

COLLECTION OF ABSTRACTS

for the

1st Budapest International Conference on Education

BICE 2024

28-30th of November, 2024

held at the Budapest University of Technology and Economics (BME),

Department of Technical Pedagogy



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PROGRAM

Thursday (11.28.)		
9:00-9:45	REGISTRATION	
9:45-10:00	Welcoming Speech of Péter Tóth, Conference Chair, Room 139	
10:00-10:30	COFFEE BREAK	
10:30-12:30	Didactics and Modern Methodologies	Contemporary Issues in Social Pedagogy
	LECTURE ROOM 139	LECTURE ROOM 124
	<i>Section head: Barnabás Vajda</i>	<i>Section head: András Benedek</i>
	Rethinking the usage of school historical sources and resources	Exploring Teacher Motivation and Optimizing the Learning Environment of Students in Internally Displaced People (IDP) Camps, Myanmar Through the Pink's Motivation Theory
	Kindergarten-School Transition in Early Childhood	Feed the Refugee Child! A Quest for a School Feeding Program in Kakuma Refugee Camp, Kenya
	Present In The Past - Examining Anachronisms in Selected History Textbooks and Among Student Groups	Pathways to Foster Parental Engagement: Hidden Factors That Encourage Becoming a Foster Parent
	In a Life-Like Way. A Didactic Approach to Teaching Heterogeneous Learning Communities Based on Teachers' Narratives	The Role of Social Values in International Students' Sport Persistence
		Regional Pedagogical Support Centres: A Strategy for Advancing Teacher Development in Slovakia
12:30-13:30	LUNCH BREAK (sandwich provided)	
13:30-15:30	New Approaches in Geography Education	Discussions on Teacher Training
	LECTURE ROOM 139	LECTURE ROOM 124
	<i>Section head: Dóra Bálint</i>	<i>Section head: István Danka</i>
	Applied Geography in the Classroom: A Case Study of Preparation for the International Geography Olympiad	Rethinking Role-Plays in Teaching Practice. Methodological Recommendations for Teaching Argumentation and Negotiation Strategies
	A New Approach to Mental Mapping: Quantitative Analysis Through Webcartography	The Qualitative Study in Self-regulated Learning of the Pedagogue Students in the Carpathian Basin Institutes
	Developing Bilingual Disciplinary Literacies in Geography CLIL programs – the Case for Cognitive Discourse Functions	Teacher Training Programs: The Perspectives from Special Needs Education (SNE) Teachers
	Harnessing Linguistic Diversity in Geography Education in Hungarian Dual Language Secondary School Programmes	EXCIITE - A European Project for an Inclusive Teacher Practice

	Possibilities of Improving the Map Reading Skills of Primary and Secondary Schools Students	Importance of Continuous Professional Development for Teacher Educators in Myanmar Education College
	Map Decoding Skills. Approaches Using Eye-Tracking	
15:30-16:00	COFFEE BREAK	
16:00-17:00	Networking Session – LECTURE ROOM 124	

Friday (11.29.)		
8:00-9:00	REGISTRATION	
9:00-10:00	KEYNOTE Tamás Lovas: Innovations in Engineering Education	
10:00-10:30	COFFEE BREAK	
10:30-12:30	Current Challenges in Higher Education	Good Practices in STEM Education
	LECTURE ROOM 139	LECTURE ROOM 124
	<i>Section head: Bükki Eszter</i>	<i>Section head: Péter Bagoly-Simó</i>
	Psychometric validation of the healthy lifestyle scale for Mongolian university students: a pilot study	The effect of LEGO Duplo in STEM education
	The Role of Higher Education in Integrate International Students Through Mentoring Program	Connections Between Learning Arithmetic and Object Visual Imagery Ability in Elementary School
	The Contribution of Life Meaning, Mindfulness, And Resilience on Flourishing Among University Students: A Structural Equation Modeling Approach	STEM and Non-STEM Students' Values Related to Social, Ecological, and Financial Sustainability in the Neoliberal Model of Higher Education
	Student Assessment and Vocational Teacher CPD in Kenya: Roots of a Vicious Cycle	The Interaction Style of Teacher Education Students
	Open Badges in Pedagogical Context	Changing Climates Representations of Climate Change in Berlin Geography Textbooks (1990–2021)
12:30-13:30	LUNCH BREAK (sandwich provided) POSTER SESSION – led by Rita Kattein-Pornói	
13:30-15:30	Soft Skills	Digital Learning and Teaching
	LECTURE ROOM 139	LECTURE ROOM 124
	<i>Section head: Péter Tóth</i>	<i>Section head: Saule Anafinova</i>

