AI-assisted feedback systems (Dumitru, 2024), several studies emphasise that algorithmic bias and a lack of human oversight can reproduce inequalities in assessment outcomes (Alam & Mohanty, 2022; Nguyen et al., 2023). In particular, automatic grading models tend to favour language proficiency and standardised expression, which may disadvantage non-native English-speaking students. The literature also reports divergent views on the acceptability of AI-supported grading: while some researchers view it as an efficient extension of formative assessment, others warn that it risks diminishing the teacher's role as an interpretive evaluator (Giannakos et al., n.d.).

Virtual teachers, or assistants[9] in the form of chatbots based on LLM, are now present in a large number of higher education institutions (Dai et al. 2023; Dumančić 2010).) Chatbots are one of the first applications of GenAI in the past three years – tools such as Jili Watson.[10] Their role is very simple, enabling communication between students and artificial intelligence that can be either institution-specific or open-ended. Institution-specific chatbots are typically trained on data and documents specific to the institution, aiming to assist and simplify various administrative and organisational tasks for students and professors. Students can learn about their rights, obligations, and other matters at any time, which provides them with easier

7 https://www.gradescope.com

8 https://www.turnitin.com

9 Virtual teacher or virtual assistant – the term 'teacher' is unacceptable to me because a teacher is much more than artificial intelligence; therefore, I prefer to call it an assistant.

10 https://dilab.gatech.edu/jill-watson/

access to studying and enhancing administrative efficiency(Giannakos et al. 2025). Through open access to the tool, ChatGPT provides students with access to a chatbot trained with a variety of materials such as books, encyclopedias, websites, communications, etc., positioning itself as a virtual assistant available to students 24/7 (Levi 2023). With each version, ChatGPT evolves into a more reliable virtual assistant, particularly when students need support, for example, in searching for information, simplifying complex texts, translating, practising writing, checking results, or brainstorming ideas. Researchers agree that ChatGPT's algorithms have issues with bias, stereotypes, and occasional hallucinations.

Chatbots and virtual assistants are among the most visible manifestations of GenAI integration in higher education. Studies in this domain reveal a mixed pattern of outcomes: increased administrative efficiency and student satisfaction (Dai et al., 2023) coexist with concerns about data privacy, superficial interaction, and emotional detachment from human mentorship (Levi, 2023; Böhm & Schedlberger, n.d.). These findings suggest that GenAI-based communication tools may enhance learning logistics but not necessarily learning depth, underscoring the need for balanced pedagogical integration rather than full automation.

It is particularly important to highlight the dilemmas faced by researchers and users of GenAI in education in general, especially in terms of ethical elements, which are of great importance (Foltynek et al. 2023). Privacy and data security are very sensitive areas, and in the process of personalising studying, algorithms should process student data. Therefore, it is crucial to ensure data security and limit its use solely for the educational purposes of learning personalisation. As already mentioned above, GenAI has issues when generating content, such as bias (Nguyen et al. 2023). Unfortunately, bias arises from the materials the systems are trained on. In the future, it would be important to use diverse data and test the materials used in the GenAI systems' learning process or algorithmically rearrange them. Furthermore, this is why transparency of the system is a key feature so that users can understand how the system arrives at certain decisions in deep neural networks. The issue of plagiarism and the ownership of generated works is a topic of ongoing debate aimed at preventing misuse. Incorrect "hallucinated" information and data, if not recognised, can negatively affect the learning process. Therefore, it is crucial that higher education institutions make additional efforts to raise AI literacy among students and teachers. The use of GenAI in higher education is closely tied to ethics, the authenticity of the academic experience, fairness, and accessibility (Böhm & Schedlberger, n.d.).

Ethical concerns remain the most frequently discussed issue across all reviewed publications. However, the literature shows a lack of consensus on how ethical principles should be operationalised in academic environments. For example, Foltynek et al. (2023) advocate for explicit institutional guidelines based on transparency and accountability, whereas Nguyen et al. (2023) and Crompton & Burke (2023) stress the importance of student and teacher AI literacy as the foundation for responsible use. This divergence highlights the current absence of a unified framework for ethical governance of GenAI in higher education.

Synthesising across the reviewed studies, it becomes evident that GenAI's contribution to higher education is context-dependent. Its benefits are maximised where institutional readiness, ethical frameworks, and digital competence are already developed. Conversely, in systems with low digital maturity or weak governance structures, the same technologies can exacerbate inequalities, raise data-protection risks, and challenge academic integrity. The discussion therefore confirms that the integration of GenAI is not a universal process but a negotiated transformation shaped by cultural, ethical, and pedagogical contexts. The integration of findings across these dimensions supports the proposed conceptual framework (Figure 1), which situates GenAI as a driver of pedagogical, ethical, and institutional transformation."

Conclusion

The analysis of recent literature confirms that Generative Artificial Intelligence (GenAI) is reshaping higher education through its potential for personalisation, adaptivity, and innovation, but also through its inherent ethical and organisational challenges. Rather than viewing GenAI as a technological tool alone, this study positions it as a catalyst of systemic transformation that simultaneously redefines pedagogical roles, assessment practices, and institutional governance.

At the **student level**, GenAI enables personalised learning environments, adaptive feedback, and multilingual accessibility. However, its effectiveness depends on the quality of educational data, ethical safeguards, and the development of students' critical and metacognitive skills. Over-reliance on automated assistance remains a notable risk, highlighting the importance of AI literacy and human oversight in learning processes (Dumančić 2011; Duong et al. 2023; Lahby 2024).

At the **teacher level**, GenAI fosters new forms of pedagogical innovation and assessment design. The reviewed studies show that educators

who integrate GenAI tools thoughtfully can enhance formative feedback and engagement (Dumitru, 2024; Nartey, 2025). Yet, the pedagogical benefits are moderated by teachers' digital competence, professional development, and institutional support. Without adequate preparation, AI-assisted teaching may increase workloads and reduce the interpretive dimension of assessment (Alam & Mohanty, 2022; Giannakos et al., n.d.).

At the **institutional level**, GenAI introduces opportunities for administrative efficiency, virtual support, and strategic innovation. However, this transformation also exposes universities to new risks related to bias, transparency, and data protection (Nguyen et al., 2023; Foltynek et al., 2023). The literature consistently calls for governance models that combine technological capacity with ethical accountability and cross-disciplinary collaboration between educators, technologists, and policy makers.

Overall, the reviewed evidence demonstrates that the integration of GenAI in higher education is context-dependent and cannot be generalised across educational systems. Its benefits emerge where ethical frameworks, institutional readiness, and AI literacy are already established. Therefore, the future of GenAI in academia lies in the creation of integrated, transparent, and ethically aligned ecosystems that strengthen — rather than replace — the human dimensions of teaching and learning. This review is limited to peer-reviewed studies published in English between 2022 and 2024; future research may expand the temporal and linguistic scope.

References

Alam, Ashraf, and Atasi Mohanty. 2022a. "Foundation for the Future of Higher Education or 'Misplaced Optimism'? Being Human in the Age of Artificial Intelligence." Pp. 17–29 in *Innovations in Intelligent Computing and Communication*. Vol. 1737, *Communications in Computer and Information Science*, edited by M. Panda, S. Dehuri, M. R. Patra, P. K. Behera, G. A. Tsihrintzis, S.-B. Cho, and C. A. Coello Coello. Cham: Springer International Publishing.

Alam, Ashraf, and Atasi Mohanty. 2022b. "Foundation for the Future of Higher Education or 'Misplaced Optimism'? Being Human in the Age of Artificial Intelligence." Pp. 17–29 in *Innovations in Intelligent Computing and Communication*. Vol. 1737, *Communications in Computer and Information Science*, edited by M. Panda, S. Dehuri, M. R. Patra, P. K. Behera, G. A. Tsihrintzis, S.-B. Cho, and C. A. Coello Coello. Cham: Springer International Publishing.

Baï Doo-Anu, David, and Leticia Owusu Ansah. 2023. "Education in the Era of Generative Artificial Intelligence (AI): Understanding the Potential

Benefits of ChatGPT in Promoting Teaching and Learning." *Journal of AI* 7(1):52–62. doi:10.61969/jai.1337500.

Böhm, Karsten, and Lisa-Maria Schedlberger. 2023. *The Use of Generative AI in the Domain of Human Creations -a Case for Co-Evolution?*

Buchanan, Bruce G. 2005. "A (Very) Brief History of Artificial Intelligence." *AI Magazine* 26(4):53–53. doi:10.1609/aimag.v26i4.1848.

Crompton, Helen, and Diane Burke. 2023. "Artificial Intelligence in Higher Education: The State of the Field." *International Journal of Educational Technology in Higher Education* 20(1):22. doi:10.1186/s41239-023-00392-8.

Dai, Yun, Ang Liu, and Cher Ping Lim. 2023. "Reconceptualizing ChatGPT and Generative AI as a Student-Driven Innovation in Higher Education." *Procedia CIRP* 119:84–90. doi:10.1016/j.procir.2023.05.002.

Dumančić, M. 2010. "Development of Model of Use of Pedagogical Patterns within the Distance Learning System." in *Pre-Conference Proceedings of the Special Focus Symposium on 10th ICESKS:Information, Communication, and Economic Sciences in the Knowledge Society*. Vol. 1. Zagreb: ECNSI.

Dumančić, Mario. 2011. "Development of the Model of Lifelong Electronic Student Card." *Anywhere, Anytime - Education on Demand* 134.

Dumančić, Mario. 2019. "Smart Education in Smart City and Student Model." ADLRO.

Dumitru, Cristina. 2024. "ChatGPT for Personalized Learning in Higher Education." Pp. 98–110 in *Empowering Digital Education with ChatGPT*. Boca Raton: Chapman and Hall/CRC.

Dunn, R. n.d. "The Dunn and Dunn Learning Style Model and Its Theoretical Cornerstone In R. Dunn & S. A. Griggs (Eds.), Synthesis of the Dunn and Dunn Learning-Style Model Research: Who, What, When, Where, and so What?,."

Duong, Cong Doanh, Trong Nghia Vu, and Thi Viet Nga Ngo. 2023. "Applying a Modified Technology Acceptance Model to Explain Higher Education Students' Usage of ChatGPT: A Serial Multiple Mediation Model with Knowledge Sharing as a Moderator." *The International Journal of Management Education* 21(3):100883. doi:https://doi.org/10.1016/j.ijme.2023.100883.

Fleming, Neil D., and Colleen Mills. 1992. "Not Another Inventory, Rather a Catalyst for Reflection." *To Improve the Academy* 11(1):137–55. doi:10.1002/j.2334-4822.1992.tb00213.x.

Foltynek, Tomas, Sonja Bjelobaba, Irene Glendinning, Zeenath Reza Khan, Rita Santos, Pegi Pavletic, and Július Kravjar. 2023. "ENAI Recommendations on the Ethical Use of Artificial Intelligence in Education." *International Journal for Educational Integrity* 19(1):12, s40979-023-00133–34. doi:10.1007/s40979-023-00133-4.

Giannakos, Michail, Roger Azevedo, Peter Brusilovsky, Mutlu Cukurova, Yannis Dimitriadis, Davinia Hernandez-Leo, Sanna Järvelä, Manolis Mavrikis, and Bart Rienties. 2025. "The Promise and Challenges of Generative AI in

Education." *Behaviour & Information Technology* 44(11):2518–44. doi:10.1080/0144929X.2024.2394886.

K Nartey, Emmanuel. 2025. *Generative AI in Higher Education:Guiding Principles for Teaching and Learning: Volume 1*. 1st ed. Boca Raton: CRC Press.

Lahby, Mohamed. 2024. *Empowering Digital Education with ChatGPT: From Theoretical to Practical Applications*. 1st ed. Boca Raton: Chapman and Hall/CRC.

Levi, Guy. 2023. "Transforming Education in the Generative AI Era." https://medium.com/@guylevi.57/transforming-education-in-the-generative-ai-era-4c7e177a8415.

Mariani, Marcello, and Yogesh K. Dwivedi. 2024. "Generative Artificial Intelligence in Innovation Management: A Preview of Future Research Developments." *Journal of Business Research* 175:114542. doi:10.1016/j.jbusres.2024.114542.

Mishra, Punya, and Matthew J. Koehler. 2006. "Technological Pedagogical Content Knowledge: A Framework for Teacher Knowledge." *Teachers College Record: The Voice of Scholarship in Education* 108(6):1017–54. doi:10.1111/j.1467-9620.2006.00684.x.

Nartey, Emmanuel K. 2025. *GENERATIVE AI IN HIGHER EDUCATION: Guiding Principles for Teaching and Learning; Volume 1*. CRC Press Reference Books in Computer Science. S.l.: CRC PRESS.

Nguyen, Andy, Ha Ngan Ngo, Yvonne Hong, Belle Dang, and Bich-Phuong Thi Nguyen. 2023. "Ethical Principles for Artificial Intelligence in Education." *Education and Information Technologies* 28(4):4221–41. doi:10.1007/s10639-022-11316-w.

Ogunleye, Bayode, Kudirat Ibilola Zakariyyah, Oluwaseun Ajao, Olakunle Olayinka, and Hemlata Sharma. 2024. "A Systematic Review of Generative AI for Teaching and Learning Practice." *Education Sciences* 14(6):636. doi:10.3390/educsci14060636.

Russell, Stuart J., and Peter Norvig. 2022. *Artificial Intelligence: A Modern Approach*. Fourth edition, global edition. Prentice Hall Series in Artificial Intelligence. Boston: Pearson.

Salih, Sayeed, Omayma Husain, Mosab Hamdan, Samah Abdelsalam, Hashim Elshafie, and Abdelwahed Motwakel. 2025. "Transforming Education with AI: A Systematic Review of ChatGPT's Role in Learning, Academic Practices, and Institutional Adoption." *Results in Engineering* 25:103837. doi:10.1016/j.rineng.2024.103837.

Salinas-Navarro, David Ernesto, Eliseo Vilalta-Perdomo, Rosario Michel-Villarreal, and Luis Montesinos. 2024a. "Designing Experiential Learning Activities with Generative Artificial Intelligence Tools for Authentic Assessment." *Interactive Technology and Smart Education* 21(4):708–34. doi:10.1108/ITSE-12-2023-0236.

Salinas-Navarro, David Ernesto, Eliseo Vilalta-Perdomo, Rosario Michel-Villarreal, and Luis Montesinos. 2024b. "Designing Experiential Learning Activi-

ties with Generative Artificial Intelligence Tools for Authentic Assessment." *Interactive Technology and Smart Education* 21(4):708–34. doi:10.1108/ITSE-12-2023-0236.

Siemens, George. 2004. "Connectivism: A Learning Theory for the Digital Age." *International Journal of Instructional Technology and Distance Learning*. https://www.semanticscholar.org/paper/Connectivism%3A-A-Learning-Theory-for-the-Digital-Age-Siemens/7c7dd6c900c031b3685c761c72ebafdf3004caed.

Strielkowski, Wadim, Veronika Grebennikova, Alexander Lisovskiy, Guzalbegim Rakhimova, and Tatiana Vasileva. 2024. "AI-driven Adaptive Learning for Sustainable Educational Transformation." *Sustainable Development* sd.3221. doi:10.1002/sd.3221.

Zhang, Jia, and Zhuo Zhang. 2024. "AI in Teacher Education: Unlocking New Dimensions in Teaching Support, Inclusive Learning, and Digital Literacy." *Journal of Computer Assisted Learning* 40(4):1871–85. doi:10.1111/jcal.12988.

Трансформација високог образовања: потенцијали и изазови примене генеративне вештачке интелигенције (GenAI)

Брз развој генеративне вештачке интелигенције (GenAI) представља један од најтрансформативнијих технолошких помака у савременом образовању. Високошколске институције суочавају се са све већом потребом за интеграцијом GenAI алата у наставне, истраживачке и управљачке процесе, што истовремено отвара нове могућности за иновације и носи ризике повезане са етиком и академским интегритетом. Овај рад истражује трансформативне потенцијале и изазове примене GenAI у високом образовању кроз структурирани наративни преглед литературе.

Циљ истраживања је двострук: (1) идентификовати и категоризовати главне педагошке, етичке и институционалне импликације усвајања генеративне вештачке интелигенције у високом образовању и (2) предложити концептуални тростепени оквир за одговорну и ефикасну интеграцију GenAI технологија на нивоу студената, наставника и институција. Истраживање се заснива на наративном прегледу литературе надахнутом PRISMA смерницама и обухвата тридесет рецензираних научних радова објављених у периоду од 2022. до 2024. године у релевантним базама података као што су IEEE Xplore и Wiley Online Library. Укључени су радови који се експлицитно баве генеративном вештачком интелигенцијом у високом образовању, док су публикације које се односе искључиво на традиционалну вештачку интелигенцију искључене.

Резултати истраживања показују да GenAI доноси значајне користи у областима персонализованог учења, адаптивног вредновања и виртуелне академске подршке путем интелигентних туторских система и четботова. Обрадом великих скупова података, GenAI алати могу да прилагоде искуство учења индивидуалним потребама, пруже подршку вишејезичним студентима и омогуће повратне информације засноване на подацима. Међутим, анализа је такође открила значајне етичке и методолошке изазове, укључујући пристрасност у скуповима података, недостатак транспарентности у алгоритамском одлучивању, питања ауторства и плагијаризма, питања заштите личних података студената и правичности аутоматизованог вредновања.

Прегледана литература синтетисана је у типологију импликација подељених у три кључне димензије: 1) Ниво студента – персонализовани путеви учења, вишемодалне повратне информације и самоусмерено учење уз AI туторе; 2) Ниво наставника – педагошке иновације, унапређени дизајн вредновања и развој AI писмености; 3) Институционални ниво – развој политика, етичких оквира и механизама управљања који обезбеђују одговорну интеграцију GenAI технологија.

Закључује се да успешно укључивање генеративне вештачке интелигенције у високо образовање захтева стратешки и етички утемељен приступ. Универзитети би требало да успоставе интердисциплинарне тимове који укључују наставнике, научнике из области података и етичаре, како би обликовали транспарентне смернице за примену вештачке интелигенције. Предложени оквир пружа основу за будућа емпиријска истраживања модела подучавања потпомогнутих генеративном вештачком интелигенцијом и доприноси актуелној научној расправи о дигиталној трансформацији високог образовања.

Кључне речи: *GenAI, високо образовање, вештачка интелигенција, трансформативни приступи вештачкој интелигенцији.*

Transformacja szkolnictwa wyższego: potencjały i wyzwania zastosowania GenAI

Szybki rozwój generatywnej sztucznej inteligencji (GenAI) stanowi jeden z najbardziej transformacyjnych przełomów technologicznych we współczesnej edukacji. Instytucje szkolnictwa wyższego stają w obliczu rosnącej potrzeby integracji narzędzi GenAI w procesy dydaktyczne, badawcze i zarządcze, co w jednej strony otwiera nowe możliwości innowacji, ale z drugiej niesie ze sobą ryzyka związane z etyką i integralnością akademicką. Niniejsza praca bada transformacyjne potencjały i wyzwania zastosowania GenAI w szkolnictwie wyższym poprzez usystematyzowany przegląd literatury.

Celem badania są dwa główne zadania: (1) identyfikacja i kategoryzacja najważniejszych pedagogicznych, etycznych i instytucjonalnych implikacji wykorzystywania GenAI w szkolnictwie wyższym oraz (2) zaproponowanie trzyetapowej koncepcji w zakresie odpowiedzialnej i skutecznej integracji technologii GenAI na poziomie studentów, wykładowców oraz instytucji. Badanie opiera się na narracyjnym przeglądzie literatury inspirowanym wytycznymi PRISMA i obejmuje trzydzieści recenzowanych artykułów naukowych opublikowanych w latach 2022-2024 w odpowiednich bazach danych, takich jak IEEE Xplore i Wiley Online Library. Uwzględniono tu tylko te prace, które wprost zajmują się GenAI w szkolnictwie wyższym, zatem publikacje dotyczące tradycyjnej sztucznej inteligencji zostały wyłączone.

Wyniki badań pokazują, że GenAI przynosi znaczące korzyści w obszarach spersonalizowanego uczenia się, adaptacyjnej oceny i wirtualnego wsparcia akademickiego poprzez inteligentne systemy tutoringowe i chatboty. Przetwarzając duże zbiory danych, narzędzia GenAI mogą dostosować doświadczenie nauki do indywidualnych potrzeb, wspierać studentów wielojęzycznych i zapewniać informacje zwrotne oparte na danych. Analiza ujawniła również istotne wyzwania etyczne i metodologiczne, w tym stronniczość w zbiorach danych, brak przejrzystości w algorytmicznym podejmowaniu decyzji, kwestie autorstwa i plagiatu, a także obawy dotyczące prywatności danych studentów i sprawiedliwości automatycznej oceny.

Wykorzystana w badaniu literatura została podzielona na trzy kluczowe wymiary: 1) Poziom studenta – spersonalizowane ścieżki uczenia się, wielomodalne informacje zwrotne i samokierowane uczenie się przy wsparciu AI tutorów; 2) Poziom wykładowcy – innowacje pedagogiczne, ulepszony projekt oceniania i rozwój kompetencji w zakresie AI; 3) Poziom instytucjonalny – opracowanie polityk, ram etycznych i mechanizmów zarządzania zapewniających odpowiedzialną integrację technologii GenAI.

Stwierdza się, że skuteczne włączenie GenAI do szkolnictwa wyższego wymaga strategicznego i etycznie ugruntowanego podejścia. Uniwersytety powinny powołać interdyscyplinarne zespoły, obejmujące wykładowców, naukowców zajmujących się danymi i etyków, aby opracować przejrzyste wytyczne dotyczące stosowania sztucznej inteligencji. Zaproponowana koncepcja stanowi podstawę do przyszłych badań empirycznych nad modelami nauczania wspomaganego przez GenAI i włącza się do aktualnej debaty naukowej na temat cyfrowej transformacji szkolnictwa wyższego.

Słowa kluczowe: *GenAI; szkolnictwo wyższe; sztuczna inteligencja; transformacyjne podejścia do sztucznej inteligencji.*

Transformacija visokog obrazovanja: potencijali i izazovi primjene GenAI

Brz razvoj generativne umjetne inteligencije (GenAI) predstavlja jedan od najtransformativnijih tehnoloških pomaka u suvremenom obrazovanju. Visokoškolske institucije suočene su sa sve većom potrebom za integracijom GenAI alata u nastavne, istraživačke i upravljačke procese, što istodobno otvara nove mogućnosti za inovacije i nosi rizike povezane s etikom i akademskim integritetom. Ovaj rad istražuje transformativne potencijale i izazove primjene GenAI u visokom obrazovanju kroz strukturirani narativni pregled literature.

Cilj istraživanja je dvostruk: (1) identificirati i kategorizirati glavne pedagoške, etičke i institucionalne implikacije usvajanja GenAI u visokom obrazovanju te (2) predložiti konceptualni trostupanjski okvir za odgovornu i učinkovitu integraciju GenAI tehnologija na razini studenata, nastavnika i institucija. Istraživanje se temelji na narativnom pregledu literature nadahnutom PRISMA smjernicama te obuhvaća trideset recenziranih znanstvenih radova objavljenih u razdoblju od 2022. do 2024. godine u relevantnim bazama podataka kao što su IEEE Xplore i Wiley Online Library. Uključeni su radovi koji se eksplicitno bave GenAI-jem u visokom obrazovanju, dok su publikacije koje se odnose isključivo na tradicionalnu umjetnu inteligenciju isključene.

Rezultati istraživanja pokazuju da GenAI donosi značajne koristi u područjima personaliziranog učenja, adaptivnog vrednovanja i virtualne akademske podrške putem inteligentnih tutorskih sustava i chatbotova. Obradom velikih skupova podataka, GenAI alati mogu prilagoditi iskustvo učenja individualnim potrebama, pružiti podršku višejezičnim studentima i omogućiti povratne informacije temeljene na podacima. Međutim, analiza je također otkrila značajne etičke i metodološke izazove, uključujući pristranost u skupovima podataka, nedostatak transparentnosti u algoritamskom odlučivanju, pitanja autorstva i plagiranja te zaštite osobnih podataka i pravednost automatiziranog vrednovanja.

Pregledana literatura sintetizirana je u tipologiju implikacija podijeljenu u tri ključne dimenzije: 1) Razina studenta – personalizirani putovi učenja, višemodalne povratne informacije i samousmjereno učenje uz AI tutore; 2) Razina nastavnika – pedagoške inovacije, unaprijeđeni dizajn vrednovanja i razvoj AI pismenosti; 3) Institucionalna razina – razvoj politika, etičkih okvira i mehanizama upravljanja koji osiguravaju odgovornu integraciju GenAI tehnologija.

Zaključuje se da uspješno uključivanje GenAI u visoko obrazovanje zahtijeva strateški i etički utemeljen pristup. Sveučilišta bi trebala uspostaviti interdisciplinarne timove koji uključuju nastavnike, podatkovne znanstvenike i etičare, kako bi oblikovali transparentne smjernice za primjenu umjetne inteligencije. Predloženi okvir pruža osnovu za buduća empirijska istraživanja modela poučavanja potpomognutih GenAI-jem te doprinosi aktualnoj znanstvenoj raspravi o digitalnoj transformaciji visokog obrazovanja.

Ključne riječi: *GenAI, visoko obrazovanje, umjetna inteligencija, transformativni pristupi umjetnoj inteligenciji.*

Language, networking, and communication in education

Julia Klapa
Cracow University of Economics, Language Centre

Jolanta Rybska-Klapa
University of Applied Sciences in Nowy Sącz
Faculty of Social Sciences and Arts

https://doi.org/10.5937/int-themed-bg25124K

Learning Polish as a foreign language – motives, expectations and difficulties experienced by foreign students

Abstract
This paper presents issues related to learning Polish as a foreign language by foreign students. The study contains a description of the phenomenon of migration undertaken for educational purposes and a presentation of the principles of organizing the process of learning Polish as a foreign language. The description of the research project includes the methodological grounds of the research, the research area and demonstration of the group of study participants. The research issues focus on the motives behind learning Polish as a foreign language indicated by students, the difficulties students identify in this process, their preferred forms and methods of learning and their expectations. The survey results are presented in tables and graphs, supplemented with respondents' comments and detailed indications regarding the motives for learning Polish and the difficulties experienced in this regard. The research conclusions clearly indicate that students undertake learning Polish mainly for instrumental reasons. They identify various difficulties in mastering the Polish language, linking said difficulties to all language skills. The respondents declare that they use Polish frequently and willingly. Some of respondents associate their future with Poland, even after completing their studies. Knowledge of language is an important tool for communication and integration for everyone. The reasons for choosing to learn Polish and students' expectations are the foundation for formulating recommendations to improve the Polish language education process.

Keywords: *foreign students; Polish as a foreign language; motives, forms and methods of learning Polish; difficulties in learning Polish; digital tools supporting education.*

Introduction

The decision to go abroad and stay outside the homeland is a significant life experience for young adults, the value of which should be considered in individual categories (education, work, new contacts, learning about the culture of another country) and social categories (integration, international exchange, enrichment of technological, cultural and economic achievements). In this context, education outside one's own country has cognitive, emotional and behavioural values, and among the many determinants of the effectiveness of this undertaking are communication skills, including command of the language at a level enabling communication, supported today by a wide range of digital learning tools and online educational technologies that facilitate interaction and access to knowledge.

Research shows that foreigners appreciate knowledge of the Polish language and recognize that it is essential for everyday functioning, education, developing a professional career and establishing satisfying social relationships. Mastery of Polish language is also an opportunity to improve social and communication skills, develop intercultural awareness and problem-solving skills. From this perspective, staying abroad is perceived as an important stage in life and a source of new experiences, also shaped by the use of digital technologies that support learning and communication (Wąsikiewicz-Firlej, Szczepaniak-Kozak & Lankiewicz, 2022: 14-17).

Foreigners studying in Poland – the scale and specificity of the phenomenon

In the 2022/2023 academic year, over 102,000 foreigners studied at Polish universities, which constituted 8.4% of all students. This is a significant increase compared to the previous year, when the internationalization rate was 7.1%[1]. The largest group consists of students from Ukraine – their number increased by over 12,000, reaching 48,150 people, or about 47% of all foreign students. This increase is directly related to the proximity of both countries and Russia's aggression against Ukraine in February 2022. In the 2023/2024 academic year, almost 45% of all foreign students were Ukrainians, and another 12% were Belorussians.

Such dominance of people from neighbouring countries is a characteristic trait of the higher education sector in Poland, unchanged over many years. However, it is worth paying attention to the differences in the structure of students' countries of origin, depending on the level of study. In the case of first-

1 based on: Analysis: Foreigners at universities in Poland - RAD-on: REPORTS, ANALYSES, DATA (DW: April 2025)

cycle studies, the homogeneous structure of the countries of origin of people studying in Poland is clearly visible – Ukrainians and Belorussians jointly constitute almost 66% of all foreigners. In the case of second-cycle studies, the diversity of countries of origin is greater. Ukraine is still in first place (31%), followed by groups of students from Azerbaijan, Belarus, India and Turkey.

The significant changes in the number of foreign students in Poland are due to the interest in the offer of first-cycle studies rather than second-cycle and long-cycle master's studies. In the 2023/2024 academic year, first-cycle students constituted 68% of all foreign students. Meanwhile, in 2023 second-cycle studies were undertaken by nearly one fifth of foreign students. The remaining 13% were people pursuing long-cycle master's studies[2].

In addition to students from Ukraine, significant increases were recorded among students from Zimbabwe (+1,175 people) and Turkey (+1,011 people). In turn, the largest declines in the number of foreign students were observed in case of students from Nigeria (-451 people), Russia (-273 people) and Germany (-236 people). Geographically, the largest number of students studied in the Mazowieckie Voivodeship (24% of all foreigners, i.e. 11,500 individuals), followed by the Małopolskie, Dolnośląskie, Lubelski, Wielkopolskie and Łódzkie Voivodeships[3].

The most popular fields of study among foreigners are: management (19% of foreign students) and computer science (10% of foreign students). It is worth noting that in 2022, women were more likely to choose fields related to education (70%), humanities and arts (68%), while men dominated in technical fields such as information technology (81.2%) and technology, industry and construction (71.1%)[4].

The procedures for enrollment and admission of foreigners to studies in Poland are specified by the Ministry of Science and Higher Education[5] and constitute binding regulations at universities. All foreigners can study at Polish universities, but the rules of admission and conditions (including financial) of study depend on the legal status of the candidate. Some groups of foreigners can receive higher education delivered in the Polish language at public universities on the same terms as Polish citizens (and therefore also free of charge). These groups include foreigners, e.g.:

---

2 based on: The report "Cudzoziemcy na uczelniach w Polsce [Foreigners at universities in Poland]" was prepared by experts from the Information Processing Centre - National Research Institute (OPI PIB) at the request of the Ministry of Science and Higher Education.

3 https://www.gov.pl/web/nauka/duzy-wzrost-liczby-studentow-z-ukrainy-nowy-raport-opi-cudzoziemcy-na-uczelniach-w-polsce.

4 https://www.migrant.info.pl/pl/strona-glowna-2/studia-w-polsce/studia-w-polsce-podstawowe-informacje.

5 Act of 20 July 2018 - Law on Higher Education and Science, Articles 69, 70 and 323, Journal of Laws of 2024, item 1571.

- holders of a permit for permanent residence in the Republic of Poland;
- holders of a valid Pole's Card;
- foreigners who received decisions confirming their Polish heritage;
- foreigners who were granted refugee status by the Republic of Poland;
- benefiting from temporary protection in the Republic of Poland;
- who have been granted subsidiary protection in the Republic of Poland;
- holding a certificate confirming command of Polish language as a foreign language at least at the C1 level, issued by the State Commission for the Certification of Proficiency in the Polish as a Foreign Language;
- holding a long-term EU resident permit granted in the Republic of Poland;
- foreigners who are the spouse, ascendant or descendant of a Polish citizen residing in the territory of the Republic of Poland.

Enrollment provisions are established individually by universities and may differ from each other. However, enrollment is usually based on the competition based on the sum of points obtained during the secondary school final examination (or its equivalent) in the subjects required by a given unit (faculty, college). People who have passed the equivalent of the Polish Matura exam abroad may be required to take an entrance exam if the total points for the subjects in their Matura exam equivalent are different than in Poland and cannot be converted. Most universities also clearly specify the set of documents required of foreigners in the enrollment process (e.g. an electronic registration form, matriculation certificate and its certified translation, residence card, valid visa or other document authorizing the holder to stay in the Republic of Poland, as well as a document confirming command of the Polish language – a certificate issued by the State Commission for the Certification of Proficiency in Polish as a Foreign Language or confirmation of completion of a one-year preparatory course)[6]. All universities are bound by the principle of non-discrimination – the admission process is based on an objective assessment of the knowledge and/or skills of candidates and the chances of admission are equal for everyone, regardless of age, gender or origin.

6 https://wsei.edu.pl/zasady-przyjmowania-cudzoziemcow-na-studia/, https://rekrutacja.uw.edu.pl/kandydaci-z-zagranicy/,https://www.uken.krakow.pl/kandydat/obcokrajowcy/rekrutacja-obcokrajowcow.

Learning Polish as a foreign language at Polish universities – principles and organization

Many universities offer opportunities to learn Polish as a foreign language. The offer of Polish state universities for foreign students includes both courses in Polish as a foreign language, conducted during studies, and one-year or semester preparatory programmes aimed at achieving the language competences necessary to study in Polish, supported by digital learning platforms, online resources and technology-enhanced instructional methods.

Courses in Polish as a foreign language are usually intended for foreign students who do not have the Polish Matura exam certificate. For example, the Wrocław University of Economics offers course in Polish as a foreign language for participants of European programmes, covering 60 hours per semester[7]. The Cracow University of Economics offers Polish language courses at the A1 level – for foreigners undertaking studies in English (classes are delivered in English) and at the B1 and B2 levels dedicated to people who want to improve their language qualifications. The classes are conducted for 30 hours over four semesters and end with a standardized exam (written and oral) – just like all other languages offered by university's Language Centre.[8] The number of required hours and the compulsory status of language courses vary depending on the university and the study programme. For example, at the University of Wrocław, the language course lasts 4 semesters and comprises 120 hours, ending with an exam at B2 level[9].

In some cases, a course in Polish as a foreign language is a compulsory subject for foreign students. For example, at Adam Mickiewicz University in Poznań, students of bachelor's and master's degree programmes taught in Polish are required to participate in classes in Polish as a foreign language. First-cycle students complete 120 hours (4 semesters of 30 hours each), ending with an exam at 1 level, while second-cycle students complete 60 hours (2 semesters of 30 hours each), ending with an exam at C1+ level[10]. It should be kept in mind that detailed information regarding the availability of language courses, admission criteria, number of hours and subject's compulsory status may vary depending on the university.

The universities mentioned above also provide intensive preparatory courses as part of their commercial activities. These are projects that enable students to fully participate in the educational process. Such classes are also conducted by other universities, e.g.: University of Warsaw, SAN University,

7 https://www.sjo.ue.wroc.pl/ce_polski/9917/oferta_kursow.html.

8 https://cj.uek.krakow.pl/o-nas/jezyki/jezyki-jakich-uczymy/.

9 https://www.sjpik.uni.wroc.pl/pl/s/19/284.

10 https://wn.amu.edu.pl/en/students/international-students.

University of Maria Curie-Skłodowska in Lublin, University of Lodz, Warsaw University of Technology, University of Silesia in Katowice[11]. These institutions also provide preparatory courses for state certified exams, which are an important component in the process of applying for Polish citizenship or the Pole's Card[12]. Detailed information on dates, costs, and conditions of participation in individual courses can be found on the websites of the aforementioned universities.

Methodological premises of own research

The goal of the research is to learn the motives behind foreign students who decide to learn Polish as a foreign language. From the researchers' point of view, it is also important to learn about students' expectations related to participation in Polish language courses and students' assessment of the difficulties in implementing foreign language education.

The research focused on the following research problems:

1. What are the reasons for learning Polish as a foreign language indicated by foreign students?
2. What difficulties do foreign students report when learning Polish?
3. What forms and methods of learning Polish do foreign students prefer?
4. What are their expectations related to participation in classes in Polish as a foreign language?
5. The research used the diagnostic survey method, including a survey (a self-developed survey questionnaire) and an unstructured interview illustrating students' individual feelings related to learning Polish. The questions included in the survey questionnaire were closed-ended, with the multiple choice option from among the provided answer suggestions and the possibility of adding own answers.

Students of the Krakow University of Economics (81 individuals) participated in the research conducted in March and April 2025. A purposive sampling was utilized – the sample consisting of foreign students learning Polish in the form of a language course was selected. Students completed the survey immediately after the class, and an academic teacher was available to provide additional explanations if the wording of the questions or proposed answers were difficult to understand. From among this group, 14 people were

11 https://polonicum.uw.edu.pl/polski-dla-cudzoziemcow, https://san.edu.pl/kandydat/kursy-i-egzaminy-jezykowe/kursy-z-jezyka-polskiego, https://www.umcs.pl/pl/cjkp.htm, https://www.uni.lodz.pl/wydzialy-i-jednostki/studium-jezyka-polskiego-dla-cudzoziemcow-uniwersytetu-lodzkiego, https://www.ojp.sjo.pw.edu.pl/kursy/intensywny-kurs-jezyka-polskiego/, https://www.sjikp.us.edu.pl/pl/kurs-jezyka-polskiego-dla-kandydatow-na-studia-w-jezyku-polskim/.

12 https://www.gov.pl/web/ukraina/karta-polaka-informacje-ogolne.

selected who declared their willingness to provide additional explanations in the form of unstructured interview.

Analysis of research results

a) Characteristics of the respondents

The surveyed students form a group of 81 people, including 53 men and 28 women, mostly studying in economic fields, e.g. economics, finance and accounting, management, international logistics. The countries of origin of the respondents were: Ukraine (60.5%), Belarus (22.1%), Kazakhstan (11.1%), Vietnam (6.2%).

b) Motives and goals of learning Polish as a foreign language indicated by foreign students

The choices made by each person are individually or socially conditioned (Lipińska, 2017: 135-148; Kucharczyk, 2020: 9-15) and constitute an important factor taken into consideration when making decisions. A motive is an intention consciously experienced by a person, which results in the willingness to take action or refrain from taking action (Milerski, Śliwerski, 2000: 126). Decisions regarding learning foreign languages are also subject to such processes.

