

## **Competences**

Book of abstracts of the  
Hungarian Language  
Teacher Training  
Faculty's  
Scientific Conferences



# Competences

Book of abstracts of the  
Hungarian Language  
Teacher Training  
Faculty's Scientific  
Conferences



Subotica 2024.

## Sponsors



## **Conferences**

18<sup>th</sup> International Scientific Conference  
13<sup>th</sup> International Methodological Conference  
11<sup>th</sup> ICT in Education Conference

Topic  
Competences

## **Location**

University of Novi Sad  
Hungarian Language Teacher Training Faculty  
Štrosmajerova 11., 24000 Subotica, Serbia  
November 7–8, 2024



Subotica 2024.

Publisher  
University of Novi Sad  
Hungarian Language Teacher Training  
Faculty, Subotica

Editor-in-chief  
Valéria Pintér Krekić

Editors  
Rita Horák  
Cintia Juhász Kovács

Proofreaders  
Eszter Gabrity  
Viktória Zakinszky Toma

Layout editors  
Attila Harangozó  
Zsolt Vinkler  
Attila Vinkó

Printing-house  
Grafoprodukt

Issue  
150

+381 (24) 624 424  
magister.uns.ac.rs  
mttk.konf@gmail.com  
office@magister.uns.ac.rs

ISBN 978-86-81960-29-5

### **Conference Chairperson**

Valéria Pintér Krekić

### **ORGANIZING COMMITTEE**

#### **Chairpersons**

Beáta Grabovac  
University of Novi Sad, Serbia  
(International Scientific Conference)

Rita Horák  
University of Novi Sad, Serbia  
(International Scientific Conference)

Cintia Juhász Kovács  
University of Novi Sad, Serbia  
(ICT in Education Conference)

Elvira Kovács  
University of Novi Sad, Serbia  
(International Methodological  
Conference)

Zsolt Námesztovszki  
University of Novi Sad, Serbia  
(ICT in Education Conference)

Márta Törteli Telek  
University of Novi Sad, Serbia  
(International Methodological  
Conference)

Éva Vukov Raffai  
University of Novi Sad, Serbia  
(International Methodological  
Conference)

## **Members of the Organizing Committee**

Ottó Beke  
University of Novi Sad, Serbia

Eszter Gábrity  
University of Novi Sad, Serbia

Szabolcs Halasi  
University of Novi Sad, Serbia

Laura Kalmár  
University of Novi Sad, Serbia

Elvira Kovács  
University of Novi Sad, Serbia

János Samu  
University of Novi Sad, Serbia

Márta Takács  
University of Novi Sad, Serbia

Judit Raffai  
University of Novi Sad, Serbia

Judit Sörfőző Szügyi  
University of Novi Sad, Serbia

Zsolt Vinkler  
University of Novi Sad, Serbia

Attila Vinkó  
University of Novi Sad, Serbia

Viktória Zakinszky Toma  
University of Novi Sad, Serbia

## **Conference Secretary**

Brigitta Faragó Buzás  
University of Novi Sad, Serbia

Viola Nagy Kanász  
University of Novi Sad, Serbia

Mónika Saláta  
University of Novi Sad, Serbia

## **Conference Editorial Board**

Eszter Gábrity  
University of Novi Sad, Serbia  
(International Scientific Conference)

Beáta Grabovac  
University of Novi Sad, Serbia  
(International Scientific Conference)

Rita Horák  
University of Novi Sad, Serbia  
(International Scientific Conference)

Cintia Juhász Kovács  
University of Novi Sad, Serbia  
(ICT in Education Conference)

Elvira Kovács  
(International Methodological  
Conference)

Zsolt Námesztovszki  
University of Novi Sad, Serbia  
(ICT in Education Conference)

Viktória Zakinszky Toma  
University of Novi Sad Serbia  
(International Methodological  
Conference)

Márta Törteli Telek  
University of Novi Sad, Serbia  
(International Methodological  
Conference)

Éva Vukov Raffai  
University of Novi Sad, Serbia  
(International Methodological  
Conference)

## **SCIENTIFIC AND PROGRAM COMMITTEE**

### **Chairperson**

Rita Horák  
University of Novi Sad, Serbia

### **Members of the Program Committee**

Milica Andevski  
University of Novi Sad, Serbia

László Balogh  
University of Debrecen, Hungary

Edmundas Bartkevičius  
Lithuanian University, Lithuania

Ottó Beke  
University of Novi Sad Serbia

Stanislav Benčíč  
University of Bratislava, Slovakia

Annamária Bene  
University of Novi Sad, Serbia

Emina Berbić Kolar  
Josip Juraj Strossmayer  
University of Osijek, Croatia

Rózsa Bertók  
University of Pécs, Hungary

Radmila Bogosavljević  
University of Novi Sad, Serbia

Éva Borsos  
University of Novi Sad, Serbia

Eva Dakich  
La Trobe University, Australia

Zoltán Dévavári  
University of Novi Sad, Serbia

Péter Donáth  
Loránd Eötvös University, Hungary

Róbert Farkas  
University of Novi Sad, Serbia

Dragana Francišković  
University of Novi Sad, Serbia

Olivera Gajić  
University of Novi Sad, Serbia

Dragana Glušac  
University of Novi Sad, Serbia

Noémi Görög  
University of Novi Sad, Serbia

Beáta Grabovac  
University of Novi Sad, Serbia

Katinka Hegedűs  
University of Novi Sad, Serbia



Erika Heller  
Loránd Eötvös University, Hungary

Rita Horák  
University of Novi Sad, Serbia

Hargita Horváth Futó  
University of Novi Sad, Serbia

Éva Hózsa  
University of Novi Sad, Serbia

Szilvia Kiss  
University of Kaposvár, Hungary

Anna Kolláth  
University of Maribor, Slovenia

Cintia Juhász Kovács  
University of Novi Sad, Serbia

Elvira Kovács  
University of Novi Sad Serbia

Mitja Krajncan  
University of Primorska, Slovenia

Imre Lipcsei  
Szent István University, Hungary

Lenke Major  
University of Novi Sad, Serbia

Sanja Mandarić  
University of Belgrade, Serbia

Pirkko Martti  
University of Turku, Finland

Damir Matanović  
Josip Juraj Strossmayer University of  
Osijek, Croatia

Éva Mikuska  
University of Chichester,  
United Kingdom

Vesnica Mlinarević  
Josip Juraj Strossmayer University of  
Osijek, Croatia

Margit Molnár  
University of Pécs, Hungary

Ferenc Németh  
University of Novi Sad, Serbia

Siniša Opić  
University of Zagreb, Croatia

Slavica Pavlović  
University of Mostar, Bosnia and  
Herzegovina

Lidija Pehar  
University of Sarajevo, Bosnia and  
Herzegovina

Anđelka Peko  
Josip Juraj Strossmayer University of  
Osijek, Croatia

Valéria Pintér Krekić  
University of Novi Sad, Serbia

Ivan Poljaković  
University of Zadar, Croatia

Zoltán Poór  
University of Pannonia, Hungary

Vlatko Previšić  
University of Zagreb, Croatia

Zoran Primorac  
University of Mostar, Bosnia and  
Herzegovina

Ivan Prskalo  
University of Zagreb, Croatia

Ildikó Pšenáková  
University of Trnava, Slovakia

Judit Raffai  
University of Novi Sad, Serbia

János Samu  
University of Novi Sad, Serbia

Judit Sörfőző Szügyi  
University of Novi Sad, Serbia

Svetlana Španović  
University of Novi Sad, Serbia

László Szarka  
University Jan Selyeho, Slovakia

Zoltán Szűts  
Eszterházy Károly Catholic University,  
Hungary

János Tóth  
University of Szeged, Hungary

Márta Törteli Telek  
University of Novi Sad, Serbia

Vesna Vučinić  
University of Belgrade, Serbia

Éva Vukov Raffai  
University of Novi Sad, Serbia

Márta Takács  
University of Novi Sad, Serbia

Smiljana Zrilić  
University of Zadar, Croatia

Viktória Zakinszky Toma  
University of Novi Sad, Serbia

Julianna Zsoldos-Marchis  
Babeş-Bolyai University, Romania

# 18<sup>th</sup> International Scientific Conference Plenary lectures

## **Mező, Ferenc (Eger, Hungary) Competence Development from the Aspects of OxIPO Project**

Lucius Annaeus Seneca the Younger around 65 AD, wrote that 'Non vitae sed scholae discimus' (in English: 'We learn [such literature] not for life but for class time'). This phrase has become known in reverse today on the next version: 'Non scholae sed vitae discimus', so: 'We do not learn for school, but for life'. Following the second popular version, one of the central tasks of education should be developing student competencies in the different areas of human culture and everyday life. Competencies are complex entities that include e.g. knowledge, skills, attitudes, and motivations about their subject. In the educational context, the most important, general, and very complex competency is the competence for learning. How can we wait for high-level learning from our students, if we do not teach them to learn? How can we be effective teachers without teaching our students to learn?

The colored world of learning competencies can become transparent through the OxIPO Project. The main

aim of the OxIPO project is to increase the effectiveness of human information processing by developing competencies or such components of competencies as abilities, methods, knowledge, and motivation. However: the diagnostics is inseparable from the developmental work, so the diagnostics and development processes happen parallel in the case of the OxIPO Project.

The OxIPO Project has five sub-programs for increasing the effectiveness of learning and teaching, these are a) diagnostics and the development of learning abilities, b) diagnostics and the development of learning methods, c) diagnostics and the development of learners' personality and behavior, d) diagnostics and the development of teaching methods, e) diagnostics and the development of artificial intelligence (A.I.) to support learning/teaching.

The OxIPO Project builds on the theoretical background of the OxIPO Model of Learning. According to this model, learning is a kind of information processing that has four main components, these are Organization of learning, Input, Process, and Output information and activities of learning. This model differentiated three learning strategies/styles on the base of quality and quantity of input and output information. The learning ideal (the most effective learning strategy/style) is the so-called 'productive learning' (input < output) but this is typical among less than 1% of students. So, unfortunately, the other two types of learning are frequent in schools and universities too. These two learning

types are the reproductive learning (input = output) and the unproductive learning (input > output).

For productive learning to become general, the conscious development of learners is needed in kindergarten, primary, and secondary schools and universities, too. The development of abilities, motivation, and personal and behavioral characteristics can begin in kindergarten and 1-4 classes in the schools. The practice of more abstract learning methods is recommended from the age of 11. Teaching methods that facilitate productive learning (e.g. exploratory teaching) are recommended in the case of every age group. For this reason, training related to the methodology of the OxIPO Project is also required for teachers.

Key words: learning competence, effectiveness, OxIPO Project

#### **Lectures:**

**Trixler, Bettina (Pécs, Hungary)**

**Pusztalvi, Henriette**

**(Pécs, Hungary)**

#### **The relevance of using social robots in an interdisciplinary approach**

Autism spectrum disorder is a pervasive developmental disorder that pervades socio-communicative situations and manifests itself in restricted repetitive behaviors. The unpredictability of social interactions can significantly increase the stress level of the individual. The use of so-

cial robots may therefore be relevant not only in educational settings but also in hospital settings to reduce anxiety, control attention, and facilitate communication. By creating a predictable environment and limiting stimuli, it can become a pillar of cooperation and a mediator. In health care, it can assist in the treatment process, medication administration, physical exercises, daily routine, or even mental well-being. However, the adaptation of technology requires interdisciplinary work and in-depth knowledge of the individual's condition and interprofessional dialogue is also essential.

Keywords: autism spectrum disorders, health literacy, education, challenges

**Ninčević, Marjan Doc. dr. sc.**

**(Zagreb, Croatia)**

#### **IT competencies of teachers in the 21st century**

The article „IT competencies of teachers in the 21st century“ explores the essential information technologies (IT). The development of technology has transformed the way teaching and learning are conducted, making it necessary for teachers to possess appropriate IT skills to use digital tools and resources in their teaching. These are the competencies needed by teachers to successfully fulfil their roles in modern education. The article

also analyses the specific IT competencies required by teachers, including basic and advanced digital skills. Basic skills include computer literacy, internet usage, and knowledge of basic software packages (such as word processors, presentation tools, and spreadsheets). Advanced digital skills encompass the use of educational software, online learning platforms (e-learning), and tools for remote collaboration and communication. Possessing pedagogical IT competencies means integrating technology into the curriculum in a way that enhances learning, creating digital teaching materials, and employing interactive teaching methods. The article highlights the importance of security and ethics in the use of IT technologies in education. This means that a teacher must be trained to understand cybersecurity, privacy protection, and ethical issues related to the use of technology in education. The article emphasizes the importance of continuous professional development for teachers to keep up with rapid technological changes. It also suggests the need for systematic support and resources from educational institutions to ensure that all teachers have access to necessary training and tools. The article proves and highlights that IT competencies are not just additional skills, but key components of modern education that enable teachers to better engage students and prepare them for life and work in the digital world.