	Informal Learning in Secondary VET, Based on Studying Different Professions in Hungary and Poland.	AI-Powered Personalized Learning: Revolutionizing Education for the Digital Age
	The Mediating Effect of Higher Education Research and Innovation Practices in Addressing Economic Challenges: Graduates' Employability Prospects	An Exploratory Analysis of Teacher Educators' ICT attitudes and awareness for implementing blended learning in Myanmar's Education Degree Colleges using the Decomposed Theory of Planned Behavior
	Entrepreneurship Education of the Alpha Generation: Status Quo and Good Practices in Hungary	The Peculiarities Of The "Digital Pedagogy" Course Development Process At BME
	Exploration of Effective Ways to Develop Experimental Design Skills	The Use of Artificial Intelligence Among Students in Higher Education
	Current Perspectives on EFL Motivation in Ecuador: University Students' English Learning Experiences	The Development of e-Learning in Public Administration Training in Hungary
	Examination Of Explanatory Variables Affecting Students' Foreign Language Proficiency and Foreign Language Test Results	
15:30-16:00	COFFEE BREAK	

Saturday (11.30.) - ONLINE		
	Topics in Higher Education	
	<i>Section head: Moses Njenga</i>	
	The Impact of Sociodemographic and Socioeconomic Variables on Students' International Mobility Decisions	
8:30-10:00	Further education plans of young Hungarians in Transcarpathia based on the Hungarian Youth Survey 2020	
	(Research) Groups for Students in Teacher Education. Professional Socialization and Acquired Values.	
	Teacher Influence and the Relationship Between Difficulties in Further Learning. a Questionnaire Results of a Questionnaire Survey	
	The Relationship Between School and Students in a Cross-Sector Comparison. Focus on the Kolping Secondary Schools	
10:00-10:30	COFFEE BREAK	
	21st Century Challenges in Education	
	<i>Section head: Magdolna Benke</i>	
	Parents' Expectations of Inclusive Education for Children With Special Educational Needs	
	The Effectiveness of Teaching and Learning Art in Schools	
	Modern Tools in the Development of Algorithmic Thinking in Early Childhood (The Practice of the University of Debrecen's Kindergarten Teacher Training)	

	The Necessity of Renewing Pedagogical Methods – PedaDome
	Digital Education for Roma Students
	Relationships Between Academic Achievement Variables of Students at Risk of Early School Leaving
	Having Children And National Identity In Hungary
	Teacher Perspectives on Their Roles in Parental Involvement - Resilient Support of Parents

NEW APPROACHES IN GEOGRAPHY EDUCATION

Applied Geography in the Classroom: A Case Study of Preparation for the International Geography Olympiad

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International Geography Olympiad, national olympiads, Geography education

The International Geography Olympiad (iGeo) is the largest global geography competition organized for secondary school students aged between 16 and 19 years. Four students chosen to represent their country were selected from thousands of them who participated in their national olympiads (Meadows, 2020.). According to the iGeo's set of rules, the sending countries must select their four students through an annual national geography competition (iGeo Statutes, 2015).

Thus, this paper aims to examine how iGeo's national competitions differ from and converge with each other and how they comply with the iGeo format around the world. Is there a similar structure around the world for finding the most capable students or are there diverging iGeo pathways that vary from country to country? Do geographical factors influence national competitions? Do the hypotheses of geographical advantages such as high population and advanced education system influence countries' performance in international competition?