Table 1 *Motives behind choosing to learn Polish as a foreign language (multiple choice).*

Category/Motive		Indication	
		Number	% (for N=81)
Educational motives	I am studying at a Polish university and learning Polish language is required.	69	85,1
	I came to Poland on a student exchange (e.g. Erasmus)	12	14,8
	I am interested in foreign languages and I enjoy learning them.	16	
	I don't want to study only at this university, and knowledge of Polish language determines access to most universities in Poland	49	60,5
	I require knowledge of Polish in my scientific work – I have better access to literature and research materials in this language	59	72,8
	Mastering Polish language will make it easier for me to master other Slavic languages	29	35,8
	I wish to participate in Polish scientific/research projects	32	39,5

Vocational motives	I work in Poland	48	59,2
	I want to find a job in Poland	77	95,1
	The company I work for/want to work for requires knowledge of Polish language.	54	66,7
	I plan to start my own business in Poland or cooperate with Polish companies	49	60,4
	I am planning a career in a European company and I believe that knowledge of Polish will be an advantage	64	79,1
Personal and family motives	I am learning Polish for personal reasons (family, partner, friends)	46	56,7
	I plan to settle in Poland permanently and function without language problems.	51	62,9
	I have Polish friends/family and I want to communicate better with them	59	72,8
Social and Cultural motives	I want to better understand Polish culture and history	21	34,6
	I want to better understand Poles and their mentality	24	29,6
	I am interested in Polish music/Polish sports/pop culture/tourism	13	16,1

Source: own research

The data in Table 1 demonstrate that the most frequently indicated motives are educational (e.g. the desire to study at Polish universities, access to scientific literature), professional (working in Poland or the intention to do so) and personal and family-related (Polish friends, family, planned settlement in Poland). Socio-cultural motives are selected the least frequently. Differences between the choices of students from Slavic and Asian countries can also be observed. In the case of the former, educational and personal motives predominate, whereas the latter more frequently point to issues related to professional conditions. However, due to the major disproportion between study participants from Slavic and other countries, no quantitative interpretation of these data was performed.

The most frequently mentioned reasons for learning Polish are also connected to long-term goals. These goals are defined in terms of acquiring the linguistic competences necessary for:

- basic communication (95.1%);
- fluent verbal communication in everyday situations (75.3%);
- communicating in the future workplace where knowledge of the Polish language is required (81.4%);
- formal confirmation of knowledge of the Polish language in the form of a certificate (64.1%).

c) Difficulties in learning Polish experienced by foreign students

Polish language is classified by linguists as a difficult language in terms of transparency (the relationship between grapheme and phoneme) and inflection (requiring the selection of the appropriate forms of nouns, verbs, adjectives, numerals and pronouns). However, analyses of these issues do not provide clear explanations behind the difficulties encountered in language learning. These analyses only indicate the general principle according to which foreign languages are characterised, and the assessment of their difficulty is always made individually by the learner (Komorowska, 2004: 78-93). The stereotype of Polish as a difficult language has become established among foreigners, and the persistence of these beliefs is confirmed by research (Sagan-Bielawa, 2017: 181-196).

The analysis of the difficulties reported by students concerns both the acoustic reception of the language and its visual aspects. Arrangement of said difficulties according to language skills is presented in Table 2.

Table 2 *Difficulties in learning and using the Polish language (multiple choice)*

Linguistic proficiency	% for N=81	Difficulties
Writing	69,1	- mastering the alphabet - errors in writing dictated and self-written texts - construction defects
Reading	72,8	- slow pace - distortions - difficulties in understanding the content
Speaking	90,1	- incorrect realization of sounds - poor vocabulary, laconic, schematic, incoherent statements - agrammatisms and interference from the native language - incorrect intonation and accentuation
Listening	51,8	- difficulties in understanding the content

Source: own research

Additional specific information includes characteristics of difficulties indicating:

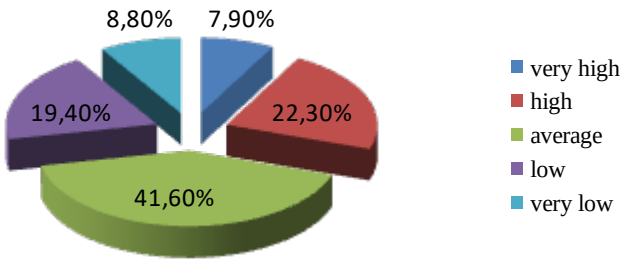
- phonetic aspects (e.g. pronunciation of sounds inconsistent with the phonetic norm, difficulties in differentiating voiced and voiceless sounds, incorrect accentuation related to the mobility or immobility of accents, intonation errors related to the incorrect placement of sentence stress, lack of melodic differentiation and rhythm of speech);
- grammatical aspects (e.g. complicated grammar resulting from the system of inflection and conjugation resulting in a multitude of

cases and inflection combinations of nouns, pronouns, adjectives and numerals, difficult to master differences in verb forms in the perfective and imperfective aspects);

- inflectional errors resulting from difficulties in choosing grammatical gender, irregular inflection of nouns and verbs, incorrect selection of inflection and conjugation endings, incorrect constructions of compounds of agreement, government and belonging, errors in word order),
- lexical aspects (e.g. complex lexical aspects, incorrect use of words or phraseological units, errors based on phonetic associations, lack of the correct word or entire structure and replacing it with one close to the intended one in the utterance, large groups of words similar in meaning but used in completely different contexts - e.g. "see" and "perceive", "do" and "complete", phrases and idioms);
- stylistic aspects (e.g. inappropriate use of the linguistic means in the overall statement in terms of its content and register, excess of colloquial expressions appropriate for informal communication, repetition of words).

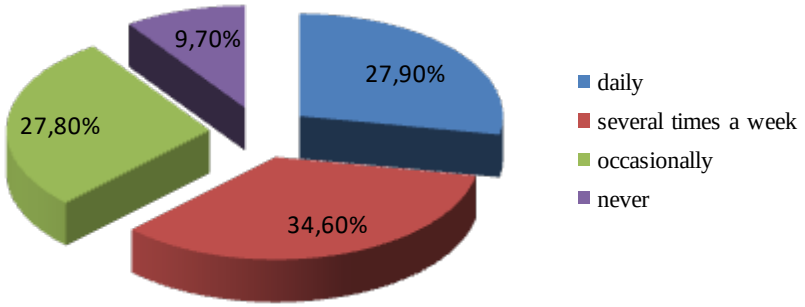
As demonstrated by the above lists, students identify a number of difficulties in learning Polish language. Despite the significant frequency of these difficulties and their diversity, the respondents demonstrate a great willingness to communicate in Polish, declare that they often communicate in this language and only occasionally feel helpless when communicating in Polish (Charts 1, 2 and 3).

Chart 1 *Willingness to communicate in Polish.*



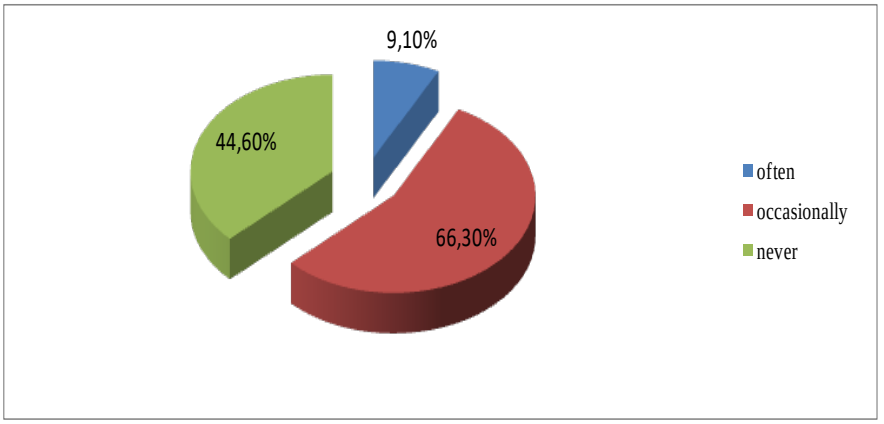
Source: own research

Chart 2 *Frequency of using Polish language.*



Source: own research

Chart 3 *Experiencing helplessness in situations requiring communication in Polish.*



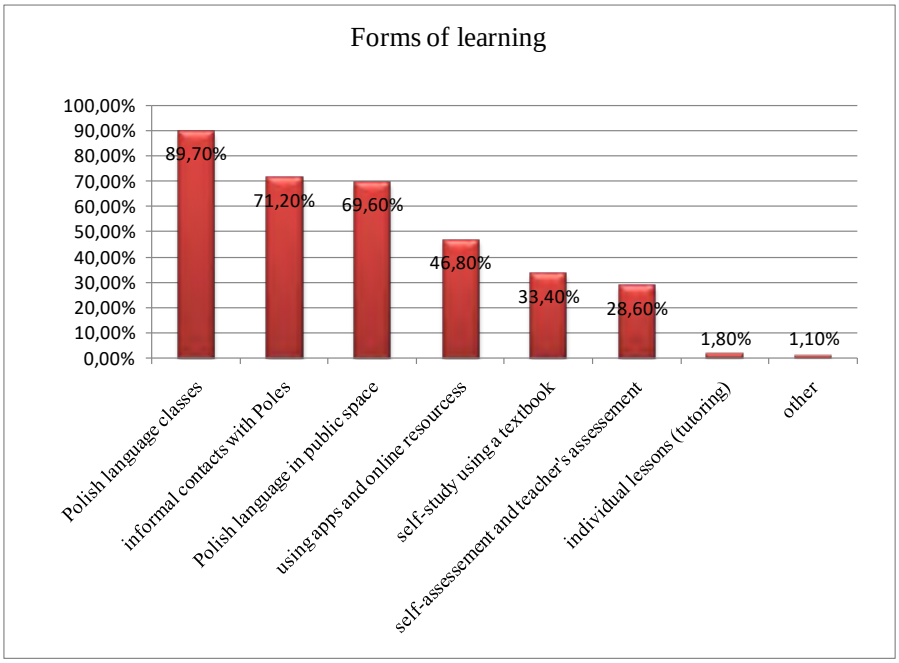
Source: own research

It should be emphasized that the willingness to use the Polish language and the occasional feeling of linguistic helplessness do not depend solely on the linguistic competence of the language user but also on his or her personal resources that allow him or her to overcome stress, embarrassment and uncertainty and to demonstrate determination leading to understanding in communication. However, these issues were not taken into consideration in the described research project.

d) Organizational and methodological aspects of learning Polish

All surveyed students learn Polish language in the form of compulsory language classes, 30 hours per each semester, which amounts to a total of 120 hours in the education cycle provided for in the study plan. Furthermore, in addition to these classes, students have the opportunity to benefit from individual consultations and assistance from academic teachers delivering Polish language classes. These institutional forms are supplemented and enriched by measures that arise from informal and non-formal aspects of education (e.g. apps and online resources). This information is illustrated in Chart 4.

Chart 4 *Forms of learning Polish (multiple choice)*

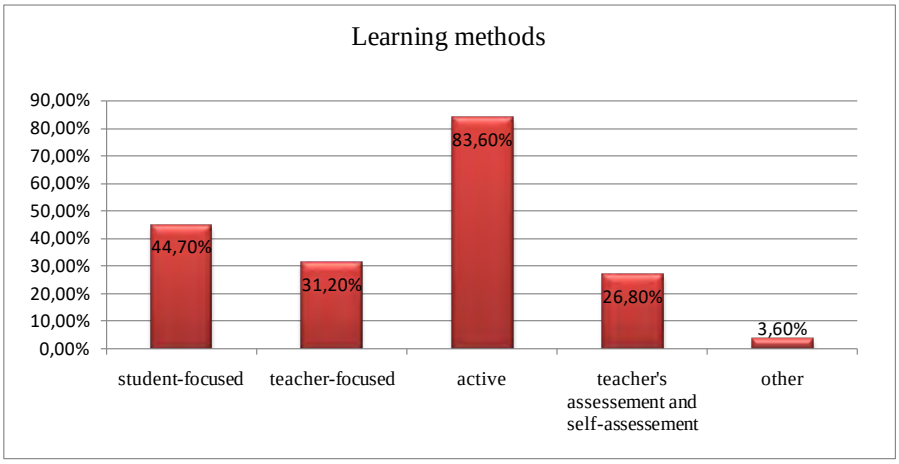


Source: own research

The above list indicates that students consider Polish language classes to be their primary form of education, which is a consequence of their declaration related to the implementation of the study plan. Informal contacts with Poles and the Polish language in the social space (social media, advertising, films, but also service institutions and offices) are also important. Students also appreciate the ability to use language learning apps, translators and online dictionaries. Students less frequently undertake independ-

ent work with a textbook, and only a small number of them take advantage of individual lessons (tutoring).

Chart 5 *Methods of learning a a foreign language preferred by students (multiple choice).*



Source: own research

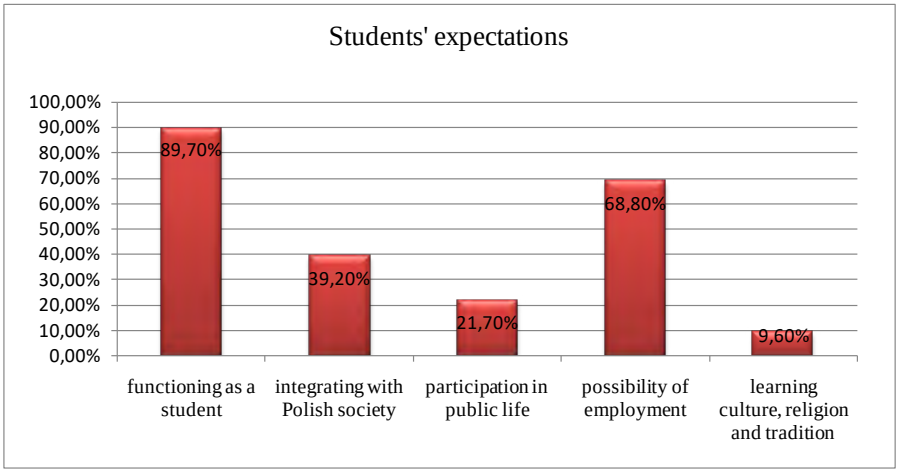
Preferences regarding language learning methods indicate the dominance of active and student-focused methods (Petty, 2010: 153 et seq.), with an emphasis on didactic games, drama and simulations, tasks and projects, conversations, methods involving reading and writing, mnemonics, and to a lesser extent also lectures, imitation and work with a textbook. Taking into account the specificity of glottodidactic work proposed by A. Seretny and E. Lipińska (2005: 133-136), these preferences are mainly related to conversational and audiolingual methods; cognitive methods are taken into account to a lesser extent, while foreigners find it very difficult to learn using grammar-translation methods. Students' choices result from them being accustomed to dynamic and engaging forms (e.g. games, films or social media), as well as various interactive digital environments that they use daily. The form of an instruction (e.g. lecture) or monotonous work with a textbook is uninteresting and tedious for students, and does not spark engagement or motivation to learn. Classes delivered through using active methods frequently resemble plays and games and force students to focus, especially when combined with simple classroom technologies that support participation. The effectiveness of learning is further enhanced by the experiential learning methods (learning by doing), which focus on action and interaction, rather than passive listening, and can be complemented by digital tasks that allow immediate practice and feedback. It is also impor-

tant to bear in mind that foreign students frequently feel insecure in new circumstances. Games and simulations help with breaking down barriers and integrating into the group, while online collaborative activities may additionally provide a sense of safety and gradual familiarization with the new environment. Furthermore, games and dramas develop cooperation and team integration, which builds relationships within the group and is conducive to the process of adaptation in a foreign country, especially when supplemented with simple technological tools that facilitate group work.

e) Students' expectations related to participation in Polish language courses

Learning Polish language is accompanied by expectations related to the completion of studies, stay in Poland and, in many cases, gainful employment. Information on these issues is presented in Chart 6.

Chart 6 *Students' expectations regarding learning Polish (multiple choice).*



Source: own research

The respondents believe that knowledge of the Polish language will help them in education and most of their expectations are related to studying. The surveyed students indicate effective communication with other students, academic teachers and university administration. The respondents believe that command of the Polish language will make it easier for them to pass exams, write theses, use scientific sources and study materials, as well as better understand the content of education in various subjects. Employment opportunities in Poland are also important for foreigners,

and mastery of the language increases their chances on the job market. Such expectations also generate a specific "demand" for grammar exercises, vocabulary development, listening and reading comprehension, conversations and practical exercises.

Research conclusions and recommendations

The choice of Polish as a foreign language by students is the result of a combination of numerous factors and bears characteristics of instrumental motivation (taking into account educational and professional plans, the need to know the language to function at the university and in Poland) and integration motivation (concerning integration with Poles, Polish roots and private connections, learning about Polish culture and society).

Research conducted among students indicates several key categories of motives:

- educational motives, including primarily the desire to take up or continue studies in Poland, the need to pass exams, write a thesis, understand the content of lectures and academic literature, facilitate communication with lecturers and fellow students, and to obtain a language certificate;
- professional motives related to plans to take up employment in Poland after finishing studies, increasing one's chances on the job market – both in Poland and abroad (e.g. working in companies with Polish partners), the possibility of working in professions requiring contact with Polish-speaking clients, the desire to start one's own business in Poland, the need to complete a mandatory internship or professional practice requiring language skills;
- personal and family motives focused on relationships with a Polish-speaking person (e.g. partner, spouse, fiancé), the desire for better communication with family living in Poland, plans for permanent residence or citizenship, which often involve the need to know the language;
- socio-cultural motives relating to the need for integration with Polish society – participation in cultural events, volunteering, everyday life, the desire to understand media and information in Polish (e.g. news, the Internet, social media), conveniences in everyday life (e.g. shopping, doctor's visits, official matters), satisfaction from learning a new, "difficult" language – treated as an intellectual challenge or hobby, interest in Polish culture, history, literature, film.

The above indications clearly demonstrate that the motivation of foreign students to learn Polish is instrumental in character – the language is perceived as a tool necessary for effective functioning in the academic and social environment.

The process of learning Polish by foreigners studying in Poland is considered difficult. The respondents perceived difficulties in relation to all language skills, mentioning both the acoustic and visual aspects of the language. They draw attention to the complicated pronunciation and numerous sounds characteristic only of the Polish language, such as "sz", "cz", "ź", "ń" or "rz", which are difficult to distinguish and correctly reproduce phonetically. The surveyed students also experience difficulties with inflectional forms, especially the case inflection of nouns and adjectives, which affects the grammatical correctness of their statements. The respondents also point to a problem with the order of words in a sentence, which in Polish is more flexible than in many other languages, which leads to uncertainty when constructing utterances. Additionally, it is difficult to understand written texts, which often contain specialized language or academic abbreviations, as well as idioms and colloquial expressions that are impossible to translate literally. Difficulties in understanding fast, colloquial speech are also not without significance, especially in conversations with Polish peers or during lectures delivered without linguistic simplifications. Respondents also point to a lack of practice in real-life communication situations, which makes it difficult for them to develop linguistic competences in a natural context.

The difficulties listed by students do not significantly hamper their willingness to use Polish language. Most of the respondents declare high or very high willingness and frequent use of the Polish language, which is usually not accompanied by a sense of helplessness.

When learning Polish, students prefer to participate in classes conducted in the form of language courses, and they also willingly use language learning applications and materials widely available online. Contacts with Poles and the public space that is a carrier of the language are treated by them as an important form of improving their language skills. Students are less eager to learn a language through their own work and less inspired by textbooks and teaching materials suggested by teachers. Their methodological preferences primarily concern active methods. Modern technologies are considered to have only supportive value. Students value the opportunity to improve their language skills through conversations, simulations, practical tasks, and projects. They expect that knowledge of Polish language will make it easier for them to function as students and will also allow them to undertake professional activity. Recognizing both the practi-

cal and cognitive benefits of learning Polish, foreign students consider Polish to be a tool enabling them to study, but also to learn and understand the culture, traditions and mentality of Poles, as well as an important aspect of integration and acceptance.

For foreign students, command of Polish language is the key to educational success, professional and cultural integration, and a future in Poland. Students' conscious attitude towards language learning translates into specific educational needs that should be taken into consideration when designing curricula at public universities. Both courses in Polish as a foreign language and courses improving language competences should focus on content and practical issues that are applicable in everyday life – academic, professional and social.

References

Komorowska, H. (2004). *Metodyka nauczania języków obcych w szkole*. Warszawa: Fraszka Edukacyjna.

Kucharczyk, R. (2020). Motywacja do nauki języków obcych. *Języki Obce w Szkole, 1*, 9-15.

Lipińska, E. (2017). Sylwetka uczącego się języka polskiego jako obcego dla celów zawodowych. *Acta Universitatis Lodziensis, 24*, 135-148.

Milerski, B., & Śliwerski, B. (2000). *Pedagogika*. Warszawa: PWN.

Petty, G. (2010). *Nowoczesne nauczanie*. Gdańsk: GWP.

Sagan-Bielawa, M. (2017). Nauczanie języka polskiego jako obcego oraz związane z tym wyzwania. *Socjolingwistyka, 31*, 181-196.

Selwyn, N. (2016). *Education and Technology: Key Issues and Debates* (2nd ed.). Bloomsbury.

Seretny, A., & Lipińska, E. (2005). *ABC metodyki nauczania języka polskiego jako obcego*. Kraków: Wydawnictwo Universitas.

Wąsikiewicz-Firlej, E., Szczepaniak-Kozak, A., & Lankiewicz, H. (2022). *Doświadczenia pobytu w Polsce w narracjach zagranicznych studentów*. Warszawa: Wydawnictwo FRSE.

Учење пољског као страног језика – мотиви, очекивања и тешкоће које доживљавају страни студенти

Рад се бави учењем пољског као страног језика код страних студената. Садржи: (1) кратак опис феномена миграција у образовне сврхе, (2) приказ принципа организације процеса учења пољског као страног језика на примеру одабраних универзитета, (3) методолошке претпоставке сопственог истраживања, (4) приказ квантитативних и квалитативних резултата истраживања и (5) закључке који произлазе из истраживања, као и препоруке за образовну праксу. Истраживачки проблем усмерен је на мотиве које студенти наводе за учење пољског као страног језика, тешкоће које препознају, њима најблискије облике и методе учења, као и њихова очекивања. Групу испитаника чине студенти Краковског економског универзитета, пре свега из Украјине, али и из Белорусије, Казахстана и Вијетнама, који уче пољски као страни језик са по 30 часова током четири семестра.

Резултати анкете, уз коментаре испитаника и битне напомене, указују на мотиве за учење пољског и тешкоће које доживљавају. Закључци истраживања јасно указују на инструменталне разлоге за учење пољског – образовни и професионални мотиви, док се у мањој мери наводе лични, породични и социокултурни мотиви. Тешкоће у савладавању пољског језика студенти повезују са свим језичким вештинама – говором, читањем, писањем и слушањем. Такође им је тешко да: (а) овладају фонетским аспектима пољског (нпр. гласови одступају од фонетске норме, неправилно акценатовање), (б) овладају граматичким структурама (нпр. системом деклинације и конјугације, разликама између глаголских облика свршеног и несвршеног вида), (в) избегну морфолошке грешке (нпр. у избору граматичког рода, мењању именица и глагола, у конструкцијама везаним за слагање и изражавање припадности), (г) овладају лексичким аспектима (нпр. погрешно коришћење речи или израза, грешке засноване на фонетским асоцијацијама, разумевање и употреба фразеологизама и идиома) и (д) овладају стилским аспектима (нпр. неприкладна употреба језичких средстава у односу на садржај и регистар исказа, прекомерна употреба директних израза, понављање речи).

Уркос високој учесталости и разноврсности тешкоћа, студенти изјављују да пољски језик често и радо користе, како за потребе студирања, тако и ван универзитета. Неки своју будућност повезују са Пољском, чак и након завршетка студија. Познавање језика важан је алат за комуникацију и интеграцију сваког појединца. Разлози за избор учења пољског и очекивања студената представљају основу за формулисање препорука за унапређење процеса учења пољског језика. Представљене препоруке односе се пре свега на садржај и методе наставе, а у мањој мери на организационе аспекте. Значајну улогу у процесу образовања има укључивање модерних технологија у учење – језичких апликација, универзитетских платформи и мултимедијалних алата.

Кључне речи: *страни студенти, пољски као страни језик, мотиви, облици и методе учења пољског језика, тешкоће у учењу језика, дигитални алати за учење.*

Nauka języka polskiego jako obcego – motywy, oczekiwania i trudności studentów obcokrajowców

Artykuł prezentuje wybrane zagadnienia związane z nauką języka polskiego jako obcego realizowaną przez studentów–obcokrajowców. Opracowanie zawiera: (1) krótką charakterystykę zjawiska migracji podejmowanej w celach edukacyjnych, (2) prezentację zasad organizowania procesu nauki języka polskiego jako obcego na przykładzie wybranych uczelni, (3) założenia metodologiczne badań własnych, (4) opis wyników badań – ich interpretację ilościową i jakościową, oraz (5) wnioski i wskazania dla praktyki edukacyjnej. Problematyka badawcza koncentruje się wokół motywów nauki języka polskiego jako obcego wskazywanych przez studentów, trudności, jakie identyfikują w tym procesie, preferowanych form i metod nauki oraz oczekiwań. Grupę badanych stanowią studenci Uniwersytetu Ekonomicznego w Krakowie, pochodzący z Ukrainy, Białorusi, Kazachstanu i Wietnamu, uczący się polskiego jako obcego w wymiarze 30 godzin przez cztery semestry.

Wyniki ankiety, uzupełnione komentarzami badanych i istotnymi uwagami, wskazują na motywy podejmowania nauki języka polskiego oraz na trudności, których doświadczają. Wnioski z badań jednoznacznie pokazują instrumentalne powody nauki języka polskiego – dominują motywy edukacyjne i zawodowe, natomiast w mniejszym stopniu wskazywane są motywy osobiste, rodzinne i społeczno-kulturowe. Trudności w opanowaniu języka polskiego studenci łączą ze wszystkimi sprawnościami językowymi – mówieniem, czytaniem, pisaniem i słuchaniem. Trudno im również: (a) opanować aspekty fonetyczne języka polskiego (np. wymowa głosek niezgodna z normą fonetyczną, niewłaściwe akcentowanie), (b) opanować struktury gramatyczne (np. system deklinacji i koniugacji, różnice form czasowników w aspekcie dokonanym i niedokonanym), (c) unikać błędów fleksyjnych (m.in. trudności w wyborze rodzaju gramatycznego, odmianie rzeczowników i czasowników, błędne konstrukcje związków zgody, rządu i przynależności), (d) opanować aspekty leksykalne (np. niepoprawne użycie wyrazów lub związków frazeologicznych, błędy oparte na skojarzeniach fonetycznych, rozumienie i użycie zwrotów frazeologicznych i idiomów) oraz (e) opanować aspekty stylistyczne (np. niedostosowanie użytych środków językowych do treści i rejestru wypowiedzi, nadmiar zwrotów bezpośrednich, powtórzenia wyrazów).

Pomimo różnorodności trudności, studenci deklarują, że chętnie posługują się językiem polskim – zarówno podczas studiów, jak i poza uczelnią. Część z nich wiąże swoją przyszłość z Polską, także po ukończeniu studiów. Znajomość języka stanowi ważne narzędzie komunikacji i integracji. Motywy wyboru nauki języka polskiego i oczekiwania studentów stanowią podstawę rekomendacji dotyczących udoskonalenia procesu kształcenia. Rekomendacje odnoszą się głównie do treści i metod nauczania. Ważną rolę w procesie edukacji odgrywa włączenie nowoczesnych technologii – aplikacji językowych, platform uniwersyteckich i narzędzi multimedialnych.

Słowa klucze: *studenci obcokrajowcy, język polski jako obcy, motywy, formy i metody uczenia się języka polskiego, trudności w nauce języka polskiego, narzędzia cyfrowe wspierające edukację.*

Učenje poljskog kao stranog jezika – motivi, očekivanja i poteškoće koje doživljavaju strani studenti

Članak prikazuje odabrana pitanja vezana uz učenje poljskog kao stranog jezika koje provode studenti–stranci. Rad sadrži: (1) kratak prikaz fenomena migracija u obrazovne svrhe, (2) prikaz principa organiziranja procesa učenja poljskog kao stranog jezika na primjeru odabranih sveučilišta, (3) metodološke pretpostavke vlastitog istraživanja, (4) opis rezultata istraživanja – njihovu kvantitativnu i kvalitativnu interpretaciju, te (5) zaključke i preporuke za obrazovnu praksu. Istraživački problem fokusira se na motive za učenje poljskog kao stranog jezika koje navode studenti, teškoće koje prepoznaju u tom procesu, preferirane oblike i metode učenja te njihova očekivanja. Ispitanici su studenti Ekonomskog sveučilišta u Krakovu, porijeklom prvenstveno iz Ukrajine, ali i iz Bjelorusije, Kazahstana i Vijetnama, koji uče poljski kao strani jezik u opsegu od po 30 sati kroz četiri semestra.

Rezultati ankete, nadopunjeni komentarima ispitanika i bitnim napomenama, ukazuju na njihove motive za učenje poljskog jezika i na teškoće koje doživljavaju. Zaključci istraživanja jasno pokazuju instrumentalne razloge za učenje poljskog – dominiraju obrazovni i profesionalni motivi, dok se u manjoj mjeri navode osobni, obiteljski i sociokulturni motivi. Teškoće u savladavanju poljskog jezika studenti povezuju sa svim jezičnim vještinama – govorom, čitanjem, pisanjem i slušanjem. Teško im je također: (a) ovladati fonetskim aspektima poljskog (npr. glasovi u izgovoru odstupaju od fonetske norme, nepravilno naglašavanje), (b) ovladati gramatičkim strukturama (npr. sustavom deklinacije i konjugacije, razlike između glagolskih oblika svršene i nesvršene vrste), (c) izbjeći morfološke pogreške (npr. u izboru gramatičkog roda, promjeni imenica i glagola, formiranju konstrukcija vezanih za slaganje i izražavanje pripadnosti), (d) ovladati leksičkim aspektima (npr. nepravilna uporaba riječi ili frazeologizama, pogreške temeljene na fonetskim asocijacijama, razumijevanje i uporaba frazeoloških izraza i idioma) te (e) ovladati stilski aspektima (npr. neprikladna uporaba jezičnih sredstava u odnosu na sadržaj i registar iskaza, pretjerana uporaba direktnih izraza, ponavljanje riječi).

Unatoč raznolikosti teškoća, studenti izjavljuju da često i rado koriste poljski – kako u akademskim situacijama, tako i izvan sveučilišta. Dio njih povezuje svoju budućnost s Poljskom, i nakon završetka studija. Poznavanje jezika predstavlja važan alat komunikacije i integracije. Motivi za izbor učenja poljskog i očekivanja studenata predstavljaju temelj za formuliranje preporuka za unaprjeđenje procesa učenja. Preporuke se odnose prvenstveno na sadržaj i metode nastave. Značajnu ulogu u procesu obrazovanja ima uključivanje modernih tehnologija – jezičnih aplikacija, sveučilišnih platformi i multimedijalnih alata.

Ključne riječi: *strani studenti, poljski kao strani jezik, motivi, oblici i metode učenja poljskog jezika, poteškoće u učenju poljskog jezika, digitalni alati za učenje.*

Ivana Visković, Andriana Marušić
University of Split, Faculty of Humanities and Social Sciences

https://doi.org/10.5937/int-themed-bg25143V

Networking in a virtual environment

Abstract
Networking, as a relatively new learning and professional development strategy, involves connecting people, groups, and/or organisations for the faster exchange of information, knowledge, and experiences, as well as joint learning, research, and the generation of ideas.
Although the beginnings of the scientific approach to networking can be linked to psychological research into group dynamics, the development of information and communication technologies may have contributed the most to the concept of networking. Networking in a virtual environment, although with limitations of social interactions, facilitates communication and provides space for (international) cooperation and enables intercultural connection.
The concept of networking advocates social equality, which in practice is determined by the social competencies and professional status of individuals and/or groups. One of the characteristics is better visibility of individuals and/or groups and promotion of certain ideas and information. At the same time, it also brings the risk of insufficiently reliable information and the possibility of "hiding behind" joint decisions.
Following relevant research, it is possible to assume a high level of networking, including virtual/digital, of individuals within the framework of formal education and professional development. However, this does not exhaust the possibilities of networking in education.

Keywords: *information exchange, discussion, learning strategies, e-learning*

Introduction

Networking can be interpreted as a process of connecting people, groups and/or institutions to exchange information, knowledge and experiences as well as learn, research and generate new ideas (Visković, 2024). Most often, individuals, groups and/or organizations with similar interests and worldviews network. They join networks voluntarily and have their unique roles (Piaoi Ma, 2018). Networking can be interpreted as social constructivism because the exchange of information and discussion lead to the redefinition of existing knowledge and the generation of innovative

solutions, so networking can be viewed as social constructivism(Dunaway, 2011;Siemens, 2005). Based on different perspectives, experiences and resources, a new intellectual value is constructed that enables a kind of "look ahead" (Marciano et al., 2020).

The importance and possibility of social networking was researched by Moreno, the creator of sociometryin 1956. By analysing group dynamics, he pointed out the importance of social connection. The development of digital media has enabled networking in a virtual environment. Living and educational conditions during the COVID-19 pandemic have intensified networking and learning in a virtual environment. It is possible that it was networking in a virtual environment that made it possible to continue formal education (Calderón-Garrido & Gil-Fernández, 2022; Visković, 2021). Some authors like Downes (2020), question the continuation of such a trend in the post-pandemic era and consider it unjustified. Pando (2018) criticizes virtual networking as socially incomplete and value-questionable, even though it has become a common way of accessing information. However, Eatough (2021) believes that, regardless of technological possibilities, networking still most often takes place in a physical environment.

Regardless of the methods and reasons for networking, a larger number of authors emphasise networking as a "strategy of the future" (Alman, Frey & Tomer, 2012; Bass, 2020; Corbett & Spinello, 2020; Marciano et al., 2020; Vollenbroek, de Vries & van Dijk, 2021). Moreover, Gqwabaza and Maqoqa (2024) believe that networking encourages intercultural and international cooperation and a sense of shared responsibility.

Networking in education

The quality of education, including all forms of formal, non-formal and informal education, is a predictor of the development of the individual and society as a whole. Michnick Golinkoff and Hirsh-Pasek (2016) highlight collaboration, communication, critical thinking, creativity and self-reliance as fundamental features of modern education.

The European Commission (2023) advocates the creation of diverse learning environments, including networking, and the development of the necessary competences to function in such environments. In European strategic documents (e.g., *Strategic framework for European cooperation in education and training towards the European education area and beyond,* 2021; *Council Resolution on the governance structure of the strategic framework for European cooperation in education and training towards the European Education Area and Beyond 2021-2030*) the importance of developing

digital and social competencies and learning competencies is highlighted. All learning strategies that can contribute to the quality of learning, faster exchange of knowledge and the generation of new ideas are promoted (Best & Kahn, 2006; Welsh, 2021). Moreover, learning is advocated as a joint constructive process subject to critical analysis (Gqwabaza & Maqoqa, 2024).

Networking in education is a relatively new learning strategy. It is based on the belief that information is "stored in online friends" (Siemens, 2005). The purpose of networking is not only the exchange of information but purposeful change (Anderson & Dron, 2011). Therefore, within the network, discussion is encouraged as a model for critical consideration of learning content and generation of new ideas. Individuals and/or groups that are networked, thanks to the faster exchange of information, gain insight into different paradigms, engage in discussion more quickly, and thus more easily promote personal and group potential. Baumgartner (2019) also highlights the transformational potential of learning in a network environment, the development of discourse with the aim of broadening perspectives through issues of interest to the group, and the creation of different solutions as optimally agreed strategies.

The concept of networking is increasingly present in higher education. Some research points to the existing high level of networking of the majority of individuals during their formal education (Gqwabaza & Maqoqa, 2024; Visković, Marušić & Topić, 2024; Visković, Šimić & Marušić, 2022).

Education is increasingly taking place in informal settings as well (Kagan, 2024). Predictors are high individual engagement, critical review of information, and analysis of personal learning (Miljković, Đuranović& Vidić, 2019). Learning in an informal environment can empower individuals and contribute to their professional development and further professional networking. That is why many higher education institutions initiate alumni and student-practitioner networking (Kagan, 2024). Cranton (2016) highlights the potential of peer-to-peer networking of students through project (smaller) groups. Such groups have a stronger focus on the goal, a higher tolerance threshold, better communication and mutual support. At the same time, they have a higher level of resilience due to the joint distribution of tasks and responsibilities (Cranton, 2016).

Networking as a learning and professional development strategy

Learning is the process of acquiring new knowledge, skills and habits. It results in new experiences and relatively permanent changes in behaviour. Learning strategies are ways of managing learning. They are based

on knowledge of resources and (personal) abilities and knowledge of the purpose and usability of new knowledge (Miljkovićet al., 2019).

Carvalho (2023) describes contemporary education as a concept of a new learning strategy that connects digital and technological knowledge, the use of new technologies and social competences. Bonfield, Salter, Longmuir, Benson and Adachi (2020), analysing individual networked educational communities, e.g., My Skills Future (Australia) and Deakin's Smart Campus (Singapore), as common dimensions, they single out the development of competencies closely related to the jobs of the future and commitment to lifelong learning.One of the predictors of that process is building a specific relationship of mutual trust and support (Corbett & Spinello, 2020).

Networking as a learning strategy assumes a developmental process. It combines metacognition and critical reflection on online information, knowledge of resources (all networked members), and the concept of purpose. It focuses on social learning and advocates a democratic participatory approach. Trust, Krutka, and Carpenter (2016) believe that learning in an online environment contributes to student learning and the development of teacher competencies.

Anders (2018) believes that, within formal education, individuals network at three levels:

- development of personal learning networks (peers and various other individuals),
- learning communities based on a common area of interest,
- experiential networking with professionals (other practitioners, collaborators, scholars). These levels of networking correlate significantly with professional development activities (Anders, 2018).

Gqwabaza and Maqoqa (2024) believe that networking, primarily through digital technologies, enables collaboration across institutional boundaries. They primarily network to exchange information and use databases. However, networking also provides them with insight into different perspectives and cultures.

Networking is one of the professional development strategies. It often assumes involvement in professional groups, connecting and expanding the network of fellow experts. Along with the faster exchange of information, it enables greater visibility of the individual and, indirectly, greater mobility on the labour market (Kagan, 2024). Trust et al. (2016) emphasize the contribution of professional networking to affirmative practice changes and the results/outcomes of that practice.

Pascal and Bertman (2012) advocate a praxeological approach to transformational learning by connecting and verifying theoretical knowl-

edge with practice. The praxeological approach is part of "action-oriented" pedagogical concepts that promote the questioning of theory through the development of practice (UNESCO, 2018). Discussion, analysis, action and reflection are components of such an approach. This can encourage collaborative relationships and contribute to the development of (self)criticism and responsibility (Scager et al., 2016). The development of "learning communities" begins in part with the building of collaborative relationships in the process of questioning (personal) practice (Arruti & Panos-Castro, 2020). Such communities can generate general (social) models and/or solutions, which are adapted in practice to the culture of the individual community (Visković, Marušić & Višnjić Jevtić, 2022). Learning through networking is used in the development of professional competencies in different fields (education, management). It enables the establishment and development of relationships within and outside the network of a certain professional community, especially among educational institutions (Soleymani, Laat, Itard, & Specht, 2022). Professional networking represents a platform for learning, helps solve everyday challenges and encourages innovative development of competencies with equal participation of its members (De Laat, 2012).

Miljković et al. (2019) interpret practitioner networking as an opportunity to utilize various sources and actively learn, to seek and use help, and, if necessary, leadership. Networking as a professional development strategy enables both the generation of innovations and their practical application, e.g., the *Living Labs* concept (Lacroix et al., 2017). The networking strategy connects the research sector (universities, institutes), manufacturers and users, and tests innovations that respond to the needs of users. In this way, the developed innovations are brought closer to the real needs and requirements of users, and enable learning in practice. Adopting this strategy in initial formal education encourages the training of individuals to constructively solve real problem situations and the development of functional knowledge and skills (Arnold & Mundy, 2020).