Keywords: competencies, pedagogical IT competencies, digital skills, technology development

**Tarnay, László (Pécs, Hungary;  
Subotica, Serbia)**

### **Transgression as critique of methodology**

The paper is an attempt at applying certain basic ideas of the theory of the anthropocene as a fundamental rupture in ecological thought. The idea that we are living not simply a climate crises but a wholly different epoch from the holocene beacons the end of the ordinary, the habitual, the past forms of knowledge and practice, etc. It also announces the arrival of the radically different, the new, the horrifying, the rapidly changing, the subliminal, etc. What we need is to think differently. To be creative in the sense of transgressing canonical categories, real or genuine taboos, the accustomed ways of thinking in algorithms.

In the rest of the paper, I discuss three particular fields where creative thinking is the only possible response to the anthropocene: i. network theory highlighting the rupture between digital communicative network and the organic entanglement of different species living together in the same "niche"; ii. education centering on deconstructing methodology rooted in schematic thinking; and last but not least the understanding and making of art which has, ever since it was begotten, offered a playground to embrace radical openness toward constantly changing new stimuli.

Keywords: Antropocene, transgression, network, creativity, art

**Major, Lenke (Subotica, Serbia)  
Creation and the development  
of the Competency-Based  
Personality Model**

In recent decades, in pedagogy and school education, the traditional focus on knowledge has been replaced by an approach that prioritizes the development of abilities, which already deals with the topic of the development of abilities in a planned manner. It is not so much the acquired knowledge, but rather the active ability to act and competence that has become the focus of the goal system of education.

Comparing the new pedagogical paradigms, József Nagy drew attention to the importance of developing competencies even in the last decade. Its criterion-oriented competence-based model is a complex system that treats the child's development and its support with a holistic approach. Competence-based development has now become an important factor in education internationally.

In my study, I present the development and change of the pedagogical models presented in József Nagy's three outstanding books, which are ever expanding and changing, mapping the spread of the new pedagogical culture, through the analysis of the contents of the volumes and the relevant literature.

Keywords: competence, personality model, supportive pedagogical school

**Duranović, Marina – Klasnić,  
Irena (Zagreb, Croatia)  
Teachers' social and emotional  
competencies**

The contemporary society we live in introduces new approaches to child upbringing and education. The expectations that society sets towards teachers are getting higher every day, making their job more challenging and complex. In order to respond adequately to these challenges, teachers must develop and expand their competency profiles. There are numerous competencies contemporary teachers should possess, social and emotional competencies being only a few of them. These competencies are interwoven, complementing and permeating one another. They can contribute significantly to the quality of teachers' work, and the quality of the teaching process as well. A teacher who possesses social and emotional competencies has quality interaction with students, creates a positive learning environment, establishes a successful partnership with parents, cooperates well with colleagues, and has fewer problems with class discipline. In that way teachers with developed social and emotional competencies develop prosocial behaviour of their students and other stakeholders in the education process.

Keywords: education, emotional competencies, social competencies, teacher

**Kokanović, Tihana (Zagreb, Croatia)**  
**Preschool teachers' competences for reflexive practice**

Reflection is the process of analysis, questioning and changing experiences and knowledge in the educational practice. It provides an in-depth insight into practice and secures the possibility of active functioning and learning based on own experiences. The processes of reflection motivate critical thinking and the analysis of learning situations and processes. It occurs on an individual (self-reflection) and collective level (reflection) and aims to improve the learning processes and construct new and different practices, values and knowledge. As reflective practitioners, preschool teachers take on this role responsibly and care for their professional development, whereby they become the bearers of change and active creators of the learning community within their micro-context (education group) and macro-context (preschool institution). In order to successfully deal with this role, the preschool teacher needs to possess various skills, competences and knowledge and be motivated to partake in continuous professional education to achieve positive change and develop their educational practice, that is, the whole institution. The key competences of reflective practitioners are considered within this paper as well as significant concepts of reflection and their influence in practice.

Keywords: preschool teacher, competences, reflective practitioner, reflection, self-reflection

**Skukan, Morena (Slunj, Croatia)**  
**– Kudek Mirošević, Jasna (Zagreb, Croatia)**

**Competencies and professional responsibility of preschool teachers in providing support to children with developmental disabilities**

The main elements of preschool teachers' competence and professional responsibility in providing support to children with developmental disabilities include a range of knowledge, skills, and attitudes that are crucial for successful work in an inclusive environment, ensuring that every child with developmental disabilities is actively involved in all aspects of preschool life. Therefore, the aim of this paper is to explore the extent to which preschool teachers in the Republic of Croatia recognize the most common characteristics of children with developmental disabilities, which point to some aspects of their functioning, as well as their experience and perceptions of the environment and the necessary support when working with children with developmental disabilities. A questionnaire for preschool teachers was used in the research, with 102 preschool teachers from kindergartens in the Republic of Croatia participating. The  $\chi^2$ -test provided insight into the differences between variables

in the category of 'recognition of characteristics and presence of developmental disabilities'. The results showed a statistically significant difference concerning the preschool teachers' experience in working with and supporting children with developmental disabilities, and to a lesser extent concerning the recognition of the most common characteristics in children with developmental disabilities and the inclusive environment. The results indicate that preschool teachers face various challenges in providing support to children with developmental disabilities, and their experiences vary greatly depending on the support they receive, the type of disability, and individual circumstances.

Keywords: characteristics of children with developmental disabilities, inclusive environment, preschool teachers' experiences, understanding types of disabilities

**Valjan Vukić, Violeta (Zadar, Croatia) – Knežević, Ivana (Gračac, Croatia)**

### **Motivation of educators for professional development in Croatia**

Contemporary society places increasing emphasis on lifelong education, which aims to improve the knowledge, skills and abilities of the individual so that they are ready to successfully respond to changes in any period of their life. The teaching profession is complex, and educators are expected to be willing to learn in order to improve their competences. The challenges faced by educators in their daily work require new approaches and strategies, therefore it is the responsibility of every educator to grow and develop professionally (Šagud, 2011). Professional training of educators is an important factor that affects the quality of educational practice. In order to be able to meet all the requirements of modern educational practice, the educator must be ready for continuous learning and professional development, in which their motivation plays a key role. Research shows that educators who are highly motivated will be more innovative and strive to achieve better results in their work (Yang Jie, 2010).

The paper presents the results of research conducted on a sample of educators (N= 206) from twenty-one counties in the Republic of Croatia. The aim of the research was to exam-



ine whether educators are motivated and what motivates them to participate in professional training, and to examine what factors affect their motivation positively and negatively. For the purposes of the research, a survey questionnaire was constructed, which in the first part, in addition to data on the socio-demographic characteristics of the respondents, contained general questions about their motivation for professional training, and in the second part, on Likert-type assessment scales, it was examined what affects their motivation for professional training positively and negatively.

The research results confirm that educators are motivated for professional development, the largest number of respondents (72.3%) are motivated by their personal and professional focus on learning. Furthermore, the results confirm that respondents highlight the development of personal knowledge and competences, specific skills and areas of work and the observation of positive changes in the group as a consequence of the application of new approaches as positive motivations for professional training, while the reasons for lack of motivation are distance, funding and a limited number of participants for professional development.

Keywords: preschool educator, motivation, professional development, lifelong learning

## **Bécsi, Zsófia PhD (Pécs, Hungary)** **The competence of educating**

Expectations about the educator's job are characterized by a strong duality. On the one hand, according to traditional values, we consider a person who is credible, has strong opinions, and strong principles to be a good educator, but at the same time, the same person must be able to adapt to current situations. The creation of community, for example, leads to finding the right voice and communication method, but at the same time, under the auspices of value creation, this cannot happen through unprincipled adaptation. On the one hand, the ability to adapt requires tolerance and the ability to empathize, for example by getting to know the characteristics of new generations, but successful communication does not mean that we start acting as if we ourselves were members of one of the newer generations. In my presentation, I will examine the competence of the ability to educate. I examine and compare the concepts of authenticity and retention with the needs of adaptation and flexibility. In our rapidly changing world, we need to reinterpret the competencies to describe the teacher's role. Those that are necessary for education itself. Based on these educational competencies, we can draw the new teacher characteristics that make education possible in the 21st century.

Key words: educator, generations, adaptation, value system

**Kalmár, Laura (Subotica, Serbia)  
– Major, Lenke (Subotica, Serbia)  
Teacher's competencies as a  
prerequisite for the success of  
teaching**

Not a single change in the education system can be realized without a competent teacher. There is a significant correlation between the quality of teacher's work and the effectiveness of student learning, because the quality of teacher's work is the most important indicator regarding the effectiveness of student learning. Whether students will acquire knowledge and develop appropriate competencies depend on the teacher's teaching competencies. Nowadays, new expectations are increasingly manifested in relation to the work of teachers, such as knowledge of non-subject competencies, knowledge of new evaluation systems, knowledge of new models of teacher training. The permanent development of teacher competencies and constant professional training is the only way for teachers to succeed in responding to today's needs, to introduce innovations and new pedagogical trends into their teaching, to contribute to the development of society. The aim of the paper is to point out the types of teacher competencies and the necessity of permanent professional development of teachers.

Keywords: teacher, teacher competencies, teaching, student

**Mihálka, Mária PhD  
(Szeged, Hungary)  
The challenges affecting family  
life in modern society**

We have to face many challenges in family life in our modern society, which is greatly affected by digitalization. Family systems essentially go through continuous change, which is an inevitable task, because every member of the system has to follow their own developmental program and at the same time adapt to their environment.

Literature review. The changes associated with development are predictable and can be prepared for, these are considered normative crises (Kömlösi, 1989). Accidental crises make the development stage harder, which cannot be foreseen. These conclude for example the societal crises of the distant past (world wars, global economic crisis, communism etc.) and the recent past (Covid19 epidemic, war situation, economic crisis), personal and family losses (deaths, loss of connection, existential uncertainty), as a result of which a considerable percentage of family systems has lost their balance and security both in the past and present, which greatly affects the families and the individuals living in them. Next to these changes and crises, the systems surrounding the family systems also have an effect on the life of families, in which digitalization is an outstanding effect.

Research questions. The question of this research is how can family systems be concluded in modern society? What family types, functions,

roles and tasks can be identified in modern families? How does digitalization affect all of the above, furthermore socialization and characteristics of family life stages?

**Methodology.** In my presentation, I am introducing the partial results of the 2024 qualitative data collection. The research was carried out by conducting structured interviews (N=24). The interviews were recorded nationwide from January to March in 2024. The questioning of the interviewees was carried out by using snowball method. The qualitative inspection focuses on the changes of socialization and family life.

**Most important findings.** It can be concluded from the interviews that in today's modern society there are many family types besides the most typical nuclear family type. It can be highlighted in regard family functions that digitalization has the most power over emotional, socializational and recreational-regeneration advancing functions, that help protect adults' psyche. We are able to find challenges in the socialization scene and in the family life stages emerging from the digital life, which affect members of the system at the same time – I will be discussing this topic in my presentation.

It further enhances the research's theoretical and practical relevance, that the findings create opportunities to characteristics of family systems in modern society, and to learn about the effects of the digital world, and to identify the risk and protective factors, if they are necessary for processing effective intervention procedures.

**Keywords:** family, society, digitalization

**Grabovac, Beáta (Subotica, Serbia), Major, Lenke (Subotica, Serbia) – Horák, Rita (Subotica, Serbia)**  
**Breakup strategies and positive mental health**

The paper examines the ways of breaking up romantic relationships in the mirror of positive mental health. In our research, we used the Hungarian version of the Breakup Strategies Questionnaire (BSQ-HU) among Hungarian adults from Vojvodina. Our main question was whether the way of breaking up is related to well-being and different mental strengths and difficulties. The results of our research show that it is. Some breakup strategies create psychological costs, while others are more related to positive functioning.