The study uses primary and secondary data to examine the qualifying processes and structure of the competitions. In the first case, a short online survey was conducted among the organizers of the national Olympiads worldwide from 23 countries. In addition, the study analyses iGeo results, national olympiad websites and the latest available PISA ranking based on official websites (iGeo Past, 2022; PISA, 2018)

The research reveals both commonalities and differences among national competitions, suggesting that despite different educational systems, the core structure of the iGeo is globally maintained. The study challenges assumptions about population size and education system performance influencing international success, highlighting the importance of experienced team leaders and a country's history with scientific Olympiads.

Based on the findings it can be seen that two opposing patterns can be highlighted from the study.

First, is a homogenization process that results in organizers in sending countries mostly tending to follow the iGeo structure, with the task focus being on the iGeo format. Nevertheless, organizers can freely choose how they select their team members and use the three main tasks found in the iGeo (Written Test, Fieldwork, and Multimedia) in nearly every examined country.

The second is a divergence that originated from the different geographical contexts globally. Thus, local influence can be found in national qualifiers in two distinct ways (additional tasks and new ways of implementation). Moreover, country size, official language, and education system can impact the preparation process and create barriers to iGeo's success.

Meadows, M. E. (2020). Geography education for sustainable development. *Geography and Sustainability*, 1 (1), 88-92.

iGeo Statutes (2015). Available at: <http://www.geoolympiad.org/fass/geoolympiad/participation/index.shtml> (4 December 2021).

A New Approach to Mental Mapping: Quantitative Analysis Through Webcartography

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mental mapping, Google Maps API, landmark analysis, webcartography

Most people prefer to navigate based on their cognitive maps (Golledge, 2002). This is a dynamic system consisting of landmarks (Epstein et al., 2017). The choice of landmarks is based on personal preferences, and the amount and uniqueness of landmarks affects the success in navigation (Golledge, 2004). During this study mental map representations of Budapest were collected both on paper and digitally, introducing a possible new approach based on Milgram and Jodelet's (1970) methodology. In this approach participants have to draw a city map through visualizing its prominent landmarks. Even though digital mental mapping platforms have been created previously (Chumakov et al, 2021), the special focus on quantitative data specifically related to navigational requirements is a new approach in this field of study.

The goal of this pilot study is to identify the similarities and differences between the paper-based drawing of a mental map, and building a mental map on a webmap platform. The main research question is whether a web-based mental mapping tool provides the same opportunities for qualitative mental map analysis as the traditional, paper-based method. According to our hypothesis there will be equal or an increased number of landmarks on the webmap than there were on the paper-based mental maps due to the platform's flexibility and user-friendly design.

This tool allows the quantitative analysis of an individual's mental map, more precisely, the amount of landmarks they include, the geospatial preciseness of their landmarks, and the spatial dimensions (distance of thresholds) of the mental maps. Moreover, via this method mental maps of a region can be compared and prominent landmarks of the given area can be identified.

The pilot was conducted with the participation of 3 classes of 15-year-old students (n=48). In the first phase students were asked to fill out the Santa Barbara Sense of Direction Scale, a background survey, and to draw their mental map of Budapest, which is their city of education, and for most, city of residence as well. This mental map was instructed based on Milgram and Jodelet's guidelines, thus the participants were asked to label culturally or personally important landmarks, roads and other features on their map, resulting in a mental image of Budapest as a network of prominent landmarks.

A quantitative analysis of the data was conducted, exploring correlations between the elements of the background survey, the number of roads and landmarks on one's mental map, and the well-orientedness of landmarks relative to each other.

In the second phase the participants were asked to fill out the background survey and the Santa Barbara Sense of Directions Scale again, but this time their mental map was visualised on a web map based platform, which is a Google Maps based platform, providing most of the functions, excluding the labels and the search engine. During this method participants must place landmarks on the map and name them, but using special symbols is not an option at this point of development. Furthermore, participants

were asked to fill out a survey about the ease of use both for the paper-based map and the web map platform.

On the quantitative results of the paper-based mental maps an exploratory factor analysis was conducted, which after further correlation analysis shows a strong correlation between the relative orientedness of the landmarks and one's score on the Santa Barbara Sense of direction scale. There is also a possible connection between the means of travel and the number of landmarks, and the years lived in the area and the number of landmarks.