Various professional gatherings (conferences, presentations) are suitable for initial introductions and networking of professionals, individuals and organisations (Kagan, 2024). With greater visibility, they can contribute to professional promotion and individual achievements (Anders, 2018). De Laat (2012) and Zhu and Chen (2022) believe that this is also recognizable in the professional development of educators (early and preschool teachers, primary school teachers, etc.).

Initial networking usually begins with professionally similar individuals (Kagan, 2024). In the initial stage of networking, most practitioners are usually "observers and listeners" (Zhu & Chen, 2022). This can be at-

tributed to insufficient social competencies and an underdeveloped professional identity. By being involved in this process, individuals gradually adjust their paradigms and recognize their potential, as well as the benefits of networking. Checking information and ideas from the network can contribute to the development of professional competences, and indirectly to the development of self-confidence. The self-perception of personal role and competences in practice enables them to be actively included in the network through the presentation of personal practice (Civís, Diaz-Gibson, López, & Moolenaar, 2019). This can also contribute to building a group professional identity. Heled and Davidovitch (2021) emphasise that without the initial construction of group identity, there is no possibility for optimal development of personal professional identity.

The construction of a professional identity is also recognised in heterogeneous groups, e.g., practitioners and students studying for the specific profession (Willegems, Consuegra, Struyven& Engels, 2018). Certain studies indicate networking of early and preschool education students and in-service preschool teachers has positive effects (Visković et al, 2024; Sunko& Marušić; 2022; Višnjić Jevtić & Rogulj, 2022; Visković, 2021). Networking in this process contributes to the professional identity of practitioners (who strengthen mentoring competencies) and students (who learn to integrate theoretical knowledge into practice). Steenekamp, van der Merwe and Salieva Mehmedova (2018) emphasise that the experience of early practical learning and acquisition of functional knowledge positively correlates with building the professional identity of early and preschool teachers and teaching staff in general. This is confirmed by research by Sunko and Marušić (2022), which indicates that ECEC students recognise networking with practitioners as a predictor of personal professional development. These views are more supported by students in their senior years of study (Visković et al., 2024).

Gross (2014) emphasises the importance of creating personal learning networks (PLN). PLN enables "learning in a collaborative environment, the possibility of sharing your problems with others, getting answers and moral support from colleagues, and showing your examples of experience and achievements" (Gross, 2014: 141). Oddone, Hughes and Lupton (2019) investigated the importance of autonomy within the professional learning networks of educators (preschool teachers, teachers, professors). They asserted that teachers perceive autonomy through networking as connecting (choice and control), comprehensive (self-expression as a teacher and student) and self-affirming (self-expression as a professional person). This correlates with the research of Kastberg, Buchko and Buchko (2020), who believe that networking with a wide range of people contributes to the de-

velopment of socio-emotional competencies. At the same time, some research points to the connection of network structure with the feeling of developing self-efficacy, and consequently with the development of professional identity (Anders, 2018).

Unfortunately, indiscriminate access to networks, for example by students, carries the risk of accepting unverified information and building (negative) attitudes based on other people's (negative) experiences. That is why Vrasidas (2000) warns of the ever-present risk of leaving the freedom of choice of learning sources to students. Olayinka (2016) attributes this to the inadequacy and/or unavailability of diverse quality learning sources. UNESCO (2020) also warns of the risk of using inadequate learning sources and promoting scientifically unfounded content, outside the objectivist paradigm.

Network structure

In the field of education, individuals, groups and institutions (most often) network for professional interest (e.g., research), greater visibility and promotion. Individuals, groups and institutions of the same or different professional level (e.g., scientists and/or practitioners) in specific areas of interest (e.g., early childhood education) can network. Networking most often occurs through individuals who already know each other professionally (Visković et al., 2022). The structure of the network can be homogeneous (e.g., only practitioners), heterogeneous (e.g., scientists and practitioners) or multi-heterogeneous (e.g., scientists, practitioners and students). Mutual respect, trust and focus are greater in homogeneous groups. At the same time, research shows that heterogeneous groups can achieve better outcomes due to insight into different perspectives and experiences (Amos & Pearse, 2008). Heterogeneous groups can contribute to a holistic perspective and offer a kind of "looking ahead" (Caraballo, Lozenski, Lyiscott, & Morrell, 2017; Sunko & Marušić, 2022). Some public education policies (EU Commission 2021; OECD, 2021; UNESCO, 2020) advocate the heterogeneity of networked members as an opportunity to verify scientific knowledge in practice, to question pedagogical paradigms, and to continuously verify scientifically based knowledge through the development of practice.

Involvement in the network is generally voluntary, and the concept of networking advocates social equality (Caraballo et al., 2017). Nevertheless, networked groups can have a focally centralized structure or a polycentric network. With a focal structure, the central position is usually held by an individual or group with the greatest (professional) influence. In polycen-

tric networking, all members are equal and have the possibility to propose and make decisions (Vollenbroek et al., 2021).

Bergvall-Kåreborn, Ihlström Eriksson, & Ståhlbröst (2015) believe that network structure requires the definition of norms and patterns of behaviour and practices that create a "sense of place". These "places" are not necessarily tied to a geographic location, but can be physical or virtual. Places that integrate the global and local world and transcend spatial and temporal limitations are advocated.

Interest in networking is often driven by personal needs, such as faster access to information, the generation of ideas to solve problems, and the promotion of personal ideas. It is reasonable to conclude that individuals who recognise personal benefits approach networking. Conversely, a lack of perceived personal benefit can also lead to network erosion.

Networking can also be occasional (as needed), temporary (for a preagreed time), and permanent. In the long term, individual networks evolve into strong collaborative relationships, or they extinguish due to a lack of need or common interest. Although networking implies a relatively flexible structure, excessive flexibility and the absence of rules contribute to faster network erosion.

The durability and effectiveness of a network are also related to the quality of relationships and behaviours of its members, as well as the positions of individuals (Steinfield et al., 2008). Rigidly structured networks, which lack adequate connections and trust, promote polarisation of members' positions. Individuals in "central" positions assess personal and collective capabilities and achievements more significantly (Vollenbroek et al., 2021).

Advantages and disadvantages of networking

Networking, like most social phenomena, has advantages and benefits, as well as risks and disadvantages. They can be interpreted in terms of networking methods, relationships, and expectations of network members (Visković et al., 2024).

The advantages of learning through networking are multiple. Purposefully organised networking can contribute to the quality of learning (Sunko & Marušić, 2022; Visković et al., 2024; Vollenbroek et al., 2021). Networking with peers and/or scientists can contribute to professional development and provide peer support. An environment in which an individual feels safe can contribute to the development of critical thinking and the empowerment of the individual and the professional community (Manches &

Plowman, 2017; McPake et al., 2013). A predictor of such benefits is mutual trust, which at the same time carries the risk of unreliable information and/or misunderstanding (Steinfield et al., 2008).

Social interactions between network members enable the recognition of individual abilities and capabilities (Marciano et al., 2020). Network members become more visible and accessible, which facilitates the dissemination and/or popularisation of individual opinions (Visković et al., 2024). At the same time, joint decision-making on the network can result in the anonymity of members. The effect/outcome is related to the quality of relationships between members and their competencies.

Santiago et al. (2021) highlight the management of group dynamics as a difficulty. In virtual networking, insufficient digital competencies of individuals, technical problems and difficulty in navigating a technologically specific socialisation context are observed (Nijland et al., 2023). Santiago et al. (2021) recognise the lack of face-to-face interaction as a difficulty, which also hinders the functional application of new knowledge. Therefore, Nijaland et al. (2023) suggest early academic socialisation that connects scientists, practitioners and students.

Valantinaitė and Sederevičiūtė-Pačiauskienė (2021) problematise the level of participants' competences in recognising the relevance of information obtained online. Their research leads to the conclusion that not all network participants have the same competencies in noticing key elements and critically reviewing information. At the same time, social interactions of network members are not necessarily affirmative.

Analysing the advantages and disadvantages of professional networking, Kagan (2024) advocates avoiding "rush". Before joining a particular professional network, Kagan (2024) advises an analysis of the network, the opportunities it provides concerning personal potential, motivation and purpose. At the same time, he does not recommend joining a large number of networks, as this can limit the engagement of an individual.

Table 1. *An overview of the recognisable advantages and disadvantages of networking*

Advantages	Potential disadvantages
Discussion (as a learning model), development of critical thinking	High reliance on others
Mutual trust	The risk of accepting unreliable information and/or misunderstanding
Involvement of different individuals	Indiscriminate inclusion in the network

Visibility and accessibility of the individual	"Hiding" behind shared decisions - high visibility that makes the individual vulnerable
Insight into new information, knowledge	Social dynamics ("serving" or resistance to authorities)
Dissemination and popularisation of certain opinions and attitudes	
Understanding theory in practice, research	Learning from only one perspective, without experience and/or verification of scientific (theoretical or research) knowledge
Connecting theory and practice	Glorifying only one paradigm

Note: according to: Visković, Marušić & Topić, 2024

As a predictor of the quality of networking that each member can recognise as a personal benefit, Alman et al. (2012) highlight:

- A common system of goals with a clear definition of desired outcomes and expectations,
- Focus on strengths (what an individual/group can contribute to the network),
- Network structure (equal or different competences of stakeholders, working methods depending on the purpose of networking)
- A culture of trust and constructive communication.

Unfortunately, the concept of networking does not yet have a developed code of ethics. At the same time, the networking of practitioners and scientists in early and preschool education of children/minors is subject to ethical principles regulated by the legal legislation of each country, for example, the *Code of Ethics for Research with Children* (Croatia, 2020).

Conclusion

Networking is reasonable to accept as one of the strategies for the current and future development of individuals and society. Advocating the development of a "knowledge society" and the flow of information promotes networking as a way of learning. It can be interpreted as a network of "common ground" (interests) and (social) connections. The development of digital technologies expands the possibilities of networking in the virtual world and contributes to the building of specific social relationships.

The benefit of networking, especially in education and the educational process is a recognisable strategy of active learning. In all forms, it provides insight into new knowledge, but also its critical and constructive analysis. It advocates the responsibility of the individual who chooses online commu-

nities and learning content. Unlike other learning strategies, networking emphasises the individual as the starting point of learning and connecting as a benefit for all stakeholders in the process.

Social processes, including networking, are often nonlinear, so the outcomes are difficult to predict. Networking, as a social learning strategy, along with a number of advantages, also brings risks. Although the development of digital technologies expands the possibilities of networking, it also increases the risks. This suggests need for systematic research into virtual, but also all other forms of networking.

Literature

Anders, A. (2018). Networked learning with professionals boosts students' self-efficacy for social networking and professional development. *Computers & Education*. 127. https://doi.org/10.1016/j.compedu.2018.08.009

Alman, S. W., Frey, B. A., & Tomer, C. (2012). Social and cognitive presence as factors in learning and student retention: An investigation of the cohort model in an Schoolsetting. *Journal of Education for library and Information Science*, 290-302.

Anderson, T., & Dron, J. (2011). Three generations of distance education pedagogy. *International Review of Research in Open and Distributed Learning*, *12*(3), 80-97.https://doi.org/10.19173/irrodl.v12i3.890

Arnold, J., &Mundy, B. (2020). Praxis pedagogy in teacher education. *Smart Learning Environments*, *7*(1), 1-14.https://doi.org/10.1186/s40561-020-0116-z

Arruti, A., & Panos-Castro, J. (2020). International entrepreneurship education for pre-service teachers: a longitudinal study. *Education+ Training, 62*(7-8), 825-841. https://doi.org/10.1108/ET-04-2020-0098

Baumgartner, L. (2019). Fostering Transformative Learning in Educational Settings. *Adult Literacy Education: The International Journal of Literacy, Language, and Numeracy*, *1*(1), 69-74. https://doi.org/10.35847/LBaumgartner.1.1.69

Best, J.W., & Kahn, J.V. (2006). *Research in Education* (10th Edition). Pearson Education Inc.https://www.academia.edu/5382594/Research_in_Education_Tenth_Edition_

Bergvall-Kåreborn, B., Ihlström Eriksson, C., & Ståhlbröst, A. (2015). Places and spaces within living labs. *Technology Innovation Management Review*. *5* (12): 37–47. doi:10.22215/timreview/951

Bonfield, C. A., Salter, M., Longmuir, A., Benson, M., & Adachi, C. (2020), Transformation or evolution?. Education 4.0, teaching and learning in the digital age, *Higher Education Pedagogies*, *5* (1), 223–246. https://doi.org/10.1080/23752696.2020.1816847

Carvalho, L. (2023, February 22). *Innovation and Tehnology: Education 5.0: What Does It Mean? How Does It Work?* Sydle. https://www.sydle.com/blog/education-5-0-61e71a99edf3b9259714e25a

De Laat, M. (2012). *Enabling professional development networks: How connected are you*? Open Universiteit. https://avs.nl/sites/default/files/documenten/artikelen/12014/De%20Laat%20-%20Enabling%20professional%20development%20networks.pdf

Calderón-Garrido, D., & Gil-Fernández, R. (2022). Pre-service Teachers' Use of General Social Networking Sites Linked to Current Scenarios: Nature and Characteristics. *Technology, Knowledge and Learning*, 1-25.https://doi.org/10.1007/s10758-022-09609-7

Caraballo, L., Lozenski, B. D., Lyiscott, J. J., & Morrell, E. (2017). YPAR and critical epistemologies: Rethinking education research. *Review of Research in Education*, *41*(1), 311-336.https://doi.org/10.3102/0091732X16686948

Civís, M., Diaz-Gibson, J., López, S., & Moolenaar, N. (2019). Collaborative and innovative climates in pre-service teacher programs: The role of social capital. *International Journal of Educational* Research, 98, 224-236. https://doi.org/10.1016/j.ijer.2019.08.019

Cranton, P. (2016). Understanding and PromotingTransformativeLearning: A Guide to Theory and Practice (3rd ed.). Routledge.https://doi.org/10.4324/9781003448433

Corbett, F., & Spinello, E. (2020). Connectivism and leadership: harnessing a learning theory for the digital age to redefine leadership in the twenty-first century. *Heliyon*, *6*(1), e03250.https://doi.org/10.1016/j.heliyon.2020.e03250

Downes, S. (2020). Recent Work in Connectivism. *European Journal of Open, Distance and E-Learning*, *22*(2), 113-132.https://doi.org/10.2478/eurodl-2019-0014

Dunaway, M. K. (2011). Connectivism: Learning theory and pedagogical practice for networked information landscapes. *Reference Services Review*, *39*(4), 675-685. https://doi.org/10.1108/00907321111186686

Eatough, E. (2021). What is networking and why is important. Better Up. https://www.betterup.com/blog/networking

European Commission (2023). *Strategic framework for European cooperation in education and training towards the European education area and beyond*. https://eur-lex.europa.eu/EN/legal-content/summary/strategic-framework-for-european-cooperation-in-education-and-training-towards-the-european-education-area-and-beyond.html

European Commission (2015). *Council conclusions on entrepreneurship in education and training* (2015/C 17/02).https://eur-lex.europa.eu/legalcontent/EN/TXT/HTML/?uri=CELEX:52015XG0120(01)&from=PT

European Commission (2021). Directorate-General for Education, Youth, Sport and Culture, *Early childhood education and care: how to recruit, train and motivate well-qualified staff: final report*. Publications Office. https://data.europa.eu/doi/10.2766/489043

European Commission (2021). *Council Resolution on a strategic framework for European cooperation in education and training towards the European Education Area and beyond* (2021-2030) (2021/C 66/01).https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32021G0226(01)&rid=5

European Commission (2022). *Communication from the commission to the European parliament, the Council, the European economic and Social committee and the committee of the Regions on a European strategy for universities* {SWD(2022) 6 final}. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2022:16:FIN

European Union (2021).*Council Resolution on the governance structure of the strategic framework for European cooperation in education and training towards the European Education Area and beyond (2021-2030)*. 2021/C 497/01. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32021G1210%2801%29

Gross, J, (2014), 8 - Networking for your LIS career. In Julia Gross (Ed.) Chandos Information Professional Series, *Building Your Library Career with Web 2.0,* Chandos Publishing, pp.141-158.https://doi.org/10.1016/B978-1-84334-651-7.50008-X

Gqwabaza, N. & Maqoqa, T. (2024). "The Role of Collaboration and Networking in the Digital Age: Students' Perspectives," *E-Journal of Humanities, Arts and Social Sciences, 5* (11) (pp.1757-1769). https://doi.org/10.38159/ehass.202451111

Heled, E., & Davidovitch, N. (2021). Personal and Group Professional Identity in the 21st Century" Case Study: The School Counseling Profession". *Journal of Education and Learning*, *10*(3), 64-82.

Kagan, J. (2024). *Investopedia. Networking definition*. https://www.investopedia.com/terms/n/networking.asp

Kastberg, E., Buchko, A., & Buchko, K. (2020). Developing Emotional Intelligence: The Role of Higher Education. *Journal of Organizational Psychology*, *20*(3). https://doi.org/10.33423/jop.v20i3.2940

Lacroix, J., Dupont, L., Guidat, C., & Loterr, G. H. (2017). "Smarterized" urban project process with living lab approach: Exploration through a case study. *2017 International Conference on Engineering, Technology and Innovation (ICE/ITMC)*, 592–600. https://doi.org/10.1109/ICE.2017.8279939

Manches, A., & Plowman, L. (2017). Computing education in children's early years: A call for debate. *British Journal of Educational Technology*, *48*(1), 191-201.https://doi.org/10.1111/bjet.12355

Marciano, J. E., Peralta, L. M., Lee, J. S., Rosemurgy, H., Holloway, L., & Bass, J. (2020). Centering community: Enacting culturally responsive-sustaining YPAR during COVID-19. *Journal for Multicultural Education*, *14*(2), 163-175.https://doi.org/10.1108/JME-04-2020-0026

McPake, J., Plowman, L., & Stephen, C. (2013). Pre-school children creating and communicating with digital technologies in the home. *British Journal of Educational Technology*, *44*(3), 421-431. https://doi.org/10.1111/j.1467-8535.2012.01323.x

Michnick Golinkoff, R. & Hirsh-Pasek, K. (2016). *Becoming Brilliant: What Science Tells Us About Raising Successful Children*. American Psychological Association.

Miljković, D., Đuranović, M., & Vidić, T. (2019). *Odgoj i obrazovanje – iz teorije u praksu*. IEP-D2 i Učiteljski fakultet Sveučilišta u Zagrebu.

Moreno, J. L. (1956). *Sociometry and the Science of Man*. New York: Beacon House.

Nijland, F., Firssova, O., Robbers, S., & Vermeulen, M. (2023). The Networked Student, *Teaching and Teacher Education*, *131*, https://doi.org/10.1016/j.tate.2023.104169.

Oddone, K., Hughes, H., & Lupton, M. (2019). Teachers as Connected Professionals. *The International Review of Research in Open and Distributed Learning.* 20. https://doi.org/10.19173/irrodl.v20i4.4082

OECD (2021). *Teachers and Leaders in Vocational Education and Training*, OECD Reviews of Vocational Education and Training. Paris: OECD Publishing. https://www.oecd-ilibrary.org/sites/59d4fbb1-en/index.html?itemId=/content/publication/59d4fbb1-en

Olayinka, A. R. B. (2016). Effects of Instructional Materials on Secondary Schools Students' Academic Achievement in Social Studies in Ekiti State, Nigeria. *World Journal of Education*, *6*(1), 32-39.http://dx.doi.org/10.5430/wje.v6n1p32

Pando, V. F. (2018). Teaching Trends in Virtual Education: An Interpretative Approach. *Journal of Educational Psychology-Propositos y Representaciones*, *6*(1), 485-505.https://doi.org/10.20511/pyr2018.v6n1.167

Pascal, C., &Bertram, T. (2012). Praxis, ethics and power: Developing praxeology as a participatory paradigm for early childhood research. *European Early Childhood Education Research Journal*, *20*(4), 477-492. https://doi.org/10.1080/1350293X.2012.737236

Piao, Y., & Ma, J. (2018). Teaching design strategy of innovation and entrepreneurship course of college students. In *4th International Conference on Arts, Design and Contemporary Education /ICADCE* (pp.974-977). Atlantis Press. https://doi.org/10.2991/icadce-18.2018.211

Santiago, C. J., Ulanday, M. L., Centeno, Z. J., Bayla, M. C., & Callanta, J. (2021). Flexible Learning Adaptabilities in the New Normal: E-Learning Resources, Digital Meeting Platforms, Online Learning Systems and Learning Engagement. *Asian Journal of Distance Education*, *16*(2). https://asianjde.com/ojs/index.php/AsianJDE/article/view/580

Scager, K., Boonstra, J., Peeters, T., Vulperhorst, J., & Wiegant, F. (2016). Collaborative learning in higher education: Evoking positive inter dependence. *CBE—Life Sciences Education*, *15*(4), ar69.https://doi.org/10.1187/cbe.16-07-0219

Siemens, G. (2005). Connectivism: A learning theory for digital age. *International Journal of Instructional Tehnology and Distance Learning, 2*(1). http://www.itdl.org/

Soleymani, A., Laat, M., Itard, L., & Specht, M. (2022). How Networked learning can facilitate professional development? In J. Jaldemark, J., M. Håkansson Lindqvist, P. Mozelius, L. M. Öberg, M., De Laat, N. B., Dohn, T. &Ryberg, T. (Eds.), *Proceedings for the Thirteenth International Conference on Networked Learning* 2022 (pp. 229-237). Institute for Advanced Study in PBL, Aalborg University.https://www.aaudxp-cms.aau.dk/media/ebadergh/1274674_proceedings-for-the-thirteenth-international-conference-on-networked-learning_.pdf

Steinfield, C., Ellison, N. B., & Lampe, C. (2008). Social capital, self-esteem, and use of online social network sites: A longitudinal analysis. *Journal of applied developmental psychology*, *29*(6), 434-445.https://doi.org/10.1016/j.appdev.2008.07.002

Steenekamp, K., van der Merwe, M., & Mehmedova, A. (2018). Enabling the development of student teacher professional identity through vicarious learning during an educational excursion. *South African Journal of Education*,*38*(1), 1-8. https://doi.org/10.15700/saje.v38n1a1407

Sunko, E. & Marušić, A. (2022). Opinions of Future Teachers in Competencies for Working with Students with Developmental Disabilities. *Education and Development,* 416-420.https://doi.org/10.36315/2022v2end092

Teaching Degree (2022). *Professional NetworkinginTeaching.https://www.teachingdegree.org/resources/professional-networking/*

Trust, T., Krutka, D. G., & Carpenter, J. P. (2016). "Together we are better": Professional learning networks for teachers. *Computers & education*, *102*, 15-34. https://doi.org/10.1016/j.compedu.2016.06.007

UNESCO (2018). *Issues and trends in Education for Sustainable Development, Education on the Move*. https://unesdoc.unesco.org/ark:/48223/pf0000261801

UNESCO (2020). Humanistic futures of learning: perspectives from UNESCO chairs and UNITWIN networks. https://unesdoc.unesco.org/ark:/48223/pf0000372577

Valantinaitė, I., & Sederevičiūtė-Pačiauskienė, Ž. (2021). The Pros and Cons of Online Learning Environment from the Students' Perspective. Rural Environment. Education. Personality. 14. https://doi.org/10.22616/REEP.2021.14.026

Vjeće za djecu, Republika Hrvatska (2020). *Etički kodeks istraživanja s djecom*. M. AjdukovićiG.Keresteš(ur).https://mrosp.gov.hr/UserDocsImages/dokumenti/Socijalna%20politika/Obitelj%20i%20djeca/Eti%C4%8Dki%20kodeks%20istra%C5%BEivanja%20s%20djecom%20-%20integrirani%20tekst%20s%20prilozima.pdf

Visković, I. (2021). "Miss having in-person classes" – university studying during COVID-19 pandemic. *The Education and science journal, 23*(8): 61-83. https://cyberleninka.ru/article/n/miss-having-in-person-classes-university-studying-during-covid-19-pandemic

Visković, I. (2024). Umrežavanje u obrazovanju-izazovi i mogućnosti. U T.Maglica i I.Tomić Kaselj (eds.), Zbornik radova znanstveno-stručnog skupa 26. Dani ranog i predškolskog odgoja i obrazovanja Splitsko-dalmatinske županije *Mirisi djetinjstva –Umrežavanje kao strategija učenja* (pp. 23-28) Filozofski fakultet Split.

Visković, I., Marušić, A., & Topić, J. (2024). Umrežavanje kao strategija učenja studenata ranog i predškolskog odgoja i obrazovanja. U A. Bilić, T. Borovac, & I. SomolanjiTokić (eds.), *Zbornik radova s 1. Međunarodne znanstveno-stručne konferencije Kompetentni sustavi u ranom i predškolskom odgoju i obrazovanju–KOMPAS* (pp. 83-104). Sveučilište Josipa Jurja Strossmayera u Osijeku, Fakultet za odgojne i obrazovne znanosti u Osijeku; Hrvatska akademija znanosti i umjetnosti, Centar za znanstveni rad u Vinkovcima.

Visković, I., Višnjić Jevtić, A., & Marušić. A. (2023). Teachers' Opinions on Recognisable Aspects of the Institutional Early Childhood Education Culture. U M. Cindrić & K. Ivon (Eds). Rethinking Childhood II. Child and Space (pp.397-412). Sveučilište u Zadru.

Visković, I., Šimić, K., & Marušić, T. (2022). Studiranje tijekom pandemije. U D. Velički (ed.), *Suvremene teme u odgoju i obrazovanju – STOO* 2 (pp. 1-21). Učiteljski fakultet Sveučilišta u Zagrebu, Zavod za znanstveno istraživačk i iumjetnički rad u Bjelovaru Hrvatske akademije znanost i iumjetnosti.

Višnjić Jevtić, A., & Rogulj, E. (2022). "Should we get support or just guidelines?"(self) assessment on mentoring of early childhood education students. *International Journal of Mentoring and Coaching in Education*, *11*(3), 262-273.https://doi.org/10.1108/IJMCE-03-2021-0048

Vollenbroek, W., de Vries, S., & van Dijk, J. (2021). Supporting social capital by utilizing community network positions. *International Journal of e-Collaboration (IJeC)*, *17*(2), 40-54.10.4018/IJeC.2021040103

Vrasidas, C. (2000). Constructivism versus objectivism: Implications for interaction, course design, and evaluation in distance education. *International journal of educational telecommunications*, *6*(4), 339-362.https://www.vrasidas.com/wp-content/uploads/2007/07/continuum.pdf

Zhu, G., & Chen, M. (2022). Positioning pre-service teachers' reflections and I-positions in the context of teaching practicum: A dialogical-self theory approach. *Teaching and Teacher Education*, *117*, 103734.https://doi.org/10.1016/j.tate.2022.103734

Welsh, R. O. (2021). Assessing the quality of education research through its relevance to practice: An integrative review of research-practice partnerships. *Review of Research in Education*, *45*(1), 170-194.https://doi.org/10.3102/0091732X2098508

Willegems, V., Consuegra, E., Struyven, K., & Engels, N. (2018). Pre-service teachers as members of a collaborative teacher research team: A steady track to extended professionalism? *Teaching and Teacher Education*, *76*, 126-139. https://doi.org/10.1016/j.tate.2018.08.012

Умрежавање у виртуелном окружењу

Умрежавање је релативно нова стратегија учења и професионалног развоја. Подразумева повезивање људи, група и/или организација ради брже размене информација, знања и искустава, заједничког учења, истраживања и генерисања идеја. Иако почеци научног приступа умрежавању могу да се повежу са психолошким истраживањима групне динамике, развоју умрежавања је највише допринео развој информационо-комуникационих технологија. Умрежавање у виртуелном окружењу, иако има ограничења социјалних интеракција, олакшава комуникацију и (међународну) сарадњу и омогућава интеркултуралну повезаност.

Концепт умрежености заговара социјалну равноправност која је у пракси детерминисана социјалним компетенцијама и професионалним статусом појединца и/или група. Оно омогућава већу видљивост појединца и група и промовисање појединих идеја. Истовремено носи и ризик недовољно поузданих информација и могућност "скривања" иза заједничких одлука.

У стратешким документима ЕУ заговарају се све стратегије учења које могу да допринесу квалитету учења, бржој размени знања и генерисању нових идеја. Подстиче се учење као заједнички конструктивни процес подложан критичкој анализи. Расправа се подстиче као модел критичког разматрања садржаја учења. То доприноси трансформационом потенцијалу учења.

Поједина истраживања указују на постојећу високу умреженост већине појединаца током формалног образовања. Концепт умрежавања све је заступљенији и у високом образовању, као и у професионалном развоју појединца и група, на личној и професионалној равни. На пример, многе високообразовне институције иницирају умрежавање алумнија, као и студената и практичара. Ипак, тиме нису исцрпљене могућности умрежавања. Савремене технологије повезују дигитална и технолошка знања са социјалним интеракцијама.

Кључне речи: *размена информација, расправа, стратегије учења, учење у мрежном окружењу.*

Sieciowanie w wirtualnym środowisku

Chociaż początki naukowego podejścia do sieciowania można łączyć z badaniami psychologicznymi nad dynamiką interakcji grupowych, rozwojowi sieciowania prawdopodobnie najbardziej przysłużył się rozwój technologii informacyjno-komunikacyjnych. Sieciowanie w wirtualnym środowisku ogranicza interakcje społeczne, ale ułatwia komunikację i (międzynarodową) współpracę, a także umożliwia nawiązywanie międzykulturowych powiązań.

Koncepcja sieciowania zakłada równość społeczną, która w praktyce jest determinowana kompetencjami społecznymi i statusem zawodowym jednostek i/lub grup. Dzięki niej możliwa jest większa widoczność osób i grup, a także promowanie określonych idei, przy jednoczesnym ryzyku pojawienia się niewiarygodnych informacji i możliwości "ukrywania się" za wspólnymi decyzjami.

W strategicznych dokumentach UE promuje się wszystkie strategie uczenia się, które mogą przyczynić się do podniesienia jakości uczenia się, szybszej wymiany wiedzy i generowania nowych pomysłów. Uczenie się przedstawia się jako proces wspólnotowy i konstruktywny, podlegający krytycznej analizie. Z tego względu zachęca się do dyskusji jako modelu krytycznej refleksji nad treściami nauczania, co wzmacnia transformacyjny potencjał uczenia się.

Niektóre badania wskazują, że sieciowanie jest szeroko wykorzystywane przez większość studentów w trakcie edukacji formalnej. Koncepcja sieciowania jest coraz bardziej obecna w szkolnictwie wyższym oraz w rozwoju zawodowym jednostek i grup – zarówno na poziomie osobistym, jak też profesjonalnym. Przykładowo, wiele instytucji szkolnictwa wyższego inicjuje sieciowanie wśród absolwentów, studentów i praktyków. Nie wyczerpuje to jednak możliwości sieciowania. Nowoczesne technologie łączą wiedzę cyfrową i technologiczną z interakcjami społecznymi.

Słowa kluczowe: *dyskusja; wymiana informacji; strategie uczenia się; uczenie się w środowisku sieciowym.*

Umrežavanje u virtualnom okruženju

Umrežavanje je relativno nova strategija učenja i profesionalnog razvoja. Pretpostavlja povezivanje ljudi, grupa i/ili organizacija radi brže razmjene informacija, znanja i iskustava, zajedničkog učenja, istraživanja i generiranja ideja.

Iako se početci znanstvenog pristupa umrežavanju mogu povezati s psihologijskim istraživanjima grupne dinamike, razvoju umrežavanja moguće je najviše doprinio razvoj informacijsko-komunikacijskih tehnologija. Umrežavanje u virtualnom okruženju, iako ima ograničenja socijalnih interakcija, olakšava komunikaciju i (međunarodnu) suradnju te omogućava interkulturalnu povezanost.

Koncept umreženosti zagovara socijalnu jednakopravnost koja je u praksi determinirana socijalnim kompetencijama i profesionalnim statusom pojedinca i /ili grupa. Omogućava veću vidljivost pojedinca i grupa te promicanje pojedinih ideja. Istodobno donosi i rizik nedostatno pouzdanih informacija te mogućnost "skrivanja" iza zajedničkih odluka.

U strateškim dokumentima EU zagovaraju se sve strategije učenja koje mogu doprinijeti kvaliteti učenja, bržoj razmjeni znanja i generiranju novih ideja. Promiče se učenje kao zajednički konstruktivni proces podložan kritičkoj analizi. Rasprava se potiče kao model kritičkog razmatranja sadržaja učenja. To doprinosi transformacijskom potencijalu učenja.

Pojedina istraživanja ukazuju na postojeću visoku umreženost većine pojedinaca tijekom formalnog obrazovanja. Koncept umrežavanja sve više je zastupljen i u visokoškolskom obrazovanju te profesionalnom razvoju pojedinca i grupa, na osobnoj i profesionalnoj razini. Primjerice, mnoge visokoškolske institucije iniciraju umrežavanje alumni te studenata i praktičara. Ipak, time nisu iscrpljene mogućnosti umrežavanja. Suvremene tehnologije povezuju digitalna i tehnološka znanja uz socijalne interakcije.

Ključne riječi*: razmjena informacija, rasprava, strategije učenja, učenje u mrežnom okruženju.*

Zbigniew Ostrach
University of Applied Sciences in Nowy Sącz
Faculty of Social Sciences and Arts

https://doi.org/10.5937/int-themed-bg25161O

The culture of relations between teachers and parents of children attending nursery schools

Abstract
The relationships between teachers and parents are not always proper. If contacts between parents and teachers take place in an atmosphere disturbed by anger, it does not serve child's widely understood well-being. The goal of the presented study is to clarify the issues and indicate practical solutions in the difficult relationships between nursery school teachers and parents of children attending a nursery school. The subject of the undertaken analyses is a qualitative analysis of interactions occurring within both studied social groups. The main research problem is contained in the question: what teachers' behaviours determine the correct culture of teacher's relations with parents of children attending a nursery school?
The teacher is responsible for improving the culture of relations with parents. In this conflict the teacher is the party that should possess the knowledge on how to professionally improve disturbed relationships and ensure their unobstructed course. While taking into account the autonomy of each person, striving for the same goals by various entities taking care of a child is an art that requires many sacrifices and tact in educational work.

Keywords*: nursery school education; parents' culture; teachers' culture; conflict; teachers' relations with parents.*

Introduction

The imperative goal of cooperation between parents and teachers is to ensure child's well-being. Relationships with parents should always be conducted consistently with the principles that characterize cultured people. This aids in gaining the trust of each party and contributes to eliminating existing conflicts. We cannot speak of proper education if there are no relationships with parents conducted in accordance with the principles of proper culture. Clear, two-way communication, distancing oneself from mutual assessments, enthusiasm and commitment to action are the most important components contributing to good relations between all parties

involved in the process of raising a child. If relations are not right from the start, they should be changed. The goal of the presented study is to clarify and indicate practical solutions in the difficult relationships between nursery school teachers and parents of children attending nursery schools. The subject of the undertaken analyses is a qualitative analysis of the interactions occurring within both studied social groups on the grounds of a review of selected scientific literature. The main research problem is contained in the question: What teacher's behaviours determine the proper culture of the teacher's relations with parents of children attending nursery schools?

Improving relationships is a time-consuming process and requires reflection and patience. However, the effects will certainly emerge if the conflicting parties attempt to act consistently, even to a small degree, with the manner customarily accepted in a given culture of the environment. Relationships between nursery school teachers and parents, frequently based on culturally appropriate communication, develop into long-lasting friendships that both parties can act on to cooperate in areas other than nursery the school education. The aim of the presented study is to indicate the causes behind disturbance of proper relations between nursery school teachers and parents of children attending nursery schools as well as to indicate methods and means for improving said relations in cases where they are disturbed.

1. The significance of proper cooperation between a nursery school institution and parents

One of the prerequisites for the proper functioning of a nursery school is proper relations between the teaching staff and parents. Joint activities of parents and teachers should lead to the improvement and modernization of the facility's daily operations. A child attending a nursery school balances on the border between two authorities. It is the child who experiences successes or failures in relationships between adults the most and these experiences may have a positive or negative impact on the child's psyche and the results of its nursery school education. If parents and teachers express the same opinions, the child knows how to act or behave (Korczak, 2012: 138).

Parents should be considered the best experts on the affairs concerning their child. They are the ones who take care of the child from its birth, support its development, shape its character and ensure safety in all areas of child's life (Lewicka-Zelent & Korona, 2015: 26). It is teachers' job to comprehend that parents are doing everything mentioned above to the best

of their ability. Even if teachers do not agree completely with parents, when submitting their suggestions they cannot put pressure on parents and force the necessary changes at all costs. Problems should be treated as a test of the assertiveness and creativity of both parties (Boszczyk, 2020: 121). Obviously, any comments or reservations regarding the activities carried out should not go beyond the circle of people they concern.

The cooperation between parents and teachers should resemble that of the best partners. Such cooperation must contain many different components that determine the development of correct relationships. These elements primarily include: respect, openness, honesty, empathy and kindness. Implementing programmes designed to optimally influence the child's upbringing and education in a nursery school is a time-consuming process that requires many sacrifices. The expectations of each party are not always met to a satisfactory level. Therefore, failures and conflicts are a natural phenomenon in mutual relationships. Thus, it would be prudent to establish certain rules of conduct in crisis situations at the beginning of the parent-teacher cooperation. Teachers must be the ones who initiate a return to dialogue. Teachers should possess knowledge about how to overcome conflicts so that a parent does not feel like the losing party. Cooperation requires mutual partnership between entities, which is, trust, respect for the dignity of others, unity of action, subjectivity, full awareness and acceptance of goals. It is also necessary to adopt a unified action plan. Unanimity between parents and teachers will create an opportunity for the child to function better in social relationships, reduce educational problems and accelerate moral development. The coordinated joint actions of teachers and parents will constitute the basic foundation for the further development of the child's personality.

The issue of proper cooperation between teachers and parents of pupils and children in nursery schools has been researched by numerous educators who have reached similar conclusions. It was undertaken by, among others: E. Nerwińska (2015), I. Nowosad & K. Pietrań (2015), K. Ciszewska (2017), A. Misiuk (2018), M. Buk-Cegiełka (2019), M. Dubis (2019), S. Więsyk & B. Lachowska (2020), M. Zalewska-Bujak (2020), Anna Mikler-Chwastek (2020).

2. The issue of putting trust in teachers

From a psychological perspective school culture is a certain set of psychological dispositions operating in a given community through social contact and this set is dependent on the entire system of interpersonal rela-

tions. It is a set of values, patterns and behaviours, traditional norms and school rituals characteristic of each institution (Polak, 2007: 18). Relationship culture is an art that must be learned. Practice is gained through all kinds of interactions with representatives of various social groups. Strongly rooted values and attitudes passed down from generation to generation are of great importance. This process may undergo certain transformations under the influence of reflection and self-discipline. People spend their entire lives learning new communication skills and gaining experience in interpersonal contacts, which, if used properly, contribute to gaining trust.