**Keywords:** mental health, breakup strategies, Vojvodina

**Zömbik, Flórián (Pécs, Hungary)**  
**The theoretical and practical competences of pedagogical profession – A newcomer's viewpoint**

Max Weber, German philosopher writes the following about one of the main pedagogical tasks: A good teacher's first act is to teach the students to acknowledge uncomfortable facts, by this I mean those, which are inconvenient for the viewpoint of a person; as for each viewpoint – for mine as well – there are bothersome facts (...) "Yes, but we come to your lectures to receive something different rather than brainstorming about mere theories or findings." – students say. However, the problem is that they are looking for something different in a professor than its main meaning: a leader, and not a teacher. (Weber, 1992.)

In order to educate an individual who is valuable for the society, other methods and viewpoints are needed instead of those established decades ago, and this brings educators into a whole new situation, which has never been seen before. The main goal of my presentation is the aim to show – with the help of pedagogical and philosophical examples – the route that leads teachers from the appropriate teaching attitude and pedagogical *ars poetica*, to teaching the competences which are necessary for students to become valuable adults. Apart from this, I aim to show an overview picture of the current 'knowledge, ability and attitude' features of present-day teachers and students as well as moral situations in the given topic.

Key words: competences, theory, practice, pedagogy, methodology

**Matin, Ines (Sombor, Serbia)**  
**Language competences of fourth grade elementary school pupils**

One of the key tasks of elementary education is the development of students' language competence, therefore it is very important to pay attention to the difficulties students face and organize language teaching properly. The aim of this research is to examine the knowledge of the grammar and spelling rules of the standard Serbian language among students in the fourth grade of elementary school. The research objectives are: 1) to assess knowledge of parts of speech; 2) to assess knowledge of noun gender and number; 3) to assess understanding of the declension of numbers and pronouns; 4) to assess the ability to conjugate verbs according to person and tense; 5) to assess the ability to differentiate sentences based on meaning; 6) to assess knowledge of spelling rules. The results indicate that students have the most difficulties in recognizing the parts of speech, as well as in knowing the spelling rules. This kind of problem could be solved by increasing the number of lessons devoted to those teaching contents that are the most difficult for students.

Keywords: language, spelling, competences, fourth grade, elementary school

**Rajsli–Tokos, Elvira  
(Bečej, Serbia)**

### **The competence of teachers working with students with disabilities**

The teacher in a special needs school encounters students with different disabilities. While working with them besides writing an individualized plan which according to the capabilities and possibilities of students an appropriate teaching must be realised. In practice it is often interpreted that a student who studies according to ITM2 (modified educational teaching plan) can learn everything so when students pass to a special needs school, teachers (defectologists or special educational teachers) are surprised that the knowledge of these students is rather scarce. Unfortunately, the professional staff in a special-needs school does not have the possibility to make up for the missed knowledge so that students could learn basic things that are necessary for the profession taught at the special-needs school. The law enables the cooperation of a regular school and a special-need school, but that is rarely realized in practice. Teachers who are enabled to work with regular students put the teaching material first which the students should learn during that school year and keep in mind all the regulations according to which the educational work is realized. Teachers who are enabled to work with students with special needs put the students first with

all their abilities and opportunities and only then do they analyze and systematize the educational area and the material that should be differentiated for the students. Differentiation is known to everyone, but how the same material should be differentiated for a student with regular development and that student with mild disabilities and those with multiple disabilities. In practice, it happens that a student with multiple disabilities is educated in a regular school, but the parent who wishes to educate their child in that institution is unsatisfied with the development of their child. Teachers give their best, but there is no result, parents and the child are frustrated and teachers despite their best effort slowly lose motivation to work with the students with disability. Communicational skills and social skills are also necessary in the work of teachers, but every student with disabilities requires different needs for communication. Sometimes less information gives better results than detailed repeated explanations. In modern schools, there are more and more informational devices and teachers have to learn how to use them and implement them in their work. Defectologists learn and accept this change, but students mostly do not have this kind of equipment so the question often arises why are teachers required to improve in the direction that cannot be applied and realised while working with students with disabilities. The use of modern technology is allowed by the law in schools but if the technology is used

in the school only, is the competent teacher motivated in their work?

The competence of teachers is important and teachers should learn and be flexible during the teaching process, but the kind and the amount of competence should be adjusted to the needs of institutions where educational work is realized.

Keywords: student with disabilities, changed or differentiated plan, teacher competence, inclusive school, assistive technology

**Pavlović, Slavica (Mostar – Bosna i Hercegovina), Yurevich Latyshev, Oleg (Moscow, Russia) – Aleksandrovna Latysheva, Polina (Moscow Russia)**  
**Inclusive school and teacher's competences: What's love got to do with it?!**

Inclusive education implies new demands on teachers, amidst others competences indispensable to work in an inclusive school. The aim of the quantitative research, conducted in the second half of 2023, was to examine the attitudes of teachers towards inclusive school, including their necessary competences, as well. The research was carried out in five primary schools in Mostar (Bosnia and Herzegovina), on the sample consisted of 163 teachers (51 class and 112 subject teachers), through the five-point Likert scale of attitudes (20 items in to-

tal, in two subscales). The results of the research indicate that both strata of the participants, among them the subject teachers in particular, tend to a negative attitude about their qualifications for work in inclusive schools (inadequate initial education and their professional development, lack of practical training) as well as about cooperation with relevant factors in the given context. However, a part of both class and subject teachers emphasizes love for teaching profession and children/pupils as the important basis of work in an inclusive school. Therefore, the question contained in the title of this paper: what does love have to do with inclusive competences, and thus with inclusive education and inclusive school.

Keywords: teachers, inclusive school, competences, attitudes, love

**Madunić, Marijan (Zagreb, Croatia)**  
**Leadership as a key competence of school principals**

The competencies of school principals in the Republic of Croatia have been defined by professional standards and qualifications since 2020. These competencies include formal teacher education, with an emphasis on pedagogical skills, leadership, management, and communication abilities. Comparatively, research from the United States highlights the importance of contextual leadership,

where principals develop direction, people, and organization, as well as adaptability in crisis situations such as the COVID-19 pandemic. The role of principals in the U.S. has significantly evolved, emphasizing the need for flexible and adaptive leadership that effectively responds to contemporary challenges.

Keywords: competencies, principals, leadership, pedagogy, management

**Dezső, Renáta Anna**  
(Pécs, Hungary)

### **The basic competence of reading and its related mindset matrix correlations amongst elementary school pupils in Hungary**

The HAS-UP Reading Fluency and Comprehension Research Group has been investigating the system of teaching reading among elementary pupils in Hungary since 2022. We carry out research related to the concept structures of educators on reading via theoretical and empirical tools in order to modernize the related pedagogical concepts and develop adequate practices. Amongst these investigations the presentation aims at disseminating the results of a fresh pilot carried out in among third grade pupils of a primary school in Pécs. These learners' previous results on reading fluency and comprehen-

sion are investigated for possible correlations of the children's reading related mindsets as well as those of their parents and educators. The applied research tools are surveys and semi-structured deep interviews and have a pioneer nature in the Hungarian educational research framework – although they build on relevant examples of the Anglo-Saxon arena (Dweck 2006, Andersen – Nielsen 2016, Myers et al 2016:1521, Petscher et al 2017: 387).

Key words: reading comprehension, fluency, mindset

**Szücs, Veronika – Sulaymonov, Yusufbek (Veszprém, Hungary)**  
**Bridging the cybersecurity awareness gap in a digital age**

This study investigates cybersecurity awareness among young adults (aged 18-30) in Hungary and Uzbekistan. While a significant portion (76.2%) of respondents demonstrated good password hygiene, a critical knowledge gap exists regarding multi-factor authentication (MFA). Despite a high level of education (84% with IT background), only a small number recognized the abbreviation and its purpose. The survey also revealed concerning gaps in identifying phishing attempts (63% unsure) and secure public Wi-Fi usage (23% unconcerned). Despite some positive security practices, a substantial knowledge gap exists regarding advanced

authentication methods and threat recognition. These findings highlight the urgent need for targeted security awareness programs to educate users on essential security measures like MFA, phishing detection, and safe public Wi-Fi practices. Implementing such programs in the closely future can significantly reduce online vulnerabilities and protect users' data privacy.

Keywords: cybersecurity awareness gap, online behaviour, personal security in digital age

**Samu, János (Subotica, Serbia) –  
Horák, Rita (Subotica, Serbia)  
Marius' death as a challenge to  
bioethical competences**

In our lecture and essay, we will examine Péter Becz's 'I miss you, Marius' [Hiányzol, Marius], a documentary film that has achieved major festival successes, and its social pretext, as well as the bioethical and pedagogical aspects of the social debates on the issue.

Curiously described in both its English and Hungarian synopses as meditative, optimistic and humanist, the work takes as its setting an abrupt action by the Copenhagen Zoo, which killed a young giraffe, Marius, on the grounds of overpopulation and genetic purity, and then fed his body to the zoo's predators after a public dissection, open to children and of a scientific educational nature. In

our analysis, we are going to critique the presuppositions of polarized positions that defend and attack the procedure in the discourse of posthumanism (especially critical posthumanism), which, in our opinion, is particularly well suited for this purpose.

Keywords: bioethics, pedagogy, posthuman perspectives

**Kós, Nóra PhD  
(Szarvas, Hungary)  
Factors affecting mental health**

Mental health shapes the way we live our lives, our relationships, our performance and our general well-being. In my presentation, I would like to outline the risk factors that can underlie burnout, mental health problems and psychosomatic illness. Coping strategies and protective factors are key to our defenses and their design varies from individual to individual.

Keywords: mental health, protective factors, coping strategy



**Szabó Palócz, Orsolya**  
(Szeged, Hungary)  
**Enemy-images within the  
digital platforms of political  
communication**

Although narratives of political enemy-construction are playing an important role in politics since the emergence of the first political communities, the digital contents of these narratives are far more recent phenomena.

Studies have shown that different political messages go through significant changes when placed within the platforms of the digital public sphere, compared to narratives appearing in the more traditional media outlets. Political actors who appear in the online space are forced to adapt to the possibilities allowed by social media platforms in terms of the scope, tone and content of their messages, while also actively participating in a competition for users' attention with other, non-political actors and subjects.

In accordance with the above-mentioned tendencies, the aim of this study is to determine through empirical analysis how these changes and characteristics appeared within the scope of Hungarian political communication, with special focus on the most recent political campaigns surrounding the 2024 European Parliamentary and local elections.

Keywords: political communication, digital public sphere, political-enemy construction, political discourse analysis

**Thékes, István**  
(Szeged, Hungary)  
**The impact of artificial  
intelligence on language  
learning and teaching in the light  
of studies published in 2024**

In my presentation, I will review the recent literature on artificial intelligence (AI)-assisted language learning and discuss the advantages and disadvantages of the changes that are taking place due to the continuous development of digital language learning applications (DLLAs). It has now become clear, as was suspected when ChatGPT was released in late 2022, that AI technology is developing much faster than anyone imagined (Huang et al., 2024). Recently, a number of studies have discussed the general potential of AI tools to complement language learning-language teaching. Currently, the general consensus is that teachers need to keep improving their skills, otherwise people who are good at using technology may take over jobs in the profession (Horváth, 2024). Research on the impact of AI on English language teaching is recent by nature. In this paper, I will address a concern that language teachers have been voicing since before the advent of ChatGPT. This concern is well captured in one question: will language teachers be needed in the future? To answer this question, I will draw together the conclusions of recent studies and propose a new model of language learning support-

ed by AI. The three components of the model are: use of chatbot, machine translation, text generation. I will discuss all three components through a learner perspective in the presentation

Key words: language learning, artificial intelligence, digital language learning apps

**Bertók, Rózsa PhD**  
**(Pécs, Hungary)**  
**Sustainable Pedagogy**

The present paper discusses the meaning of sustainable pedagogy today. While certain details including the school subjects of environmental education are elaborated, the necessary modifications of the entire education are still in the making. The digital world has not only changed the life of the new generations, but considerably redefined the unwritten rules of economic (management) and social justice. The practice of sustainable pedagogy depends on the extent it is going to adapt to the external changes as well as adopting them to the classroom and specifying different methodologies of knowledge and action patterns. Among the external conditions developmental devices, spatial conditions and personal abilities including teaching competences are featured. New methods should be developed for knowledge transfer, focusing on inductive learning, for there is no use in elaborating theories

if their implementation is lagging behind for 20 years. The crucial question is whether the available competencies should be reformed and adapted to the 21st century, or completely new competencies are needed which go beyond the individual subjects to reinforce health education, to fix safety measures, to motivate creativity, to promote the therapeutic application of the arts, to improve critical thinking and to enhance movement culture.