The data collected through the web map platform is expected to show the same correlations as the paper-based method, and to provide an opportunity for the further exploration of connections and correlations. This method allows for easier data analysis, since it calculates the number of elements, and in the case of cultural landmarks the preciseness of labelling can be calculated since the created landmarks are all georeferenced. Moreover, substantial feedback about the ease of use of the platform was collected, which might provide insight into further development opportunities, and allows for the comparison and paralleling of the two mental mapping methods.

A new, digital method of mental mapping was created as part of this study. The comparison of the data provided by the same participants from both the paper-based and the digital methods allows for the comparison of the two methods. While the traditional paper-based method allows for quantitative and qualitative analysis as well, the digital method provides more insight into the quantitative elements of mental mapping, specifically the detailedness and the well-orientedness of a mental map. As a limitation it should be mentioned, that the digital method is developed for quantitative analysis to support the research of navigation skills, providing data about the preciseness of locations and detailedness of one's mental map, but it is not suitable for qualitative data collection, since it leaves little creative freedom to the participant in visualising their landmarks.

Chumakov, R. V., Ryabinin, K. V., Belousov, K. I., & Duan, J. (2021). Creative map studio: A platform for visual analytics of Mental Maps. *Scientific Visualization*, 13(2). <https://doi.org/10.26583/sv.13.2.06>

Epstein, R. A., Patai, E. Z., Julian, J. B., & Spiers, H. J. (2017). The cognitive map in humans: Spatial navigation and beyond. *Nature Neuroscience*, 20(11), 1504–1513. <https://doi.org/10.1038/nn.4656>

Golledge, R. G. (2002). Cognitive Maps. In *Encyclopedia of Social Measurement* (K. Kempf-Leonard Ed.), Submitted. Academic Press Inc., San Diego, CA

Golledge, R. G., & Gärling, T. (2004). Cognitive maps and Urban Travel. *Handbook of Transport Geography and Spatial Systems*, 501–512. <https://doi.org/10.1108/9781615832538-028>

Milgram, S., Jodelet, D. (1970). "Psychological Maps of Paris," in H.M. Proshansky et al. (eds), *Environmental Psychology: People and their Physical Setting*. New York: Holt, Rinehart & Winston.

Developing Bilingual Disciplinary Literacies in Geography CLIL Programs - The Case for Cognitive Discourse Functions

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CLIL, Cognitive Discourse Functions, disciplinary literacies, Geography

One of the most popular subjects in CLIL programs in Hungary is Geography. However, integrating content and a foreign language brings with it numerous challenges (Bakti and Szabó 2016, Mehisto et al. 2008, Kapusi 2024) which negatively affect the realization of CLIL's full potential. One possible solution is to help pupils in CLIL programs complement their first language disciplinary literacy with that in a foreign language, which would contribute to their success in employment and higher education. Bilingual disciplinary literacies are based on the learning of a broader range of language features associated with different disciplines, school subjects and named languages, and building knowledge by shifting between everyday and academic language to promote learning (Nikula et al. 2024).

The aim of this study is to analyse the Geography Framework Curricula for primary and secondary schools to map elements of disciplinary literacies, and, based on the analysis of the Hungarian results, provide suggestions for the development of bilingual disciplinary literacies for the subject of Geography.

The method used in the analysis was developed for the purposes of the Cost Action CLIL NetLe (www.clilnetle.eu).

In the analysis, the construct of cognitive discourse functions (CDF) is used. This construct was developed by Dalton-Puffer (2013), and rests on the two ideas that

1. the conscious cognitions that are dealt with in formal education are fundamentally structured by language, and
2. language is the main way in which learners can share their current or new construals of the world with others.

Dalton-Puffer (2013) identifies seven cognitive discourse functions, namely to classify, to define, to describe, to evaluate, to explain, to explore, and to report. She also lists performative verbs related to each cognitive discourse function.

In the course of the text analysis, CDFs and related verbs were identified in the text of the Hungarian framework curricula for Geography, in the different sections of the curricula (general introduction, competences, topics, learning outcomes, „can do” statements, development goals, concepts, and suggested activities). The collection of performative verbs related to CDFs mirror the disciplinary literacy elements required for success in learning Geography when taught through Hungarian. In addition, this list of CDFs can serve as a basis for CLIL teachers teaching Geography through a foreign language to better design the CLIL language development in their Geography classes.