As a rule, trust can be defined as a kind of confidence regarding human actions and intentions (June, 2020: 53). Over the years, the teaching profession has developed characteristic features and become subject to stereotypes that have become firmly entrenched in the views of society. The image of a teacher continues to change dynamically, which certainly influences its reception among parents and their trust in people working in this profession. The process of gaining trust is time-consuming and complicated, demanding commitment and patience from each party. However, this process does not always progress correctly and effectively. Parents who enrol their child in an education institution place their hopes in the institution, but also have various fears and ideas about the institution's operations. However, time will verify which of these fears and ideas turn out to be right and which ones turn out to be wrong. The image of how the educational institution operates created by parents/guardians may effectively reduce trust in the nursery school management bodies and the teachers working there. There may be many reasons behind this state of affairs. One of such reasons is reporting inappropriate matters to the authority in charge of the institution without informing the teacher. Parents frequently go directly to the institution's management to express their dissatisfaction or discuss certain issues concerning their child. The teacher supervising the child may be unaware of the allegations made against him or be unaware of the problems that are occurring. Such behaviour of parents or guardians results from the fear of direct judgement from the teacher supervising the child or from a lack of trust in the teacher. Under such circumstances it is important to consider the relationships between parents and teachers and the way in which a given message will be conveyed. The principal of a nursery school may present the information received from parents to the teacher in a different light, which in turn may lead to misunderstandings and conflicts. A significant number of comments regarding educator's work may result in teacher's indifference to all kinds of signals and an increase in the distance between the parties (Chętkowski, 2010: 150). The opinions posted online by parents about a nursery school and its employees are an interesting and

problematic manifestation of trust. The public availability of such opinions carries a high risk of publicity. Among children's parents or guardians there are people who post such opinions on the Internet anonymously instead of reporting their doubts and complaints to the teacher or institution via the official group forums or personally to a specific person. In such a situation, the teacher is unable to present his or her own point of view and, in some way, exonerate himself or herself from the accusations made against him or her. In the virtual world a frustrated and dissatisfied parent feels impune (Garwol, 2015: 189). Such a parent does not care about the consequences of his actions, he just wants to broadcast his dissatisfaction and seeks the approval of other users. In such a case, each party will have limited trust in each other. Furthermore, other parents reading an unfavourable opinion about the teacher may also look at him through the lens of these opinions. However, frequently the information about who posted a given comment quickly reaches the teacher. From a moral point of view, a teacher should not speak openly about his assumptions, even if they are confirmed. However, if a teacher believes that the comments posted are untrue and tarnish his image, he has the right to report them to the appropriate legal or security authorities dealing with such matters.

Separation of families from the problems of society is a common phenomenon these days. Members of particular social groups have become insensitive and indifferent towards the needs of others. The principle of self-absorption and taking care of one's own "interest", adopted in families, distances many parents from the concepts of *neighbour* and *helping thy neighbour* (Adamski, 1999: 101). Most often, parents focus on the actions that the teacher takes towards their child, forgetting about their own involvement in the daily matters concerning the functioning of the entire nursery school group. This may result in some ambiguities that may lead to a loss of trust in the teacher. The vision that parents and guardians have regarding the care and education of their own children in a nursery school setting is certainly different from the one that a teacher has developed over the years. The lack of direct contact and limited opportunities for collaboration in this area of institution's work frequently contribute to misunderstandings that may limit trust in the teacher and hinder cultural relations between both parties.

Another reason for the lack of trust is the attitude of parents towards the obligations kept and met by teachers. In many nursery schools the scope of teacher's rights and responsibilities is analyzed in detail during the first meeting with parents. However, a significant number of parents and guardians consider these issues unnecessary. There are events during the school year that cause parents' ideas regarding a specific area of a teacher's

work to undergo many transformations. In the eyes of parents teacher's willingness and selfless eagerness to help are often taken for granted. In matters concerning their own children, parents take for granted the fulfilment of all obligations towards them. Parents and guardians do not notice the sacrifices and deprivations that an educator must face. They mistakenly perceive teacher's politeness as an essential task to be performed. If it is not implemented in the way parents expect, they may quickly lose trust in the teacher (Chętkowski, 2010: 151).

Teacher's age may also arouse distrust. Sometimes parents assume that young educators do not have adequate experience in working with children (Śliwerski, 2011: 73), and they accuse older teachers of passivity, routine and inactivity when it comes to the possibility of implementing various activities. This is unacceptable labeling and pigeonholing of people (Gonzales, 2013: 15). It is similar with clothing and makeup. A workplace such as a nursery school requires teachers to dress appropriately. The most striking feature in the first moments of a visit to a nursery school is the appearance of the person leading the meeting. It is known that the image of such a person is also influenced by factors such as character, personality traits and visual aspect. If the boundaries of good taste are crossed in any of these areas, there is a risk of loss of trust. If the visual aspect in question is acceptable to parents, the first step in building trust has been achieved.

3. Causes of conflicts between teachers and parents

The culture of relations between teachers and parents of children attending nursery schools is greatly impacted by the conflicts that arise during the joint implementation of the educational process. Conflicts are a natural phenomenon in interpersonal relationships, and their causes may vary. Conflicts customarily involve some kind of conflict of interest of a diverse nature and affect people who are related to each other. In these regard in teacher-parent relationships several factors determining formation of conflicts should be taken into account.

The first of these factors will be the attitudes represented by each side. These attitudes are of great significance to shaping relationships. Stereotypical thinking is a common phenomenon among parents, guardians and educators. The main reason behind this state of affairs is the attribution and generalization of specific characteristics to people who play a given role in the environment. This process initiates development of a gap that prevents the perception of the teacher or parent from being changed. As a result of such actions, both sides have a distorted vision of their own image and

are therefore unable to cooperate properly. At a later stage, parties' expectations towards each other may also prove problematic. Of course, these expectations will vary depending on the social role played and individual predispositions. As soon as after the first meeting, the teacher and parents have certain preconceptions about their mutual relationship. It should be noted that a common occurrence at initial nursery school meetings is for the teacher to deliver a monologue. Under such circumstances parents and guardians take on the role of listeners who do not try to argue with the meeting leader at this stage of acquaintanceship. However, during the school year, objections, hopes, and fears regarding the teacher's treatment of the parent's child may take on a turn unintended at the beginning of the relationship. Compromise is not always achievable, and this state of affairs frequently causes misunderstandings in the culture of the relationship. Therefore, the manner in which communication between the parties is effected is important. If this communication is of a high standard and operates consistently with the previously established principles, it will bring the expected results. However, if one of the parties does not adhere to the norms of cultural behaviour and goes beyond certain boundaries, there is a high risk of conflict (Gruca-Miąsik, 2011: 10-13).

Parents' education is another factor that may cause conflict. Each person chooses an individual educational path. A major group of people places great emphasis on their own intellectual development. However, there are also people for whom education is not an important issue. The level of education of parents is of great significance for the educational future of a child (Ostrach, 2014: 128-131). The knowledge that parents and guardians possess about child functioning and development may come from various sources, e.g. universities, literature, the Internet, friends, and experience. However, the information that reaches parents is not always reliable and authentic. Less educated parents frequently prefer parenting solutions that are presented in a biased and unjustified way which remains in line with their expectations. This state of affairs may contribute to undermining the authority of the educator and a lack of respect for the work these teachers perform. The complete lack of basic knowledge among parents in a given area of discussion is also a major threat to the culture of relationships, as it often becomes the subject of misunderstandings and arguments. A similar situation applies to the values represented by parents, guardians or educators. Due to the wide variety of preferred attitudes, conflicts are likely to arise. By adopting a certain system of values in life, a different point of view is often automatically excluded (Sztumska & Sztumski, 2018: 41). It is therefore important that both sides demonstrate great tolerance and

the ability to respect different perspectives. Otherwise, such circumstances may have unpleasant consequences.

The data available to both parties may constitute a factor contributing to the escalation of conflict between teachers and parents. Such data may be accepted or rejected based on their content. Many components contribute to this state of affairs. One of them is the time at which the information was relayed. After a prolonged period of time, certain facts become blurred or their content is transformed due to the lapse of time. What is important is the way in which these facts will be interpreted by the recipient and the overall context of the statement. In the literature, this phenomenon is called data conflict (Gruca-Miąsik, 2011: 34).

The inadequate staffing or insufficient funds allocated to the ongoing operations of the facility may also disrupt the culture of relationships and contribute to misunderstandings between teachers and parents. Excessively high tuition fees, a small number of experienced teachers, few trips, outings, or other attractions often become causes for conflict. Of course, the principal of the facility is a person responsible for managing the funds and hiring staff, but parents and guardians usually turn to educators for advice on organizational matters. Educators are also the ones who receive complaints regarding the work and functioning of a nursery school. If the actions suggested by parents are not taken despite the problems reported, the parent may feel disrespected and come into conflict with the teacher who is not to blame for the current state of affairs (Maksymowska & Werwicka, 2009: 21-23).

The divorce of parents is also a factor that may cause conflict situations that disrupt the culture of relations between teachers and parents in a nursery school. There are three stages that usually follow each other, leading to the permanent dissolution of a marriage: emotional, legal and psychological (Zelent & Korona, 2015, 41). At each of these stages, parental irritation can spoil the culture of mutual relations with a teacher. This situation is also stressful for teachers, who have to develop resistance to certain kinds of suggestions made by each of the separating parties and to the attempts to involve them in family matters. From a moral point of view, such actions are unacceptable. A child must know that he or she is in no way to blame for the divorce. A child also should not be used to spite a spouse. Unfortunately, teachers are frequently used for this purpose, without having any influence on the behaviour of parents. It is enough that, for example, teachers have to look after a child staying longer than usual in a nursery school, only to prevent the other parent from spending the time they deserve with their child (Gonzales, 2013: 41-42). All behaviours of this type are very dangerous for educators. The pressure that will weigh on teachers may escalate

into various types of misunderstandings and ultimately conflicts with their parents.

Emotions are an inseparable component of human life and are developed in various ways throughout its course. Emotions are often treated as an integral part of stress, the nature of which is determined primarily by negative emotions (Łosiak, 2007: 29). The nervous system, constantly interacting with the outside world, has frequent opportunities to activate negative emotions. Therefore, attention should be drawn to stress, which has a major impact on the occurrence of conflict situations. The most common symptoms include: long-term fatigue, memory problems, negative thoughts, difficulties in performing daily activities, making simple mistakes, exhaustion, and physical pain (Blank & Schröder, 2008: 21). In addition to their professional work every educator also has a private life in which stressful situations occur with varying frequency. It's the same with parents. They, too, experience various emotions and problems, both professional and family related. The most common stressors that provoke conflicts in the culture of mutual relations between teachers and parents are: poor relationships with one's own family, the political situation, health issues, death of family members or their chronic illnesses, financial problems, problems at work, substance abuse, fear related to own and family's future, professional burnout, and lack of sleep (Korczyński, 2014: 31). Each of these factors, alone or in combination with others, can disrupt the culture of relations between teachers and parents. It is important to be aware that most of these stressors will pass over time, but their current and sudden occurrence can create various hindrances and conflicts in relationships. Ways of coping with stress are sometimes very difficult. Actions taken under stress are usually hasty and ill-considered. Under such circumstances it is easy to have misunderstandings or arguments. Both parties should remember that it is worth showing understanding and being calm to avoid unpleasant situations.

In some cases parents may have an inclination towards withholding information that is inconvenient for them. Sometimes parents even hide chronic illnesses that the child is struggling with. This may be due to planned activities aimed at testing teacher's competence or a lack of acceptance of the diagnosis received from specialists. For many educators, such a situation becomes practically impossible to resolve sensibly. Usually, dysfunctions in a child are detected very quickly by facility staff, as these dysfunctions constitute a significant obstacle to educators' daily care or educational work. These obstacles may result in various problems in the daily functioning of the entire group. Parents, however, may attempt to bend the reality and will not accept the thought that their child deviates from the broadly understood norm. The early years of child's life are a crucial time

for him or her. The sooner appropriate rehabilitation measures are taken, the greater the benefit they will bring later. At the nursery school stage of education, cooperation between parents and teachers in said rehabilitation activities is crucial for child's further development. If the parents-teacher cooperation is based on manipulation and lies, it will not yield the intended results and may even lead to many conflicts between the parties (Małkowska-Szkutnik, 2014: 106-107).

Conflict situations also arise in the event of non-compliance with nursery school regulations. Each educational institution has specific guidelines regarding organizational matters. Parents do not always adhere to these regulations. One example of such actions is sending children who caught a cold to the nursery school. Of course, in such situations the teacher has the right to react, but parents or guardians often do not agree with the teacher's arguments. The same principle applies to bringing nursery school pupils over at a time other than that agreed upon or bringing toys to the classroom, regardless of the prohibitions effective in many facilities related to this issue. Despite clear guidelines stipulated in the regulations and discussed at meetings, as well as various comments on this matter provided by the teacher, there is a certain group of parents who do not follow basic rules related to occupational hygiene. Failure to understand the intentions of such actions performed by a teacher may turn into an inflamed conflict, as open non-compliance with the provisions of the statute causes great discomfort in the teacher's work.

The number of children in a group is another factor that seemingly does not have a great significance in the nursery school reality, but there are situations when it can become crucial for the emergence of a conflict. The number of children, from the teacher's point of view, is the size of the group, often depending on its composition. The maximum number of children permitted by law in a nursery school group is 25. However, in the case of a group which includes special needs children, such a group can include a maximum of 20 children (§ 5 sec. 1, § 6 sec. 1-4, Journal of Laws of 2019, item 502). Not every parent can understand this. There are parents who do not want their children to be in a group including special needs children, but on the other hand want their children to be in a smaller group. A smaller group of pupils translates into better recognition of children needs and capabilities, less stress about their safety, and greater control and discipline (Korczyński, 2014: 101). In larger groups, conflict situations may arise with greater frequency, as more people will want to decide on many organizational and educational matters.

The reason for conflicts between parents and teachers may be parents experience related to the number of children they have and their resist-

ance to problem situations (Gonzales, 2018: 32). Parents and guardians who have had previous experience with various educational institutions approach many issues differently and understand the way such institutions operate more clearly. Less experienced parents may, in some way, provoke conflict situations due to the stereotypes regarding teachers in a given environment circulating in their minds (Maksymowska & Werwicka, 2009: 90-92).

4. Selected proposals for activities promoting cultural cooperation with parents

Teachers and parents have a wide range of possibilities they can utilize to develop properly organized cooperation between themselves. There are many ideas and proposals in the literature in this area. In a practical approach to this issue, willingness, enthusiasm and the awareness of the meaning of joint actions are important. There are tools specially developed for the purpose of supporting relationships between parties. In the initial stage of promoting a culture of relations between teachers and parents, the initiative should belong to the institution. Nursery schools can organize various forms of meetings between teachers and parents. Such meetings will be an excellent foundation for building proper cooperation. At the beginning of the year, the teacher and parents can jointly create a schedule of common activities. At this stage, both parties should ask questions regarding the most important issues, including: methods of relaying information, hours at which joint meetings shall begin, meeting places, ways of resolving any problems that may arise (Boszczyk, 2020: 125-126).

Clearly defined expectations will help with preventing conflicts and will be a guide to effective work with a child. During the course of the cooperation, said expectations may be modified if errors are detected or to improve the entire process. Teachers should ensure that joint meetings are not boring. In a teacher's work, the amount of documents that he or she must fill in due to various formal and professional obligations is staggering. Reading said documents out loud during meetings may not be very interesting for some parents and guardians. The transmission of certain written content cannot sometimes be avoided, but reducing it to a minimum and presenting it in a synthetic form will help with building proper relationships. Taking into consideration the time aspect, the meeting should be planned in such a way as to include all the most important elements, and in addition to that, ensure a friendly atmosphere and, if possible, meet the individual needs of parents regarding, for example, the time and place of the meeting (Gruca-Miąsik, 2011: 22-23).

A plethora of events that will improve the culture of relations between teachers and parents can be initiated and celebrated in a nursery school, e.g. public meetings, thematic meetings, special events, picnics and trips. These events may have the status of social meetings. Owing to this approach, parents and teachers will be more open and willing to talk. The more interesting activities there are in the institution, the friendlier the contact between the parties will become. Already during the activity, one can diversify its course by carrying out joint projects or committing to taking action for the benefit of the group or local community. Activities may take the form of volunteering, joint visits to cultural sites, skill-improving activities, competitions, and socially useful work. Of course, such initiatives require the development of an action plan. Organizing such initiatives should take into account the scope of activities for participants in order to avoid problems and misunderstandings during implementation. Teacher's task is to clearly define the goals of such activities. However, the time available to parents and guardians as well as their own willingness should be taken into account (Boszczyk, 2020: 127).

However, the most important in maintaining the culture of relations between teachers and parents are individual meetings between both parties. In nursery school institutions, individual group teachers usually have duty hours on specific days and times. Their schedule is usually established before the first parent-teacher meeting. Thanks to these meetings, parents have the opportunity to get to know the teacher better, understand the motives behind teacher's actions, trust him or her more, and closely monitor and analyze child's progress and difficulties together. The teacher may invite an expert to such a meeting who will provide professional information in a given field. Thanks to this type of initiatives, parents and teachers have the opportunity to enrich their knowledge and broaden their experience in a specific field (Boszczyk, 2020: 137-138). However, it would be a good practice to ask the parents or guardians for permission for such a meeting in advance. Well-informed and aware parents will recognize the culture of relationships with teachers and will be committed to maintaining a high level of these relationships.

Conclusion

Striving towards the same goals by various entities taking care of the same child, taking into account the autonomy of each person, is an art that requires a lot of sacrifice and work. In the care and education work with a child in a nursery school institution, it will be easier to achieve this goal by maintaining high

culture in the relations between teachers and parents. Referring to the research problem defined at the beginning of this paper, it should be stated that the descriptions of teachers' behaviour presented in the text determine the correct culture of teacher's relations with parents. The analysis of the research problem conducted on the basis of selected scientific literature allows us to state that the relations between teachers and children's parents should result from a high culture of openness in the institution, which is characterized by: a good start of cooperation (assigning great importance to contacts with parents), diagnosis of parents' preferences regarding cooperation and communication with the nursery school, providing parents with many channels of contact with the nursery school, flexibility in adapting communication conditions, partnership and cooperation-oriented relations between parents, teachers and the management of the institution, awareness of pursuing one goal, contacts with both parents of the child, expanding the role of parents beyond the sponsoring or organizational function, effective resolution of difficult situations (Hernik & Malinowska, 2013: 48-49). Such characteristics of the relationship should lead to gaining the trust of parents entrusting their child to the teacher.

Proper relationships involve a series of activities that will ultimately bring about a specific educational effect. These relationships depend on the activity of the teacher and parents. Active participation of parents in the life of the nursery school is an important element influencing the quality of school's functioning. It is worth taking advantage of this fact when organizing various events in educational institutions. Parents' ideas, creativity, education, and even simply their presence will undoubtedly be an invaluable contribution to the intellectual and emotional needs of children. Thanks to the ongoing cultural relations and cooperation between both parties, the youngest children have the opportunity to learn in practice the correct principles of cooperation with other individuals and feel proud when they see how involved in their lives all the caregivers they interact with are.

In the practice of nursery school activities, misunderstandings and arguments may sometimes arise during interactions between teachers and children's parents. All conflicts in nursery school settings are destructive in nature. Most of them are initiated by parents experiencing poor interpersonal relationships in the family, workplace, peer group or disappointment in certain qualities and characteristics of the nursery school their child attends. These conflicts are related to the accumulation of emotions, which, if they get out of control, become the source of disputes. These disputes proceed more or less violently, involve larger or smaller groups of people, and evoke specific reactions from the groups involved in the dispute. Teachers and parents knowing and becoming aware of the causes behind disputes should result in fewer conflicts and making said conflicts easier to resolve, as knowledge of the etiology of the

conflict is a strong argument in the process of resolving it. This goal can be achieved by encouraging involvement and giving specific proposals for actions instead of formulating general requirements, involving children in communication between teachers and parents, appreciating parents' involvement in the process of joint conflict resolution, supporting parents in raising children (Hernik & Malinowska, 2013: 49-50).

One should never forget about culture in relationships, no matter how difficult they are. The initiative in this area must always come from the teacher. In a confrontation with a parent, it is the teacher who should be the one initiating the improvement of the relationship. There are many ways to do this, so the process of cooperation between parents and the nursery school will depend on the teacher's creativity.

References

Adamski, F. (1999). *Edukacja, rodzina, kultura: studia z pedagogiki społecznej*. Kraków: Wydawnictwo Uniwersytetu Jagiellońskiego.

Boszczyk, N. (2020). *Dobre relacje w szkole*. Warszawa: Wydawnictwo Wolters Kluwer.

Buk-Cegiełka, M. (2019). Specyfika współpracy szkoły z rodzicami dzieci na pierwszym etapie edukacyjnym: szanse–trudności–potrzeby. *Studia Paedagogica Ignatiana*, *22*(1), 37-50.

Ciszewska, K. Profesjonalizm, doświadczenie i… poczucie humoru. Współpraca z rodzicami na polu profilaktyki zachowań problemowych młodzieży. *Prevention Policy*, 93.

Chętkowski, D. (2010). *Nauczycielskie perypetie. O wojnie ze wszystkimi*. Gdańsk: Gdańskie Wydawnictwo Psychologiczne.

Czerwiec, M. (2020). *Kształtowanie etosu zaufania w szkole*. Kraków: Oficyna Wydawnicza „Impuls".

Dubis, M. (2019). Współpraca: nauczyciel–uczeń–rodzic. Wymiary relacji wychowawczej i edukacyjnej. *Studia Paedagogica Ignatiana*, *22*(1), 149-175.

Garwol, K. (2015). Anonimowość w cyfrowym świecie jako gra pozorów. *Edukacja – Technika – Informatyka, 4*, 185-190.

Gonzalez, C. (2018). *Wspólne dorastanie. Miłość i szacunek w rodzinie*. Warszawa: Wydawnictwo Mamania.

Gruca-Miąsik, U. (2011). *Negocjacje i mediacje w kręgu pomocy, wychowania i prawa*. Rzeszów: Wydawnictwo Uniwersytetu Rzeszowskiego.

Hernik, K., & Malinowska, K. (2015). *Jak skutecznie współpracować i komunikować się z rodzicami i społecznością lokalną.Poradnik dla nauczycieli i dyrektorów*. Warszawa: Instytut Badań Edukacyjnych.

Journal of Laws of 2019 poz. 502. *Regulation of the Minister of National Education of 28 February 2019 on the detailed organization of public schools and public nursery schools*.

Korczak, J. (2012). *Jak kochać dziecko. Dziecko w rodzinie*. Warszawa: Biuro Rzecznika Praw Dziecka.

Korczyński, S. (2014). *Stres w pracy zawodowej nauczyciela*. Kraków: Oficyna Wydawnicza „Impuls".

Lewicka-Zelent, A., & Korona, K. (2015). *Dziecko a rozwód. Bajki dla dzieci rozwodzących się rodziców*. Warszawa: Wydawnictwo Difin.

Łosiak, W. (2007). *Natura stresu. Spojrzenie z perspektywy ewolucyjnej*. Kraków: Wydawnictwo Uniwersytetu Jagiellońskiego.

Maksymowska, E., & Werwicka, M. (2009) *Konflikty w szkole*. Warszawa: Wydawnictwo Wolters Kluwer.

Małkowska-Szkutnik, A. (2014). Choroby przewlekłe u dzieci i młodzieży jako narastający problem społeczny. *Studia BAS, 2*(38), 89-112.

Misiuk, A. (2018). Współpraca z rodzicami a rozwój dzieci w placówce przedszkolnej. *Polnisch in Deutschland. Zeitshrift der Bundesvereinigung der Polnischlehrkräfte*, 103-109.

Mikler-Chwastek, A. (2020). Trudności w organizacji współpracy między nauczycielami a rodzicami uczniów–sprawozdanie z badań. *Kultura i Wychowanie, 1*/17, 117-125.

Nerwińska, E. (2015). *Współpraca z rodzicami impulsem rozwoju szkoły*. Warszawa: Ośrodek Rozwoju Edukacji.

Nowosad, I., & Pietrań, K. (2015). Rola uczelni wyższych w przygotowaniu przyszłych nauczycieli do współpracy z rodzicami. *Rocznik Lubuski*, *41*(2), 131-145.

Ostrach, Z. (2014). *Społeczno-ekonomiczne determinanty osiągnięć szkolnych uczniów w gminach wiejskich*. Kraków: Oficyna Wydawnicza „Impuls".

Polak, K. (2007). *Kultura szkoły: od relacji społecznych do języka uczniowskiego*. Wydawnictwo Uniwersytetu Jagiellońskiego.

Schröder, J.P., & Blank, R. (2008). *Zarządzanie stresem: Jak rozpoznać sytuacje stresowe i im przeciwdziałać*. Mazury.

Śliwerski, B. (2011). Niech mnie Pani nie uczy wychowywać dzieci! *Bliżej Przedszkola, 1.112*, 73-75.

Sztumska, B., & Sztumski, J. (2018). *Świat wartości jako trzecie środowisko istnienia człowieka*. Katowice: Wydawnictwo Naukowe „Śląsk".

Więsyk, S., & Lachowska, B. (2020). Współpraca rodzicielska: komunikacja pomiędzy rodzicami. *Kwartalnik Naukowy Fides et Ratio, 42*(2), 114-123.

Zalewska-Bujak, M. (2020). Współpraca nauczycieli z rodzicami uczniów – przez pryzmat nauczycielskich narracji. *Kwartalnik Pedagogiczny, 65*, 154-176.

Култура односа између васпитача и родитеља деце која похађају вртић

Услов за правилно функционисање вртића јесу добри односи између васпитача и родитеља. Њихове заједничке активности треба да допринесу унапређењу и модернизацији свакодневног рада установе. Циљ представљеног рада јесте да разјасни и укаже на практична решења у сложеним односима између васпитача и родитеља деце у предшколским установама. Предмет анализе је квалитативно испитивање интеракција које се јављају унутар обе проучаване социјалне групе. Главни истраживачки проблем гласи: који начини понашања васпитача одређују правилну културу њихових односа са родитељима деце која похађају вртић?

Сарадња родитеља и васпитача треба да обухвати бројне елементе који одређују развој добрих односа. То су, пре свега: поштовање, отвореност, искреност, емпатија и доброта. Очекивања обе стране нису увек испуњена на задовољавајућем нивоу. Неуспеси и конфликти природно се јављају у међусобним односима. На почетку сарадње потребно је утврдити јасна правила понашања у кризним ситуацијама. Та правила треба недвосмислено да назначе да ће васпитачи бити прва страна која ће иницирати повратак дијалогу у случају његовог прекида. Култура односа јесте вештина која мора да се учи. Практично искуство у овој области стиче се кроз сваку интеракцију са родитељима, руководством установе, другим васпитачима и представницима локалне самоуправе. Слика о раду установе коју стварају родитељи може значајно да умањи поверење у управљачке органе вртића и у васпитаче који у њима раде. Ако се приликом критиковања прекораче границе очекиваног понашања у области бриге о деци, постоји ризик од губитка поверења једне од страна, што доводи до конфликата. Фактори који доприносе ескалацији конфликата између васпитача и родитеља могу бити: морални ставови сваке стране, питања везана за васпитање и образовање, кадровски и стручно-педагошки ресурси установе, висина средстава издвојених за текуће функционисање установе, породични проблеми и кризе, прикривање важних информација о детету и губитак поверења у васпитача.

Да би се спречиле кризе у култури односа између васпитача и родитеља у вртићима, могу да се организују и негују догађаји који ће побољшати културу међусобних односа. Најчешћи догађаји овог типа су: јавни састанци, тематски састанци, свечаности, пикници и излети. Ови догађаји могу да буду службеног или друштвеног карактера. Добро информисани и свесни родитељи препознаће културу односа са васпитачима и биће посвећени очувању високог нивоа тих односа.

Кључне речи*: предшколско васпитање, култура родитеља, култура васпитача, конфликт, односи васпитача и родитеља.*

Kultura relacji nauczycieli z rodzicami dzieci w wieku przedszkolnym

Warunkiem prawidłowego funkcjonowania przedszkola są poprawne relacje pomiędzy kadrą nauczycielską a rodzicami. Ich wspólne działania powinny prowadzić do ulepszania i modernizowania codziennej pracy placówki. Cel prezentowanego opracowania ma charakter wyjaśniający, wskazujący praktyczne rozwiązania w trudnych relacjach nauczycieli edukacji przedszkolnej z rodzicami dzieci uczęszczających do przedszkola. Przedmiotem podjętych analiz jest jakościowa analiza interakcji występujących w obrębie obu badanych grup społecznych. Główny problem badawczy zawiera się w pytaniu: jakie zachowania nauczyciela warunkują poprawną kulturę jego relacji z rodzicami dzieci uczęszczających do przedszkola?

Współpraca pomiędzy rodzicami a nauczycielami powinna zawierać wiele różnych elementów determinujących kształtowanie się poprawnych relacji. Należą do nich w szczególności: szacunek, otwartość, szczerość, empatia oraz życzliwość. Nie zawsze oczekiwania każdej ze stron są realizowane na zadowalającym poziomie. Naturalnym zjawiskiem w obustronnych relacjach jest występowanie porażek i konfliktów. Na początku współpracy trzeba ustalić konkretne zasady postepowania w sytuacjach kryzysowych. Wynikać z nich powinno jasno, że to nauczyciele będą tą stroną, która pierwsza zainicjuje powrót do dialogu w razie jego zerwania. Kultura relacji jest sztuką, której należy się nauczyć. Praktykę zdobywa się podczas każdej interakcji z przedstawicielami rodziców, kadry zarządzającej placówką, innymi nauczycielami i przedstawicielami samorządu terytorialnego. Wykreowany przez opiekunów obraz funkcjonowania placówki, może skutecznie zmniejszać zaufanie do organów zarządzających przedszkolem oraz nauczycieli tam pracujących. Jeśli w krytyce działań granica oczekiwanych zachowań zostanie przekroczona w obszarze opieki nad dzieckiem, istnieje ryzyko utraty zaufania jednej ze stron, prowadzące do konfliktów. Czynnikami przyczyniającymi się do eskalacji konfliktów na linii nauczyciele – rodzice mogą być postawy moralne reprezentowane przez każdą ze stron, kwestie związane z wykształceniem, zasobność kadry i personelu w placówce, wielkość funduszy przeznaczanych na bieżącą działalność placówki, problemy i kryzysy rodzinne, zatajanie ważnych informacji o dziecku, utrata zaufania do nauczyciela.

Aby zapobiegać kryzysom w kulturze relacji nauczycieli z rodzicami w przedszkolach można inicjować i celebrować takie wydarzenia, które podniosą kulturę wzajemnych relacji. Najpopularniejsze z nich to: zebrania ogólnodostępne, wywiadówki tematyczne, uroczystości okolicznościowe, pikniki oraz wycieczki. Mogą one mieć rangę spotkań zarówno o charakterze oficjalnym, jak i towarzyskim. Dobrze doinformowani i świadomi rodzice dostrzegą kulturę w relacjach z nauczycielem i zależeć im będzie na podtrzymaniu wysokiego ich poziomu.

Słowa kluczowe: *wychowanie przedszkolne; kultura rodziców; kultura nauczycieli; konflikt; relacje nauczycieli z rodzicami.*

Kultura odnosa između odgojitelja i roditelja djece koja pohađaju vrtić

Kvalitetni odnosi odgojitelja i roditelja jedan su od preduvjeta kvalitete funkcioniranja dječjeg vrtića. Suradničke zajedničke aktivnosti trebale bi pridonijeti poboljšanju i modernizaciji svakodnevnog rada ustanove. Cilj predstavljenog rada je razjasniti i ukazati na praktična rješenja u složenim odnosima između odgojitelja i roditelja djece koja pohađaju vrtić. Provedeno je kvalitativno istraživanje interakcija koje se pojavljuju unutar obje skupine. Kao istraživačko pitanje izdvojeno je: koja ponašanja odgojitelja određuju kulturu njihovih odnosa s roditeljima djece koja pohađaju vrtić?

Suradnja roditelja i odgojitelja treba obuhvatiti brojne različite elemente koji određuju razvoj dobrih odnosa. To su prije svega: poštovanje, otvorenost, iskrenost, empatija i ljubaznost. Očekivanja obje strane nisu uvijek zadovoljavajuće ispunjena. Neuspjesi i sukobi prirodna su pojava u međusobnim odnosima. Na početku suradnje potrebno je utvrditi jasna pravila ponašanja u kriznim situacijama. Ta bi pravila trebala nedvosmisleno naznačiti da će odgojitelji biti prva strana koja će inicirati povratak dijalogu u slučaju njegova prekida. Kultura odnosa vještina je koju treba učiti.

Praktično iskustvo u ovom području stječe se kroz svaku interakciju s roditeljima, ravnateljstvom ustanove, drugim odgojiteljima i predstavnicima lokalne samouprave. Slika o radu ustanove koju stvaraju roditelji može znatno umanjiti povjerenje u upravljačka tijela vrtića i u odgojitelje koji ondje rade. Ako se prilikom kritiziranja prijeđu granice očekivanog ponašanja skrbi za djecu, postoji rizik od gubitka povjerenja jedne od strana, što dovodi do sukoba. Čimbenici koji mogu pridonijeti eskalaciji sukoba između odgojitelja i roditelja uključuju: moralne stavove svake strane, pitanja vezana uz odgoj i obrazovanje, kadrovske i stručne resurse ustanove, visinu sredstava izdvojenih za tekuće funkcioniranje ustanove, obiteljske probleme i krize, prikrivanje važnih informacija o djetetu te gubitak povjerenja u odgojitelja.

Kako bi se spriječile krize u kulturi odnosa između odgojitelja i roditelja u vrtićima, mogu se organizirati i njegovati događaji koji će poboljšati kulturu međusobnih odnosa. Najčešći događaji takvog tipa jesu: javni sastanci, tematski sastanci, svečanosti, piknici i izleti. Ti događaji mogu imati službeni ili društveni karakter. Dobro informirani i svjesni roditelji prepoznat će kulturu odnosa s odgojiteljima i bit će predani održavanju visoke razine tih odnosa.

Ključne riječi: *predškolski odgoj, kultura roditelja, kultura odgojitelja, sukob, odnosi odgojitelja i roditelja.*

Digital society: ethics, culture, and human behaviour

Ana Žnidarec Čučković
University of Zagreb, Faculty of Teacher Education

https://doi.org/10.5937/int-themed-bg25180Z

Children's rights and digital technologies: urgent considerations in today's rapidly evolving digital age

Abstract
This paper examines the complex relationship between children's rights and digital technologies, analyzing both opportunities and risks within the framework of the UNCRC. While digital platforms can empower children through enhanced access to information, education, and social connections, they also expose them to new vulnerabilities, including online safety threats, data privacy violations, and the digital divide. The paper explores the four general principles of the UNCRC within this context, emphasizing the tension between protection and participation. It argues for a balanced approach that empowers children as active agents in shaping their digital experiences while safeguarding their well-being. Recommendations include fostering digital literacy, promoting ethical online interactions, and establishing robust regulatory frameworks. By prioritizing children's voices and needs, we can ensure the digital environment becomes a space where they can thrive and reach their full potential.

Keywords: *children's rights, digital environment, digital technologies, digital divide.*

Introduction

The rapid advancement of digital technologies has significantly impacted the lives of children, providing both new opportunities and potential risks to their well-being and rights (Lievens et al., 2018). As children increasingly engage with various digital platforms and devices, it is essential to examine these implications through the lens of the United Nations Convention on the Rights of the Child (UNCRC), a key ratified document. Key considerations regarding children's rights in the digital age must be carefully evaluated to ensure that the child's best interests remain at the forefront of decision-making and practice (Coppock & Gillett-Swan, 2016).

The widespread and affordable access to the internet through various devices has made the digital environment an integral part of life for peo-

ple worldwide. According to the International Telecommunication Union (2023), approximately 80% of the population in Europe, 75% in the Americas, 78% in the Commonwealth of Independent States, 40% in Arab States, and 25% in Africa are online. With increased investment in these latter regions, even higher online engagement is expected in the near future. Notably, an estimated one-third of all internet users globally are children under 18. Information and communication technologies have reshaped children's lives significantly, creating new opportunities as well as potential risks to their well-being and rights (Dorsey et al., 2016). Families, schools, and communities have increasingly integrated digital technologies as essential infrastructure in the digital age. The digital environment offers children opportunities for learning, play, health, communication, and participation. However, it also poses significant risks to their safety, privacy, mental health, and overall well-being. This rapidly evolving landscape is driven by the ambitions of global companies, innovative services, institutional policies, and the changing behaviors of individual users. Consequently, it is becoming increasingly difficult for children to distinguish between offline and online experiences (Berman & Albright, 2017).

While international organizations and governments promote access to information and communication technologies (ICT) for business innovation and societal benefits, some recognize the emerging child rights issues within this context (Livingstone et al., 2017). They collaborate with various stakeholders to empower and protect children in the digital environment. Notably, the United Nations Committee on the Rights of the Child emphasized the importance of children's rights concerning digital media in 2014. However, existing governance structures and policies do not consistently address the implications for children's rights as outlined in the UNCRC, the European Convention on Human Rights, and other related documents. Research and stakeholder experiences indicate that the digital environment influences children's lives in ways that can either advance or infringe upon their rights. Questions surrounding "children's digital rights," such as the right to be forgotten, the right to consent to terms and conditions or privacy policies, and the right to digital literacy, have emerged. Nearly every human right now has a digital dimension, prompting a re-evaluation of the UNCRC in the context of the digital environment.

This chapter explores how digital technologies impact children's rights through the lens of the UNCRC, highlighting the significance of communication contexts as vital means for children to exercise their rights. Some articles of the UNCRC align with existing human rights instruments or governance practices, while others create new challenges as the digital environment evolves. We will discuss specific UNCRC rights relevant to the

digital context, identify associated challenges, and propose suggestions to address existing gaps, considering the multidimensional aspects of specific rights. Our discussion will focus on the four general principles of the UNCRC and related articles, emphasizing the necessity for appropriate remedies and reviews while noting how existing frameworks often prioritize protection over participation. We will also explore ways to better resolve conflicts among rights. Carefully considering the balance between participation and protection in relation to digital technology provides valuable opportunities for research aimed at investigating these issues (Coppock & Gillett-Swan, 2016).

The duality of participation and protection

The digital environment presents unique challenges to children's rights, affecting their access to information, participation opportunities, and overall well-being. While discussions on children's rights often emphasize 'protection,' 'provision' rights, particularly in education, are frequently overlooked (Lievens et al., 2018). Digital technologies can violate these rights (Coppock & Gillett-Swan, 2016), and similar debates have emerged in areas such as education and healthcare. While technology can help fulfil the Convention on the Rights of the Child (CRC), it complicates prioritizing children's best interests in decision-making processes.

To address these issues effectively, it is vital to involve children in the development of digital health policies (Holly, 2020) and to incorporate their perspectives in interventions that impact their health (Lievens et al., 2018; Coppock & Gillett-Swan, 2016). Focusing on the relationship between participation and protection in technology could offer valuable insights. A comprehensive approach is essential to uphold all aspects of children's rights in both digital and physical realms. All stakeholders, including governments, educators, and industry leaders, must work together to empower children in navigating the digital landscape while holding companies accountable for their impacts (Lievens et al., 2018; Coppock & Gillett-Swan, 2016). As children's internet access expands, the realization and violation of their rights are increasingly linked to both online and offline realities, highlighting the need for a balanced approach to safeguard their rights and promote digital literacy (Byrne & Burton, 2017; Rogulj & Žnidarec Čučković, 2024).