Keywords: sustainability, new competencies, digital age

**Sörfőző Szügyi, Judit (Subotica, Serbia) – Szügyi, Edit (Berlin, Germany) – Takács, Márta (Subotica, Serbia)**

**Clustering in the context of problem-solving competence**

Clustering is the study of methods that group objects into clusters based on their related attributes, with the goal of making them interpretable or useful for further analysis. A common expectation of these methods is that the objects within a cluster should be as similar to each other as possible, and as different from the objects in other clusters as possible. It is an effective technique for identifying student groups based on competencies, with the aim of assigning them appropriate educational strategies. Moreover, the clustering process itself enhances the users' problem-solving

competencies. According to the theory of problem-solving, competence is a preparedness that enables us to act effectively in various situations. In clustering, we do not have a clear path towards a solution. It is essential to critically evaluate information and recognize the factors that influence the final result. Users are often confronted with complex, incomplete information, which they must first interpret, then prepare appropriately, and find the most suitable types and methods of clustering to ensure that the clusters produced by the algorithms meet their expectations. The phases required for successful problem-solving — such as understanding the problem, formulating hypotheses, representing the problem, and examining the solution — are all present in the clustering process. The results of clustering are often ambiguous, making validity analysis a key part of the process. It must be determined whether the resulting clusters represent the real data structure. If the results do not meet the users' expectations, they must revisit earlier stages of the process: reassess the data preparation, algorithm selection, or even reformulate hypotheses. In conclusion, clustering does not only serve the structuring and interpretation of data, but also plays a significant role in developing users' problem-solving competencies, as it requires creative and critical thinking to find suitable solutions in various situations.

Keywords: clustering, competence development, problem-solving competence

**Raffai, Judit (Subotica, Serbia) – Fehér, Viktor (Subotica, Serbia) – Vukov Raffai, Éva (Subotica, Serbia) – Németh, Ferenc (Subotica, Serbia)**  
**Border and identity – Borders research in South Bánát District**

In our lecture we would like to sum up goals and research directions of a data collection in 2024 in the historical, linguistic and ethnic border, the border of the IPA region, in South Bánát District. The aim of this presentation is to show the analyzed the border intercultural processes among ethnical groups living together in Vojvodina, in the Lower Danube area (Vojlovica, Skorenovac, Ivanovo).

We are looking for answers to what interpretations of the border are among local residents in the investigated settlements, what stories are associated with it. We place particular emphasis on the political borders (of countries, of administrative areas: municipalities, provinces), cultural boundaries and on the constructed, but constantly changing borders between ethnic groups, as well as on restrictions and interoperability related to the existence of borders. Several previous research shows that individuals and local residents do not experience the political border or the border of ethnic identity as a limitation. They interpret it as something that exists that is part of everyday life and is a constant transition.

The sources of our paper is from our fieldwork, observations,

semi-structured interviews and archival research conducted in the Lower Danube area.

This research took place within the framework project European Union through the Interreg VI-A IPA Hungary-Serbia program, HUSR-B/23R/22/018.

Keywords: border studies, ethnic identities, cultural representation, Szeklers in Bukovina, Catholic Bulgarian

**Zakinszky Toma, Viktória  
(Subotica, Serbia) –  
Zakinszky, Márk  
(Subotica, Serbia)  
Vojvodina Hungarians' film  
chronography - from film  
sociographies to feature films**

The aim of our lecture is to develop a Vojvodina Hungarians' film chronography and a database of creators, which gives an insight into the work of Vojvodina filmmakers from its beginning to the present day. Starting with the founding of the Neoplanta Film Company, which was established with state support in 1966, and then the filmmakers grouped around the Újvidéki Televízió and the Terra film company, as well as the Yugoslav film industry, „film schools“ that turned to Hungarian sources and documentarians appeared in the mid-1980s. The Topolyai Film and Video Creation Camp, which was started in 1986, then the Délvidéki Videokrónika

and Cinema Filmműhely in Magyar-kanizsa carried on the banner of Vojvodina filmmakers with the help of numerous independent filmmakers and video production companies and NGOs, as well as Pannon RTV. The chronography can serve as a historical guide in the world of Vojvodina filmmakers, since many of our creators and film workshops have operated over the past decades and are still operating today, but at the same time, there is still no aggregated, digitized archive or database of film materials, creators, and various film events. This chronography can serve as the starting point of a film archive, thanks to which we would preserve for future generations the work of our film professionals, as these works are part of our cultural heritage as pieces of art in cinematography, but also as sociographically valuable contemporary documents for the upcoming generations.

Keywords: Vojvodina Hungarians' film, sociology, documentary film, feature film, chronography

## 13<sup>th</sup> International Methodological Conference Plenary lectures:

### Kic-Drgas, Joanna (Poznań, Poland) **Refreshed competences for the education of the future**

In a world of constant change, migration, modern technology, the teacher is not only confronted with the demands of the outside world, such as the ability to use a whiteboard or conduct an online course, but also, and perhaps above all, with the new demands placed on the students at different stages of their education and various needs they might represent. In this new environment, it is essential to develop new competences to prepare students more effectively for communication in the real world. In this regard, there is still a research gap due to a lack of information about the authentic working conditions of language teachers at different educational stages.

Therefore, the contribution discusses the results of interviews with in-service foreign language teachers in primary, secondary and university education in Poland. The background for these reflections on the state of teacher training education is the document European Profile for Language

Teacher Education - a Frame of Reference (2004) and DigComp 2.2 The Digital Competence Framework for Citizens (2022), which point out the main fields essential for the development of high-quality foreign language teachers in terms of digital, life and entrepreneurial competences. The data were analysed according to the model of inductive content analysis.

The achieved results contribute to the better understanding of the teachers' profession and might help by redesigning of teacher training programmes.

Keywords: Foreign language teachers, competences, DigComp

### Mikuska, Eva (Portsmouth, England) **Competences in early childhood: working with 0-5 years old children**

The need to prepare effective early years educators (EYE) for nurseries has been a major concern in contemporary debates in England. One of the topics under discussion relates to the kinds of knowledge, skills and competences required of an EYE, as well as the role of professional practice (placement) in relation to gaining experience and qualification. Issues, such as the ways in which professional standards are met, and the increased marketization of Early Childhood Education and Care [ECEC]

sector have led to a greater focus on the quality of services provided for 0-5 years old children. Therefore, the level of education for working with children remained a contested field. Since there is no universal definition of quality, what tends to happen is quality becomes narrowly defined, in most cases associated with metrics and competencies including culture and diversity, performativity, and managerialism. As such, it is important to explore how the ECEC workforce in England is responding to the increasingly complex challenges in meeting the demands of stakeholders and government who continue to overlook the importance of supporting the sector as a whole. This presentation draws on empirical study, and secondary data analysis of data that was collected in the last decade. Participants were employed in the ECEC sector, and included students studying in higher education Early Childhood Study programmes, other stakeholders, and early years professionals.

Keywords: Quality services, skills, qualification, knowledge, competences

### **Lectures:**

**Babcsányi-Tóth, Gabriella**  
(Bálványos, Hungary) – **Inczédy, Piroska** (Budapest, Hungary)  
– **Appl, Zsuzsanna** (Szekszárd, Hungary)

### **The potential of Waldorf pedagogy for the development of social competences**

Social competence encompasses the knowledge, sensitivities, and skills needed to collaborate effectively with others in society. Waldorf pedagogy, with over a century of history, centers on the idea that children discover and understand the world around them through the arts. Educational activities like drama, movement arts (eurythmy), singing/music, and crafts play a key role in fostering children's social skills. Moreover, the close cooperation between subjects in the Waldorf curriculum further enhances the social sensitivity and cooperative abilities of future generations.

This study aims to explore the moral significance of "social empathy" and to share the authors' pedagogical experiences on how social competence can be developed through this pedagogical method.

Keywords: social competences, reform pedagogy, arts

**Bacsa-Bán, Anetta – Kolacsek, Sándor (Dunaújváros, Hungary)**  
**Continuous professional development for VET teachers: opportunities and obstacles based on a case study**

The professional development of vocational trainers is critical to the effectiveness of education systems and to improving student outcomes. The purpose of this study is to explore the professional development practices of instructors at a technical school and the factors that influence them. The empirical research examined the views of 61 instructors using an online questionnaire. The focus of the research was on the instructors' knowledge of pedagogical methodology, their professional preparation and their needs for continuous professional development (CPD). The results show that, although trainers feel in an average position in terms of professional development, there is a strong demand for development opportunities, especially to keep up with rapidly changing industrial and technological trends. The research also shows that the CPD opportunities provided by the institution are not effective enough and suggestions are made to improve them.

Keywords: teaching, training and continuous professional development (CPD)

**Balogh, Mónika (Kaposvár, Hungary)**  
**Presentation of an intercultural kindergarten project**

If we take a look around the world, we can see that globalisation and several wars are intensifying the migration of people. Parents are taking jobs abroad, which means that more and more foreign children are entering the education system. Multicultural societies are becoming part of our lives, and pedagogy must respond to this.

Most people, when they hear about intercultural education or foreign children in the classroom, are frightened, become defensive, feel unable to cope without a common language.

Integrating foreign children may seem to be a difficult task at first sight, in which the teacher has a key role to play. If the right approach is found, intercultural education can offer a lifetime experience for children and adults alike.

Preschool is a sensitive time, when children's personalities are still very much in the process of being formed. It is therefore important to teach them to accept one another from an early age and to see each other's culture as a value.

Keywords: preschool education, intercultural education, multiculturalism, project

**Bencéné Fekete, Anikó Andrea  
(Kaposvár, Hungary)  
Development of learning  
competencies in higher education:  
Theoretical foundations and  
practical approaches**

The success of students in higher education largely depends on the learning methods they use. An important task of 21st century education is to equip students with learning competencies that enable them to succeed in the labor market. Learning competences encompass various skills and abilities that form the basis of an effective learning process. Learning competencies: the development of critical thinking, independent learning, collaboration skills, and information literacy are key. The purpose of the presentation is to provide a comprehensive picture of the possibilities of developing learning competencies, to present learning methods that promote the effective acquisition of knowledge. The theoretical and practical approaches are based on the latest international and domestic research (Schleicher, 2018; Kárpáti, 2020). The conscious development of learning competencies increases students' success and competitiveness and reduces dropout rates (Binkley et al., 2012). We formulate methodological suggestions for the effective development of competences, which is one of the keys to the success of students.

Keywords: learning competencies, higher education, critical thinking, digital tools, pedagogical strategies

**Bíró, Gyula (Szarvas, Hungary)  
An innovative approach to  
teaching philosophy and ethics,  
integrating subjects...**

The presentation offers a comprehensive overview of the teaching of ethics in Hungarian public education, examining it from curricular theory, didactics, psychology, and methodology perspectives. It aims to provide an analytical view of a multidisciplinary approach to curricular innovation. The presentation investigates the possibility of teaching universal, consensual ethics as a school subject. It examines the school-based practice of teaching values, philosophy, and ethical education, including its integrated curricular possibilities and project-based learning orientations. Active, reflective, creative, questioning, evaluating, and independent, student-centered, value-clarifying, and value-forming lessons are untapped opportunities and, at the same time, 'compulsory paths' in the school-based realization of mental hygiene in Hungarian public education.

The presentation also introduces a textbook adaptation as an optional alternative for teachers of ethics.

Keywords: ethics, philosophy, integrated subjects, innovation, textbook development



**Biró, Violetta**  
(Szekszárd, Hungary)  
**Complex art therapy among  
abused adolescent girls**

Serial abuse affects both the body and the mind. Structural abnormalities in the brain can be identified thanks to modern imaging procedures. Neural pathways corresponding to the given life experience are built, because of the continuous predominance of stress hormones, the body adjusts to a state of readiness, which is manifested in the child's behavior. After they are removed from the abusive environment, a long time usually passes, so the already used maladaptive behavior patterns also stabilize. In my presentation, I focus on how the complex art and art therapy sessions may be applied and manage stress, while creating an adaptive behavior patterns in children who have experienced abuse - through good practices of residential care (children's home).