The results of the analysis show what cognitive discourse functions are described in the Hungarian Framework Curriculum for Geography, and, based on this, targeted practice and study materials and

scaffolds could be created for CLIL programs, thus contributing to the success of students and teachers involved in these programs.

Bakti Mária – Szabó Klára 2016. Exploring CLIL Teaching Materials in Hungary. *Alkalmazott Nyelvtudomány* 16/2. 1–10.

Dalton-Puffer, Christiane 2013. A construct of cognitive discourse functions for conceptualizing content-language integration in CLIL and multilingual education. *European Journal of Applied Linguistics* 1 / 2 216–253.

Kapusi, János 2024. Teacher perceptions of the role and challenges of foreign language Geography teaching in Hungarian dual language secondary schools. *European Journal of Foreign Language Teaching*. 8/2. 51-73.

Mehisto, Peeter – Marsh, David – Frigols, María Jesús 2008. *Uncovering CLIL. Content and Language Integrated Learning in bilingual and multilingual education*. Oxford: Macmillan.

Nikula, Tarja 2024. Towards an initial operationalization of Disciplinary Literacies.

available at: [Towards an initial operationalisation of disciplinary literacies: A paper by CLILNetLE Working Group 1 \(PHAIDRA - o:2050621\) \(univie.ac.at\)](#)

Harnessing Linguistic Diversity in Geography Education in Hungarian Dual Language Secondary School Programmes

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geography education, bilingual education, CLIL, teacher perceptions, linguistic diversity

Bilingualism, bilingual educational programmes and the application of CLIL (content and language integrated learning) have been among the most studied areas of education, producing an immense repository of scientific papers and research projects both in the Hungarian and the international context over the past decades (Pérez-Canado, 2012). However, there has been significantly less academic interest and relevant literature in foreign language Geography teaching in particular, with the exception of one anthology (Donert et al., 2008) and a number of country-specific research papers (Byca, 2011; Morawski – Budke, 2017).

In Hungary, Geography has been one of the most common subject to be taught in 10 foreign languages in dual language (that is, bilingual, nationality and international) secondary school programmes. This unique linguistic diversity strengthens the European dimensions of our education system, but foreign language subject teaching – one of the pillars of dual language education – is still a less-researched and somewhat overlooked area.

Although the number of modern bilingual programmes has been steadily increasing since the late 1980s, no subject-specific research has been concluded to explore the role and achievements of Geography in these programmes. The three discussed forms of dual language education greatly differ in terms of organisational context, sociolinguistic background, pedagogical purposes and the availability of teaching resources, but this diversity offers several options to discuss teacher perceptions of Geography teaching in languages other than Hungarian.

This research aims to provide a holistic approach to foreign language subject teaching by merging different perspectives of Geography teaching, language pedagogy, with some specific reference to the application of CLIL. All data are presented in a clearly defined geographical and linguistic context to reveal how the goals of Geography education are aligned with the purposes of foreign language teaching and skills development. The presenter's motivation derives from 17 years of teaching Geography in English in bilingual and IB programmes. This paper highlights certain findings of the presenter's previous research (Kapusi, 2021, 2022, 2024), but it also relies on the theoretical work of three decades of research into dual language programmes in Hungary (Vámos – Kovács, 2008; Vámos, 1998, 2017).

The specific focus of this research required a wide variety of data collection methods, ranging from the analysis of school websites and documents through the public final exam database to a recent survey, involving 78 Geography teachers across dual language programmes. Informal methods of data collection were also applied to some extent, such as videoconferencing or job shadowing.

Findings prove that Geography has been one of the most popular subjects to choose in dual language education. Despite the steady erosion of the subject's prestige, the lack of teaching resources and the loopholes of regulatory framework behind dual language education, the majority of the respondents

enjoys teaching Geography in foreign languages. Teachers find content and language integration a challenging but motivating task, which requires a lot of self-development and generates a desire for more professional networking platforms.

As there has not been any previous examples of nationwide research into foreign language Geography teaching, findings might generate more interest in these educational programmes and they might also link up with other European research projects in bilingual geography education. Practices and achievements of foreign language Geography teaching and learning clearly deserve more visibility from authorities, teacher training centres and other stakeholders of public education.