Data privacy and ethical considerations

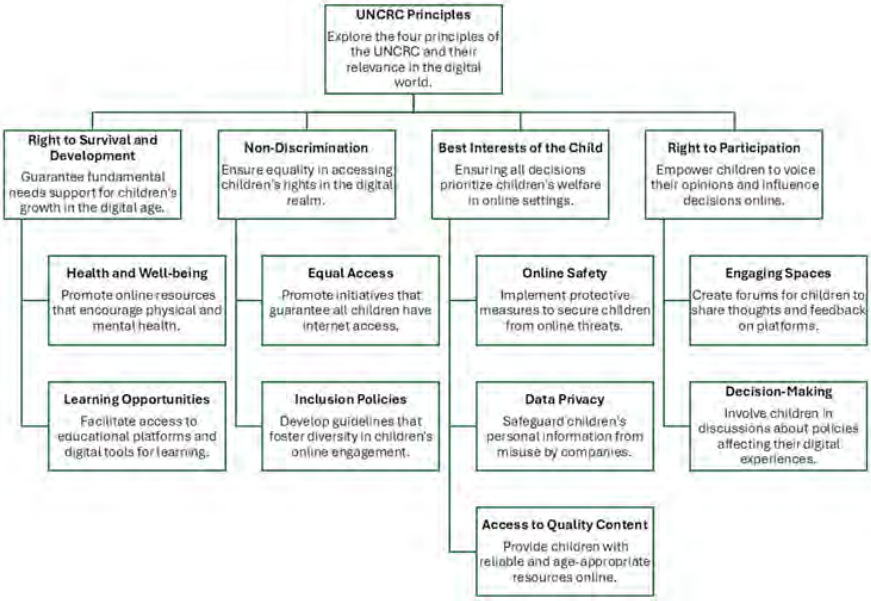
The widespread use of big data analytics, often outside traditional research settings, raises ethical concerns about children's data protection (Byrne & Burton, 2017). This issue calls for immediate action from policymakers, educators, and advocates focused on children's rights and digital ethics. Big data collection by public and private organizations faces inconsistent international and state regulations, often lacking sufficient guidelines for the ethical handling of children's data. To address these challenges, comprehensive regulatory frameworks specific to children's data collection and usage in the digital realm are essential. Such frameworks should incorporate data protection principles like purpose limitation and transparency while empowering children to exercise rights related to their data. Promoting data literacy among children, parents, and educators is also crucial for informed digital engagement (Milkaite & Lievens, 2019). For both younger children and teenagers, balancing the right to privacy with other rights, such as freedom of expression and access to information, is vital. For instance, the EU General Data Protection Regulation requires parental consent for processing children's data, which may limit teens' access to opportunities. As data collection becomes more automated, the effectiveness of privacy protections based on consent is increasingly questionable (Višnjić Jevtić et al., 2024). Moreover, many parents often overlook their children's privacy in the digital realm (Lupton & Williamson, 2017). One proposed solution is adopting global 'Fair Information Principles for Youth in the Global Digital Culture' based on the UNCRC, which would hold industry and governmental bodies accountable (Milkaite & Lievens, 2019). Advocates in children's rights must push for these principles, especially as monitoring devices increasingly gather extensive data on children (Berman & Albright, 2017). Research into children's rights in the digital age should address their needs, potential harms, and the implications for privacy rights and protective legislation (Milkaite & Lievens, 2019).

Specific rights and the digital environment

Ensuring that children's right to freedom of expression is not undermined within the digital environment is paramount. When regulating illegal content online, States should ensure that they are not indirectly limiting children's right to seek, receive, and impart information, including about issues that they find sensitive, such as sexuality and sexual health (Lievens et al., 2018). More generally, States must ensure that children are not pe-

nalized for expressing their views and have access to effective remedies if their right to freedom of expression has been violated. It is important to find a balance in facilitating children's freedom of expression and opinion, protecting children from exposure to harmful content, and respecting the rights and freedoms of others. Furthermore, the internet can also be a place where children encounter risks such as unwanted sexual solicitation, bullying, harassment, or even inappropriate marketing and advertising. The risks to their privacy from both corporations and governments need to be weighed carefully when data are collected from online sources (Byrne & Burton, 2017). Online safety policies can also impact children's rights to education and information. Children's access to information, knowledge, and resources will depend not just on their level of digital literacy but also on the availability, safety, and quality of the online content (Picture 1.).

Picture 1. *Four General Principles of UNCRC in Digital Environment*



Article 12 - highlights the potential of digital technologies to empower children by facilitating their participation in decision-making processes. Online platforms enable children to share their views and engage with decision-makers, which is a source of hope. Tools like forums, surveys, and social media allow children to influence policies affecting them, but ensuring these platforms are safe and age-appropriate is essential. According to Article 12 of the UN Convention on the Rights of the Child, children capable of forming views should have the right to express them freely. While protection rights in the digital context have received significant attention, participation rights, which

ensure children's active involvement in decisions that impact their lives, are often overlooked. Policymakers and educators must balance these rights, as provision rights, which involve access to essential resources for development, also require more consideration to ensure children's well-being in the digital age.

Article 13 - Balancing children's right to free expression online with the need to protect them from harm is a significant challenge. While digital platforms offer opportunities for self-expression, creativity, and access to diverse information, they can also expose children to cyberbullying, harmful content, and privacy risks. Moderation policies, educational initiatives, and digital literacy programs can help create a safer online environment without stifling children's voices. (Lievens et al., 2018) Mentions the importance of online freedom of association and the risks of leaving digital traces. States that a child who can form his or her views should have the right to express those views freely in all matters affecting that child and that the views of that child should be given due weight following the age and maturity of the child (Third et al., 2014). Digital technologies have the potential to amplify children's voices, enabling them to participate in discussions, share their perspectives, and engage with decision-makers.

Article 16 - Data collection and surveillance practices affect children's privacy in the digital age. (Milkaite & Lievens, 2019) While the UNCRC guarantees the right to privacy, its implementation must adapt to the technological landscape. The collection, use, and sharing of children's data raise concerns about their safety, autonomy, and future opportunities. Clear regulations, transparent data practices, and robust data protection mechanisms are essential for safeguarding children's privacy rights in the digital realm. Children's right to privacy can be at risk because the digital world facilitates intrusions into children's private lives. Frequently, there is insufficient guidance or practical and effective solutions to safely collect data directly or indirectly from children within a digital. Data collection, analysis, and regulation in the digital age raise questions about realizing and protecting children's rights (Berman & Albright, 2017). This prompts a critical inquiry into the continued adequacy and sufficiency of traditional ethical frameworks that guide academic research in institutional settings, alongside national legislative frameworks of data collection and consent from children, within this rapidly evolving digital ecosystem (Byrne & Burton, 2017; Milkaite & Lievens, 2019).

Article 17 - Digital technologies offer immense potential for providing children access to appropriate and diverse information, including educational resources, news, and cultural content. However, ensuring children can access safe, reliable, and age-appropriate information requires careful consideration. Content filtering, media literacy education, and the development of curated online resources can mitigate the risks while promoting access to valuable in-

formation. (Lievens et al., 2018) The report points out that the digital environment's impact on access to information needs re-evaluation through the lens of the UNCRC.

It's important to note that children recognize their shared responsibility in fostering a secure online environment. They advocate for digital literacy initiatives that empower them to take responsibility for their online safety. While digital technologies present new challenges, the tensions and contradictions surrounding children's rights to provision, protection, and participation are not entirely new. Careful consideration of the balance between participation and protection with digital technology provides fruitful research opportunities to investigate.

Article 19 - Addressing online child abuse and exploitation requires a multifaceted approach, including international cooperation, law enforcement, and technological solutions. Essential components include raising awareness, educating children about online safety, and providing victim support. There is an urgent need for research on children's rights in the digital age, as adults must model safe and responsible digital behaviors (Dorsey et al., 2016).

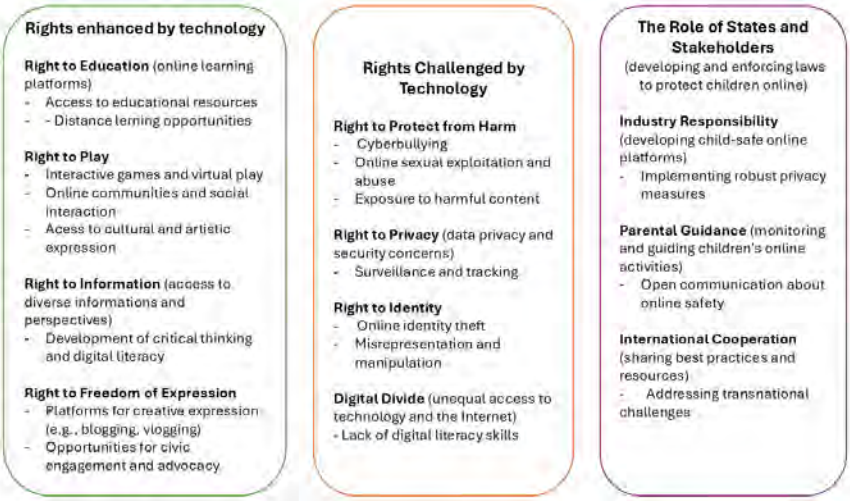
Current discussions often prioritize protective rights, focusing on shielding children from online risks, while overlooking participation rights that ensure their involvement in decision-making and freedom of expression (Lievens et al., 2018). A more holistic approach is necessary to support all children's rights in both online and offline contexts. Stakeholders like governments, parents, educators, and civil society must enhance children's rights related to digital technologies, actively considering children's views when developing policies. Bridging digital divides requires sensitivity to avoid worsening disparities, emphasizing both resource provision and skills enhancement. Despite improvements in digital literacy, children's rights to participate and access essential resources are often overlooked (Lievens et al., 2018; Nawaila et al., 2018). As the focus shifts from risk to opportunity and participation, digital children's rights have become integral to discussions on social justice.

Article 28 - Digital technologies have the potential to revolutionize education by enhancing access, personalizing learning experiences, and fostering collaboration. Online learning platforms, educational apps, and digital resources can complement traditional teaching methods and provide children diverse learning opportunities. Sáez et al. (2020) discuss various frameworks to foster digital literacy among educators and students while highlighting the importance of a citizen-centric approach to digital education. However, bridging the digital divide and ensuring equitable access to technology and digital literacy is critical for realizing the full potential of digital technologies in education. Children reported that the internet has made it easier to undertake schoolwork and engage in the education process (Third et al., 2014). States'

support for children's provision in the digital environment should take into account the diverse sources of content produced by both the public and private sectors that are likely to be consumed by children and seek to provide the appropriate incentives, investment opportunities, standards, and regulatory measures to ensure the overall availability of diverse, high-quality, and age-appropriate content for children (Picture 2).

Article 31- Promoting a healthy balance between online and offline activities is crucial for children's well-being. While digital technologies can provide opportunities for entertainment, social interaction, and creative expression, excessive screen time can negatively impact children's physical and mental health. Encouraging outdoor play, promoting healthy sleep habits, and fostering a balanced lifestyle are essential for children's development. Diverse international perspectives show that children can benefit significantly from digital opportunities. Despite widespread optimism about the potential of digital technologies, especially for information and education, the research reveals an insufficient evidence base to guide policy and practice across all continents, especially in middle- and low-income countries. Beyond revealing pressing and sizeable gaps in knowledge, this cross-national review also reveals the importance of understanding local values and practices regarding the use of technologies. This leads us to stress that future researchers must consider local contexts and existing inequalities and share best practices internationally so that children can navigate the balance between risks and opportunities (Livingstone et al., 2017).

Picture 2. *The basic framework of key concepts UNCRC through digital technologies*



Opportunities and challenges

Digital technologies hold immense potential to significantly enhance children's rights, particularly in areas of participation and provision. For instance, digital platforms can revolutionize access to information, education, and opportunities for self-expression, aligning with Article 13 (freedom of expression) and Article 17 (access to information) of the Convention (Coppock & Gillett-Swan, 2016). However, the digital landscape poses considerable challenges that threaten protecting children's rights. Data collection, analysis, and regulation issues raise concerns about how to realize and safeguard these rights, as the use of hardware, software, and data manipulation introduces new ethical complexities (Berman & Albright, 2017).

While digital technology can offer increased flexibility in implementing various articles of the Convention, it also creates challenges in ensuring that children's best interests are prioritized in decision-making, oversight, and practice. This delicate balance between censorship and protection adds further complexity when considering opportunities and challenges for children's rights in our digitalized world. The careful consideration of the balance between participation and protection in relation to digital technology is a critical issue that opens up valuable avenues for research. This balance is key to identifying methods to safeguard children's rights in the digital age (Coppock & Gillett-Swan, 2016). As children's experiences become increasingly shaped by digital technologies, the realization of their rights will depend on both their physical and virtual environments. Their access to and use of information, knowledge, and resources will rely not only on their level of digital literacy but also on the safety, quality, and availability of online content (Byrne & Burton, 2017).

Effectively navigating the digital landscape necessitates a comprehensive approach that involves collaboration among governments, technology companies, educators, parents, and children. This collective action is crucial in ensuring the protection and enhancement of children's rights in the digital age.

Balancing participation and protection

The balance between children's rights to participation and protection is increasingly complex in the digital environment. While digital technology can enhance the implementation of the Convention on the Rights of the Child (UNCRC), it also presents challenges in prioritizing children's best interests. Key issues arise between Article 13 (freedom of expression)

and Article 16 (privacy and protection), as children's online engagement exposes them to risks like privacy violations and harmful content. Promoting children's rights in the digital realm requires understanding the interplay between protection and participation. As Coppock and Gillett-Swan (2016) note, we must approach this challenge holistically, empowering children through digital literacy while safeguarding their rights. Participatory research methodologies can help recognize children as active agents in shaping their digital experiences. Involving children in developing online safety strategies can lead to more relevant solutions. Advocates stress the importance of including marginalized voices and respecting children's evolving capacities to ensure safe, inclusive digital environments. Balancing participation and protection require ongoing dialogue and collaboration, ultimately aiming to create a safe and empowering digital world for all children (Rogulj and Žnidarec Čučković, 2024).

Conclusion

In conclusion, addressing the interplay between children's rights and digital technologies requires a holistic, multi-stakeholder approach to recognize the inherent opportunities and risks (Dorsey et al., 2016; Lievens et al., 2018). While the digital environment facilitates learning, play, and communication, it also poses threats to children's safety, privacy, and mental well-being. The roles of global companies, innovative services, and institutional policies shape this evolving landscape, making it harder for children to distinguish between online and offline experiences. International organizations and governments endorse ICT access for societal benefits but also highlight emerging child rights issues. Collaboration among stakeholders aims to empower and protect children in the digital sphere, a focus emphasized by the UN Committee on the Rights of the Child in 2014. However, current governance structures often overlook the implications of children's rights articulated in the UN Convention on the Rights of the Child and other human rights instruments. As every human right now has a digital dimension, there's a need to reassess the UNCRC within the digital context. This chapter discusses how digital technologies impact children's rights, focusing on the four general principles of the UNCRC, the importance of communication contexts, and the need for appropriate remedies. It highlights the balance between children's rights to participation and protection while emphasizing the importance of empowering children to navigate their digital experiences safely. Ultimately, the paper calls for a focus on

online safety, data privacy, and equitable access to support children's well-being in the digital age (Byrne & Burton, 2017).

The recommendations outlined in this paper provide a roadmap for collaboration among governments, industry, educators, and parents to create a safe and enriching digital world for children. While protective policies are necessary, they should not inadvertently limit children's access to digital benefits. Fostering digital literacy, promoting critical thinking, and establishing ethical guidelines are essential. Parents and educators play a crucial role in guiding children's use of digital tools (Dorsey et al., 2016).

Considering international perspectives and local contexts is vital (Livingstone et al., 2017). Upholding children's rights in the digital age demands ongoing dialogue, collaboration, and a child-centered approach that prioritizes their needs. This paper explores the dual nature of digital technologies, offering opportunities for participation and education while also posing risks to privacy and safety. A holistic approach is crucial for addressing children's rights in the digital sphere. Ethical concerns related to data privacy require urgent attention, emphasizing the need for regulatory frameworks and data literacy. Collaborative efforts involving various stakeholders, including children, are essential for protecting their digital rights.

Future research should focus on the diverse contexts of children's engagement with digital technologies, the impact of emerging technologies, and strategies to enhance children's meaningful participation online, ensuring that their best interests remain central to policy and practice.

References

Berman, G., & Albright, K. (2017a). *Children and the Data Cycle: Rights and Ethics in a Big Data World*. In arhiv (Cornell University). Cornell University. https://doi.org/10.48550/arXiv.1710

Berman, G., & Albright, K. (2017b). *Children and the Data Cycle: Rights and Ethics in a Big Data World*. In arhiv (Cornell University). Cornell University. https://doi.org/10.48550/arxiv.1710.06881

Blerk, L. van, Shand, W., & Shanahan, P. (2016). Street Children as Researchers: Critical Reflections on a Participatory Methodological Process in the "Growing Up on the Streets" Research Project in Africa. In *Springer eBooks* (1). Springer Nature. https://doi.org/10.1007/978-981-4585-89-7_6-2.

'But how do they know it is a child?' Age Assurance in the Digital World. (2024). https://5rightsfoundation.com/in-action/but-how-do-they-know-it-is-a-child-age-assurance-in-the-digital-world.html

Byrne, J., & Burton, P. (2017a). Children as Internet users: how can evidence better inform policy debate? *Journal of Cyber Policy*, *2* (1), 39. https://doi.org/10.1080/23738871.2017.1291698

Byrne, J., & Burton, P. (2017b). Children as Internet users: how can evidence better inform policy debate? *Journal of Cyber Policy*, *2*(1), 39-52.

Children's rights in relation to the digital environment. (2023). https://www.ohchr.org/en/documents/general-comments-and-recommendations/general-comment-no-25-2021-childrens-rights-relation

Children's rights in the digital age. (2022). https://home.crin.org/issues/digital-rights/childrens-right-digital-age?rq=digital%20age

Coppock, V., & Gillett-Swan, J. (2016). Children's rights in a 21st-century digital world: Exploring opportunities and tensions. *Global Studies of Childhood*, 6 (4), 36. https://doi.org/10.1177/2043610616676025

Dorsey, A. G., Goffin, S. G., Guddemi, M., Gulley, B., Kalinowski, M., Silvern, S. B., & Dixon, B. R. (2016). National Association for the Education of Young Children. In The SAGE *Encyclopedia of Contemporary Early Childhood Education*. https://doi.org/10.4135/9781483340333.n266

Duramy, B. F., & Gal, Tali. (2020). Understanding and implementing child participation: Lessons from the Global South. *Children and Youth Services Review*, 119, 105645. https://doi.org/10.1016/j.childyouth.2020.105645

Edwards, S., Straker, L., & Oakey, H. (2018). Early Childhood Australia: Statement on young children and digital technologies. https://doi.org/10.23965/eca.001

Guidelines to respect, protect and fulfil the rights of the child in the digital environment. (n.d.). (2025). https://edoc.coe.int/en/children-and-the-internet/7921-guidelines-to-respect-protect-and-fulfil-the-rights-of-the-child-in-the-digital-environment-recommendation-cmrec20187-of-the-committee-of-ministers.html

Holly, L. (2020). Health in the Digital Age: Where Do Children's Rights Fit In?. *Health and Human Rights*, *22*(2), 49.

ITU. (2023). *2017 global information and communication technology facts and figures.* https://news.itu.int/itu-releases-2017-global-information-and-communication-technology-facts-and-figures/

Lievens, E., Livingstone, S., McLaughlin, S., O'Neill, B., & Verdoodt, V. (2018a). Children's Rights and Digital Technologies. In *International human rights* (pp. 1-27). https://doi.org/10.1007/978-981-10-4184-6_16

Lievens, E., Livingstone, S., McLaughlin, S., O'Neill, B., & Verdoodt, V. (2018b). Children's Rights and Digital Technologies. In *International human rights* (p. 487). Springer Nature.

Littlechild, B. (2000). Children's rights to be heard in child protection processes?law, policy and practice in England and Wales. *Child Abuse Review*, 9, (6), 403. https://doi.org/10.1002/1099-0852(200011/12)9:6<403::aid-car659>3.0.co;2-9

Livingstone, S., Lemish, D., Lim, S. S., Bulger, M., Cabello, P., Claro, M., Cabello-Hutt, T., Khalil, J. F., Kumpulainen, K., Nayar, U., Nayar, P., Park, J., Tan, M. M., Prinsloo, J., & Bu, W. (2017). Global Perspectives on Children's Digital

Opportunities: An Emerging Research and Policy Agenda [Review of Global Perspectives on Children's Digital Opportunities: An Emerging Research and Policy Agenda]. *Pediatrics*, 140. American Academy of Pediatrics. https://doi.org/10.1542/peds.2016-1758s

Lupton, D., & Williamson, B. (2017). The data fied child: The dataveillance of children and implications for their rights. *New Media & Society*, 19, (5), 780. https://doi.org/10.1177/1461444816686328

Milkaite, I., & Lievens, E. (2019). Children's rights to privacy and data protection around the world: challenges in the digital realm. *European Journal of Law and Technology*, *10*(1).

Nawaila, M. B., Kanbul, S., & Özdamlı, F. (2018). A review on the rights of children in the digital age [Review of A review on the rights of children in the digital age]. *Children and Youth Services Review,* 94, 390. https://doi.org/10.1016/j.childyouth.2018.09.028

Rogulj, E., & Žnidarec Čučković, A. (2024). Informacijska i komunikacijska tehnologija (IKT) u sustavu RPOO-a. In A.Višnjić Jevtić (ur.), *Pedagogija ranog i predškolskog odgoja i obrazovanja : sveučilišni udžbenik* (pp. 292-321). Zagreb: Alfa ; Sveučilište u Zagrebu Učiteljski fakultet.

Ruiz-Casares, M., Collins, T. M., Tisdall, E. K. M., & Grover, S. C. (2016). Children's rights to participation and protection in international development and humanitarian interventions: nurturing a dialogue. In *The International Journal of Human Rights*, 21 (1) . https://doi.org/10.1080/13642987.2016.1262520

Sáez, F. T., Jiménez, D. Á., Montes-Rodríguez, R., Martín, M. J. G. S., & Robles, A. S. (2020). *Learning and educating in the digital age: reference frameworks*. https://digibug.ugr.es/handle/10481/69570

Third, A., Bellerose, D., Dawkins, U., Keltie, E., & Pihl, K. (2014). *Children's Rights in the Digital Age: A Download from Children Around the World*. UNICEF. https://resourcecentre.savethechildren.net/document/childrens-rights-digital-age-download-children-around-world

Todres, J. (2020). Children's Right to Participate: Insights from the Story of Malala. In Springer eBooks (p. 25). Springer Nature. https://doi.org/10.1007/978-3-030-32146-8_2

Višnjić-Jevtić, A. , Žnidarec Čučković, A., Miočić, M. (2024). Odgoj, socijalizacija, obrazovanje – temeljni pedagoški procesi. U A. Višnjić Jevtić (ur.), *Pedagogija ranog i predškolskog odgoja i obrazovanja* (str. 37-52). Zagreb: Alfa; Sveučilište u Zagrebu Učiteljski fakultet.

When children take the lead: 10 child participation approaches to tackle violence. (2024). https://violenceagainstchildren.un.org/news/when-children-take-lead-10-child-participation-approaches-tackle-violence

Wilkinson, C., & Wilkinson, S. (2017). Principles of Participatory Research. In Springer eBooks (p. 15). Springer Nature. https://doi.org/10.1007/978-3-319-71228-4_2

Дечја права и дигиталне технологије: хитна разматрања у данашњем убрзаном дигиталном добу

Овај рад истражује сложени однос између дечјих права и дигиталног окружења, наглашавајући двоструку природу дигиталних технологија које истовремено оснажују и потенцијално могу да буду штетне. Утемељена у оквиру Конвенције Уједињених нација о правима детета (1989), анализа наглашава потребу за реинтерпретацијом и применом ових права у контексту дигиталног пејзажа који се непрестано развија (Lievens i dr., 2018; Third i dr., 2014).

Дигитално доба деци нуди невиђене могућности. Приступ информацијама, образовним ресурсима и друштвеној повезаности значајно је унапређен путем дигиталних платформи. Међутим, те могућности испреплетене су са значајним ризицима, укључујући претње безбедности на интернету, повреде приватности и потенцијал за злоупотребу. Рад наглашава кључну важност балансирања права детета на учешће и његових права на заштиту у овом сложеном окружењу (Byrne & Burton, 2017; Дечја права у дигиталном добу, 2022). Оснаживање деце као активних субјеката у обликовању њихових дигиталних искустава кључно је за њихов развој и за ублажавање ризика (Lievens i dr., 2018). Ипак, то мора да буде пажљиво уравнотежено са мерама за заштиту њихових благостања (Age Assurance in the Digital World, 2024). То укључује подстицање дигиталне писмености, развој вештина критичког мишљења и успостављање етичких смерница за онлајн интеракције (Dorsey i dr., 2016).

Кључни изазов представља неуједначена примена дечјих права у дигиталној сфери. Док права на „заштиту" често добијају значајну пажњу, права на „учешће" и „пружање" могу да буду занемарена. То захтева целовити приступ који препознаје међусобну повезаност свих дечјих права (Lievens i dr., 2018). На пример, обезбеђивање приступа технологији и подстицање дигиталне писмености кључни су за омогућавање смисленог учешћа и укључивање пуног потенцијала дигиталних прилика (Livingstone i dr., 2017). Надаље, рад истиче важност укључивања деце у обликовање политика и пракси које утичу на њихове дигиталне животе (Third i dr., 2014). Њихови гласови и перспективе кључни су за стварање дигиталног окружења истински усмереног на децу.

Решавање етичких дилема које постављају приватност података и надзор још је једно кључно подручје. Прикупљање и коришћење података о деци захтева чврсте регулаторне оквире, транспарентне праксе управљања подацима и образовне иницијативе за подстицање писмености у области података међу децом, родитељима и наставницима (Milkaite & Lievens, 2019). Међународна сарадња и одговорност технолошке индустрије такође су кључни фактори у заштити дигиталних права деце (Children's Rights and the UN Global Digital Compact, 2024; Livingstone i dr., 2017). Документ заговара трајни дијалог и заједничке напоре између влада, технолошких компанија, наставника, родитеља и саме деце како би се створио дигитални свет који је и безбедан и оснажујући за сву децу (Lievens i dr., 2018). То укључује сталну ревизију и прилагођавање политика и пракси ради одговора на дигитални пејзаж који се брзо мења (Nawaila i dr., 2018).

Кључне речи: дечја права, дигитално окружење, дигиталне технологије, дигитални јаз.

Prawa dziecka i technologie cyfrowe: pilne zagadnienia w dzisiejszej szybko ewoluującej erze cyfrowej

Niniejszy artykuł bada złożoną relację między prawami dziecka a środowiskiem cyfrowym, podkreślając podwójną naturę technologii cyfrowych, które mogą wzmacniać i jednocześnie szkodzić. Analiza, oparta na Konwencji ONZ o prawach dziecka (1989), wskazuje na potrzebę reinterpretacji i zastosowania tych praw w kontekście nieustannie zmieniającego się cyfrowego krajobrazu (Lievens i in., 2018; Third i in., 2014).

Era cyfrowa oferuje dzieciom nieograniczone niemal możliwości. Dostęp do informacji, zasobów edukacyjnych i kontaktów społecznych jest znacząco poszerzony dzięki platformom cyfrowym. Możliwości te wiążą się jednak również z istotnymi zagrożeniami, takimi jak ryzyko związane z bezpieczeństwem online, naruszenie prywatności czy potencjalne możliwości wykorzystania. Artykuł podkreśla kluczowe znaczenie równoważenia prawa dziecka do uczestnictwa w tym złożonym środowisku, z uwzględnieniem prawa do ochrony (Byrne & Burton, 2017; Children's Rights in the Digital Age, 2022). Wzmacnianie pozycji dzieci jako aktywnych uczestników współtworzących swoje cyfrowe doświadczenia jest kluczowe dla ich rozwoju i jednocześnie dla ograniczania ryzyka (Lievens i in., 2018). Musi to jednak iść w parze z działaniami mającymi na celu ochronę ich dobrostanu (Age Assurance in the Digital World, 2024). Obejmuje to rozwijanie kompetencji cyfrowych, promowanie umiejętności krytycznego myślenia i ustanawianie etycznych wytycznych dla interakcji online (Dorsey i in., 2016).

Kluczowym wyzwaniem jest nierówne stosowanie praw dziecka w sferze cyfrowej. Podczas gdy prawa związane z „ochroną" często przyciągają dużą uwagę, prawa dotyczące „uczestnictwa" i „zabezpieczenia" mogą być pomijane. Wymaga to bardziej holistycznego podejścia, uznającego współzależność wszystkich praw dziecka (Lievens i in., 2018). Zapewnienie dostępu do technologii i promowanie kompetencji cyfrowych są kluczowe dla umożliwienia dzieciom znaczącego uczestnictwa i pełnego wykorzystania potencjału możliwości cyfrowych (Livingstone i in., 2017). Artykuł podkreśla też znaczenie włączania dzieci w proces kształtowania polityk i praktyk wpływających na ich cyfrowe życie (Third i in., 2014). Ich głos i perspektywy są niezbędne do tworzenia środowiska cyfrowego naprawdę zorientowanego na dziecko.

Kolejnym istotnym obszarem jest rozwiązywanie dylematów etycznych związanych z prywatnością danych i nadzorem. Zbieranie i wykorzystywanie danych dotyczących dzieci wymaga solidnych ram regulacyjnych, przejrzystych praktyk oraz inicjatyw edukacyjnych wspierających rozwój kompetencji związanych z danymi wśród dzieci, rodziców i nauczycieli (Milkaite & Lievens, 2019). Współpraca międzynarodowa i odpowiedzialność branży technologicznej stanowią również kluczowe czynniki w ochronie cyfrowych praw dziecka (Children's Rights and the UN Global Digital Compact, 2024; Livingstone i in., 2017). Artykuł opowiada się za stałym dialogiem i wspólnymi działaniami rządów, firm technologicznych, nauczycieli, rodziców oraz samych dzieci na rzecz tworzenia cyfrowego świata, który będzie zarówno bezpieczny, jak i wzmacniający dla wszystkich dzieci (Lievens i in., 2018). Obejmuje to konieczność nieustannej aktualizacji wiedzy, a także ewoluowanie polityk i praktyk w odpowiedzi na szybko zmieniający się cyfrowy krajobraz (Nawaila i in., 2018).

Słowa kluczowe: *prawa dziecka; środowisko cyfrowe; technologie cyfrowe; luka cyfrowa.*

Dječja prava i digitalne tehnologije: hitna razmatranja u današnjem brzo mijenjajućem digitalnom dobu

Ovaj rad istražuje složeni odnos između dječjih prava i digitalnog okruženja, naglašavajući dvostruku prirodu digitalnih tehnologija koje istodobno osnažuju i potencijalno su štetne. Utemeljena u okviru UN-ove Konvencije o pravima djeteta (1989), analiza naglašava potrebu za reinterpretiranjem i primjenom ovih prava u kontekstu digitalnog krajolika koji se neprestano razvija (Lievens i sur., 2018.; Third i sur., 2014.).

Digitalno doba djeci nudi neviđene mogućnosti. Pristup informacijama, obrazovnim resursima i društvenoj povezanosti značajno su poboljšani putem digitalnih platformi. Međutim, te su prilike isprepletene sa značajnim rizicima, uključujući prijetnje online sigurnosti, povrede privatnosti i potencijal za iskorištavanje. Rad naglašava ključnu važnost balansiranja prava djece na sudjelovanje i njihovih prava na zaštitu u ovom složenom okruženju (Byrne i Burton, 2017; Dječja prava u digitalnom dobu, 2022). Osnaživanje djece kao aktivnih subjekata u oblikovanju njihovih digitalnih iskustava ključno je za njihov razvoj i za ublažavanje rizika. (Lievens i sur, 2018.) Ipak, to mora biti pažljivo uravnoteženo s mjerama za zaštitu njihove dobrobiti (Age Assurance in the Digital World, 2024). To uključuje poticanje digitalne pismenosti, promicanje vještina kritičkog mišljenja i uspostavljanje etičkih smjernica za online interakcije (Dorsey i sur., 2016).

Ključni izazov je neujednačena primjena prava djece u digitalnoj sferi. Dok prava na "zaštitu" često dobivaju značajnu pozornost, prava na "sudjelovanje" i "pružanje" mogu se zanemariti. To zahtijeva cjelovitiji pristup koji prepoznaje međusobnu povezanost svih dječjih prava (Lievens i sur, 2018). Na primjer, osiguravanje pristupa tehnologiji i promicanje digitalne pismenosti ključni su za olakšavanje smislenog sudjelovanja i otključavanje punog potencijala digitalnih prilika. (Livingstone i sur., 2017). Nadalje, rad naglašava važnost uključivanja djece u oblikovanje politika i praksi koje utječu na njihove digitalne živote (Third i sur, 2014). Njihovi glasovi i perspektive ključni su za stvaranje digitalnog okruženja istinski usmjerenog na djecu.

Rješavanje etičkih dilema koje postavljaju privatnost podataka i nadzor još je jedno kritično područje. Prikupljanje i korištenje podataka o djeci zahtijeva čvrste regulatorne okvire, transparentne prakse podataka i obrazovne inicijative za promicanje podatkovne pismenosti među djecom, roditeljima i nastavnicima (Milkaite i Lievens, 2019). Međunarodna suradnja i odgovornost industrije također su ključni čimbenici u zaštiti digitalnih prava djece (Children's Rights and the UN Global Digital Compact, 2024; Livingstone i sur, 2017). Dokument zagovara trajni dijalog i suradničke napore između vlada, tehnoloških kompanija, nastavnika, roditelja i same djece kako bi se stvorio digitalni svijet koji je i siguran i osnažuje svu djecu (Lievens i sur, 2018). To uključuje stalnu reviziju i prilagodbu politika i praksi za rješavanje digitalnog krajolika koji se brzo mijenja (Nawaila i sur., 2018).

Ključne riječi: *dječja prava, digitalno okruženje, digitalne tehnologije, digitalni jaz.*

Vlaho Kovačević
University of Split, Faculty of Humanities and Social Sciences

https://doi.org/10.5937/int-themed-bg25195K

Media and collective memory in late modernity

Abstract
At the phenomenological level, this paper examines the relationship between the media and collective memory in a networked society. The aim is to trace, in a temporal context, the unfolding historical transformations that signal the emergence of a new world. The perception of time shows a new and unfamiliar world marked by contours and shifts that are only beginning to be discerned. This emergent world requires new forms of knowledge and is governed by new rules, both of which are reflected in changing individual attitudes toward temporality. The sociology of time indicates changes in attitudes towards time, including changes in how the past is understood. By exploring modern social and cultural forms and the conceptual apparatus through which we acquire knowledge about these forms, sociology reflects on the importance of memory. Memory contributes to the ability to understand and attribute meaning to phenomena and circumstances, thereby situating collective memory as one of the areas of sociological research. In the introduction, it will be argued that after the emergence of new communication media and altered social relations to the past, collective memory leads to the transfer of memories in late modernity. After analysing several key characteristics of social relations between media and collective memory in late modernity, the paper will demonstrate how late modernity creates new challenges for collective memory. Finally, the conclusion will assess the extent to which media reshape the terms through which collective memory is conceptualized and its role understood in late modernity.

Keywords: *social memory, social relations, media culture, information society, community of memory.*

Introduction

Accepting Maurice Halbwachs's (1985: 121) thesis on the social conditionality of memory, the phenomenological approach highlights the inherently social dimension of collective memory. Social memory presupposes the presence of others, manifesting itself through interaction and communication, and can scarcely be disentangled from communicative processes. The study of memory has long been central to cultural studies, significant-

ly advanced by the work of Jan Assmann. In *Cultural Memory*, Assmann (2005: 43) argues that "memory lives and is maintained in communication; if it is interrupted, that is, if the connecting frames of the communicated reality disappear or change, the consequence is forgetting." In late modernity, forgetting becomes particularly evident through the erosion of community bonds and the destabilization of identity formation.

To reconstruct the relationship between media and collective memory, it is necessary to account for the transformations undergone by societies in late modernity, as well as the foundational concepts from memory studies (Žanić, 2017: 10). In this regard, a new paradigm within cultural studies has emerged around the category of memory, offering fresh perspectives on the role of the media. With the advancement of science, and especially the rise of information and communication technologies, the media have assumed a pervasive role as constructors of social thought, deeply implicated in the mediated production of social reality (Berger & Luckmann, 1966; Hromadžić, 2014).

The mass media permeate both society and culture, the world of objects, images, and information, as well as the related hedonistic, permissive, and psychological values, thereby influencing the formation of collective memory. The culture of the spectacle illustrates how the media replace reality with simulations (Debord, 1999). At the same time, the media introduce novel forms of behavioural control and foster an unprecedented diversification of lifestyles. As Paić (2020: 13) observes, "Very often, such discourses are covert or even open forms of commercial and political interests that generate profit or social influence." Manipulation and seduction within the sphere of media activity have advanced to such a degree (William, 2005) that they have precipitated the systematic destabilization of collective memory, particularly in the domains of private life, belief systems, and social roles, thus constituting a new phase in the history of Western individualism.

In *Wasted Lives: Modernity and Its Outcasts*, Bauman (2004: 133) reflects on this condition by asking: "is the game of inclusion/exclusion the only way in which human life together can take place and the only conceivable form that our common world can take – give – as a result?" In this context, it becomes essential to investigate the reciprocal dynamics of individualization, the reconfiguration of temporality, and the transformation of remembrance practices in late modernity (Žanić, 2017:10). Consequently, there arises a need to analyse media content and media culture in relation to collective memory. Probing the complex entanglement of media and memory reveals the novel status that memory assumes in late modernity.

1. Media and reconstruction of the past in the context of collective memory

Scholars have become increasingly attentive to the problem of time and to the relationship between media and social memory – specifically, collective memory, within which significant transformations can be observed. The development of technology must be considered from a temporal perspective, for it is technology that has driven media convergence and facilitated the temporal independence of users. As Barbara Misztal (2021: 162) observes in *Theories of Social Remembering*, "with the disintegration of the old-time order, in which the past and future have been replaced by an extended present and in which linear time is replaced by current time, memory does not seem to matter." A similar perspective is articulated by Halbwachs (1985: 368) in *Collective Memory*, where he argues that "the forgetting or deforming of certain memories can also be explained by the fact that these frames change in transitions from one period of time to another."

In this respect, it is necessary to consider how the dynamics of modernity shape the potential transformations of collective memory in late modernity (Žanić, 2017: 10). Rapid shifts – manifested in constant changes in work, life conditions, and social as well as material circumstances – appear to render the memories of previous generations less relevant to younger population. As individuals participate in multiple events simultaneously and experience the accelerated pace and fluidity of time, the demand for private time and the desire to reassert control over one's own temporal experience also intensify. As Misztal (2021:162) notes, "the consequences of constant change, the pursuit of innovation, the growing pressure and speed of time, lead to the need to develop new mechanisms of balance between novelty, repetition, and the past."