Keywords: abuse, art therapy, residential care

**Borsos, Éva (Subotica, Serbia)**  
**4th year teacher training  
students' educational  
competence**

In common language the word competence has two meanings: competence, authority and expertise, and competence and aptitude. In today's word competencies appear in all areas of life, and this is how it happened in education as well. According to the pedagogical definition competence is a group of skills and abilities, using which the given person is able to solve problems. The European Council has defined eight key competences for primary education, and a Serbian Ministry of Education has defined eleven. In this work the competence of 4th year teacher training students of the Hungarian Language Teacher Training faculty in Szabadka was examined, within the framework of our environment and nature and society lessons held at the training school. The results show that the students as a whole have acquired the skills and abilities necessary to teach the subject and are suitable for teaching our environment/nature and society.

Keywords: competence, education, our environment, teacher training students, nature and society

**Budai, Gábor**  
(Dunaújváros, Hungary)  
**The effectiveness of the application of modern teaching methods in mechanical technician secondary education**

The purpose of the study is to examine the effectiveness of modern professional methodologies, with particular regard to the academic results of the students. I conducted my investigation in the 2023/2024 school year among 14th grade students of a Technical College in Dunaújváros. During my investigation, I looked for correlations between the teaching methods of each topic and the students' academic performance, by means of a comparative analysis of pedagogical documents. The results showed that the application of modern methodologies significantly increased the students' practical skills, motivation and commitment to independent problem solving, as well as their academic results. With my research, I also point out that the modern teaching methods used in the professional theory classes of mechanical engineering training can only be really effective if the students' personal experiences and the "virtual" reality created by computer methods are both present during the demonstration.

Keywords: Vocational training, modern teaching methods

**Dávid, János (Kaposvár, Hungary)**  
**Building competences for a zero-waste lifestyle at an early age**

The consumer society sees the creation of personal well-being for the individual in the consumption of as much product as possible. This is largely what children experience in their immediate environment: consume a lot > live well. It is up to educators to change this mindset. To illustrate the main ideas of this system of thinking and action, we can use the principles of zero waste. The most important thing to do with students after understanding the 6Rs (refuse, reduce, reuse, recycle, rot, repair) is to practice them. The presentation will give examples of practical implementation methods. These competences can be used in schools in the teaching and learning of several subjects. Experience and studies show that children in the average Hungarian family rarely or not at all hear about them, and few have good examples. In this context, education and training in schools is of particular importance.

Keywords: consumer society, environmental impact, zero waste lifestyle, practice, leading by example

**Halasi, Szabolcs – Borsos, Éva –  
Namesztovszki, Zsolt – Stajer,  
Anita (Subotica, Serbia)  
The correlation between the  
use of digital devices and  
physical activity in the case of  
Vojvodina lower class students**

Today's young people are born into a digital World in which their lives are greatly influenced by the use of smart devices. Most of them already learn to use them in kindergarten. In many cases, this comes at the expense of play, physical activity and time spent in the fresh air. It has long been a well-known fact that physical activity is essential for the proper physical and psychological development of children. The lack of this has many negative consequences already in childhood, but also later in adult life. The aim of our research is to examine how the use of digital devices (tablets, laptops, mobile phones etc.) affects the physical activity of lower grade students. Using internationally recognized questionnaires the opinions of children and parents on this topic was examined. The survey was extended for the whole area of Vojvodina. Our results reflect the correlations between the physical activity and the use of digital devices in the case of lower grade students in Vojvodina.

Keywords: lower grade pupils, digital devices, physical activity, questionnaire

**Halbritter, András Albert  
(Győr, Hungary)  
Safety in the school/  
kindergarten yard and the  
school garden**

Outdoor learning cannot be effectively used if safety is not guaranteed for children. A forest school guideline and checklist was adapted to school gardens, and tested in 80 institutions, as there are further risks connected to tools and food safety. Based on the experiences and literature data, an educational material was prepared, with school garden safety rules.

Keywords: school garden, outdoor learning, school safety

**Horák, Rita – Grabovac, Beáta  
– Major, Lenke – Samu, János  
(Subotica, Serbia)  
Competences and pre-school  
teachers**

The application of adequate competences has always been crucial in the lives of kindergarten teachers and teachers, and this is even more true for today's teachers, since with changing trends and a significant shift in children's interests, various areas and abilities that may not have been necessary so far became rather necessary now. Inevitably, in addition to intellectual, personal and social competences, as well as communication,

pre-school teachers are also required to obtain appropriate methodological competences as well as the optimal application of information and communication technologies, which received less emphasis a few decades ago. Pre-school teachers are in a particularly difficult situation, where, on the one hand, the introduction of a new pre-school program brought about a rapid and significant change to institutions. This study deals with the evolution of competences among preschool teachers in the light of the new program and the needs of new generations.

Keywords: Competences, pre-school teachers, new pre-school program

**Katona, Krisztina**  
(Szarvas, Hungary)  
**Lullaby poems in contemporary poetry**

After reviewing the literature on sleeping and anesthesia habits of young children and presenting the characteristic features of folk poetry works that make them sleep (Katona, 2022) in writings Lullaby poems in children's literature I. and Lullaby poems in children's literature II. we set out to take stock of the lullabies of art poetry that are part of Hungarian (children's) literature, which originated from the pen of our poets and writers over the centuries until the end of the 20th century (Katona, 2023, 2024).

In this lecture, the author focuses on the presentation and examination of contemporary poetry, i.e. poems with lullabies published in the 21st century.

Keywords: Early childhood education, children's literature, lullaby poems for children

**Kovács, Beatrix Edit**  
(Pécs, Hungary)  
**Metamorphosis,,second transformation"**

We accomplish talent identification and maintenance in the next 3 areas: - somatic-kinesthetic, interpersonal and visual-spatial skills. Main research questions: How the dance therapy session helps the social integration of children with special educational needs. My research was made on the basis of my own sample. According to my results, Timi has become cooperative with her healthy peers, she's able to actively participate in class, over and above she performs very serious exercises to a high standard. Because of this, on the 18th of March 2013, she received the National Talent Support Council's special award. It was one of the stations of my long-term subsequent follow-up, so the research will foreseeably last until 2025. As the result of my research's practical benefits, due to the above-mentioned reasons, the family gets a manageable, task-conscious, disciplinable child.

Keywords: creativity, giving experience, inclusive teaching, dance pedagogy, circus art – therapy

Kovács, Elvira – Boros, Dianna  
(Subotica, Serbia)

**Establishing knowledge transfer: A pathway to the mathematical development of disadvantaged children**

In our current society, possessing the right competencies is extremely important, while the reinforcement of mathematical knowledge and logical, problem-solving thinking plays a key role in successfully navigating everyday life. Moreover, the education of disadvantaged children is a recurring and often neglected issue, which this study places particular emphasis on, primarily focusing on the development of knowledge transfer that can facilitate the skill development of these children.

Our research indicates that educational institutions do not always effectively leverage the existing knowledge of children, which can easily lead to dropout. There are several solutions available for establishing knowledge transfer, including supplementary education, situational games, and, not least, the creation of a supportive environment. Furthermore, it is particularly important to apply personalized educational methods, as they truly foster critical thinking, contributing to children's future success. The goal is to create a more sensitive and inclusive society that provides everyone with the opportunity to acquire the necessary skills, thereby supporting the devel-

opment and full potential of disadvantaged children.

Keywords: competencies, disadvantaged situation, knowledge transfer, education, mathematics

Kovács, Mihály – Murányi, Zoltán  
(Eger, Hungary)

**Escape Games about the Escape Games: Usage of an Escape Game to Teach the Theory and Practice of Educational Escape Games**

We think that it is important to teach the usage of educational escape games (EEG), so that primary school teachers would be able to use them in their practice. The process of learning may be much easier, if they can try it during their formation, thus we developed an online EEG. Our presentation is about this game and our experiences. Our research question is, whether undergraduates can learn the theory and practice of the EEGs through our game. To answer it we are going to make photo-interviews with our participants, and compare their answers with different learning theories. Besides, we are going to perform structured observations to check whether events required by theories to achieve learning (e.g. debate) occurred.

Keywords: Environmental escape game, primary school teacher formation, learning

**Ladnai, Attiláné (Kaposvár, Hungary) – Komlósi, Veronika Júlia (Pécs, Hungary) – Demeter, Gáborné (Kaposvár, Hungary) – Hoss, Alexandra (Kaposvár, Pécs, Hungary)**  
**Innovative approach for children with neurodivergent thinking**

One of the catalysts of a child's development is how he or she views him or herself, what kind of self-image is formed. Stigmatisation, diagnosis-centred pedagogy can inhibit the development of a healthy self-image: it generates a sense of illness/otherness. The 21st century has seen an increase in international (Kolb, 2005; Liddle 2008) and national (Besnyi et al., 2020; Csajka et al., 2019) research that emphasizes the benefits of an experiential approach to (therapeutic) pedagogical development. They emphasize that respecting individual differences and strengths-based development can be a decisive factor for the mental health of the growing generation (Oláh, 2020). In the present research, we use a desk research method to explore tools and methods using a leisure and experiential pedagogical approach that can contribute to and/or facilitate the wider implementation of neurodiversity and neuroaffirmative (Aitken & Fletcher-Watson, 2022; Chapman, 2020; Singer, 2016) approaches. Thus, although theoretical in nature, our research aims to offer practitioners use-

ful points of reference and aspects to consider for the development and effective co-parenting of children with neurodivergent thinking.

Keywords: neurodiversity, mindset, neuroaffirmative, mental health, experiential approach

**Lestyán, Erzsébet (Szarvas, Hungary)**  
**Skills development in public education**

Learning and developing students' skills and abilities is one of the most important challenges of public education. Educating and developing pupils from different socio-cultural backgrounds requires teachers to have a high level of pedagogical, psychological and methodological competence. The author aims to present a theoretical and practical approach to this highly topical issue.

Keywords: competence, skills development, personality development, cognitive activities

**Longer, Marija – Putica, Mirna – Prskalo, Ivan (Zagreb, Croatia)**  
**General and specific competences of teachers for conducting the Physical Education lesson**

The goal of this research was to identify the general and specific competencies required for the implementation of the Physical education class, both for primary education teachers and kinesiology teachers. Differences in student satisfaction, their motivation to participate, the integration of the content of other subjects within the Physical and Health Education lesson, and the emotional connection between students and teachers were especially investigated. For the purposes of the research, a survey questionnaire was used to collect pupils' attitudes on the mentioned aspects. The results of the research showed that there are statistically significant differences in the clarity of work instructions, the creation of a more pleasant atmosphere, and the implementation of activities that are better adapted to pupils in favor of kinesiology teachers. On the other hand, the pupils estimated that during the Physical education lesson they repeated the content of other subjects to a greater extent with the teacher than with the kinesiology teacher. No statistically significant difference was found in the other claims, which refer to the evaluation of the way of communication, openness of the teacher/kinesiology

when help is needed, level of motivation, involvement in class and physical activities, and clarity and demonstration of exercises.

Keywords: experimental program, kinesiology education, class teaching

**Magyar, Ágnes (Jászberény, Hungary)**  
**Creative writing on visual impulse**

"The theoretical background of the topic is based on a process-based writing strategy rooted in cognitive psychology, specifically focusing on creative writing triggered by an external impulse (in this case, a visual stimulus). During creative writing, the writer creates something new based on their subjectivity, highlighting free associations, emerging experiences, feelings, impressions, and personality, thus allowing for self-expression while developing self-confidence and self-esteem. A stress-free environment, an open task formulation tailored to the learning group, and a supportive teacher attitude that makes all this possible are prerequisites.

Taking the above into account, we organized a creative writing workshop where 15 high school students could try their hand at creating their own works based on visual impulses. The students could choose from various thought-provoking images and

then collected associations related to their chosen image, which they represented in a word cloud. Following this, they created independent written works in various genres, forms, and text types based on the chosen image and their associations."