Byca, M. (2011). Bilingual geography education models through the English language in Polish schools. *Prace i Studia Geograficzne*, 48:187–196. <https://agro.icm.edu.pl/agro/element/bwmeta1.element.agro-d480e1a0-afcf-4395-b414-addd56a56227>

Donert, K., Podgórski, Z. & Charzynski, P. (2008). Bilingual Geography – aims, methods and challenges. *Herodot*, Torun. https://www.researchgate.net/publication/265736819_Bilingual_geography_aims_methods_and_challenges

Kapusi, J. (2021). A földrajzoktatás egyedi vonásai és a hazánkkal kapcsolatos földrajzi ismeretek megjelenítési lehetőségei a Nemzetközi Érettségi (IB) Diploma Programjában. *Geometodika*, 2021(2), 37-51.

<https://geometodika.hu/2021/05/31/a-foldrajzoktatas-a-nemzetkozi-erettsegi-diploma-programjaban/>

Kapusi, J. (2022). The multilingual nature of Geography final examinations in Hungary – achievements and challenges. *Geobalcanica Proceedings 2022* (ISSN 1857-7636) <http://geobalcanica.org/wp-content/uploads/GBP/2022/GBP.2022.29.pdf>

Kapusi, J. (2024). Teacher perceptions of the role and challenges of foreign language Geography teaching in Hungarian dual language secondary schools.

European Journal of Foreign Language Teaching, Vol. 8, Issue 2 <https://oapub.org/edu/index.php/ejfl/article/view/5398/8030>

Morawski, M. & Budke, A. (2017). Language awareness in geography education: An analysis of the potential of bilingual geography education for teaching geography to language learners. *European Journal of Geography*, 7(5), 61-84.

https://www.researchgate.net/publication/315110626_Language_awareness_in_geography_education_An_analysis_of_the_potential_of_bilingual_geography_education_for_teaching_geography_to_language_learners

Pérez Cañado, M. L. (2012). CLIL research in Europe: Past, present, and future. *International Journal of Bilingual Education and Bilingualism*, 15(3), 315-341.

<http://dx.doi.org/10.1080/13670050.2011.630064>

Vámos, Á. (1998). *Magyarország tannyelvi atlasza*. Keraban Kiadó, Budapest.

Vámos, Á. & Kovács, J. (2008). *A két tanítási nyelvű oktatás elmélete és gyakorlata 2008-ban*. Eötvös József Könyvkiadó, Budapest.

Vámos, Á. (2017). *Kétnyelvű oktatás Magyarországon – tannyelvpolitika, tannyelvpedagógia*. Akadémiai doktori értekezés, ELTE, p.194.

http://real-d.mtak.hu/984/7/dc_1309_16_doktori_mu.pdf

Possibilities of Improving The Map Reading Skills of Primary and Secondary Schools Students

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map reading skills, map literacy, eye tracking, spatial orientation

Our knowledge of how to use and read maps is essential and diverse in everyday life, so developing students' skills in this area has a transfer effect that contributes to strengthening spatial orientation, a skill that is part of everyday life (Freundschuh, 2009; Keates, 1996; Liben & Downs, 1989; Żyszkowska, 2017). Geography as taught in Hungarian primary and secondary schools is unimaginable without the regular use of maps and atlases. This subject lays the foundations for spatial orientation. Moreover, map reading skills are also frequently needed in Science and History lessons, and other subjects may also employ them not only as mere illustrations, but as organic parts of everyday teaching. But how well can our students interpret a map? What strategy do they use when working with map reading exercises? What methods can teachers employ to improve their students' map reading skills?

The explicit teaching of map reading starts in the course of basic Science lessons in Grade 3 in Hungarian schools. From this time on, the National Core Curriculum emphasizes the importance of map literacy, and with the introduction of Geography in Grade 7, teaching map skills for real life situations gains a new momentum. By the end of formal education, students are supposed to have mastered a complex level of map reading and an adequate level of spatial orientation skill (Magyar Közlöny, 2020/17.).