Memory or collective remembering, whether conceptualized as cultural, social, or collective (Szpunar, 2012: 1202), is intrinsically connected to the formation of collective identity (Hall, 1999). In this regard, as Giddens emphasizes, the late modern social world does not erase the relevance of tradition (Jakelić, 2010: 196) nor can it completely abolish the significance of the past (Žanić, 2017: 10). Authors such as Casanova (2006) and Eisenstadt (1999, 2000) similarly defend the persistence of vital collectivist memories in late modernity. They not only reject the "notion of a modern radical break with tradition" but also advance the idea of "essential modern continuity with tradition" (Casanova, 2006: 14), situating this within Eisenstadt's framework of "multiple modernities" (1999: 285; 2000: 2). Thus, late modernity is characterized by a dynamic relationship to memory, one

that is continuously reinterpreted in light of emergent social phenomena (Žanić, 2017).

This dynamic, however, introduces new challenges for tradition, which must be rethought. As Giddens (2002) argues, individuals must be seen not only as beings situated in time but also as actors aware of the passage of time, which is inseparable from the nature of their social institutions. Accordingly, individuals construct their identities through representations of the past and the narration of the self over time. For Giddens (1991), the self is neither a fixed entity nor a mere collection of attributes; rather, it must be continually recreated. Identity, therefore, lies in the capacity to sustain a coherent narrative by integrating external events and representations into an unfolding story of the self. Within this process, memory and collective remembering are interwoven, emerging from both individual and collective experiences of the past. They are part of our identity as a personal narrative we believe in and as our interpretations of everyday interactions with family and friends (Meyen & Pfaff-Rüdiger, 2014).

In their works *Inventing Tradition* (Hobsbawm, 2012) and *Places of Memory* (Nora, 1996), the authors reflect on the effects of turbulent social changes, which result in fractures, interruptions, and discontinuities with the past. Consequently, collective memory cannot be understood as mere knowledge; it must be continuously reviewed and revised, as Szpunar (2012: 1202) argues, and memory is inherently procedural (Zelizer, 1995). Collective memory and remembering are sustained through family conversations, photo albums, the writing of history books, and the enactment of commemorations (Nora, 1996). Yet, as Kansteiner (2002) and Zelizer (2008) note, contemporary mass media often neglect researching remembrance, even though journalists are deeply involved in shaping processes of remembrance. By covering the past, mass media do not merely provide signs of memory (Aleida Assmann, 1995; Jan Assmann, 1995), social frameworks (Halbwachs, 1985), or what Zelizer (1995) calls "detectives of the past," "facts" or path to historical "knowledge" (Meyen & Pfaff-Rüdiger, 2014:6). In doing so, as argued by Meyen and Pfaff-Rüdiger (2014), the mass media simultaneously influence and participate in the contest over the power to define cultural memory.

In this context, the relationship between memory and history emerges as a central question, particularly in relation to the value of understanding the "community of memory." Within such communities, collective remembering provides a framework through which members conceptualize shared action and reaffirm belonging, thereby shaping a common understanding of identity. As Assmann (2005: 45) notes, every community seeks to establish and preserve spaces that serve "not only as sites of interaction

but also as symbols of identity and repositories of memory." Building on this, Misztal (2021) emphasizes that the meaning of collective or social memory lies in its capacity to illuminate how the guarded sense of self is negotiated in everyday coexistence with members of other communities. While memory is ultimately rooted in individual mental acts, it is simultaneously embedded within culture and constrained by social context. An intersubjectivist approach implies: although media and collective memories are socially organized and mediated, individual memory actively interacts with and contributes to the collective. From this perspective, the sociology of memory highlights the distinctiveness of collective memory, which cannot be reduced to the aggregate of individual recollections. As Zerubavel (1997) argues, collective memory encompasses only those memories that are *commonly held* within the group.

2. Collective memory as a social transmission of memories in late modernity

In his introduction to *How Societies Remember*, Paul Connerton (2004) observes that "We generally hold that memory is an individual gift. On top of that, there are quite a few thinkers who agree that there is such a thing as a collective or social memory." As Misztal (2021) notes, the phenomenon of memory has long fascinated scholars, as it constitutes a fundamental human capacity to interpret and make sense of experiences and circumstances. Similarly, Terdiman (1993) argues that memory is embedded in every act of perception, intellect, and language. It is also intimately connected to emotion, both because emotions often reference the past and because memories themselves can evoke them.

According to Misztal (2021), memory is central to understanding what it means to be human and functions as the primary medium through which identities are constructed by addressing questions such as: Who are we? Where do we belong? Where are we going? As Nussbaum (2001: 177) argues, "A complete separation of the self from memory would mean a complete loss of self – and therefore of all activities for which the meaning of one's own identity is important." In this sense, memory serves as a guardian of difference, enabling us to retain and preserve the multiple images of ourselves that we acquire throughout our unique lives (Wollin, 1989: 40).

While media provide significant benefits, it is equally crucial to acknowledge and address the challenges they introduce. Ensuring that media remain constructive for individuals, society, and future generations requires a conscious engagement with memory. The capacity to construct

and preserve facts, events, and persons in memory reflects an active orientation toward the past – an act of "thinking things through in their absence" (Warnock, 1987: 12). Thus, memory can be conceptualized as "an experiential process" (Warnock, 1987), or, as Lash (1999) suggests, a distinctive form of "dialogue with the past."

In his sociological account of collective memory in modern societies, Misztal (2021: 18) defines it as "a representation of the past, which at the same time is shared by the whole group and which defines its collective identity, gives meaning to its present and vision to its future." The central role of memory in social life lies in the fact that "collective memory is part of the cultural apparatus that has the role of giving – meaning" (Schwartz, 2000: 17). Our inherent need for meaning – that is, the need to participate in something capable of transforming personal behaviour – underscores the significance of collective memory. As Schwartz (2000: 17) notes, it "offers a compelling picture of the world making even the most intricate things meaningful."

In this light, Misztal (2021: 27) argues that "collective memory not only reflects the past but also shapes the present reality by providing people with understandings and symbolic frameworks that enable them to give meaning to the world." Thus, the past can be understood as "a healing for the pathologies of modern life" (Huyssen, 1995: 6). By mediating and expressing both past and present, and by providing analogies through which the present may be interpreted, collective memory assumes a strategic role in shaping contemporary life. As Misztal (2021: 27) emphasizes, "by looking for ways to give reality a meaningful order, we rely on memory to provide us with a symbolic representation and frames that can influence and organize both our actions and our perceptions of ourselves."

Accordingly, "memory simultaneously reflects, programs, and shapes the present" (Schwartz, 2000: 18). Moreover, collective memory is fundamental to the construction of identity (Misztal, 2021: 27). Shils (1981: 135–136) characterizes it as the guardian of social identity, grounded in ritual symbols that unify the community. Giddens (1984: 16, 133) further develops this perspective (not limiting himself to it), suggesting that social structures themselves constitute visible traces of memory, continuously reproduced through social practices. In this sense, such structures may be said to exist within memory (Misztal, 2021: 16).

3. Media image of the world and the role of collective memory in late modernity

In late modernity, media have become the primary mediators of reality to the extent that reality itself is almost inaccessible without their interpretive framework. Virtual reality often assumes the status of reality itself (Castells, 1997). As a defining feature of the network society, virtual reality generates new opportunities for communication, creativity, and research. At the same time, however, it calls for critical reflection regarding its broader implications, particularly the risks of deepening social inequalities, fragmenting identities, and undermining authentic interpersonal connections. While committing and limiting ourselves to virtual reality, we often distance ourselves from direct, face-to-face communication and are distracted from lived, present experience.

Media and collective memory in late modernity are components of and interact with an inclusive and culturally dynamic social system. Critical engagement with media practices for sharing information is essential if authentic collective memory is to be preserved. The rapid circulation of information and trends risks fostering forgetfulness and superficiality within collective memory. As Garber (1998) and Hegemann (2000–2001) observe, contemporary society is marked by unstable gender roles, the enigma of sexuality as a utopian frontier in Western culture, the erosion of authority in intergenerational relations, and the rise of narcissism and depression as characteristic psychosocial afflictions of the "society of the spectacle." Similarly, Paić (2005: 103) contends that "discomfort with culture as a new ideology of global capitalism arises when society is fully cultured, when it is no longer possible to distinguish the primordial nature from the simulacrum of post-industrial society in the virtualization of derealised reality."

The production of media content, therefore, carries profound responsibility. Media increasingly appear as a new ideology rather than serving as autonomous domains of expressing the self-purpose of human survival through art, religion, science, or play. Reflecting on the long-term consequences of media practices requires attention to the specificity of media reality in all its forms, origins, and developmental trajectories. As Paić and Purgar (2018) argue, such reflection is necessary to avoid a reductive relationship between the theory and the practice of the new, including information, communication, media, sign, identity, the transformation of language into image, etc.

As instruments/purpose of identity formation, media can play an affirmative role in addressing the question of who we are and how we might live a "good life" in alignment with the ethical ideals of contemporary social

communities. Yet, this process unfolds in the context of an ongoing, unfinished separation of the postmodern subject from its natural environment, amidst the proliferation of cultural and identity constructs (Garber, 1998; Hegemann, 2000–2001). Within this context, social networks have emerged as crucial channels for the creation, preservation, and transformation of collective history. They offer opportunities for strengthening connections between the past and the future. Conscious sharing and responsible action can shape a rich and true collective memory that will enrich culture and identity, preserve collective memory, and promote deeper understanding and intergenerational and general human connection. This can offer the opportunity to take care of each other in a time of mass connection, leaving room for humanity, solidarity, and empathy towards vulnerable social groups.[1]

Since collective memory possesses an affective dimension generated through the repeated performance of rituals (such as emphasizing the significance of home, maternal bonds, or national and religious symbols), i.e., through rhythmicity and the establishment of collective emotional energy, collective memory may be understood primarily as a value category (Vidović Schreiber et al., 2020: 4450). Consequently, it is difficult to regard it as devoid of value judgments. What attaches individuals to the places in which they live are emotions, attitudes, beliefs, and behaviours. A space becomes a place only when it is conceived, represented, interpreted, and experienced in a particular way. From a sociological perspective, place is constituted through individuals connected by networks of shared responsibility, occupations, culture, and interests (Zeman & Zeman, 2010: 76). This suggests that space itself does not generate the dynamics of social relations; rather, cultures and social interactions bestow meaning upon space, transforming it into place (Zeman & Zeman, 2008: 380).

In contemporary society, however, media intervene in the very fabric of lived reality, reorganizing social behaviour through signs and codes. Modern individuals are increasingly bound not to other people but to the products they consume and the environments in which those products are displayed. Shopping and consumption occupy an ever-expanding portion of human life, often replacing direct social interaction. As Baudrillard (2016) argues, relationships with products tend to supplant relationships with people. He interprets this transformation as a shift from primitive societies – structured around genuine cultural worlds and symbolic exchange – towards a modern order characterized by the dominance of simulation and the erosion of originality (Baudrillard, 2017). The seduction of simula-

1 Rayan Ray, Halt and Catch Fire [https://youtu.be/-yVosy3k75g (05/09/2019)].

tion, operating at the level of illusion, immerses the observer in a hyperreal domain where meaning and significance dissolve (Baudrillard, 2013). Walter Benjamin, in turn, regards capitalism itself as a form of religion – one reduced exclusively to cultic practice, without dogma or theology (Löwy, 2009: 60–73). In this sense, capitalism denies transcendence while continuing to invoke God formally, thereby positioning God as *the main witness* of this denial. Its remarkable adaptability has allowed capitalism to endure as a vital and long-lasting social force (Löwy, 2009: 60–73).

Conclusion

Applying an intersubjectivist perspective on the concept of the self (Misztal, 2021), this paper underscores the need to recognize the boundaries of the media and the information society, i.e., a certain relativization of media despite their apparent dominance. Insights into the challenges of the media and information society reveal their function as both social and cultural institutions. These insights, even when implicit, are rooted in responses to the broader social crisis of modernity, within which emerges a profound anthropological crisis: the crisis of human identity.

The study of collective memory calls into question current sociological conceptions of how social identities are constructed, revealing the ever-shifting features of contemporary reality. This crisis, as Supičić (2010: 167) argues, can be interpreted as an unparalleled crisis of the spirit of Western civilization. Inter-subjectivity of memory, as Zerubavel (1997: 96) notes, applies only to those memories that are "*commonly held*." In this sense, collective memory represents the integration of diverse individual pasts into a great memory shared by the community.

When analysing the relationship between collective memory and media, it becomes evident that after the emergence of new communication media and altered relations to the past, collective memory leads to the transfer of memories in late modernity. The analysis of the social and political space of the media and their relationship to collective memory in this paper is reflected in the trials of collective memory as a social and cultural community.

After analysing several key characteristics of the relationship between media and collective memory in late modernity, we explored how late modernity creates new challenges for collective memory. While Baudrillard (2017) contends that primitive societies, once sustained by symbolic exchange, have given way to modern societies dominated by simulations,

these simulations are ultimately fake things. Baudrillard (2013) believes that the modern world is increasingly under their domination.

Simulation represents a substitution of reality by the artificial and constructed. The simulacrum, as Baudrillard describes, is "the truth that hides the fact that there is no truth." In this process, the distinction between representation and reality dissolves; the sign becomes detached from what it once referred to. Baudrillard believes the original cultural world is imbued with symbolic exchange, fascination, and magic. However, over time, society has disenchanted. The simulations that characterize the modern world cannot produce magic-induced enthusiasm, at least not in the sense in which Baudrillard uses these terms.

This simulated world is disenchanted, and even shameful, in comparison to the primitive, original world. The pervasive simulation experience is the main cause of the disappearance of the difference between real and imaginary, true and false. In other words, in modern society, there is no truth and there is no reality. And if there is no truth and reality, then it can be argued that we exist entirely within simulation (Baudillard, 2001: 68).

In contemporary society, the real and the true are becoming increasingly elusive, seemingly swallowed by an avalanche of simulations. The search for the "essence" of things is rare, and those who attempt to look beyond the surface of simulation are often met with disappointment. Beneath the layers of representation, one finds not reality but only further layers of simulation. Reality shows exemplify this process, as they draw viewers into a mediated world where the screen itself substitutes for lived experience. We are confronted with gaps, absences, and separations – entering life as if through a screen. As Baudrillard (2001: 68) observes, "we dress our own lives like a digital suit."

In conclusion, this paper has examined the role of memory in fostering a "community of memory" and considered the transition from the paradigm of the information society to that of collective memory in late modernity. Within this paradigm shift, media assume a central role in the spectacularisation of the past, and they can promote memory policies, democratising memories or reshaping historical narratives.

Thus, the multiplicity of temporal experiences reflects the changing role of time in culture and society, as well as shifting attitudes toward it. The sociology of time, as a distinct field of research, sheds light on these transformations, including altered relationships with the past. This emerging context poses new challenges for sociology, which can be addressed by conceiving of individuals not merely as beings who exist in time, but as actors who possess a reflexive awareness of its passage, which is intrinsically connected to the nature of their social institutions (Giddens, 2002).

References

Assmann, A. (1995). *Erinnerungsräume. Formen und Wandlungen des kulturellen Gedächtnisses*. Beck.

Assmann, J. (1995). Collective memory and cultural identity. *New German Critique*, 65, 125–133.

Assmann, J. (2005). *Kulturno pamćenje*. Biblioteka Tekst.

Baudillard, J. (2001). *Inteligencija zla ili pakt lucidnosti*. Naknada Ljevak.

Baudrillard, J. (2013). *Simulacija i zbilja.* Jesenski i Turk, Hrvatsko sociološko društvo.

Baudrillard, J. (2016). *The consumer society: Myths and structures*. Sage.

Baudrillard, J. (2017). *Symbolic Exchange and Death.* Sage.

Baumann, Z. (2004). *Wasted lives: modernity and it´s outcasts*. Polity Press.

Berger, P., & Luckmann, T. (1966). *The Social Construction of Reality: A Treatise in the Sociology of Knowled*ge. Anchor Books.

Bilić, P. *Sociologija medija*. *Rutine, tehnologija i moć.* Jesenski i Turk.

Casanova, J. (2006). Rethinking Secularization: A Global Comparative Perspective. *The Hadgehog Review*, 8(1–2), 7–22.

Castell, M. (1997). *The Power of Identity*. Blackwell Publisher.

Connerton, P. (2004). *Kako se društva sjećaju.* Antibarbarus.

Debord, G. (1999). *Društvo spektakla*. Arkzin.

Eisenstadt, S. N. (1999). Multiple Modernities in an Age of Globalization. *Canadian Journal of Sociology*, 24(2), 283–295.

Eisenstadt, S. N. (2000). Multiple Modernities. Daedalus. *Journal of the American Academy of Arts and Sciences*, 129(1), 1–28.

Garber, M. (1998). *Symptoms of Culture*. Routledge.

Giddens, A. (1984). *The Constitution of Society.* Polity Press.

Giddens, A. (1991*). Modernity and self-identity. Self and society in the late modern age.* Polity Press.

Giddens, A. (2002). *Runaway World: How Globalization is Reshaping Our Lives*. Profile Books.

Halbwachs, M. (1985). *Das kollektive Gedächtnis*. Fischer-Taschenbuch-Verlag.

Hall, R. B. (1999). *National collective identity: social constructs and international systems.* Columbia University Press.

Hegemann, C. (2000–2001). *Kapitalismus und Depression. I und II.* Alexander Verlag.

Hobsbawm, E., & Ranger, T. (2012). *The invention of tradition*. Cambridge University Press.

Hromadžić, H. (2014). *Medijska konstrukcija društvene zbilje: Socijalno-ideološke implikacije produkcije medijskog spektakla*. A.G.M.

Huyssen, A. (1995). *Twilight Memories. Marking Time in a Culture of Amnesia*. Rotledge.

Jakelić, S. (2010). *Collestivic Religions, Religion, Choice, and Identity in Late Modernity*. Routledge.

Kansteiner, W. (2002). Finding meaning in memory: A methodological critique of collective memory studies. *History and Theory*, 41(2), 179–197.
Lash, S. (1999). *Another Modernity: A Different Rationality*. Blackwell.
Löwy, M. (2009). Capitalism as Religion: Walter Benjamin and Max Weber. *Historical Materialism*, 17(1), 60–73.
Meyen, M., & Pfaff-Rüdiger, S. (2014). Mass media and memory: The communist GDR in today's communicative memory. *Media Studies*, 5(9).
Misztal, A. B. (2021). *Teorije društvenog sjećanja*. Kršćanska sadašnjost.
Nora, P. (1996). *Realms of Memory: Rethinking the French Past. Vol. 1. Conflicts and Divisions.* Columbia University Press.
Nussbaum, C. M. (2001). *Upheavals of Thought.* Cambridge University Press.
Paić, Ž. (2005). *Politika identiteta. Kultura kao nova ideologija*. Antibarbarus.
Paić, Ž., & Purgar, K. (2018). *Teorija i kultura mode. Discipline, pristupi, interpretacije*. Sveučilište u Zagrebu, Tekstilno tehnološki fakultet.
Schwartz, B. (2000). *Abraham Lincoln and the Forge of National Memory*. Chicago University Press.
Shills, E. (1981). *Tradition.* The University of Chicago Press.
Supičić, I. (2010). *Za univerzalni humanizam. Prema potpunijoj čovječnosti*. Kršćanska sadašnjost.
Szpunar, M. P. (2012). Collective memory and the stranger: remembering and forgetting the 1918 Finnish civil war. *International Journal of Communication*. 6, 1200–1221.
Terdiman, R. (1993). *Present Past: Modernity and the Memory Crisis.* Cornell University Press.
Vidović Schreiber, T.-T., Kovačević, V., & Malada, D. (2020). "Baby Shark" as a Social and Artistic Phenomenon. *Universal Journal of Educational Research*, 8(10), 4449–4458. DOI: 10.13189/ujer.2020.081012
Warnock, M. (1987). *The Philosophy of Sartre*. Hutchinson Radius.
William, M. (2005). *Baudrillard and the Media. A Critical Introduction*. Polity.
Wollin, S. S. (1989). *The presence of the Past.* Johns Hopkins University Press.
Zeman, M. G., & Zeman, Z. (2010). *Uvod u sociologiju (održivih) zajednica.* Institut društvenih znanosti Ivo Pilar.
Zelizer, B. (1995). Reading the past against the grain: the shape of memory studies. *Critical Studies in Mass Communication*, 12(2), 214–239.
Zelizer, B. (2008). Why memory's work on journalism does not reflect journalism's work on memory. *Memory Studies*, 1(1), 79–87.
Zerubavel, E. (1997). *Social Mindscapes: An Invitation to Cognitive Sociology*. Harvard University Press.
Žanić, M., (2017). *Kultura sjećanja između emocija i institucija*. Institut društvenih znanosti Ivo Pilar.

Медији и колективно памћење у касној модерности

Истраживачи из разних дисциплина указују на то да постоје различити доживљаји времена, истичући променљиву улогу времена у култури и друштву, као и променљиве ставове према времену. Социологија времена, као посебно поље истраживања, осветљава промене у нашим односима према времену, укључујући и промене у односу према прошлости. Овај приступ поставља изазове пред социологију. На њих може да се одговори схватањем људи не само као бића која живе у времену, већ, према Гиденсу, и као бића са свешћу о пролазности времена, која је повезана са природом њихових друштвених институција. Потребно је људе посматрати у односу према њиховим представама о прошлости и разумети сопство као нешто што се изражава кроз време. У таквим условима историја има мало значаја, а убрзана садашњост постаје све важнија. У информационом друштву облици комуникације или организације постају важнији од садржаја. Обичаји и друштвене институције губе своје значење, али задржавају форму, а форма сваке поруке утиче на њен садржај – односно мења га. Људи могу да разумеју да је ова хиперстварност симулација, али да и даље буду њоме фасцинирани, чинећи је делом свог живота и тако претварајући добар део стварности у симулацију. Сталним понављањем овог процеса долази до значајног технолошког напретка и до јачања утицаја технологије на друштвени живот. Другим речима, дестабилизација колективног памћења довела је до нове фазе у историји западног индивидуализма.

Електронски медији нарушавају однос према прошлости и производе хаотичан, празан свет лишен историјске меморије. Постмодерност прекида не само са модерношћу, већ и са било каквим осећајем континуитета са прошлим догађајима. Међутим, како социологија постаје све свеснија питања времена и колективног памћења, назиру се знаци промене. Према Гиденсу, касномодерни друштвени свет не брише значај традиције. Аутори попут Касанове и Ајзенштата не само да одбацују „идеју радикалног модерног раскида са традицијом“, већ уводе „идеју суштинског модерног континуитета с традицијом“ у доба „вишеструких модернитета“. Циљ овог рада јесте да анализира однос колективног памћења и медија у неколико корака. У уводном делу показаће се како у касној модерности, након појаве нових комуникационих медија и промена у нашем односу према прошлости, колективно памћење доводи до промена у начину на који разумемо прошлост. Након анализе неколико кључних карактеристика односа медија и колективног памћења у касној модерности, биће објашњено на који начин касна модерност ствара нове изазове за креативну будућност. У закључку, рад ће се осврнути на улогу памћења у стварању „заједнице памћења“ и на прелазак са парадигме информационог друштва на нову парадигму колективног памћења у касној модерности.

Кључне речи: *друштвено памћење, друштвени односи, медијска култура, информационо друштво, заједница памћења.*

Media i pamięć zbiorowa w późnej nowoczesności

Badacze z rozmaitych dyscyplin podkreślali, że ludzie doświadczają różnych odczuć czasu, co uwydatnia zmieniającą się rolę temporalności w kulturze i społeczeństwie, a także ewoluujące postawy wobec zagadnienia czasu. Socjologia czasu, jako odrębne pole badań, uwidacznia te zmiany, zwłaszcza w sposobie, w jaki rekonfigurowane są postawy wobec przeszłości. Takie podejście wprowadza nowe wyzwania dla socjologii, które można rozwiązać poprzez rozumienie ludzi nie tylko jako istot żyjących w czasie, ale także jako podmiotów posiadających refleksyjną świadomość jego upływu – świadomość, która, jak twierdzi Giddens (2002), jest nierozerwalnie związana z naturą ich instytucji społecznych. W tym sensie jednostki należy rozumieć w odniesieniu do ich reprezentacji przeszłości, a jaźń pojmować jako coś wyrażanego i kształtowanego w czasie. W tych warunkach historia traci na znaczeniu, podczas gdy przyspieszona teraźniejszość staje się dominująca. W społeczeństwie informacyjnym forma komunikacyjna lub organizacyjna przeważa nad treścią. Zwyczaje i instytucje tracą swoje znaczenie, zachowując jednak formę, a forma każdej wiadomości kształtuje jej treść. Chociaż jednostki mogą rozpoznać hiperrealność jako symulację, pozostają nią zafascynowane, włączając ją w swoje życie i w ten sposób przekształcając dużą część samej rzeczywistości w symulację. W takich warunkach historia traci znaczenie, a przyspieszona teraźniejszość staje się coraz bardziej dominująca. Stałe powtarzanie procesów mediowanych napędza szybki postęp technologiczny i wzmacnia wpływ technologii na życie społeczne. W tym sensie destabilizacja pamięci oznacza nowy etap w historii zachodniego indywidualizmu.

Media elektroniczne rozmywają więź z przeszłością, tworząc fragmentaryczny, chaotyczny świat pozbawiony pamięci historycznej. Postmodernizm w tym sensie oznacza nie tylko zerwanie z nowoczesnością, ale także z jakimkolwiek poczuciem ciągłości z wydarzeniami przeszłymi. Jednocześnie socjologia coraz bardziej dostrzega centralną rolę czasu i pamięci, co wskazuje na możliwość zmiany. Giddens (2002) twierdzi na przykład, że późnonowoczesny świat społeczny nie likwiduje znaczenia tradycji. Podobnie uważają Casanova i Eisenstadt, którzy nie tylko odrzucają „pojęcie radykalnego zerwania z tradycją", ale wprowadzają także „pojęcie istotnej nowoczesnej ciągłości z tradycją" w czasach „wielorakich nowoczesności". Celem niniejszego artykułu jest analiza relacji między pamięcią zbiorową a mediami w kilku etapach. W części wprowadzającej pokazane zostanie, jak wraz z pojawieniem się nowych mediów komunikacyjnych i zmianą relacji wobec przeszłości pamięć zbiorowa prowadzi do przekazywania wspomnień w późnej nowoczesności. W kolejnych częściach przeanalizowane zostaną kluczowe cechy tej relacji, ukazując, w jaki sposób późna nowoczesność stwarza nowe wyzwania dla kreatywnej przyszłości. W części końcowej zaś zaakcentowana zostanie rola pamięci w budowaniu „społeczności pamięci" i refleksja nad szerszym przejściem od paradygmatu społeczeństwa informacyjnego do paradygmatu pamięci zbiorowej w późnej nowoczesności.

Słowa kluczowe: *pamięć społeczna; relacje społeczne; kultura medialna; społeczeństwo informacyjne; wspólnota pamięci.*

Mediji i kolektivno pamćenje u kasnoj modernosti

Istraživači iz različitih disciplina sugeriraju da postoje različiti osjećaji za vrijeme. Ukazuju na promjenjivu ulogu vremena u kulturi i društvu te promjenjive stavove prema vremenu. Sociologija vremena kao posebno područje istraživanja osvjetljava promjene u našim odnosima prema vremenu, uključujući promjene u našim odnosima prema prošlosti. Ovaj pristup stvara nove izazove za sociologiju. Na njih se može odgovoriti tako da ljude shvatimo kao one koji ne samo da žive u vremenu, nego i kao one, kako ističe Giddens, koji imaju svijest o prolaznosti vremena, a ona je povezana s prirodom njihovih društvenih institucija. Odnosno, da stavimo ljude u odnos prema njihovu prikazu prošlosti i shvatimo sebstvo kao nešto što se izražava kroz vrijeme. Pod takvim uvjetima povijest ima malo značaja, a užurbana sadašnjost postaje sve važnija. U informacijskom društvu komunikacijska ili organizacijska forma postaju važnije od sadržaja. Običaji i društvene institucije gube svoje značenje, no zadržavaju formu, a forma svake poruke utječe na njezin sadržaj, tj. mijenja ga. Ljudi mogu shvatiti da ova hiperstvarnost jest simulacija, ali i dalje biti njome fascinirani čineći hiperstvarnost dijelom svojih života i tako pretvoriti mnogo od te stvarnosti u simulaciju. Stalnim ponavljanjem ovog procesa dolazi do značajnog tehnološkog napretka i utjecaja tehnologije na društveni život. Drugim riječima, destabilizacija kolektivnog pamćenja dovela je do nove faze u povijesti zapadnog individualizma.

Elektronički mediji uništavaju odnos prema prošlosti i stvaraju kaotičan, prazan svijet lišen povijesne memorije. Postmodernost prekida ne samo s modernošću, nego i s bilo kakvim osjećajem kontinuiteta s prošlim događajima. Zahvaljujući činjenici da sociologija sve više postaje svjesna problematike vremena i pitanjem kolektivnog pamćenja, naziru se znakovi promjene. Prema Giddensu, kasnomoderni društveni svijet ne briše važnost tradicije. Autori poput npr. Casanova i Eisenstadt ne samo da odbacuju "pojam modernog radikalnog raskida s tradicijom", nego uvode "pojam suštinskog modernog kontinuiteta s tradicijom" u vrijeme "višestrukih moderniteta". Cilj ovog rada jest analizirati odnos kolektivnog pamćenja i medija u nekoliko koraka. U uvodnom dijelu, pokazat će se kako u kasnoj modernosti nakon pojave novih komunikacijskih medija i promjene u našim odnosima prema prošlosti, kolektivno pamćenje dovodi do promjena u našim odnosima prema prošlosti. Nakon analize nekoliko ključnih karakteristika odnosa medija i kolektivnog pamćenja u kasnoj modernosti, protumačit će se na koji način kasna modernost stvara nove izazove za kreativnu budućnost. U zaključnom dijelu, rad će se osvrnuti na ulogu pamćenja u stvaranju "zajednice pamćenja" i prijelaza s paradigme informacijskog društva na novu paradigmu kolektivnog pamćenja u kasnoj modernosti.

Ključne riječi: *društveno pamćenje, društveni odnosi, medijska kultura, informacijsko društvo, zajednica pamćenja.*

Krzysztof Jasiński
University of Applied Sciences in Nowy Sącz
Faculty of Social Sciences and Arts

https://doi.org/10.5937/int-themed-bg25215J

Re-adaptive determinants of acceptance of legal norms among Polish and Slovak penitentiary habitual offenders

Abstract
The phenomenon of recidivism gives rise to a plethora of social costs. This paper presents the results of research concerning the attitude of Polish and Slovak habitual offenders towards the legal order. This issue was presented in the context of the re-adaptation actions undertaken in both countries. The research problem was formulated as follows: "Does the social re-adaptation assistance provided to habitual offenders influence their attitude towards the legal order?" The hypotheses assumed the existence of risk factors that render it difficult for the respondents to comply with the law and the positive influence of preparation for release within the framework of appropriate procedures on the attitude towards complying with law. It was also assumed that the level of respect for legal norms would correlate with the amount of time spent in prison. Answers to these questions were sought, among other means, through the Prisoner Psychosocial Potential Questionnaire. Verification was also conducted through comparing the attitude of the respondents towards legal provisions and observing the impact of the release preparation procedures on respect for legal norms. The ultimate goal of the research was to formulate recommendations that could be applied in practice to prevent recidivism.

Keywords: *penitentiary recidivism; social re-adaptation of habitual offenders; legal order; psychosocial potential.*

Recidivism and the legal order in social and theoretical perspectives

The issue of penitentiary recidivism is widely commented on in subject literature and in the public space. People who commit repeated crimes are readily stigmatized in the media and presented as extremely demoralized individuals. In order to achieve professional success journalists and publicists at times manipulate the criteria of the value of information regarding a crime. Published press articles do not always present important

circumstances surrounding the incident, although they almost never omit the information that the perpetrator is a habitual offender. By simplifying the message and thus adding drama, such articles effectively influence readers' imagination. Nevertheless, it is worth realizing that recidivism is a much more complex phenomenon. We can discuss recidivism in the juridical meaning, when we mean the number of criminal judgements issued against a person. When using term recidivism, we may also mean not the issued judgements themselves, but the number of times a convicted person stayed in a penitentiary facility. However, not every stay in a penitentiary facility means another conflict with the law. It is possible to apply preventive isolation measures and then impose an absolute prison sentence and a fine in the same case. Such a person may be placed in isolation due to an unpaid fine in this particular case. Finally, a person can be released on parole and sent back to penitentiary, for example due to failure to meet one of the probation obligations. However, this in itself does not mean that the offence has been committed again, but only that the offender has been placed in the Penitentiary Institution again for the same reason. Consumers of media do not possess sufficient knowledge, and sometimes motivation, to comprehend the complexity of the case presented in the media. One of the consequences of such an information policy is the fact that the phrase "habitual offender" bears clearly negative associations and evokes in the recipient a reflexive contempt towards such a person. Thus author's intention is to draw reader's attention to the fact that not every habitual offender is a person hostile towards the social order. Author's numerous years of professional practice in working with this particular group of convicts allows the author to look at the problem more broadly. This can be achieved by accepting that outside of black and white, there are many shades of grey. Dichotomisms in social perception constitute harmful cognitive distortions and contribute to the formation of negative attributions. Individuals who come into conflict with the law do not always do so to demonstrate hostility towards the legal order. Such people are frequently plagued by personal deficits or circumstances in which they are unable to return to fulfilling full social roles. An example of such deficits would be major debts (common among habitual offenders). Such people find it difficult to engage in legal employment because most of their wages will be deducted by the bailiff. Among habitual offenders imprisoned in Polish penitentiaries, as many as two-thirds are in debt. Very similar results were obtained in a study on a Slovak sample of imprisoned habitual offenders. Over 40% of the respondents surveyed in Poland are alimony debtors (Jasiński, 2024: 71-72). It is, therefore, not surprising that such individuals engage in professional activity in the so-called "grey area". Said people also enter into relationships

that allow them to meet their needs in any way possible. First-order needs appear to rank higher in the hierarchy than the need to adhere to the penal code.

The results presented in this paper constitute a part of the author's broader research project devoted to the social reintegration of habitual offenders, which was carried out in 2021-2022. Thanks to research being carried out simultaneously in Poland and Slovakia a more comprehensive view of the problem was produced. The key premises concerned the influence of preparation for release on the attitude towards legal norms among habitual offenders. In the two countries, such preparations are carried out in a different manner, but generally they take place towards the end of the sentence duration. In the Slovak Republic, such preparations are carried out in exit wards that have been operating for several years under the "A Chance to Return" National Programme (Valentovičová & Jasiński, 2020: 135-149). The goal of this programme is to minimize the risk of social exclusion of inmates leaving penitentiary and improving their competencies on the labour market. The Slovak project is being implemented interdisciplinarily (with the local Office of Labour, Family and Social Affairs) in numerous penitentiary facilities. The purpose of stay in the exit ward is to prepare prisoners for the conditions prevailing in freedom. Inmates are given the opportunity to acquire necessary information and practical skills to help them in returning to free life after release. Inmates are sent to exit wards in the final phase of serving their sentence provided that they have been in isolation for more than 3 years. Convicts who fear the conditions awaiting them in freedom are also sent there. The Slovak provisions provide for placement in exit wards of such convicts who require special assistance in returning to independent life in freedom. However, this special assistance does not necessarily relate solely to difficulties with adaptation, but also to maintaining a positive attitude towards the social or legal order. The stay in the exit ward can last from 3 to 12 months. Convicts may also be granted additional benefits, such as unrestricted telephone contact, more frequent visits from family and kin or short visits outside the penitentiary facility. The furnishings and interior design of the local exit wards resemble the conditions in a boarding school or an apartment (Valentovičová & Jasiński, 2020: 141-143). This form of preparation for freedom also promotes proper behaviour after release from a penitentiary facility. In the Polish legal reality – although there are no similar wards in Polish penitentiaries – preparation for release is conducted on the basis of the provisions of Article 164 § 1 of the Executive Penal Code (Execution of Penal Code Act, 1997), which states that during the period of 6 months prior to the end of the sentence or the expected conditional early release, inmates are prepared for freedom,

among other things, through contact with a probation officer or other entities, e.g. non-governmental organizations. During such meetings, a release plan is also prepared jointly with the inmate to ensure that adaptation to freedom takes place in an orderly manner (Article 164, paragraph 1 of the Penal Code, Penal Code Journal of Laws 2023, item 127, consolidated text of 2023.01.17).

Estimating the influence of pre-release procedures on the attitude of the inmates towards legal norms is cognitively desirable. However, in the literature the effectiveness of post-penitentiary assistance is generally assessed solely on the grounds of returning to prison. In author's opinion, this is an incorrect approach, as returning to a penitentiary facility is not a perfect indicator of the attitude of a convict towards the legal order. Such a view would be a simplification. After all, one can respect one value while betraying another. The fact that a person experiences cognitive dissonance does not mean that he or she will not make one or another decision, especially when a number of other social, educational or personality deficits are involved. As A. Bałandynowicz (2006: 93-99) writes, habitual offenders largely come from disorganized and educationally defficient environments where family structures were broken as early as in the childhood period. A. Baładynowicz estimates (Baładynowicz, 2006: 93-99) that in 56% of cases the families of the examined habitual offenders could be described as deeply demoralized and adversely influencing their future fate. Merely 8% of the surveyed habitual offenders come from families that guarantee good educational conditions. The progressive alienation of habitual offenders from society and their departure from the rules defining the social order is also determined by a number of other risk factors, including: education deficits, difficulties with taking on professional or family roles, pro-alcohol attitudes and debts (Baładynowicz, 2006: 93-99). In research on the situation of Polish and Slovak habitual offenders, it was discovered that in both cases nearly a half of the respondents were addicted (Jasiński, 2024: 68-69).