Keywords: creativity, productive imagination, self-expression, creative writing, visual arts

**Mező, Katalin**  
(Debrecen, Hungary)  
**Teacher competencies supporting student-centered learning**

The student-centered learning, or personalized learning is not even nowadays a commonly used method, however insight into its importance and the movement of pedagogical renewal in this direction can be felt. The student-centered learning refers to the diversity of learning programs, learning experiences, teaching approaches and learning support systems, with which teachers try to manage the individual, unique learning needs, interests, aspirations, and cultural background diversity of each student. Learning organized on a traditional basis usually does not take into account the unique needs and strengths of individual students, expecting that everyone progresses in the same way, at the same time, with the same curriculum, often unsuc-

cessfully on an individual level. The system of personalized learning on the other hand, makes teachers get out of their usual routines. It also approaches the knowledge to be taught by reinterpreting their own teacher roles during teaching, while emphasizing the need for students to participate in organizing their own learning processes. The focus of this presentation is on the teachers' competencies necessary to implement this change.

Keywords: student-centered learning, teacher, competencies

**Mikulan, Krunoslav**  
(Zagreb, Čakovec, Croatia)  
**Competencies of Foreign Language Teachers Regarding the Development of Information and Communication Technologies and Artificial Intelligence**

The training of foreign language students at higher teacher education institutions in Croatia regarding the use of new technologies began more than twenty years ago. This training was conducted through a theoretical-practical component in regular classes, through specialized courses, or through projects with similar institutions abroad. Even then, the range of new information and communication technologies was relatively broad, emphasizing the simultaneous use of various types of media,



interactivity, and the integration of pedagogical, didactic, and methodological approaches within foreign language teaching.

Recently, we have witnessed further development of interactive and gamified applications, as well as the rapid advancement of artificial intelligence, which offers new possibilities for learning and teaching foreign languages. The paper highlights the positive and negative aspects of learning and teaching foreign languages using these applications and methods, and provides suggestions for their potential integration into the educational process.

Keywords: foreign languages, teachers' competencies, ICT, artificial intelligence

**Nikolić, Ivana (Čakovec, Croatia)  
– Prskalo, Ivan (Petrinja, Croatia)  
– Mađar, Lana (Čakovec, Croatia)**  
**Physical activity and sedentary  
behavior of parents and  
preschool children**

The aim of this research was to examine the relationship between physical activity of parents and children aged 5 to 7 years. 155 respondents (N=155) participated in the research. The physical activity of parents was examined using a shortened version of The International Physical Activity Questionnaire (IPAQ), and the physical activity of children using The Chil-

dren's Physical Activity Questionnaire (CPAQ). The correlation between variables was calculated by Spearman's correlation coefficient. The results showed that 67.1% of children meet the guidelines of the World Health Organization for children aged 5 to 17 years of a minimum of 60 minutes a day in physical activities of moderate to high intensity, while 60% of parents meet the guidelines for adults of a minimum of 30 minutes a day in physical activities of moderate intensity. A significant positive correlation coefficient was obtained between high physical activity of parents and children ( $r=.183$ ). No significant correlation was obtained between sedentary activity of parents and children ( $r=-.060$ ). The results of this research showed that parents play an important role in modeling children's physical behavior.

Keywords: Children of preschool age, physical activity, sedentary behavior, parents

Papp, Zoltán (Subotica, Serbia)  
– Manojlovic, Helena (Budapest,  
Hungary) – Bükki, Eszter  
(Budapest, Hungary) – Kovács,  
Elvira (Subotica, Serbia)  
**Artificial Intelligence in VET:  
Teacher Competencies, Challenges,  
and Development Needs in the  
Hungarian and Serbian Contexts**

Artificial intelligence (AI) has the potential to revolutionize education by making it more efficient, personalized, and accessible. In vocational education and training (VET), AI could be especially crucial, as it may not only serve as the subject of education but also as a tool for teaching. As part of the preparation for the VETAssIst project, we conducted a survey among vocational educators in Hungary and Serbia. The aim of the project is to explore the transformative potential of AI and redefine its role in VET. Our survey results indicate that while teachers show significant interest in applying AI in their teaching, they generally lack AI competences and also have concerns. Although they recognize the advantages of AI, such as facilitating teacher preparation and lesson planning, they also see serious risks, including student plagiarism and the decline of critical thinking, creativity, and communication skills. Our findings highlight the necessity of developing teachers' AI competences and AI literacy, both during their initial education and in their ongoing professional development.

Keywords: Artificial Intelligence (AI), Vocational Education and Training (VET), AI Literacy, AI Competence

Phyu, Phyu  
(Budapest, Hungary)  
**Bridging the Gap: Exploring  
Assessment for Learning  
Practices in Higher Education**

The landscape of higher education has undergone significant transformations in recent years, particularly during the COVID-19 pandemic. Higher education institutions have been compelled to adapt their teaching and evaluation practices to the demands of the digital era (Watermeyer et al., 2020). As a result, the acceptance and implementation of theories and ideas supporting student learning have gained immense importance.

Assessment for Learning has emerged as a crucial component in fostering student autonomy and promoting effective learning. However, there appears to be a discrepancy between the theoretical underpinnings and the actual practices employed by educators.

The current study aims to explore the perspectives of higher education teachers on assessment practices, Assessment for Learning strategies, and the challenges they have encountered in the implementation of these practices.

The study employs a qualitative approach, utilizing semi-structured interviews with a focus group of higher education teachers. The findings of this research are intended to provide a foundation for the development of

comprehensive questionnaires and concept-mapping exercises for a follow-up investigation. (Hooda et al., 2022)

Keywords: Assessment for learning, teachers' perceptions, Higher Education

**Samu, János – Ivanović, Josip –  
Törteli Telek, Márta (Subotica, Serbia)  
Inherent Literary Aspects in  
Hungarian Mother Tongue  
Education in Vojvodina**

Our problem is to map a specific, hardly noticeable and therefore neglected area of minority mother tongue education, and to explore the potential justification for a more detailed operational investigation. We are interested in the extent to which students (prospective certified teachers and kindergarten teachers) are able and willing to apply the inherent aesthetic (more narrowly understood as literary) aspects in the planning and implementation of methodological units and group activities that can be linked to literary texts. We are concerned with an essential, but neglected aspect of correlational methodological approaches and project-oriented thinking.

The importance of this topic is that, although no one disputes the importance of early education in the recognition of inherent literary values, the literature rarely reflects on the way and extent of its implementation.

Keywords: literacy, mother tongue teaching, teaching and pre-school pedagogical competences

**Erdélyi, Éva  
(Budapest, Hungary)  
Looking back from the labour  
market: the role of 'number-  
related' subjects in tourism  
and hospitality undergraduate  
education**

The research examines the role of methodological subjects in the tourism and hospitality study program at Budapest Business University, the usefulness of the subjects' knowledge and the competences acquired through them on the labour market. The research focuses on the practical experiences after graduating, mainly concerning the methodological subjects. A written structured survey was conducted with the voluntary participation of 54 out of approximately 200 Hungarian language speaking students enrolled in tourism management, typically working in the sector. In addition, in-depth interviews were conducted on how they perceive the education from the working world and what they think about the role of the methodological subjects. The interviewees stressed that the transfer of knowledge through more professional applications and the linking of methodological subjects to the professional subjects of the programme help to make the most of the knowledge. Looking back from the labour market, the role of these subjects is important, they increase the competitiveness of our students.

Keywords: Competences, Competitiveness, Methodological Subjects, Tourism and Hospitality Study Program

Szilágyiné Szinger, Ibolya (Baja, Hungary) – Stankov, Gordana (Baja, Dunaújváros, Hungary) – Papp, Zoltán (Subotica, Serbia)  
**Developing mathematical and cognitive competencies in preschool and primary school children through teaching repetitive permutations based on lattice path problem tasks**

The article presents how mathematical and cognitive competencies can be effectively developed through the teaching of combinatorics. The authors place particular emphasis on teaching repetition-based permutations and combinations without repetition for preschool and elementary school children, specifically in the context of lattice path problem tasks. The playful approach to solving lattice path problem tasks allows children to easily grasp complex mathematical concepts while also enhancing their logical thinking, counting skills, and memory. The article discusses in detail how this method can be adapted for children of different ages and presents practical steps, games, and exercises that make the concept of permutations understandable. The results confirm that teaching based on lattice path problem tasks strengthens mathematical skills while supporting children's cognitive development, particularly in problem-solving and logical thinking.

Keywords: Combinatorics, lattice path problem, mathematical competency, playful learning

Stankov, Gordana (Subotica, Baja, Dunaújváros, Serbia, Hungary) – Tot-Babčanji, Gabriela (Debrecen, Hungary)  
**Algebraic structures and children's competences**

Teaching algebraic structures, even at a basic level, can significantly influence the development of various competencies in children. These include logical reasoning, problem-solving, communication, cognitive flexibility, resilience, teamwork, and metacognitive awareness. By integrating these concepts into early education, we can equip children with the foundational skills necessary for advanced mathematical thinking and problem-solving in diverse contexts.

Keywords: algebra, variable, student competencies

Tomić, Draženko (Zagreb, Croatia)  
**"Intuitive Instruction" and "Psychological Method" in Teaching**

The article presents the results of research into articles in the magazine "Kršćanska škola (Christian School)" (Zagreb, 1897-1945) about "intuitive instruction or intuitive training" and "psychological method". It was found that the magazine directly promotes awareness in teaching while respecting

the child's psychophysical condition. Intuitiveness is promoted through articles, even those that do not directly connect with the magazine's primary preoccupation, for example, "Intuitiveness in Teaching Geography" or "Intuitiveness in Teaching Mathematics". The "Intuitive method" is also promoted through "The Herald" (magazine section) by conveying news from around the world that supports the introduction of the new method in teaching. From time to time, the magazine publishes criticisms of "intuitive training". This article was written as a part of the project New Topics in Croatian Philosophy from 1874 to 1945 financed by Croatian Science Foundation under the number IP-2022-10-5438.

Keywords: primary education, teaching methodology, teaching aids, Croatian periodicals, „Kršćanska škola“ („Christian School“).

**Tóth, Mariann  
(Jászberény, Hungary)  
Application possibilities of  
drama pedagogy in secondary  
church schools based on  
interviews.**

During the interviews, my research sought answers to the following major questions:

- How do the peculiarities of the drama pedagogic approach appear in the view of teachers and students in the life of secondary church schools?

- What connections can be revealed regarding the application of drama pedagogic methods to biblical stories on the scene of high schools?

- What justifies the use of drama pedagogical tools in religious studies and Hungarian literature classes in pedagogical practice?

- To what extent and in what form do religion teachers incorporate the tools of drama pedagogy into the pedagogical practice in religious studies and Hungarian literature classes?

The information obtained during the investigation proves that drama pedagogy is widely used in institutions, teachers use it for both adding color to their lessons and deepening their knowledge.

Keywords: Drama pedagogy, method, church institutions

**Törley, Gábor – Bernát, Péter  
(Budapest, Hungary)  
Methods for solving typical  
tasks in spreadsheet and  
programming**

One of the primary goals of the informatics (computation) subject is to develop problem-solving thinking. Tasks related to data storage and processing constitute a significant and thoroughly covered topic within the subject, and they are often solvable using both spreadsheet software and programming languages. In our pre-

vious articles, we highlighted the theoretical possibilities of linking teaching spreadsheet and programming. In this publication, we explore the various possible solutions in spreadsheet and in programming of typical data processing tasks and problems, and also their conceptual and methodological connections, as well as the knowledge and competencies that can be imparted and developed with their help.

Keywords: spreadsheet, programming, problem solving, algorithmic thinking, teaching methodologies

**Zrilić, Smiljana – Knežević,  
Anđela – Travirka Marčina,  
Karmen (Zadar, Croatia)  
Competences of Students in the  
Final Years of Teaching Studies  
in the Recognition of Gifted  
Children**

The upbringing and education of gifted children is increasingly becoming a central theme of pedagogy, attempts are being made to investigate, analyze and arrive at the most complete pedagogical and didactic concept that would enable the maximum development of student abilities, and develop potential giftedness into a manifest. Gifted students often remain unnoticed and unrecognized, and their potentials are unexploited. Although official evaluations and identification of giftedness are per-

formed by psychologists, the role of the primary education teacher, who first meets the gifted in the school system, is irreplaceable. There are courses on giftedness at teachers' colleges in Croatia, and we were interested in the extent to which final year students feel competent in recognizing giftedness and working with gifted students. Altogether 154 final year students in studies for teachers from all Croatian universities participated in the research. The results showed that students mostly express satisfaction with the acquired knowledge about the gifted during their studies and consider themselves competent in recognizing giftedness, and they perceive working with the gifted as a challenge. However, there are those who consider that working with gifted students requires special motivation being very demanding and they feel not ready for such challenges.

Keywords: giftedness, gifted students, recognition of giftedness, competences

**Živković Zebec, Vedrana –  
Pacek, Ines (Osijek, Croatia)  
Gender representation of  
characters with disability in  
picture books**

Literature has the potential to familiarize readers with forms of diversity in society and develop inclusivity competencies. Picture books, in par-

ticular, have a significant potential to convey information and knowledge about the world to children from an early age, including issues of identity and diversity, which also encompass the representation of characters with physical and mental disabilities. This study will explore the portrayal of characters with disabilities in contemporary picture books and the representation of male and female characters within them. In the context of inclusivity and promoting understanding of diversity, it is important to explore how characters with disabilities are portrayed in picture books and how their gender representation and potential impact on children's perception and understanding of diversity, as well as the development or elimination of gender stereotypes or biases, are depicted. The selected corpus of contemporary picture books will be used to investigate the gender representation in the portrayal of characters with disabilities in picture books and whether specific disabilities are associated with male or female characters.

Keywords: picture books, gender differences, inclusion, disability, stereotypes

## 11<sup>th</sup> ICT in Education Conference Plenary lectures:

### Lengyelne Molnar, Tunde (Eger, Hungary) **The impact of artificial intelligence on education systems**

The fourth industrial revolution is drastically changing the way our world operates. It is reshaping the technological environment, reforming the way the economy functions and changing the daily life of society. As a result, the skills required by the labour market are constantly evolving. New competences such as artificial intelligence and the ability to analyse big data are emerging and it is estimated that the number of jobs specialising in these areas will increase by 30-35% (World Economic Forum 2023.) On the one hand, it is necessary to prepare students for the changing competence needs and to find ways to use AI to improve education. Natural Language Processing (NLP) opens up a new dimension in the development of education systems and the use of ChatGPT can represent a paradigm shift in education, bringing a significant number of benefits, but also problems to be solved and ethical concerns to be addressed.

Keywords: Artificial Intelligence in Education, Big Data, Chat GPT, Intelligent Tutoring Systems, expected skills



**Szűts, Zoltán (Eger, Hungary)**  
**AI vs. BIO. Young people's views on artificial intelligence, with a focus on education**

The presentation presents the results of nationwide research conducted in 2024 among Hungarian secondary school students based on the NMHH commission. The speaker led the research group, whose members were Mátyás Turós and Róbert Nagy, Mónika Beck-Zaja and Péter Esztelecki assisted the group's work as research assistants. The results reveal that most respondents are sceptical and cautious about media content generated by artificial intelligence. However, they also recognise its potential benefits in certain situations, especially as an additional tool. The research respondents were divided on whether they need to use artificial intelligence in learning shortly. Based on the results, the most used artificial intelligence service was ChatGPT, which young people used to solve more straightforward problems and answer shorter questions. The students' perception of teachers' use of artificial intelligence was "symmetrical" in our study. Based on the results, positive artificial intelligence attitudes have a significantly strong positive and negative artificial intelligence attitudes have a significantly strong negative effect on using artificial intelligence in learning. At the end of my presentation, I will also present the results of an artificial intelligence usage strategy.

Keywords: Artificial intelligence, secondary school students, education, attitudes, ChatGPT

**Lectures:**  
**Ábrahám, Gréta (Pécs, Hungary)**  
**The feasibility of introducing the DigiMI assessment method in Hungarian-language kindergarten educational environments in Vojvodina**

The focus of the research is a self-developed application named DigiMI, designed to run on a touch-screen mobile device (tablet). The DigiMI is a digitized adaptation of the EIDW method (Sándor-Schmidt 2016, 2019, Schmidt, 2022), which is used to examine the intelligence profile (Gardner, 1999; 2006) of kindergarten children in Vojvodina. The research seeks to determine whether the DigiMI application, an independent adaptation based on the MIMI method, is effective among its users (kindergarten children). The method employed in the research is an efficacy study (Halász, 2010; Sándor-Schmidt, 2019), during which the emotional expressions of kindergarten children are analyzed in the context of DigiMI play activities. The examination of children's emotional reactions is conducted using the Facial Action Coding System (FACS) (Ekman & Wallance, 1978) through video analysis with automated emotion coding. The automated emotion coding, based on Paul Ekman's basic emotion theory (1999) and James Russell's two-dimensional model (1980), is implemented using the iMotions Facial Expression Analysis



software tool (iMotions Software, 2024). The current study sample consists of 72 Hungarian-speaking kindergarten children, aged 5–6, from the pre-kindergarten and kindergarten groups of the Bačka region. In summary, it can be stated that the DigiMI application's animated, interactive, graphical elements, sounds, videos, and images contribute to its novelty and effectively maintain the attention and motivation of the users. The application predominantly elicited positive emotional responses from the children studied and proved effective among its users.

Keywords: intelligence profile, digital environment, kindergarten education

**Antal, Péter (Eger, Hungary)  
Education and digitalization:  
competences and realities in  
Hungarian public education**

The active, creative pedagogical use of digital tools and the digital environment has become an important measure of professional flexibility in the teaching profession. The methodological innovation of digital education is a major contributor to many pedagogical successes, but it is important to be clear about the pedagogical goals that digital tools are intended and capable of achieving. The experience of the last few years, especially in the Covid period, has shown the personal, technologi-

cal, methodological and attitudinal shortcomings that have highlighted the anomalies of digital education. One of these real problems is that the content management and learning tracking systems used by teachers are not uniform even among school staff, and in many cases there is a lack of creative communication between teachers. The question is, whether we can really increase efficiency, i.e. whether the technology and methodology used can deliver the greatest pedagogical 'yield' with the least investment of time and energy. This requires, however, an examination of the real picture in terms of methods, programmes and infrastructure. In my presentation, we will explore these issues and present the results and conclusions of a survey conducted among teachers.

Keywords: digital competence, methodology, digital transition

**Czeglédi, László (Eger, Hungary)  
Digital library pedagogy,  
critical thinking and AI**

I divided my presentation into three parts. First, I would like to talk briefly about the basics of digital library pedagogy.

In the following section, I would like to draw attention to an important organization: The DLF (Digital Library Federation) is a grassroots community of practice, which was created thanks to the interest of

practitioners following the 2015 DLF Forum. The group is open to anyone who is interested in how digital library systems shape our knowledge infrastructure.

Finally, in the third part, I would like to report on a large-scale virtual forum that precedes our conference (with my own assessment and insights). In the presentation, I will outline the most important topics of the forum, highlighting GLAM's community priorities in the ethical aspect of AI as well. On the other hand, a separate section at the forum deals with the question of education for critical thinking and the ratio of tool use.

Keywords: digital library pedagogy, digital technologies, critical thinking, artificial intelligence

**Csallner, András Erik**  
(Szeged, Hungary)  
**The role of educational technology in the development of competences**

"I believe that the motion picture is destined to revolutionize our educational system," Thomas Edison said in 1922. In the 1930s, attempts were made to introduce education by radio, while from the 1950s, educational films began to be mass-produced. In the 1980s, interactive computer-based tutorials became widespread and the use of digital whiteboards is now a standard feature of teaching. How do educational

technology and equipment support learning, why do we need teachers, how does artificial intelligence fit into education and what is artificial intelligence in general? These are some of the questions we seek answers to.

Keywords: education, educational technology, competences, artificial intelligence

**Csernai, Zoltán (Eger, Hungary)**  
**Supporting the development of the teaching profession with artificial intelligence tools**

Web 3.0 technologies, such as artificial intelligence (AI), Big Data, data mining and machine learning, are having a significant impact on education (Lengyel, 2022). The profession of educator has been revalued as AI tools such as teaching assistants, chatbots, imaging generative AIs and automated content evaluators offer a range of opportunities to improve teaching (Szivák et al., 2020; Anand et al., 2023). My research aims to explore the use of AI-based tools in education through a systematic literature review (PRISMA protocol) and to investigate the preparedness of teachers to use these tools. The results will show how these tools can support the teaching process and contribute to the technological development of the teaching profession and to

a better understanding of the role of AI in education (Cőgh & Kővári, 2022).

Keywords: Artificial intelligence in education, teacher profession, Big Data, PRISMA protocol, educational technology

**Gelencsérné Bakó, Márta – Gróf, Anita - Polyákné Brandtmüller, Anikó (Kaposvár, Hungary)**  
**Digital educational environment - challenges in higher education**

The topic of digitization in education is a widely debated area in society, which is confirmed by the diversity of researchers' opinions. This trend was significantly determined by the appearance of Covid-19, the consequences of which still affect various social challenges.

Decades ago, we could not experience the explosive change in the transformation of digital tools appearing in education, as we do today. (Kalas, 2021, Ficzer 2024).

The development of recent years has also brought about a significant change in approach, which was aimed at a complex approach to digital transformation. Educational practices, information acquisition, knowledge sharing and communication have changed.

In this digital educational environment, teachers have a key role. They must be prepared, respond to

emerging challenges in the application of digital technologies, and continuously develop their digital competencies. (Ubell, 2017, DigiKomp, 2019, Ives, 2021, Rosak-Szyrocka et. all 2022)

In our changing world, the foundations must already be provided in teacher training. In the training of our special education students, a priority area is the presentation of the application possibilities of digital teaching tools, the methodological and (special) pedagogical aspects of their applicability, taking into account the individual abilities and needs of the students.

In our presentation, we will present the developed methods that give an account of the changes in the development possibilities of digital competence in the process of student training. Our experiences point the way to a complex, 21st century approach to digital pedagogy, methodology and adaptive learning organization in the process of student preparation.

Keywords: digitalization, digital education, balance, (special) needs-training

Gógh, Előd – Kővári, Attila  
(Eger, Hungary)

### **The impact of digital education on educational equality and the development of analytical thinking**

The spread of digital technologies in education offers new opportunities to improve educational equality and develop students' analytical skills. In this research, we examined how well the available digital educational platforms and tools support individual learning needs, and how well the measures of educational institutions help teachers and students in the effective development of digital competences. The second part of the research examined the importance of analytical thinking and its impact on students' problem-solving abilities and critical thinking. The results of the survey show that the majority of participants are moderately satisfied with the accessibility of digital educational tools and platforms, while the support of teachers received a mixed evaluation. Based on the answers to the questions about analytical thinking, students believe that the analytical approach helps them in problem solving and comprehensive thinking, however, they still consider it necessary to develop deeper analytical skills. Our results highlight that, although digital tools offer significant benefits in education, there are still gaps in ensuring equal learning opportunities. Promoting education based on critical

and analytical thinking is also essential in developing students' skills in the digital age.

Keywords: digital education, educational equality, analytical skills, critical thinking, digital competences

Györe, Géza - Kubinger-Pillmann, Judit – Bognár, Amália  
(Veszprém, Hungary)

### **Differences and similarities in digital culture textbooks for grades 3-4 and 5-6**

In this presentation, we will look at first-generation textbooks in digital culture for grades 3-4 and 5-6. In our research, we will analyse the tasks in these volumes from different perspectives. Our analysis will focus on linguistic, typographical and didactical aspects, i.e. we will try to provide a global overview of the tasks in the textbooks. In the present phase of our research, we are systematising the differences and similarities that are now apparent in the textbooks for grades 3-4 and 5-6. Seeing these differences and identities in a systematic way also paves the way for the long-term goal of our research, which is to analyse the tasks in the textbook and offer task alternatives that create a more effective way of teaching and learning digital culture.

Keywords: digital culture, textbook revision, task design, methodological support

Hajdu, Krisztián  
(Eger, Hungary)  
**The emergence of artificial intelligence in the digital competence framework: challenges and opportunities in education**

The rapid development of digitalization poses new challenges for education. The European Union has developed several reference tools to promote a unified approach to digital skills, which encompass these skills and facilitate their understanding. However, the spread of artificial intelligence opens up new possibilities in this area.