Own research methodology

The research involved analyzing a number of different variables and testing hypotheses regarding impact of said variables on the freedom situation of the respondents. One of the most important variables was the attitude towards the legal order and the anticipated, subjective difficulties in complying with legal order. Taking into consideration many different realities (prisons, re-adaptation facilities, emergency care centres) enabled us to look at the issue from a deterministic perspective. The author assumed that

receiving professional and comprehensive post-penitentiary support may have a positive impact on the attitude towards legal norms. This problem was compared in identical groups in two different countries (Poland and Slovakia). The author was therefore also interested in whether the different approaches to re-adaptation in both countries could result in specific and different consequences for the respondents. The subject **of** the research was therefore the phenomenon of penitentiary recidivism – returning to a prison. The attitude of the respondents towards legal norms was also analysed – this research was conducted in an identical manner in all research groups, i.e. first in a declarative manner, and subsequently through using a psychometric tool – the Prisoner Psychosocial Potential Questionnaire (PPPQ), developed by I. Niewiadomska, R. Bartczuk, J. Chwaszcz and W. Augustynowicz (2014, pp. 55-56). This tool was created to assess the possibilities for re-adaptation of people leaving prisons. The PPPQ tool consists of 51 statements that form six thematic scales and a lie key. For each statement, the respondent can select from five answers (I disagree, I rather disagree, I find it hard to decide, I rather agree, I agree) – which are assigned numerical values – from 1 to 5, respectively. The leading content in the thematic scales constitutes in beliefs about such aspects of life as: attitude towards family life, embeddedness in social life, acceptance of legal norms, attitude towards work, attitude towards others and life satisfaction (Niewiadomska et al., 2014: 55-56)

The most interesting subscale "acceptance of legal norms" measures an individual's ability to comply with legal provisions by, among others, avoiding situations posing a risk of violating norms or by making amends for a committed crime. The low scores obtained here indicate that the respondent has low potential in the area of attitude towards compliance with the law. The respondent does not show any inclination to live in accordance with legal regulations and does not avoid situations that pose a risk of violating legal norms. Average scores indicate that the respondent has average potential in the area of attitude towards compliance with the law. The respondent experiences difficulties in pursuing his aspirations to live in accordance with legal norms, has trouble avoiding situations which present a risk of violating legal norms and in making amends for crimes committed. Respondents who achieve high scores are people with a significant capacity for obeying the law, demonstrated by the desire to live in accordance with legal norms, avoiding situations posing a risk of violating legal norms and being able to make amends for crimes already committed (Niewiadomska et al., 2014: 68-70).

The goal of the research is to understand the influence of specific factors (e.g. assistance provided after release, length of stay in isolation or

method of preparing an inmate for freedom) on the willingness to violate the legal order after the respondents regain their freedom. The research problem stated by the author is as follows: Does the social re-adaptation assistance provided to habitual offenders influence their attitude towards the legal order? The specific problems concern the type of assistance provided, i.e. whether preparation for dismissal from a penitentiary in Polish or Slovak conditions is significant for the dependent variable and whether it is influenced by the support provided post dismissal. For the purpose of comparison, questions anticipating the facts were used – inmates who had not yet been released were questioned, along with the value of psychosocial potential obtained by already discharged habitual offenders. Systemic issues (Polish or Slovak re-adaptation system) also play a role, but it is of secondary concern. These systemic issues have cognitive value, and the author's intention is not only to determine where the values of psychosocial potential are higher, but also which specific activities correlate with their value.

The adopted hypotheses assume that habitual offenders who are not provided with any re-adaptation support will find it easier to disregard the legal order. This may be so because the respondents are people with complicated life situations. They have numerous debts, addictions, broken family ties and damaged social relationships. In other words, without strong support, they may experience a subjective belief that they have nothing to lose. The second hypothesis states that preparation for release, either in the exit ward in Slovakia or under the aforementioned procedure in Poland (Article 164 § 1 of the Executive Penal Code), will have a more beneficial effect on the attitude of the respondents towards the legal order than the interim assistance itself, which is provided only after release and usually in the form of benefits. The third hypothesis assumes that the time spent in isolation is inversely proportional to the value of psychosocial potential in the "attitude towards legal norms" subscale. This means that the longer the responding inmate has been in prison, the lower his or her scores in this respect.

Variables, as M. Łobocki writes (2003: 139-141), are characteristics of the studied phenomenon or factors causing said phenomenon, which can assume variable values. We focus on these variables to learn about the nature of things, the phenomenon being studied, or the relationships between various objects. Some of the variables (independent variables) are those circumstances that are (according to the assumptions made by the researcher) supposed to influence the values that we call dependent variables (Łobocki, 2003: 139-141). The presented study adopts the following independent variables: place of research (penitentiary facility/re-adaptation

centre/interim support point, location – Poland/Slovakia and time spent in isolation) as well as the method of preparation for release (in an exit ward or a regular ward and in compliance with Article 164 of the Executive Penal Code or without it). The dependent variables adopted in the study refer to the respondents' declared attitude towards the legal order and psychosocial potential. The indicators for the dependent variables constitute in the declarative value (placed on an ordinal scale) and the STEN value of the psychosocial potential in the subscale "attitude towards legal norms – N". The indicator of the independent variable will be the answer to the question whether an appropriate procedure preparing an inmate for freedom was applied (in Poland, Article 164, paragraph 1 of the Executive Penal Code, and in Slovakia – whether the examined person is or was staying in an exit ward), as well as whether he or she received (or not) assistance after release.

The research problem justifies the adoption of a quantitative paradigm. As T. Pilch (1998: 42-50) writes, a diagnostic survey enables the exploration of important social phenomena occurring in a given population and allows for gathering knowledge about their dynamics. Adopting the diagnostic survey as the leading method and in order to perform comparative procedures, the questionnaire technique was selected. These techniques work well where a large amount of research material is being dealt with – as in this case, where the study covered a total of nearly 500 people.

The tools utilized in this research project consisted of a number of questionnaires (for habitual offenders and specialists working with them in isolation and in freedom). These tools were used in both countries in unchanged form (after prior translation).

The research sites in Poland are the following prisons: Tarnów penitentiary, Tarnów Mościce penitentiary, Nowy Wiśnicz penitentiary, Wadowice penitentiary, Nowy Sącz penitentiary, Kraków penitentiary. In the Slovak Republic, the research was conducted in penitentiary facilities in: Hrnciarovce nad Parnou, Bratislava, Nitra Chrenova, Košice, Prešov, Ružomberok, Banská Bystrica, and Sučany. Outside of penitentiary facilities the research was conducted in the following re-adaptation centres: the Pomost Foundation in Zabrze, the ProDomo Integration Centre in Kraków, the Social House of "People to People" Help Association in Wrocław, "Barki" centre in Strzelce Opolskie and the Post-penitentiary Care Centre in Nowy Sącz – which provides only emergency assistance. The respondents do not live in the last centre, but only come for help when needed. In Slovakia, research outside of penitentiary facilities was conducted in a centre run by the "Good Shepherd" Civic Association in the Monastery under Zniev.

Analysis of the collected material

The material collected in penitentiary facilities was analyzed first as it chronologically preceded the next set of data. It should be emphasized that the research described herein is not longitudinal in nature, so the material collected in penitentiary facilities does not come from the same people as the material collected in reintegration centres.

First, to illustrate the problem, information was obtained on the criminal records of the surveyed individuals. Violation of legal norms is one of the indicators of attitude towards the legal order. It is worth noting that criminal record is also a criterion that constitutes a risk factor in social rehabilitation work. Therefore, the more final convictions, the greater the risk of returning to crime. Within the studied population, certain ranges were conventionally adopted (2-4, 4-8, 8-12, 12-20 and >20 convictions) in order to simplify the obtained data as much as possible. The largest group among Polish prisoners consisted of habitual offenders who were validly sentenced from 2 to 4 times – 36%. The second, similarly large in this respect, group of people consisted of perpetrators who have been convicted by court at least four times, but not more than 8 times – 30% of respondents. The third group consisted of people convicted by court between 8 and 12 times – 19% of respondents, while people with at least 12 but no more than 20 final judgements in their criminal record constituted 9% of respondents. These results clearly indicate that we are dealing with classic juridical recidivism.

Identical ranges (2-4, 4-8, 8-12, 12-20 and >20) were adopted in the Slovak population. As it turned out, the largest group among the Slovak respondents was people who had been legally convicted 2 to 4 times – 29% (compared to 36% in Poland). The second largest group in this respect is prisoners who have been convicted at least four times but not more than eight times – 28% (compared to 30% of respondents in Poland). The third group in this respect is people convicted between 8 and 12 times – 22% (compared to 19% of respondents in the country). People with at least 12 but no more than 20 final convictions in their criminal record, constitute 15% of recidivists (compared to 9% in Poland). The smallest group is prisoners, convicted by court more than 20 times – 5% (compared to 6% in Poland). The results obtained in both countries are similar.

Inmates in Polish prisons were also asked about their motivation to lead a life in accordance with the legal order after their release. The question was formulated as follows: "How much do you care about obeying the law after being released, where 1 means that you do not care about it at all, and 10 means that you care about it very much." Respondents were given

free choice. Based on author's own many years of professional experience, the author assumed that the declared level of this motivation would not be high. However, as it turned out, as much as 61% of respondents declared the highest level of motivation to comply with the legal order. Nearly 20% of respondents were in the high range (8 and 9 on the scale). Only 5% of inmates stated that they did not care at all about complying with the law after their release. The research was anonymous, so the results obtained appear to be optimistic.

In view of this information, the material received from prisoners prepared for release under Article 164 of the Executive Penal Code and those who were not subject to such preparation was analyzed. In the group of people undergoing preparation for release, the percentage of people who declared the highest (10 on the scale) motivation to comply with the legal order increased from 61% (in the general population) to 69%. However, in the remaining high ranges (8-9 on the scale) there were slightly fewer respondents than previously – 11.3%, so the number of people with a generally high level of motivation to comply with the legal order is similar to the general population. The fact of being prepared for release in Poland does not have a significant impact on the declared motivation of habitual offenders. However, it is still very high.

The percentage of people staying in Slovak exit wards who declared the highest (10 on the scale) motivation to respect the legal order also turned out to be very high and amounted to 79% – in comparison to 69% in the same group in Poland. However, in both populations there was almost the same number of people declaring the high ranges (8-9 on the scale), 11% each. The number of Slovak respondents declaring a very high level of motivation to comply with the legal order was 90% (compared to 80.6% in Poland). In both countries only a low percentage of respondents declared a complete lack of motivation to respect the legal order. A slightly higher level of motivation to comply with the legal order after release was noted among the Slovak habitual offenders participating in the "A Chance to Eeturn" project than among Polish prisoners prepared for release under Article 164§ 1 of the Executive Penal Code. It is therefore possible that placement in the exit ward has a greater impact on this variable than the way in which persons to be released are prepared in Poland.

Persons not covered by the procedure referred to in Article 164 § 1 of the Executive Penal Code in Poland declared a level of motivation similar to that of persons covered by such preparation. However, their results were closer to those obtained in the general population. Only 4% of prisoners who were not subject to the release preparation procedure declared a com-

plete lack of such motivation. It therefore appears that this procedure does not have a significant impact on the variable under study.

No noticeable differences were noted among Slovak respondents who were not placed in the exit wards. Such inmates made declarations similar to those inmates who were sent to exit wards. Similarly to the previous example, only one person in a given group declared a complete lack of motivation to comply with the legal order.

The mere preparation for release – regardless of whether it is conducted under the Polish procedure or the Slovak national programme – does not significantly influence the motivation of habitual offebders to comply with the law in the future. Of course, it cannot be ruled out that these declarations are merely superficial. However, these declarations will be compared with the information received from habitual offenders who were already discharged. A more advanced psychometric tool was also used for the released habitual offenders. Nevertheless, the hypothesis that the level of motivation to comply with the law is low within the population of imprisoned habitual offenders should be considered refuted.

The author was also interested in the subjective perception of post-penitentiary assistance in the context of its impact on the primary problem. The respondents were therefore asked whether, in their opinion, the post-penitentiary assistance they received would help them with avoiding return to prison again. It was assumed that habitual offenders may perceive receiving post-penitentiary assistance as a chance to change their future fate. The re-collected material was analyzed separately in regards to the procedure under Article 164 § 1 of the Executive Penal Code applied to the surveyed persons. As it turned out, as many as 64% of respondents who were prepared for release believe that receiving assistance after release will help them comply with the law, and only 6% stated that it would not matter. The optimism of habitual offenders towards post-penitentiary assistance may be the result of manipulative inclinations consistent with the "the more I receive, the more I promise" principle. However, it should be remembered that the survey was anonymous and it is impossible for habitual offenders to connect their declarations with the amount of future benefits. The conclusion that habitual offenders covered by the procedure under Article 164 § 1 of the Executive Penal Code generally positively assess the impact of post-penitentiary assistance on their future fate seems to be justified.

Slovak respondents seem to be slightly less optimistic in this respect – 53% of respondents (11% less than in Poland) perceive post-penitentiary assistance as a chance for proper functioning in society. 6% of them – a number identical to the results obtained in Poland – believe that such assistance will have no impact on their future actions. The number of undecided

respondents is also higher on the Slovak side – 40% compared to 30% in Poland. According to the author, the collected results may be influenced by the less developed system of post-penitentiary assistance on the Slovak side.

Consistently with the research assumptions, the analysis also included material collected among habitual offenders who were released and who were receiving in-person post-penitentiary assistance at a re-adaptation centre. Their previous criminal record corresponds to social exclusion and time spent outside of society. In the case of respondents staying in re-adaptation centres the "criminal record" is equally substantial. The vast majority of respondents (57%) are people who were convicted more than 4 times, and this result does not deviate significantly from the one obtained among respondents staying in penitentiary isolation.

The criminal record of the Slovak respondents is similar, with the difference being that more people in the local population indicated that they had a maximum of 4 criminal convictions (67%), whereas in Poland this answer was given by 43% of respondents. This difference is compensated for in higher ranges, where the multitude of previous convictions is a characteristic more common among Polish respondents. However, these are not differences that could be majorly significant in the context of the adopted research problems or the variables themselves.

Residents of reintegration centres (as well as prisoners) were also asked whether they believed that the post-penitentiary assistance they received would change their fate, i.e. whether they believed that the assistance they received would have an impact on their possible return to prison. As it turned out, there is moderate optimism among this group, as 65% of respondents believe that owing to the support they receive, it will be easier for them to avoid repeated incarceration. The group of residents with a fatalistic attitude who answer: "no – I don't think it will change much" is very small. The group of people who are not convinced about the impact of the received assistance on their further re-adaptation, but who do not express direct negative opinions (answer "hard to say") is sizable – 31% of respondents. The same question was asked to Slovak respondents, and the results obtained suggest that they place greater hope (than Polish habitual offenders) in post-penitentiary assistance. In their opinion, it will help them to comply with the legal order better. This is a difference of 78% (SK) versus 64% (PL).

The attitude towards legal norms is an area that can be diagnosed through utilizing the Prisoner Psychosocial Potential Questionnaire. Based on the collected data, it was established that in Poland the largest group of respondents (45%) are people with average scores, i.e. those convicted who

experience difficulties in striving towards living in accordance with the provisions of law. These individuals experience difficulties with avoiding situations presenting a risk of violating the law and with making amends for crimes already committed. However, low scores were obtained by "merely" 26% of respondents. Nearly 1/4 of respondents do not show any desire to live in accordance with legal norms and to avoid situations posing a risk of violating legal norms. However, 29% of the respondents achieved high scores in this respect, which indicates that these people strive to live in accordance with legal norms by avoiding situations that pose a risk of violating legal norms and make amends for crimes already committed. In author's opinion, this is a moderately optimistic result.

Acceptance of legal norms seems to be an area that clearly differentiates Slovak respondents from domestic habitual offenders, as the analysis of the PPPQ results shows that foreign respondents generally obtained higher scores in this respect than Polish respondents. None of the respondents obtained a score indicating low acceptance of legal norms, and nearly half obtained average scores and as many as 52% obtained high scores. In Poland, people with average potential were numerically dominant group. The Slovak respondents therefore performed more favourably, although it should be kept in mind that the research material collected is relatively small.

The potential in terms of the attitude of Polish residents of penitentiary facilities towards legal norms is at a high level. None of these people achieved a low score, and scores indicating a high degree of striving to live in accordance with legal norms were achieved by 4 out of 9 people, i.e. almost a half. The remaining 5 people achieved average scores, which seems to support the application of Article 164 § 1 of the Executive Penal Code as part of recidivism prevention. However, these data are still too small in quantity to make generalizations. This is due to the fact that the release preparation procedure is used extremely rarely in Poland in case of habitual offenders.

Those respondents who were not subject to preparation for release (i.e. the majority) achieved less favourable scores from the social point of view, as 10 out of 37 people (27%) were characterized by a complete lack of striving to live in accordance with legal norms and avoiding situations posing a risk of violating legal norms. A high degree of striving to respect legal norms was characteristic of 11 people (30%), and average scores were achieved by 16 people, i.e. 43% of the respondents. People who are not being prepared for release from incarceration appear to be more prone to violating legal norms.

Among the group of respondents who stayed in the facility for less than 3 months, the potential in the area of acceptance of legal norms seems to be in the medium and low range. In this case a high degree of acceptance of legal norms was characteristic of only 7 out of 39 people.

However, this situation changes in the case of people who stay in a re-adaptation facility for longer than 3 months. High and medium scores dominate in this group. It appears that the passage of time since release or the activities carried out by re-adaptation facilities have a beneficial impact on the attitude of the respondents towards legal norms.

Nevertheless, the analysis of the attitude towards legal norms in relation to the time spent in isolation does not provide clear conclusions. A conventional limit of 4 years spent in isolation was adopted. Both groups are dominated by people who achieved average scores and the percentage of people who obtained a score indicating high respect for legal norms decreases only slightly (in relation to the time spent in prison).

An analogous analysis was carried out among the group of people receiving post-penitentiary assistance in the facility in Nowy Sącz which does not provide live-in option. However, it was not possible to compare this group with Slovakian habitual offenders, as the Slovakian re-adaptation system does not provide for this form of support. The previous criminal record in this group is not surprising, half of the respondents were convicted at least four times (or more). The other half is respondents who have 2 to 4 criminal convictions on their record. Hence, these results differ only slightly from those obtained in the group of residents of live-in centres.

As indicated in the introduction, the author omits in the further analysis the number of times the respondents have been incarcerated – for many reasons discussed earlier, these do not directly indicate attitude of respondents towards the law. Habitual offenders who do not use live-in facility services are characterized by significant optimism regarding the impact of the assistance received on their future situation. As mych as 74% of respondents believe that receiving post-penitentiary support will make it easier for them to adhere to the legal order. The group of habitual offenders living in the assistance centres was less hopeful, with 65% of respondents giving such an answer. It must be admitted, however, that the recipients of assistance provided by a non-live-in centre believed that receiving such assistance would not change anything in their legal situation than the residents of the live-in re-adaptation centres.

Based on the collected data, it was also calculated that as many as 43% of the respondents have high potential in this area. This score is also noticeably higher than that obtained in live-in centres. Residents of live-in centres achieved high scores in 29% of cases. This came at the expense of the

group achieving average scores. Among the respondents not living in the centres, this group was correspondingly smaller. The group of respondents who obtained scores indicating low acceptance of legal norms is similar in size in both cases. The scores indicating a lack of respect towards legal norms was obtained by 23-26% of the respondents. It can therefore be stated that the residents of the live-in centres and those receiving assistance from non-live-in facilities do not differ significantly in terms of their acceptance of legal norms, although some differences were discovered in the structure of the achieved scores. However, the level of complete disregard for legal norms seems to be similar in both cases and concerns about 1/4 of the respondents. The group of people using interim assistance contains more respondents with a positive attitude towards the legal order. However, such people generally are in a better social situation than those who have nowhere to go after being released and are forced to live in a facility.

Nevertheless, if we take into consideration the potential of inmates being prepared for release (under Article 164 of the Executive Penal Code) in terms of their attitude towards legal norms, it turns out that none of them achieved low scores (similarly to the group of residents of the centres), and scores indicating a high degree of striving to live in accordance with legal norms were achieved by as many as 6 out of 8 respondents.

Those convicts who were not subjected to pre-release preparation achieved scores that were more proportionally distributed. It seems, therefore, that preparing habitual offenders for release may have a beneficial influence on their future attitude, but the infrequent application of appropriate procedures makes it impossible to generalize the results obtained in this study.

It also appears that the time spent in incarceration does not support developing a proper attitude towards the legal order. While taking this variable under scrutiny, it was observed that individuals who spent less than 4 years in a prison generally performed better than those who were incarcerated longer. Those who had been in penitentiary facilities for a very long time were much more likely to obtain low scores. On these grounds it is difficult to recommend imposing more lenient penalties on habitual offenders, as only the adjudicating court has the appropriate knowledge and competence in this respect. However, in the author's opinion, it would be possible to postulate considering a wider use of alternative penalties. Such penalties could be imposed, for example, in situations involving minor cases where the social harmfulness of the act is not major.

Conclusion

Penitentiary habitual offenders in both countries constitute a heterogeneous group, but they show certain similarities, especially in terms of their criminal careers. These are people who were convicted numerous times. Criminal record usually begins in early adulthood, and the number of personality and social deficits that can be observed is significant. Following media trends one can assume that the described population is a group of people who are deeply demoralized and clearly hostile towards the legal order. It turns out, however, that although the respondents commit numerous crimes, their attitude towards legal norms is very diverse. It is surprising that the majority of respondents were not characterized by low psychosocial potential in terms of attitude towards legal provisions. On the contrary, numerous habitual offenders achieved high scores in this respect, indicating acceptance of legal norms. This appears to indicate that professionally conducted re-adaptation actions can yield positive results in the form of social improvement for these people. In this manner, the hypothesis that habitual offenders are people hostile towards the legal order was refuted. As it turned out, however, the vast majority of Polish habitual offenders were not covered by the procedure of preparation for release referred to in Article 164 of the Executive Penal Code. Thus it is difficult to assess how much impact said procedure would have on the observed variable. In the case of the Slovak population of habitual offenders, such a conclusion cannot be drawn for a different reason. The author consciously obtained the material in equal parts from inmates staying in the exit wards and those outside them. The local Slovak project "A Chance to Return" was a pilot project at the time of the research, but the situation (taking into account the entire Slovak population of incarcerated habitual offenders) is probably similar to that in Poland. The results produced by the study also refute the hypothesis that in Poland being prepared for release increases the willingness to comply with the legal order. However, such a correlation was observed in Slovakia. Nevertheless, it is important to be aware that both procedures (Polish and Slovak), although having the same goal, are, in practice, implemented in different ways. Simply creating a release plan (implemented in both countries) does not mean that an inmate will cope better when released. The hypothesis that the time spent in isolation is inversely proportional to the value of psychosocial potential on the "attitude towards legal norms" scale was confirmed in the collected material. However, the time spent in the re-adaptation centre had a beneficial effect on this variable. Therefore, on these grounds, it is possible to formulate several comments of a pragmatic and applied nature.

Considering the obtained results, the definition of a habitual offender as a person who is "bad to the core by nature" should be revised. There are different paths leading to returning to life of crime, and this concept can stigmatize very different people at the same time. The attitude of convicts towards legal norms depends on many different variables and is not always a direct cause of re-imprisonment. It is a misunderstanding to automatically attribute low moral competence solely on the basis of the legal consequences of a second conviction. The Polish penitentiary system divides prisons into facilities for first-time offenders and those for repeat offenders, while the Slovak one divides them into those with reduced or increased security. It is worth considering the validity of such a stigmatizing classification. Making prison conditions similar to the conditions prevailing in the outside world (as is done, for example, in Slovak exit wards) could bring a more beneficial educational effect than segregation and assigning categories to prisoners according to the legal consequences of their actions. Widespread use of the potential of re-integration centres could also counteract the negative impact of strict isolation for people returning to prison. It is difficult to expect that changes in this direction will immediately be met with a positive social reception, but it is worth expecting from legislators to revise the current penal policy, especially towards repeat offenders who return to penitentiaries but do not pose a significant social threat. According to the author, a good target group for such changes would be, for example, re-incarcerated alimony debtors. Ensuring their return to socially acceptable roles is, after all, in the public interest. It is also worth imposing alternative sanctions where applicable. Repeat incarceration of alimony debtors or the addicted to drugs will not help them cope with their problems more effectively. Related to new social rehabilitation instruments (e.g. exit wards or re-adaptation programmes), it is worth drawing on the experience and knowledge of our southern neighbours, who are implementing their own alternative solutions. Some of their experiences in this area could be implemented in national Polish practice. It would also make sense because both countries are culturally and demographically similar. Since effective social re-adaptation is a complex process, and the attitude of habitual offenders towards legal norms is only one of numerous determinants of this process, it is worth seeking new solutions and critically reviewing the existing ones.

References

Bałandynowicz, A. (2006). Wykluczenie społeczne recydywistów jako następstwo niesprawiedliwego i nieskutecznego karania. In T. Gardocka (ed.), *Kary długoterminowe, polityka karne, wykonywanie, warunkowe zwolnienia* (pp. 93-99). Warszawa: WSHiP.

Jasiński, K. (2024). Wybrane czynniki ryzyka w readaptacji społecznej polskich i słowackich recydywistów. *Eruditio et Ars, 4*.

Łobocki, M. (2003). *Wprowadzenie do metodologii badań pedagogicznych*. Kraków: Oficyna Wydawnicza „Impuls".

Niewiadomska, I., Chwaszcz, J., Augustynowicz, W., & Bartczuk, R. (2014). Readaptacja społeczno-zawodowa więźniów. In *Narzędzia do diagnozowania potencjału readaptacyjnego i kapitału wspierającego*. Lublin: Instytut Psychoprofilaktyki i Psychoterapii, Stowarzyszenie Natanaleum.

Pilch, T. (1998). *Zasady badań pedagogicznych*. Warszawa: Wydawnictwo Akademickie „Żak".

Executive Penal Code Act of 2023.01.17, Dz.U.2023.127 t.j.

Valentovičová, Z., & Jasiński, K. (2020). Narodowy projekt „Szansa na powrót" jako sposób społecznej reintegracji skazanych ze społeczeństwem. *Nowa Kodyfikacja Prawa Karnego, LVIII*(4019).

Реадаптивне детерминанте прихватања правних норми међу пољским и словачким затворским повратницима

Криминални рецидивизам представља озбиљан друштвени проблем који генерише бројне трошкове и расходе повезане са функционисањем правосудног система и пенитенсијарних установа. Казне затворске изолације намењене су да остваре више функција, укључујући изолацију, превенцију, рехабилитацију и реадаптацију. Ове мере би, између осталог, требало да резултирају већим поштовањем моралних и правних норми. Међутим, доказано је да затвореници и лица која су пуштена из затвора не представљају хомогену групу, а разлози за њихово друштвено неприхватљиво понашање такође су различити. Посматрање ове групе на бинарни начин доводи до когнитивних грешака којима су изложени новинари и њихови читаоци. У медијима, повратник се увек представља као најгора категорија учиниоца, без обзира на околности случаја, тежину кривичног дела или сам тип рецидива. Ипак, не постоји довољно научних доказа који би оправдали поистовећивање сваког повратника или дела које чини са непријатељским ставом према правним нормама, иако свако кривично дело представља њихово кршење. Овај рад представља резултате сопственог истраживања о социјалном положају пољских и словачких повратника и њиховом односу према правном поретку. Животна прича сваког повратника је различита, а у светлу релевантне литературе и научних истраживања једини заједнички именитељи јесу фактори ризика карактеристични за ову групу људи, као што су зависности, социјална неусклађеност, дугови или порекло из дисфункционалних окружења. То јесу важни фактори у развоју криминалног понашања, али резултати процеса социјалне рехабилитације у затворима зависе и од професионализма особља казнено-поправне установе, њихове посвећености и системске организације процеса припреме за слободу. Држава није одговорна за појединачне одлуке криминалаца. Међутим, држава јесте одговорна за ниво посвећености раду са осуђеницима у затворским установама.

Резултати ауторовог истраживања показују да испитивана група, генерално гледано, није обележена непријатељским ставом према правном поретку, већ пре недостатком перспектива, вештина и мотивације за живот у друштву. На први поглед контроверзни резултати истраживања могу да добију дубље и применљивије значење када се сагледају из перспективе организације система социјалне реадаптације. Овај приступ и перспектива настоје да се успоставе упоређивањем истраживачког проблема у контексту две централноевропске државе – Пољске и Словачке. Питање је представљено у контексту реадаптационих мера које се спроводе у овим земљама. Време проведено у затворској изолацији, као и време проведено у специјализованом реадаптационом центру, може да помогне или наруши способност поштовања закона. Због тога се припрема за живот на слободи показује као важна варијабла. Током истраживања анализирано је да ли социјална реадаптациона помоћ која се пружа повратницима у обе земље утиче на њихов однос према правном поретку. Хипотезе које су претпостављале постојање фактора који отежавају способност испитиване групе да поштује закон, као и повољан утицај припреме за пуштање на слободу, потврђене су у току истраживања. Потврђена је и претпоставка да ниво поштовања правних норми зависи од времена проведеног у затворској установи. Испитујући когнитивни став осуђеника према правним нормама, проверен је и њихов општи став према правним прописима. Уочен је и утицај поступака припреме за пуштање на слободу на поштовање правних норми. Спровођење овог истраживања омогућило је аутору да формулише препоруке за пенералну праксу.

Кључне речи: *затворски рецидивизам; социјална реадаптација повратника; правни поредак; психосоцијални потенцијал.*

Readaptacyjne determinanty akceptacji norm prawnych wśród polskich i słowackich recydywistów penitencjarnych

Recydywa przestępcza to duży problem społeczny, który generuje szereg kosztów i wydatków związanych z utrzymaniem wymiaru sprawiedliwości czy zakładów karnych. Kary izolacyjne mają pełnić wiele funkcji, w tym izolacyjne, prewencyjne, resocjalizacyjne i readaptacyjne. Wypadkową tych działań powinno być m.in. większe poszanowanie norm moralnych i prawnych. Dowiedziono jednak, że osadzeni i zwalniani z zakładów karnych nie stanowią grupy jednorodnej, podobnie jak różne są przyczyny ich antyspołecznych zachowań. Postrzeganie tej grupy w sposób zero-jedynkowy prowadzi do błędów poznawczych, jakim ulegają publicyści i ich czytelnicy. Recydywista w przestrzeni medialnej zawsze oznacza najgorszą kategorię sprawcy, bez względu na okoliczności sprawy, wagę czynu czy rodzaj samej recydywy. Brak jest jednak wystarczających dowodów naukowych, przemawiających za utożsamianiem każdego recydywisty czy popełnionego przez niego czynu z wrogim stosunkiem do norm prawnych, choć każde przestępstwo stanowi ich naruszenie. W tekście zaprezentowano wyniki badań własnych na temat sytuacji społecznej polskich i słowackich recydywistów oraz ich stosunku wobec porządku prawnego. Historia życiowa każdego recydywisty jest inna, a wspólny mianownik w świetle literatury i badań naukowych stanowić mogą jedynie powszechnie występujące w tej grupie osób czynniki ryzyka, takie jak uzależnienia, niedostosowanie społeczne, długi czy pochodzenie z dysfunkcyjnych środowisk. Są to ważne faktory wykolejenia przestępczego, ale efekt procesu resocjalizacji więziennej zależy też od profesjonalizmu kadry penitencjarnej, jej zaangażowania czy systemowej organizacji procesu przygotowania do wolności. Państwo nie ponosi odpowiedzialności za indywidualne decyzje przestępców. Odpowiedzialne jest jednak za to, z jakim zaangażowaniem pracuje się z nimi w więzieniach.

Wyniki badań własnych autora dowodzą, że badana grupa nie cechuje się na ogół wrogim stosunkiem do porządku prawnego, a raczej brakiem perspektyw, motywacji i umiejętności życia w społeczeństwie. Pozornie kontrowersyjne wyniki badań autora nabrać mogą głębszego i aplikacyjnego sensu, gdy spojrzy się na nie z perspektywy organizacji systemu readaptacji społecznej. Ma temu służyć porównanie problemu badawczego w dwóch krajach środkowoeuropejskich – Polsce i Słowacji. Zagadnienie to przedstawione jest w kontekście podejmowanych w tych krajach oddziaływań readaptacyjnych. Czas spędzony w izolacji penitencjarnej podobnie jak czas pobytu w specjalistycznym ośrodku readaptacyjnym mogą sprzyjać bądź osłabiać zdolność przestrzegania prawa. Ważną zmienną zdaje się być zatem przygotowanie do życia na wolności. W trakcie prowadzonych badań analizowano, czy pomoc w readaptacji społecznej udzielana recydywistom w obu krajach wpływa na ich stosunek do porządku prawnego. Hipotezy zakładające istnienie czynników utrudniających badanym przestrzeganie prawa i korzystny wpływ przygotowania do zwolnienia zostały w toku badań potwierdzone. Przypuszczenie, że poziom szacunku do norm prawnych zależał będzie od czasu spędzonego w więzieniu też potwierdzono. Badając nim kognitywny stosunek skazanych do norm prawnych, zweryfikowano też stosunek badanych do przepisów prawa, w zależności od czasu spędzonego w izolacji. Obserwowano także wpływ procedury przygotowania do zwolnienia na szacunek do norm prawnych. Przeprowadzenie tych badań pozwoliło na sformułowanie rekomendacji dla praktyki penalnej.

Słowa kluczowe: *recydywa penitencjarna; readaptacja społeczna recydywistów; porządek prawny; potencjał psychospołeczny.*

Readaptivni determinanti prihvaćanja pravnih normi među poljskim i slovačkim zatvorskim povratnicima

Kriminalna recidivnost predstavlja značajan društveni problem koji generira brojne troškove vezane uz funkcioniranje pravosudnog sustava i zatvorskih ustanova. Zatvorske kazne trebale bi ostvarivati više funkcija, uključujući izolaciju, prevenciju, rehabilitaciju i readaptaciju. Ove bi mjere, među ostalim, trebale rezultirati većim poštivanjem moralnih i pravnih normi. Međutim, relevantna istraživanja ukazuju da zatvorenici i osobe puštene iz zatvora ne čine homogenu skupinu, a razlozi njihova antisocijalnog ponašanja također se razlikuju. Percepcija ove skupine na binaran način dovodi do kognitivnih pogrešaka kojima su izloženi novinari i njihovi čitatelji. U medijima se recidivisti uvijek prikazuje kao najgoru kategoriju počinitelja, neovisno o okolnostima slučaja, težini kaznenog djela ili samoj vrsti recidivizma. No, nema dovoljno znanstvenih dokaza koji bi opravdali poistovjećivanje svakog recidivista ili djela koje počini s neprijateljskim stavom prema pravnim normama, iako svako kazneno djelo predstavlja njihovo kršenje. Ovaj rad predstavlja rezultate autorskog istraživanja o društvenom položaju poljskih i slovačkih recidivista te njihov odnosu prema pravnom poretku. Životna priča svakog recidivista je različita. Sukladno relevantnim istraživanjima, jedini zajednički nazivnici su rizični čimbenici karakteristični za ovu skupinu ljudi, poput ovisnosti, socijalne neprilagođenosti, dugova ili odrastanja u disfunkcionalnim okruženjima. To su važni čimbenici u razvoju kriminalnog ponašanja. Istodobno, kvaliteta resocijalizacije povezana je s profesionalnošću zatvorskog osoblja, njihovoj predanosti i sustavnoj organizaciji procesa pripreme za slobodu. Država nije odgovorna za pojedinačne odluke počinitelja kaznenih djela. No, država je odgovorna za razinu predanosti radu s recidivistima u zatvorskom sustavu.

Rezultati ovog istraživanja pokazuju da se ispitivana skupina općenito ne odlikuje neprijateljskim stavom prema pravnom poretku nego nedostatkom perspektive, vještina i motivacije za život u društvu. Naizgled kontroverzni rezultati istraživanja mogu dobiti dublje i praktičnije značenje kada se razmotre iz perspektive organizacije sustava socijalne readaptacije. Taj se uvid nastoji postići usporedbom istraživačkog problema u kontekstu dviju srednjoeuropskih država – Poljske i Slovačke. Pitanje je prikazano u kontekstu readaptacijskih mjera provedenih u tim zemljama. Vrijeme provedeno u zatvorskoj izolaciji, kao i vrijeme provedeno u specijaliziranom readaptacijskom centru, može ili pomoći ili narušiti sposobnost poštivanja zakona. Stoga se priprema za život na slobodi pokazuje važnom varijablom. Tijekom istraživanja analiziralo se utječe li socijalna readaptacijska pomoć pružena povratnicima u obje zemlje na njihov odnos prema pravnom poretku. Hipoteze o postojanju čimbenika koji otežavaju sposobnost ispitivane skupine da poštuje zakon te o pozitivnom učinku pripreme za puštanje na slobodu potvrđene su tijekom istraživanja. Također je potvrđena pretpostavka da je razina poštivanja pravnih normi povezana s vremenom provedenim u zatvorskoj ustanovi. Ispitujući kognitivni stav zatvorenika prema pravnim normama, provjeren je i njihov opći odnos prema pravnim propisima. Uočen je i utjecaj postupaka pripreme za puštanje na slobodu na poštivanje pravnih normi. Temeljem nalazs ovog istraživanja generalizirane su preporuke za praksu.

Ključne riječi: *zatvorski recidivizam; socijalna readaptacija povratnika; pravni poredak; psihosocijalni potencijal.*

Roman Kurzeja
University of Applied Sciences in Nowy Sącz
Faculty of Social Sciences and Arts

https://doi.org/10.5937/int-themed-bg25232K

Temperamental determinants of stress coping styles in young adults

Abstract
This paper presents the problem of mutual relations between the intensity of individual temperamental traits distinguished in the Regulative Theory of Temperament (RTT) and the preferred style of coping with stress in a problematic situation. In this paper, the author focuses on identifying the relationship between preferred styles of coping with stress and the level of intensity of individual temperamental traits. The study was conducted on a group of 131 young adults, including 52 men and 79 women aged 20 to 30. The research methods used were the Formal Characteristics of Behaviour – Temperament Inventory: Revised Version (FCB-TI(R)) and the Coping Inventory for Stressful Situations by N.S. Endler and J.D.A. Parker (CISS). The obtained results indicate that temperamental traits correlate negatively or positively with particular stress coping styles. Moreover, in his paper the author demonstrates the possibility of inferring the dominant style of coping with a problematic (stressful) situation based on the intensity of individual temperamental traits.

Keywords*: temperament; stress; coping styles; young adults.*

Introduction

Stress coping processes have occupied interest of psychologists for decades. In the 1970s, researchers focused on stress coping processes in the progress of somatic diseases (Cohen & Lazarus, 1979; Moos, 1977). In the following years, researchers focused on finding the relationship between stress coping processes and experiencing occupational stress (Latack, 1986). The issue of coping with stress was also addressed by Polish researchers. I. Heszen-Niejodek (1994) researched the issue of coping with the stress of somatic illness. J. Strelau (1996) addressed the issue of coping with stress within the framework of the Regulative Theory of Temperament (RTT). The regulative temperament theory gains importance when an individual is confronted with stressors because this theory is reflected in states of emotional arousal that constitute the essence of psychological

stress (Heszen & Sęk, 2012). Consistently with the premises of the Regulative Theory of Temperament (RTT), the relationship between temperament and coping with stress is reciprocal. This is so because to some extent temperament determines reactions to stress, and on the other hand it is one of the factors that determines the costs incurred by an individual in sudden or long-lasting states of stress and the psychological costs of undertaken actions and decisions (Strelau, 2004; Ratajczak, 2000). This paper will present the results of the author's own research on the relationship between individual temperamental traits distinguished in the Regulative Theory of Temperament (RTT) and the preferred style of coping with difficult situations.