The aim of this research is to examine to what extent the frameworks developed by the EU integrate AI-related skills and knowledge. By examining the latest European Digital Competence Framework for Citizens (DigComp 2.2), I explore how AI is integrated into the development of digital competences; what challenges and opportunities citizens and, consequently, educational institutions face when applying AI; how AI supports digital learning and skill development. The research is conducted using content analysis, with category formation occurring in an inductive, data-driven manner, and categories created through open coding.

Keywords: Artificial Intelligence AI, DigComp 2.2, content analysis, opportunities, challenges

Juhász Kovács, Cintia  
– Námesztovszki, Zsolt –  
(Subotica, Serbia)  
**Educational technology practices for effective competence development**

One of the most important tasks of 21st century education is the development of students' digital competences, for which the effective use of educational technology tools is essential. Tools - such as Google Drive, Jamboard, Edpuzzle, micro:bit, or even video conferencing platforms - not only make the teaching material more interactive, but also develop students' creativity, problem-solving skills, and collaboration skills. The presentation highlights how these technologies contribute to the development of various competencies, such as digital literacy, communication, project management and creative thinking. Technological solutions used during practice-oriented education increase student engagement and contribute to the acquisition of long-term, applicable knowledge, thereby becoming one of the most important tools for effective competence development. During the presentation, the tools that are introduced to the students at the Educational Technology classes of the Teacher Training Faculty will be presented.

Keywords: educational technology, teacher training, practice-oriented, digital competence

Krstanović, Valentina –  
Tot, Anita (Osijek, Croatia)  
**Social Networks in the  
Everyday Life of Children and  
Adolescents**

With the development of technology, social networks have become an indispensable part of the daily life of people around the world, covering all age groups including children and adolescents. Nowadays, they are the key element of the modern social and business environment, as well as an important tool for communication. With technology playing a vital role in education and upbringing, information literacy, which includes computer literacy and design, has become a key skill in the modern world. Social networks have not only simplified and accelerated communication, but have also become an important tool for advertising, allowing companies and individuals to reach a wide audience in a simple and economical way. In addition, these platforms represent one of the favorite means of spending free time, offering users various forms of entertainment and relaxation. The paper explains the development of social networks with special emphasis on their growing popularity among young people and explores the role of parents in supervising and educating children about their use. The factors that contribute to the popularity of social networks among young people are analyzed and the importance of parental supervision and education is emphasized in order to ensure safety and a

positive experience for young users. The need for a balanced approach between freedom of use and protection of children online is also emphasized. Along with numerous advantages, social networks also carry certain negative aspects. Lack of real contact with peers, loss of privacy and reduction of security are just some of the challenges associated with excessive use of these platforms. The aim of this paper is to show the positive and negative impacts of social networks on the everyday life of children and adolescents through an overview of previous research.

Keywords: adolescents, children, positive and negative influence, social network

Nagy, Róbert (Eger, Hungary)  
**School pedagogy in the 3T  
matrix of digital culture**

The most important prerequisite for the development of digital culture in the context of school pedagogy is the provision of an infrastructural background, which precedes the intention and methodological considerations. The inclusion of the learner's own device in the school's educational processes can result in a comfortable online environment for the learner and a motivating effect of using the learner's own device, but it also entails a number of risks and legal and ethical dilemmas. In line with Unesco's recommendations of

recent years, restrictive regulations on the use of digital devices by pupils in schools have been introduced in Hungarian public education institutions from the 2023/2024 school year. In this presentation, I will distill the related lines of thinking and research findings in a matrix arrangement by exploring the practices and research that prohibit, tolerate and support the use of digital devices by pupils in schools, as revealed by systematic analysis. The global nature of the dilemma is demonstrated by the fact that education research in different continents and cultures is grappling with similar dilemmas.

Keywords: digital culture, device usage patterns, phone bans

**Námesztovszki, Zsolt**  
(Subotica, Serbia)  
**Skill and competence development at the World Robot Olympiad**

The World Robot Olympiad (WRO) was organized in Serbia for the first time in 2019. The essence of the competition is that students solve different tasks with the help of LEGO robots. The tasks are usually structured around moving the robot itself, and moving/lifting elements. Competition preparation and the competition itself are perfectly suited to effectively develop students' STEM (Science, technology, engineering, and mathematics)

competencies. In this study, the first steps in the organization of the WRO competition in Serbia are presented, along with its effects, as well as the difficulties and opportunities that this competition carries.

Keywords: World Robot Olympiad, STEM, Serbia

**Prantner, Csilla (Eger, Hungary)**  
**Innovative approach to creating digital learning environments: online learning monitored with eye-tracking**

There is an increasing focus on the learner-centered, ergonomic design of online learning materials these days (Mangaroska & Giannakos, 2018; Cenamo & Kalk, 2019). The development of online learning platforms, their integration into education as well as the data-based examination of the learning process on them will be highlighted. In order to be able to create truly effective digital teaching materials, it is worth approaching this area from several directions. The aim of the presentation is, on the one hand, to describe the literature research related to the topic in relation to the expectations of educational professionals towards online learning environments, and on the other hand, to highlight the good practices used by analyzing the characteristics of the most prestigious Online Course Ware (OCW) courses supported by MIT. The lecture will also present a pilot study on the trial by stu-



dents of a selected OCW course, during which the participants' activities were monitored with an eye tracker.

Keywords: online learning environment, instructional design, learning process monitoring, eye-tracker, OCW courses

### **Racsco, Réka (Eger, Hungary)** **Trends in digital education in the light of technology adoption models**

Since the 1970s, a number of disciplines (psychology, economics, communication theory, educational technology) have been concerned with the identification of key factors related to the process of adoption of new technologies by different social groups as part of the process of adoption, elaboration, adaptation and diffusion of innovations. The aim of my presentation is to describe the most prominent models of technology integration based on a qualitative framework of criteria that I have developed. In addition, I will present the factors necessary for the success of technology integration in education, which was achieved by studying and analysing models available in other disciplines. In my presentation, I will outline the current trends in digital education and attempt to identify its current stage of adoption.

Keywords: digital education, ICT integration, pedagogy, technology-integration models

**Radics, Krisztina**  
**(Eger, Hungary)**

### **The utilization of online escape rooms as a means of enhancing learning motivation**

Learning motivation, or rather its lack thereof, is a longstanding and prominent topic of interest in the field of pedagogy (Fejes, 2015). Enhancing learning motivation contributes to increasing students' performance and reducing dropout rates (Falus & Szűcs, 2022). Gamification, a process organization method gaining increasing popularity in education, increases students' motivation and facilitates their engagement. One possible example of how gamification can be implemented is the creation of online escape rooms. Online escape rooms combine the advantages of traditional escape rooms, such as developing logical thinking, collaboration skills, communication, problem-solving skills, and critical thinking, with the benefits of the online environment, making them location-independent and accessible to anyone, while also developing digital competence. In my presentation, I will introduce the methods and possibilities of online escape rooms, also illustrating them with practical examples.

Keywords: gamification, motivation, digital competence, logical thinking



Szabóné Balogh, Ágota  
(Szarvas, Hungary)  
**The future of education - The  
role of artificial intelligence**

An important question today is what role artificial intelligence (AI) has in education and what opportunities it will have in the future. It can appear as software or optimized hardware. This role can be personalized learning, continuous assessment, feedback, virtual assistants, pattern and resource research, chat bots, sentiment analysis, or even voice or image recognition, subtitling. Based on international and own studies, the author describes the possibilities inherent in the learning and teaching process. It also points out the risks, limitations, and changes in the teacher's role.

Keywords: Artificial intelligence, AI, education

Sedlar, Agneš – Rončević, Tamara  
(Novi Sad, Serbia)  
**Analysis of the attitudes of  
students of different genders  
on the application of interactive  
tasks with digital hybrid  
illustrations in mastering  
organic chemistry content**

The following study presents a part of a larger research about the application of digital, interactive hybrid illustrations in primary school organ-

ic chemistry lessons. The research was conducted during the second semester of the 2022/2023 school year with two groups of students: one control group and one experimental group of students from four primary schools in Novi Sad. The groups were statistically equalized using an initial knowledge test that contained tasks from inorganic chemistry. In the experimental group, the students solved tasks with digital, hybrid illustrations on the Moodle platform available online, using their phones, during the revision and practice lessons of the curriculum of organic chemistry in two topics: "Hydrocarbons" and "Oxygen-containing Organic Compounds."

In this presentation, a statistical analysis of the opinions of 119 eighth-grade students (N(male) = 51 and N(female) = 68) has been processed only in the experimental group, that was subjected to the new teaching and learning method.

It was concluded that digital hybrid illustrations helped female students to see the importance and significance of organic chemistry in everyday life, while they consider the Moodle platform easy to use and express a desire to reuse the Moodle platform in future learning situations. However, the applied non-parametric Mann-Whitney test showed that in these items there is no statistically significant difference in the attitudes of female and male students.

Keywords: organic chemistry, digital learning, hybrid illustrations, Moodle platform

Iža, Sonja – Vondrak, Valentina  
(Osijek, Croatia)

### **Assistive technology for blind students with application in the educational system**

Assistive technology (AT) is crucial for blind students in the educational process as it enables them to be independent and have access to information. Braille, originating from the 19th century, has become the primary means of communication for blind individuals. Assistive technology is divided into various types, from low to high technology, and has diverse applications. There is a need for further development of Braille literacy in Croatia. New devices like the 6dot Braille Coach facilitate Braille learning. The ProxTalker is a useful tool for communication for individuals with disabilities. The 6dot Braille Label Maker allows for labeling objects using Braille. BraillePen notebooks are essential for writing and reading text in Braille. Electronic aids in education have proven to be effective and provide easier access to materials. International research highlights the positive impact of assistive technology on the lives of people with visual impairments. A review of research in Croatia emphasizes the need for further local studies. Although the use of assistive technology in education has its advantages, it requires appropriate training for teaching staff. New technological developments continuously facilitate the daily lives of people with visual

impairments. The goal is to demonstrate how AT is applied in the educational system and what its role and purpose are for blind students.

Keywords: assistive technology, Braille, educational process, blind students

Zubac, Andreja (Nuštar, Croatia)  
– Bogut, Irella (Osijek, Croatia)  
– Vidačić, Krešimir (Osijek, Croatia)

### **Microlearning through Sustainable Development Activities in Educational Institutions**

Sustainable development is a cross-curricular topic in the curriculum of the Croatian educational system, and in this paper, we monitor it through its interdependence with information and communication technology and the concept of microlearning. The aim of this paper is to explore the trend of publishing videos about the participation of educational institutions in Osijek in environmental activities related to sustainable development on YouTube, with the purpose of improving it. The analysis showed that some schools and student dormitories do not have an active YouTube channel. Those that do mostly do not have any video content related to environmental activities and sustainable development uploaded. Based on a review of recent literature, we

conclude that the competencies required from teachers and students in the modern educational process include lifelong learning, skills in using and implementing digital tools, conscientiousness and ethical competencies, critical thinking and problem-solving, interdisciplinary content and subject integration, sustainable development competencies (knowledge, skills, and attitudes, proactive action, including environmental aspects such as cycling), communication with parents, colleagues, and the wider community, which can also be achieved through promotion on YouTube channel.

Keywords: microlearning, sustainable development, artificial intelligence, schools, student dormitories

CIP - Каталогизација у публикацији  
Библиотеке Матице српске, Нови Сад

371.13(048.3)  
371.3(048.3)  
37:004(048.3)

**HUNGARIAN Language Teacher Training Faculty. International Scientific Conference (18 ; 2024 ; Subotica)**

Competences : book of abstracts of the Hungarian Language Teacher Training Faculty's Scientific Conferences / [18th International Scientific Conference [and] 13th International Methodological Conference [and] 11th ICT in Education Conference, November 7-8, 2024, Subotica] ; [editors Rita Horák, Cintia Juhász Kovács]. - Subotica : Hungarian Language Teacher Training Faculty, 2024 (Subotica : Grafoprodukt). - 60 str. ; 23 cm

Tiraž 150.

ISBN 978-86-81960-29-5

1. Hungarian Language Teacher Training Faculty. International Methodological Conference (13 ; 2024 ; Subotica) 2. Hungarian Language Teacher Training Faculty. ICT in Education Conference (11 ; 2024 ; Subotica)

а) Учитељи -- Образовање -- Апстракти б) Настава -- Методика -- Апстракти в) Образовање -- Информационе технологије -- Апстракти

COBISS.SR-ID 156092169