Temperament

Temperament is a term referring to a set of inherited personality traits that are genetically determined. These traits are visible from the beginning of human life and constitute the basis of its development (Walker et al., 2017). Temperamental traits are characterised by significant temporal stability and independence from situational or environmental influences (Pulkkinen, 2009). To some extent temperament determines every individual's behaviour, including the way they react to difficult situations that may be stressful (Kruczek et al., 2019). Temperamental reactivity manifests itself in the form of emotional-emotive systems that shape individual's typical stress responses on the grounds of on the individual dynamics of excitation and inhibition processes (Rothbart, 2002). Taking into account the role of temperament as a stable factor influencing behaviour, it seems justified to claim that temperament also influences individual's typical way of coping with stress (Hornowska, 2011). Contemporary research confirms the influence of the configuration of temperamental traits on the way a person functions. When faced with a difficult situation, people with a weak nervous system are characterised by low coping effectiveness, and their actions quickly become disorganized. On the other hand, individuals with a strong nervous system facing a similar situation will react adequately to the strength of the stimulus acting on them (Strelau, 2000; Lengua & Long 2002). The study adopted the characteristics of temperament presented in the Regulative Theory of Temperament (RTT). In his theory Jan Strelau (2006) defines temperament as "basic, relatively stable personality traits relating primarily to the formal characteristics (energetic and temporal) of reactions and behaviours". Temperament consists of the following traits:

- Briskness – the tendency to react quickly and maintain an intense pace of activity and to easily switch from one reaction to another in response to a change in the environment;
- Perseveration – the tendency to continue or repeat behaviours and emotional states after the stimulus that initiated these reactions has ceased to affect them;
- Sensory sensitivity – the ability to respond to sensory stimuli of low stimulating value;
- Emotional reactivity – the tendency to react strongly to stimuli that evoke emotions; emotional reactivity manifests itself in high sensitivity and low emotional resistance;
- Endurance – the ability to respond adequately to circumstances requiring long-term or highly stimulating activity or to respond to conditions of strong external stimulation;
- Activity – tendency to initiate behaviours of high stimulating value or to undertake activities that provide strong external stimulation;
- Rhythmicity – the tendency to regularly perform daily routines or its absence in the case of low intensity of this trait (Cyniak-Cieciura et al., 2016; Poprawa, 2013).

Consistently with the premises of the Regulative Theory of Temperament (RTT), the relationship between temperament and stress coping skills is reciprocal. This reciprocity results from the fact that, on the one hand, temperament to some extent influences the way we react to a stressor. On the other hand, temperament is one of the factors that determine the costs incurred by an individual in times of intense or long-lasting tension (stress), as well as the psychological costs resulting from the implementation of various coping strategies (Ratajczak, 2000).

Coping with stress

The issue of stress is widely described in the scientific literature. A. Jankowska and R. Krupiński (2012) define stress as a psychophysical reaction resulting from experiencing a situation that is difficult or impossible to resolve. I. Heszen-Niejodek (2000) defines a stress coping style as a set of coping strategies typical of an individual, some of which are activated in the process of coping with a specific stressful confrontation. Coping with stress is a set of activities aimed at overcoming threats. A preventative strategy is implemented when the threat has not yet occurred but may appear in the foreseeable future. The fight strategy involves actively confronting a factor that may lead to a direct threat to health and/or life. The fight strategy does

not always seem to be optimal, at times the defence strategy seems to be more beneficial. A defensive strategy involves protecting oneself, conserving energy and resources until the threat passes or diminishes by itself. In the case of coming into contact with certain environmental factors that exacerbate stress, an adequate strategy seems to be the escape strategy, which is commonly used in the face of so-called hopeless situations (Ratajczak, 2000). C. Carver et al. (1997) attempted to combine coping understood as a style and as a strategy. The authors presented several strategies for coping with stress. They distinguished active coping strategies, which include planning and positive reappraisal. Strategies that manifest helplessness such as abusing psychoactive substances, self-blame and disengagement. Support-seeking strategies and avoidance strategies, such as denial, venting, and engaging in other activities. Coping with stress, understood as a regulatory function, involves maintaining a balance between demands and possibilities or reducing the discrepancies that arise between them. Effective stress management is expressed through a state of balance or an adequate match between demands and possibilities, which leads to a reduction in stress. In turn, ineffective stress management leads to stress build-up. Coping with stress aimed at overcoming stress can be considered from the perspective of managing resources in terms of gains or losses. The benefits consist in acquiring or maintaining existing resources. Losses, on the other hand, mean the loss and consumption of resources. An individual copes with stress by moving, changing or investing his or her resources (Kurzeja, 2024: 145-146).

Own research methodology

The goal of the research was to identify the relationship between the dominant styles of coping with stress and the intensity of individual temperamental traits. Two diagnostic techniques were utilized under the study to measure the studied variables. In order to determine the intensity of temperamental traits, the Formal Characteristics of Behaviour – Temperament Inventory: Revised Version (FCB-TI(R)) was used, while the Coping Inventory for Stressful Situations (CISS) was used to measure stress coping styles. In addition, demographic data regarding the age and gender of the respondents was obtained during the study. The study was conducted on a sample of 131 people – 79 women (60.3%) and 52 men (39.7%). The respondents were aged 20 to 30 (M = 25.00; SD = 3.07). The research was conducted among young adults studying at the University of Applied Sciences in Nowy Sącz. The research was conducted at the turn of May and

December 2024. The sample of respondents enabled detection of an effect size of $r \geq 0.30$ with a test power of $1 - \beta = 0.95$ (significance level $\alpha = 0.05$).

The following research hypotheses were formulated in the work:

H1 Temperamental traits such as Briskness, Perseverance, Endurance and Emotional Reactivity influence the adoption of the Task-Focused Style (TFS) in the process of coping with stress.

H2 Temperamental traits such as Perseveration, Sensory Sensitivity and Emotional Reactivity influence the adoption of the Emotion-Focused Style (EFS) in the process of coping with stress.

H3 Temperamental traits such as Perseverance, Endurance and Activity influence the adoption of the Avoidance-Focused Style (AFS) in the process of coping with stress.

Operationalization of variables:

1. **Formal Characteristics of Behaviour – Temperament Inventory: Revised Version (FCB-TI(R))** by M. Cyniak-Cieciura, B. Zawadzki and J. Strelau. The inventory is used to examine temperamental traits and consists of 100 items which are graded by the surveyed individual responds on a 4-point scale (I strongly disagree/I disagree/I agree/I strongly agree). The obtained results allow us to determine the intensity of the following temperamental traits: briskness, perseverance, sensory sensitivity, endurance, emotional reactivity, activity and rhythmicity (Cyniak-Cieciura et al., 2016).
2. **N. S. Endler and J. D. A. Parker's Coping Inventory for Stressful Situations (CISS)** in the Polish adaptation by J. Strelau and A. Jaworska. The tool is used to identify stress coping styles. The questionnaire consists of 48 statements. The respondent rates the frequency of taking specific actions in difficult circumstances on a 5-point scale (never/very rarely/sometimes/often/very often). The obtained results allow us to classify stress coping styles on three scales: task-focused style (TFS), emotion-focused style (EMS), and avoidance-focused style (AFS), which may take the form of engaging in substitute activities (ESA) or seeking social contacts (SSC) (Strelau & Jaworowska, 2020).

Research results

Statistical analyses were carried out in order to verify the research model of own work. The significance level in this study was set at $\alpha = 0.05$. Table 1 presents basic descriptive statistics of the indicators of the tested variables along with results of the Shapiro-Wilk normality test. Based on a

high standardized value (z > 3.29) one case with an extremely high score on the rhythmicity scale was considered an outlier and excluded from the analysis. The final calculations were performed on a sample of 130 people.

Table 1 *Descriptive statistics of the indicators of the variables tested along with results of the normality tests*

Dependent variable	*M*	*Me*	*SD*	*Sk.*	Kurt.	Min.	Max.	W	p
Task-focused style	55,43	57,00	8,90	-0,68	-0,02	31,00	70,00	0,95	**<0,001**
Emotion-focused style	49,85	51,00	10,91	-0,04	-0,60	26,00	71,00	0,98	0,052
Avoidance-focused style	45,28	45,00	8,76	-0,39	-0,05	18,00	61,00	0,98	**0,044**
Engaging in substitute activities	20,11	20,50	5,47	-0,24	-0,79	8,00	30,00	0,97	**0,011**
Seeking social contacts	15,84	16,00	4,08	-0,25	0,10	5,00	24,00	0,98	**0,043**
Briskness	43,52	44,00	5,13	0,22	0,48	30,00	58,00	0,99	0,213
Perseverance	46,62	46,00	6,35	-0,07	-1,04	32,00	58,00	0,96	**0,002**
Rhythmicity	19,71	19,50	4,96	0,71	0,67	9,00	34,00	0,96	**<0,001**
Sensory sensitivity	44,49	44,00	5,53	-0,17	0,70	28,00	57,00	0,98	**0,029**
Resilience	34,72	36,00	8,14	-0,18	-0,72	15,00	50,00	0,98	**0,036**
Emotional reactivity	41,07	40,50	9,48	0,11	-0,90	22,00	60,00	0,97	**0,006**
Activity	38,34	39,00	8,07	-0,48	0,21	15,00	56,00	0,98	**0,028**

Annotation. M – mean; *Me* – median; *SD* – standard deviation; *Sk.* – skewness; *Kurt.* – kurtosis; *Min.* – minimum value; *Max.* – maximum value; *W* – result of the Shapiro-Wilk test; *p* – *p* value for the Shapiro-Wilk test.

Source: own research

The analyses of the distribution of normality of the data enabled us to conclude that only the avoidance-focused style and briskness were characterized by a score distribution close to normal. However, considering the difficulty in obtaining a normal distribution for psychological variables,

it was found that in our own work, parametric Pearson's *r* correlation as well as linear regression based on this correlation coefficient can be used (George & Mallery, 2019).

In the second stage of the analyses, Pearson's *r* correlations were performed for all tested variables in order to confirm the relationship between stress coping styles and temperamental traits (Table 2).

Table 2 *The relationship between stress coping styles and temperamental traits – results of Pearson's r correlation analysis*

Variable		Task-focused style	Emotion-focused style	Avoidance-focused style	Engaging in substitute activities	Seeking social contacts
Briskness	*Pearson's* r	**0,26**	**-0,27**	**-0,31**	**-0,53**	0,10
	significance	**0,003**	**0,002**	**<0,001**	**<0,001**	0,241
Perseverance	*Pearson's* r	**-0,33**	**0,73**	0,05	**0,27**	**-0,24**
	significance	**<0,001**	**<0,001**	0,586	**0,002**	**0,006**
Rhythmicity	*Pearson's* r	0,14	**-0,20**	-0,14	**-0,18**	-0,03
	significance	0,117	**0,024**	0,108	**0,036**	0,768
Sensory sensitivity	*Pearson's* r	0,07	**0,27**	0,12	0,15	0,11
	significance	0,439	**0,002**	0,176	0,085	0,197
Resilience	*Pearson's* r	**0,23**	**-0,46**	**0,19**	0,10	**0,29**
	significance	**0,007**	**<0,001**	**0,030**	0,272	**<0,001**
Emotional reactivity	*Pearson's* r	**-0,33**	**0,70**	0,06	**0,27**	-0,15
	significance	**<0,001**	**<0,001**	0,479	**0,002**	0,084
Activity	*Pearson's* r	0,16	**-0,39**	**0,37**	0,08	**0,51**
	significance	0,065	**<0,001**	**<0,001**	0,342	**<0,001**

Source: own research

Correlation analysis demonstrated that briskness positively relates to the task-focused style and correlated negatively with the emotion-focused and avoidance-focused styles, especially with engaging in substitute activities, for which the relationship was strong (r = -0.53). This means that in stressful situations people with a higher level of briskness were more likely to focus on the task, while less likely to use strategies based on avoidance and emotion regulation.

Perseverativity correlated negatively with the task-focused style and the search for social contacts, and positively with the emotion-focused style and engaging in substitute activities, which indicates that people with a higher tendency towards perseveration were less likely to choose strategies focused on problem-solving or social support, and were more likely to

focus on their own emotions and substitute activities. The relationship with focus on emotions was particularly strong ($r = 0.73$).

Rhythmicity correlated weakly and negatively with emotion-focused style and engaging in substitute activities, whereas sensory sensitivity showed a weak, positive correlation with emotion-focused coping style.

Sensory sensitivity correlated positively with task-oriented style (r = 0.27). This means that in a difficult situation people with a higher level of sensory sensitivity used a stress-coping style focused on the emotions they experienced.

In the case of endurance, positive but weak correlations were discovered with focusing on a task, avoidance and seeking social contacts. Furthermore, endurance correlated moderately strongly and negatively with the emotion-focused style, which suggests that people who were more resistant to stress were less likely to use strategies based on the experiencing difficulties emotionally.

Emotional reactivity was negatively related to task-focused style and positively related to emotion-focused style and engaging in substitute activities. A particularly strong correlation was discovered between emotional reactivity and focus on emotions ($r = 0.70$), indicating that in stressful situations more emotionally reactive individuals were more likely to focus on their own emotions.

Activity was positively correlated with the tendency towards avoidance-focused actions and seeking social contacts ($r = 0.51$), and negatively with the focus on emotions.

The results presented above allow us to state that the first hypothesis (H1), assuming that temperamental traits such as briskness, perseverance, endurance and emotional reactivity influence the adoption of a task-focused style (TFS) in the process of coping with stress, has been confirmed. A positive correlation was noted between the task-based style and briskness, defined as the tendency to react quickly and perform activities at a high pace. Endurance also positively correlates with this style, meaning that people who focus on the task are highly resistant to life's inconveniences. Moreover, people who prefer a task-focused style (TFS) are characterized by low perseverance, which manifests, among other things, in the tendency to quickly forget about decisions made and past experiences. This trait is also manifested in the reluctance to constantly repeat the same behaviours. Emotional reactivity indicated in the first hypothesis correlated with TFS negatively. This means that under stressful circumstances, people with this style do not react excessively emotionally and are able to take effective actions. The second hypothesis (H2), according to which temperamental traits such as perseveration, sensory sensitivity and emotional

reactivity influence the adoption of an emotion-focused style (EFS) in the process of coping with stress, was positively verified. High perseverance, expressed in the tendency to meticulously analyze and think back to past events, especially those that evoke strong unpleasant emotions, intensifies emotional reactions in stressful situations. Moreover, people characterized by this style (EFS) are characterized by high sensory sensitivity, i.e. a tendency to intensely feel and distinguish sensory stimuli, and high emotional reactivity, i.e. a pattern of intense emotional reactions even in situations with little stimulating value, including stressful ones. The third hypothesis (H3) assuming that temperamental traits such as perseverance, endurance and activity influence the adoption of the avoidance-focused style (AFS) in the process of coping with stress was not fully confirmed. The lack of influence of perseveration on the decision to adopt AFS coping style is inconsistent with the assumptions of this hypothesis. The remaining two traits, i.e. endurance and activity, positively correlate with ASF. It can therefore be assumed that people who are highly resistant to the hardships of life, including unfavourable environmental conditions, and who are active in their professional and social lives will choose a coping style focused on avoidance in problematic situations.

At the final stage of the analysis, a number of regression model tests was performed utilizing the input method, in which attempts based on the temperamental traits were made at predicting the level of stress coping through focusing on the task, emotions and avoidance The preliminary analysis demonstrated no co-linearity of predictors (in each model VIF < 3) and no correlation of random components (in each model Durbin-Watson statistic < 2). The remaining premises for the regression analysis were also judged to be met. Detailed results of the analysis along with standardized and unstandardized regression coefficients are presented in Table 3.

Table 3 *Regression models predicting the level of individual stress coping strategies based on temperamental traits*

Dependent variable	Explanatory variables	*B*	*SE*	*Beta*	*t*	*p*	Model match
Task-focused style	(Constant)	55,52	11,58		4,80	**<0,001**	$F(7; 120) = 5{,}11$; $p < 0{,}001$; $R^2_{adj.} = 0{,}185$
	Briskness	0,22	0,15	0,13	1,50	0,136	
	Perseverance	-0,31	0,17	-0,24	-1,84	0,068	
	Rhythmicity	0,21	0,14	0,12	1,48	0,142	
	Sensory sensitivity	0,17	0,13	0,11	1,28	0,204	
	Resilience	-0,01	0,10	-0,01	-0,09	0,932	
	Emotional reactivity	-0,16	0,11	-0,19	-1,45	0,149	
	Activity	0,02	0,10	0,02	0,17	0,867	
Emotion-focused style	(Constant)	9,76	10,23		0,95	0,342	$F(7; 122) = 30{,}96$; $p < 0{,}001$; $R^2_{adj.} = 0{,}619$
	Briskness	-0,21	0,13	-0,10	-1,62	0,108	
	Perseverance	0,65	0,15	0,38	4,37	**<0,001**	
	Rhythmicity	-0,22	0,13	-0,10	-1,73	0,087	
	Sensory sensitivity	0,31	0,12	0,16	2,59	**0,011**	
	Resilience	-0,18	0,09	-0,14	-2,06	**0,041**	
	Emotional reactivity	0,36	0,10	0,31	3,61	**<0,001**	
	Activity	0,02	0,09	0,02	0,26	0,796	
Avoidance-focused style	(Constant)	21,43	10,57		2,03	**0,045**	$F(7; 122) = 11{,}75$; $p < 0{,}001$; $R^2_{adj.} = 0{,}368$
	Briskness	-0,65	0,13	-0,38	-4,92	**<0,001**	
	Perseverance	0,19	0,15	0,14	1,24	0,219	
	Rhythmicity	-0,16	0,13	-0,09	-1,26	0,210	
	Sensory sensitivity	0,20	0,12	0,13	1,67	0,098	
	Resilience	0,22	0,09	0,21	2,44	**0,016**	
	Emotional reactivity	0,17	0,10	0,19	1,67	0,097	
	Activity	0,59	0,09	0,54	6,60	<0,001	

Annotation. B – unstandardized regression coefficient; *SE* – standard error; *Beta* – standardized regression coefficient; *t* – Student's *t* test result; *F* – result of the analysis of variance; *p* – statistical significance; R^2adj. – corrected *R*-square

Source: own research

All tested regression models demonstrated good adjustment to the data. The model explaining the task-focused style explained 18.5% of the variance in the dependent variable, the model predicting the emotion-focused style explained 61.9%, and the model predicting the avoidance-focused style explained 36.8%.

In the case of the model concerning the task-oriented style, none of the analyzed predictors achieved statistical significance in predicting this stress coping strategy. However, with regard to perseveration, a score at the level of statistical tendency was recorded ($p = 0.068$). The negative value of the *Beta* standardized coefficient suggests that people with a higher level of perseveration may be less likely to choose this style of coping with stressful situations.

The emotion-focused style was significantly predicted by perseveration, sensory sensitivity, endurance, and emotional reactivity. The analysis of *Beta* value indicates that people with higher levels of perseveration, sensory sensitivity and emotional reactivity demonstrated a greater tendency to focus on emotions in stressful situations. Furthermore, lower endurance also favoured this coping strategy. The strongest effects were observed for perseveration (*Beta* = 0.38) and emotional reactivity (*Beta* = 0.31).

In the model explaining the inclination towards avoidance focused style, briskness, endurance and activity turned out to be significant predictors. Beta values indicate that people demonstrating endurance and activeness, but less brisk, were more inclined to utilize avoidance strategies in stressful situations. Among the analyzed variables, activity had the strongest impact (*Beta* = 0.54).

Conclusion

The aim of the study was to identify temperamental traits distinguished in Strelau's Regulative Theory of Temperament (RTT) that predispose individuals to adopt specific coping strategies – coping styles – in stressful situations. The study, conducted on a group of 130 young adults, confirmed the research assumptions that there is a correlation between the style of coping with stress selected by an individual and the intensity of particular temperamental traits demonstrated by said individual. Different models of temperamental predictors determining the choice of a specific coping style were identified depending on the chosen style of coping with stress. The determinants of the choice of task-focused stress coping style (TFS) are: briskness, perseverance, sensory sensitivity, emotional reactivity and endurance. Statistically significant predictors for selecting emotion-focused stress cop-

ing style (EFS) are the following temperamental traits: briskness, perseverance, sensory sensitivity, emotional reactivity, endurance and rhythmicity. The predispositions for choosing the avoidance-focused style (AFS) turned out to be traits such as: briskness, activity and endurance. Moreover, the regression model tests performed for the purpose of this study demonstrated good match. The model explaining the emotion-focused style (EFS) turned to be the most accurate model, whereas the model explaining the task-focused style (TFS) was the least accurate. The conducted research proves that it is possible to distinguish specific sets of temperamental traits, based on which one can attempt to draw conclusions regarding the dominant strategies for coping with stress. The study discussed herein focused on the mutual relationship between temperamental traits and the selected coping style, without taking into consideration other variables such as personality traits, self-esteem and current psychophysical condition or support resources. The aforementioned variables should undoubtedly be taken into account in further research under the research topic discussed in this text (Kurzeja, 2024: 151; Kurzeja, 2025: 196-198).

References

Carver, C. S. (1997). You want to measure coping but your protocol's too long: consider the Brief COPE. *International Journal of Behavioral Medicine, 4,1*, 92-100.

Cohen, F., & Lazarus, R. (1979). Coping with stress of illness. In G.C. Stone, F. Cohen & N.F. Adler (eds.), *Health psychology: A handbook*. CA: Jossey-Bass.

Cyniak-Cieciura, M., Zawadzki, B., & Strelau, J. (2016). *Formalna Charakterystyka Zachowania – Kwestionariusz Temperamentu: Wersja Zrewidowana*. Warszawa: Pracownia Testów Psychologicznych Polskiego Towarzystwa Psychologicznego.

Dudek, B. (2002). Stres traumatyczny związany z pracą – skutki, czynniki ryzyka, zapobieganie. *Bezpieczeństwo Pracy, 376*/11, 2-4.

George, D., & Mallery, P. (2019). *IBM SPSS statistics 26 step by step: A simple guide and reference*. London: Routledge.

Heszen-Niejodek, I. (1994). Coping style and coping with somatic illnes. *Polish Psychological Bulletin, 25*, 3-13.

Latack, J. C. (1986). Coping with job stress: Measures and future direction for scale development. *Journal o f Applied Psychology, 71*, 327-385.

Heszen-Niejodek I. (2000). Stres i radzenie sobie – główne kontrowersje. In I. Heszen-Niejodek & Z. Ratajczak (eds.), *Człowiek w sytuacji stresu. Problemy teoretyczne i metodologiczne*. Katowice: Wydawnictwo Uniwersytetu Śląskiego.

Hornowska, E. (2011). Cloninger's Psychobiological Model of Personality and Strelau's Regulative Theory of Temperament – analysis of their associations in a Polish sample. *Polish Psychological Bulletin, 42*, 71-80.

Jankowiak, A., & Krupiński, R. (2012). *Słownik psychologiczny. Leksykon ludzkich zachowań*. Konin: Psychoskok.

Kruczek, A., Basińska, M. A., & Grzankowska, I. (2019). Temperamental determinants of coping flexibility in adolescents. *Psychiatry Neurol, 28*, 4-20.

Kurzeja, R. (2025). *Osobowościowe uwarunkowania stylów radzenia sobie ze stresem adolescentów*. In J. Nowosielska & P. Broża (eds.), *Współczesne wyzwania w edukacji, pomoc społecznej i terapii – kryzysy i perspektywy rozwoju* (pp. 186-199). Dom Wydawniczy Elipsa.

Kurzeja, R. (2024). Samoocena a radzenie sobie ze stresem studentów z terenu Nowosądecczyzny. *Eruditio et Ars, 1*(8).

Lengua, L. J., & Long, A. C. (2002). The role of emotionality and self-regulation in the appraisal-coping process: Tests of direct and moderating effects. *Journal of Applied Developmental Psychology, 23*, 471-493.

Moss, R. H. (1977). *Coping with physical illness*. New York: Plenum.

Pulkkinen, L. (2009). Personality – a resource or risk for successful development. *Scandinavian Journal of Psychology, 50*, 602-610.

Poprawa, R. (2013). Znaczenie cech temperamentu dla zaangażowania młodzieży w używanie alkoholu. *Psychologia rozwojowa, 18*(3).

Strelau, J. (1996). Temperament a stres: Temperament jako czynnik moderujący stresory, stan i skutki stresu oraz radzenie sobie ze stresem. In I. Heszen-Niejodek & Z. Ratajczak (eds.), *Człowiek w sytuacji stresu. Problemy teoretyczne i metodologiczne*. Wydawnictwo Uniwersytetu Śląskiego.

Strelau, J. (2000). Temperament a stres: temperament jako czynnik moderujący stresory, stan i skutki stresu oraz radzenie sobie ze stresem. In I. Heszen-Niejodek & Z. Ratajczak (eds.), *Człowiek w sytuacji stresu. Problemy teoretyczne i metodologiczne*. Katowice: Wydawnictwo Uniwersytetu Śląskiego.

Strelau, J., & Jaworowska, A. (2020). *Kwestionariusz Radzenia Sobie w Sytuacjach Stresowych CISS*. Warszawa: Pracownia Testów Psychologicznych Polskiego Towarzystwa Psychologicznego.

Strelau, J. (2004). Temperament. In J. Strelau (ed.), *Psychologia. Podręcznik akademicki*. Gdańsk: Gdańskie Wydawnictwo Psychologiczne, 683-720.

Strelau, J. (2006). *Temperament jako regulator zachowania z perspektywy półwiecza badań*. Gdańsk: Gdańskie Wydawnictwo Psychologiczne.

Strelau, J., & Zawadzki, B. (1998). *Kwestionariusz Temperamentu PTS: Podręcznik*. Warszawa: Pracownia Testów Psychologicznych Polskiego Towarzystwa Psychologicznego.

Ratajczak, Z. (2000). Stres – radzenie sobie – koszty psychologiczne. In I. Heszen-Niejodek & Z. Ratajczak (eds.), *Psychologia stresu*. Katowice: Wydawnictwo Uniwersytetu Śląskiego, 65-87.

Ratajczak, Z. (2000). Stres przeklęty – stres błogosławiony. O psychologicznych mechanizmach zaradności w sytuacjach zagrożenia. In I. Heszen-Niejodek,

& Z. Ratajczak (eds.), *Człowiek w sytuacji stresu. Problemy teoretyczne i metodologiczne*. Katowice: Wydawnictwo Uniwersytetu Śląskiego.

Rothbart, M.K. (2002). Szerokie wymiary temperamentu i osobowości. In P. Ekman & R.J. Davidson (eds.), *Natura emocji*. Gdańsk: Gdańskie Wydawnictwo Psychologiczne, 283-288.

Walker, K., Ammaturo, D.A., & Wright, K. (2017). Are we assessing temperament appropriately? The Emotionality Activity Sociability and Impulsivity (EASI) Temperament Scale: A systematic psychometric review. *Canadian Psychology, 58*, 316-332.

Детерминанте темперамента од значаја за стилове суочавања са стресом код младих

Проблем стреса и начина суочавања са њим има дугу историју. Током година спроведен је велики број истраживања у настојању да се одговори на питање шта одређује то да једна особа ефикасније савладава стрес од друге. Један од праваца ових истраживања био је трагање за индивидуалним разликама у темпераменту или цртама личности, које се затим испољавају у осећањима, мислима и понашању појединца у различитим околностима, укључујући и тешке или стресне ситуације. У тексту се представља проблем међусобног односа између интензитета појединих црта темперамента, издвојених у регулативној теорији темперамента (RTT), и доминантног стила суочавања са стресом у проблемској ситуацији.

У овом раду аутор се усредсређује на идентификовање односа између преферираних стилова суочавања са стресом и степена израженості појединих црта темперамента. У истраживању су коришћени Инвентар формалних карактеристика понашања – темперамент, ревидирана верзија (FCB-TI(R)) и Инвентар суочавања са стресним ситуацијама, аутора Н. С. Ендлера и Ц. Д. А. Паркера (CISS).

Истраживање је спроведено у групи од 131 младих, укључујући 52 мушкарца и 79 жена узраста од 20 до 30 година. Да би се одговорило на постављено истраживачко питање, изведен је низ статистичких анализа прикупљеног материјала, укључујући Пирсонове коефицијенте корелације за све испитиване варијабле. Поред тога, ради проширивања резултата претходно спроведених корелационих анализа, конструисан је и тестиран низ регресионих модела коришћењем методе уношења (input method), у којима су на основу црта темперамента издвојених у регулативној теорији темперамента (RTT) начињени покушаји предвиђања степена суочавања са стресом путем фокусирања на задатак, емоције или избегавање.

Добијени резултати указују на то да црте темперамена могу позитивно или негативно да корелирају са одређеним стиловима суочавања са стресом. У раду аутор такође показује да је могуће покушати да се на основу интензитета појединих црта темперамента изведе закључак о доминантном стилу суочавања са стресом у проблемској ситуацији.

Кључне речи: *темперамент; стрес; стилови суочавања; млади.*

Temperamentalne uwarunkowania stylów radzenia sobie ze stresem młodych dorosłych

Problematyka stresu i radzenia sobie z nim posiada długą historię. Na przestrzeni lat prowadzono szereg badań stanowiących próbę odpowiedzi na pytanie od czego zależy, że jedna jednostka w sytuacji stresu radzi sobie efektywniej od innej. Jednym z kierunków tych badań było poszukiwanie różnic indywidualnych w zakresie cech temperamentu czy osobowości, które to następnie manifestują się w sobie odczuwania, myślenia czy działania człowieka w różnych okolicznościach w tym także trudnych czyli stresogennych. W artykule przedstawiony został problem wzajemnych relacji między nasileniem poszczególnych cech temperamentu wyróżnionych w regulacyjnej teorii cech temperamentu (RTT) a preferowanym stylami radzenia sobie ze stresem w sytuacji problemowej.

Autor w publikacji skupia się na zidentyfikowaniu związku pomiędzy preferowanymi stylami radzenia sobie ze stresem a poziomem nasilenie poszczególnych cech temperamentalnych. Jako metody badawcze zastosowano Formalną Charakterystyką Zachowania – Kwestionariusz Temperamentu: Wersja Zrewidowana (FCZ-KT(R)) oraz Kwestionariusz Radzenia Sobie w Sytuacjach Stresowych N.S. Endlera i J.D.A. Parkera (CISS).

Badania przeprowadzona na grupie 131 młodych dorosłych w tym 52 mężczyzn i 79 kobiet w wieku od 20 do 30 lat. W celu odpowiedzi na tak postawione pytanie badawcze dokonano szeregu analiz statystycznych zebranego materiału badawczego w tym przeprowadzono korelacje r Pearsona dla wszystkich zmiennych testowanych , ponadto w celu pogłębienia wyników wcześniej przeprowadzonych analiz korelacji, wykonano szereg modeli regresji metodą wprowadzania, w których przewidywano poziom styli radzenia sobie ze stresem przez koncentrację na zadaniu, koncentrację na emocjach i unikanie na podstawie cech temperamentu wyróżnionych w Regulacyjnej Teorii Temperamentu (RTT).

Uzyskane wyniki wskazują, że cechy temperamentu korelują w sposób ujemny lub dodatni z poszczególnymi stylami radzenia sobie ze stresem. Autor w swojej publikacji wykazuje, także na możliwości podjęcia próby wnioskowania o dominującym stylu radzenia sobie ze stresem w sytuacji problemowej na podstawie natężenia poszczególnych cech temperamentu.

Słowa kluczowe: *temperament; stres; style radzenia sobie; młodzi dorośli.*

Temperamentalne odrednice stilova suočavanja sa stresom kod mladih odraslih

Pitanje stresa i suočavanja s njim ima dugu povijest. Tijekom godina provedeno je niz istraživanja u nastojanju da se odgovori na pitanje što uvjetuje učinkovito savladavanje stres. Jedan od pravaca tih istraživanja bio je traženje individualnih razlika u temperamentu ili osobinama ličnosti, koje se zatim očituju u osjećajima, mislima i ponašanju osobe u različitim okolnostima, uključujući i teške ili stresne situacije. U članku se prikazuje problem međusobnog odnosa između intenziteta pojedinih temperamentnih crta, istaknutih u regulacijskoj teoriji temperamenta (RTT) i preferiranog stila suočavanja sa stresom u problematičnoj situaciji.

Ovaj rad identificira odnos preferiranih stilova suočavanja sa stresom s razinom izraženosti pojedinih temperamentnih crta. Metode istraživanja korištene u studiji uključivale su Inventar formalnih karakteristika ponašanja – temperament, revidirana verzija (FCB-TI(R)) i Inventar suočavanja sa stresnim situacijama N.S. Endlera i J.D.A. Parkera (CISS).

Istraživanje je provedeno na skupini od 131 osobe, uključujući 52 muškarca i 79 žena u dobi od 20 do 30 godina. Kako bi se odgovorilo na postavljeno istraživačko pitanje, provedeno je niz statističkih analiza prikupljenog materijala, uključujući Pearsonove r korelacije za sve ispitivane varijable. Nadalje, kako bi se proširili rezultati prethodno provedenih korelacijskih analiza, izrađen je i testiran niz regresijskih modela korištenjem metode unosa (input method), u kojima su na temelju temperamentnih crta istaknutih u Regulacijskoj teoriji temperamenta (RTT) napravljeni pokušaji predviđanja razine suočavanja sa stresom putem usmjerenosti na zadatak, emocije i izbjegavanje.

Dobiveni rezultati ukazuju da temperamentne crte mogu pozitivno ili negativno korelirati s određenim stilovima suočavanja sa stresom. U ovom radu autor ukazuje na mogućnost pokušaja zaključivanja o dominantnom stilu suočavanja sa stresom u problematičnoj situaciji na temelju intenziteta pojedinih temperamentnih crta.

Ključne riječi: *temperament; stres; stilovi suočavanja; mladi odrasli.*

Information about the authors

POLAND

Krzysztof Jasiński, PhD – research associate, Faculty of Social Sciences and Arts, State University of Applied Sciences in Nowy Sącz, ORCID: 0000-0001-8312-1147; email: kjasinski@ans-ns.edu.pl

Beata Lisowska, PhD – assistant professor, Faculty of Social Sciences and Arts, State University of Applied Sciences in Nowy Sącz ORCID: 0009-0000-6880-0715 ; email: blisowska@ans-ns.edu.pl

Zbigniew Ostrach, PhD – assistant professor, Faculty of Social Sciences and Arts, State University of Applied Sciences in Nowy Sącz, ORCID: 0000-0002-6307-5099, e-mail: zostrach@ans-ns.edu.pl

Jolanta Rybska-Klapa, PhD – research associate, Faculty of Social Sciences and Arts, State University of Applied Sciences in Nowy Sącz, ORCID: 0000-0002-7275-8342; e-mail jrybska-klapa@ans-ns.edu.pl

Julia Klapa, PhD – assistant professor, Language Center, Cracow University of Economics, ORCID: 0000-0001-7369-374X; e-mail julia.klapa@uek.krakow.pl

Roman Kurzeja, MA – teaching associate, Faculty of Social Sciences and Arts, State University of Applied Sciences in Nowy Sacz, ORCID: 0009-0009-8652-1416; email: r.kurzeja@ans-ns.edu.pl

CROATIA

Mario Dumančić, **PhD** – full professor, Department of Information and Communication Sciences, Faculty of Teacher Education, University of Zagreb, ORCID: 0000-0002-2379-3432, email: mario.dumancic@ufzg.hr-

Maja Ružić, PhD – full professor, Faculty of Educational Sciences, Juraj Dobrila University of Pula, ORCID: 0000-0002-0155-4617, email: maja.ruzic@unipu.hr

Sandra Kadum, PhD – full professor, Faculty of Educational Sciences, Juraj Dobrila University of Pula, ORCID: 0000-0002-8441-0896, email: sanda.kadum@unipu.hr

Vlaho Kovačević, PhD, associate professor, Department of Sociology, Faculty of Humanities and Social Sciences, University of Split, ORCID: 0000-0001-8247-3941; email: vkovacevic@ffst.hr

Ivana Visković, PhD, associate professor, Department of Early and Pre-School Education, Faculty of Humanities and Social Sciences, University of Split, ORCID: 0000-0002-4029-044X, email: iviskovic@ffst.hr

Ana Žnidarec Čučković, PhD - assistant professor, Faculty of Teacher Education, University of Zagreb, ORCID: 0000-0002-2015-4459; email: ana.znidarec.cuckovic@kif.hr

Andriana Marušić, MA – teaching associate, Department of Early and Pre-School Education, Faculty of Humanities and Social Sciences, University of Split, ORCID: 0000-0002-0055-2142, email: amarusic@ffst.hr

SERBIA

Verica Milutinović, PhD – associate professor, Department of Natural Sciences, Mathematics and Computer Sciences, Faculty of Education, University of Kragujevac, Jagodina, ORCID: 0000-0003-0325-7285; email: verica.milutinovic@pefja.kg.ac.rs

Sofija Matović, PhD student – teaching assistant, Department for Didactics, Faculty of Education, University of Belgrade; ORCID: 0009-0000-8483-8932; email: sofija.matovic@uf.bg.ac.rs

Jelica Babić, PhD student – teaching assistant, Department for Didactics, Faculty of Education, University of Belgrade, ORCID: 0000-0003-0459-294X, email: jelica.ristic@uf.bg.ac.rs

“This volume offers a rich, interdisciplinary insight into contemporary challenges in education, technology, and society. Combining empirical studies and theoretical analyses, it addresses ICT use, generative AI, digital rights, media, networking, and social development, providing timely perspectives and practical guidance for researchers, educators, and policy makers navigating a rapidly changing educational landscape [...]”.

prof. Bożena Muchacka, PhD
University of Applied Sciences in Nowy Sącz, Faculty of Social Sciences and Arts

This edition of the Proceedings offers a broad and thematically coherent insight into contemporary educational as well as social processes, with particular emphasis on digital technologies and their transformative role. Generative artificial intelligence is recognized as a powerful potential for personal learning, assessment, and student support, as well as for supporting creative and communicative teaching methods. At the same time, the Proceedings do not shy away from addressing serious ethical, security, and regulatory issues. The papers clearly demonstrate how digital and AI tools, especially intelligent tutoring systems, can significantly enhance the monitoring of learning, although the need for empirical research remains strongly pronounced. The digital environment is also examined through the lens of children's rights, whereby technology empowers children's participation but also creates new forms of risk related to privacy, security, and unequal access. Digital networking is recognized as an important tool for professional learning and knowledge exchange, although it carries risks related to information quality and responsibility. Although some papers address topics more closely related to individuals' psychosocial functioning, such as stress, temperament, or resocialization, it appears that their content can also provide a relevant foundation and point of connection for future, possibly digital, interventions and programs. Overall, the Proceedings clearly show that digitalization is not merely a technical issue, but a profoundly pedagogical, ethical, and social one that requires thoughtful, responsible, and scientifically grounded application.

assist. prof. Toni Maglica, PhD
University of Split, Faculty of Humanities and Social Sciences

This volume explores education, technology, and social development through an interdisciplinary lens. International scholars show how ICT, artificial intelligence, and digital networking reshape teaching, learning, and professional growth, while addressing social, psychological, and ethical issues such as children's rights, teacher–parent relationships, and social reintegration. [...] Creative and cultural approaches, including drama and language learning, highlight experiential and participatory methods. The contributions reveal challenges and opportunities in integrating technology, pedagogy, and human development. The volume also celebrates multilingualism through extended summaries of all papers in the three languages of its Slavic editorial team. Rich in theory, research, and practice, it is a valuable resource for educators, researchers, and policymakers engaged in academic endeavours.

prof. Nevena Buđevac, PhD
University of Belgrade, Faculty of Education