The use of the eye-tracking method in international cartographic research has been prevalent since the 1970s (Fairbairn & Hepburn, 2023). Among other things, the impact of map design elements on map reading has been investigated (e.g. Brychtova, 2016; Cöltekin, 2016), identifying differences between map users with different experiences (e.g. Dong, 2018; Havelková & Gołębiowska, 2019; Havelková & Hanus, 2021; Keskin, Krassanakis & Çöltekin, 2023; Sun, 2020). Since visual information is collected during map use so that the brain can always use it to solve the problem at hand, eye movements are an objective and useful indicator of cognitive processes during behaviour.

In Hungary, there have been few eye-tracking studies on map reading, among which Török's research is noteworthy (Török & Bérces, 2013; Török, 2019). A review of the international and Hungarian literature suggests that no systematic, observational study has been conducted in Hungary to explore the map reading strategies of Hungarian public school children. The MTA-SZTE Research Group on Geography Teaching and Learning is trying to fill this gap by investigating the map reading strategies of pupils using an eye-tracking device.

The main goal of our research is to identify and compare the map reading strategies employed by Grade 7 and Grade 10 students; with the first age group representing novices in Geography, while the second age group representing experts in Geography.

We have a sample of 113 students (from Grades 7 and 10), whose map reading strategies were probed by using an eye-tracking device in addition to which they were required to fill in a background questionnaire. The acquired data are still being processed, however, preliminary results imply that by we can also develop learner specific educational methods.

Based on our findings, we plan to develop a variety of educational methods and tools dedicated to improve the map reading skills of students both in-class and also by providing possibilities for individual learning paths using learning techniques based on gamification.

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Map Decoding Skills. Approaches Using Eye-Tracking

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student map-users, eye-tracking, map skills, formal education, mapping review

Maps are integral to our lives, extending beyond navigation to serve as cultural artifacts that help us communicate and understand our environment. This evolution has led various disciplines to study maps, inspiring formal education to teach map-reading skills and prompting cartographic research to explore the dynamic relationship between maps and their users.

In recent decades, the emphasis on exploring user interaction with maps has increasingly incorporated eye-tracking (ET) as a core research method, particularly as ET technology has become more accessible (Holmqvist and Andersson, 2017). This methodological shift aligns with the broader trend of delving into the complexities of user interaction with maps. ET's objectivity, which records eye movements to offer insights into psychological processes like attention and cognitive load (Molina et al., 2024), distinguishes it. Its integration with other methods, such as observation, think-aloud protocols, keyboard analysis, and questionnaires, enriches our understanding of user-map interactions, revealing patterns like the natural inclination of the eyes to start at the top left of a layout and traverse towards the bottom right (Anthamatten, 2021; Fairbairn and Hepburn, 2023).

Several review studies have explored scholarship using ET (Kiefer et al., 2017; Krassanakis and Cybulski, 2019; 2021; Fairbairn and Hepburn, 2023). While these studies mainly focus on general map users, similar studies dedicated to students and map skills in formal education have yet to be carried out.

This presentation aims to explore how ET served to understand better how learners of different ages tackle map-related tasks.

This mapping review began with existing studies and developed a sample of papers on formal education, map skills, and eye-tracking (ET) published since 2017. Various strategies were employed to gather these papers. First, we reviewed the literature cited in the existing studies. Second, we conducted an extensive archival search of journals referenced in meta-studies, which are key platforms for discussing ET and maps. Third, we performed a database search in education and geography to find additional publications. Finally, as we processed each paper, we added more papers based on their references (Miake-Lye et al., 2016). Computer-assisted content analysis was used to define categories. We are currently processing a sample of 52 papers.

We are currently concluding the study; however, some trends are becoming evident already at this stage. First, we found low sample sizes. Second, studies tend to focus on tertiary education. Third, there is only a limited share of original maps used for experiments.

At this stage, it is not yet possible to formulate conclusions. However, we aim to present research fields worthy of further exploration.

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Holmqvist, K., and Andersson, R. (2017). *Eye-tracking: A comprehensive guide to methods, paradigms and measures*.

Fairbairn, D., and Hepburn, J. (2023). Eye-tracking in map use, map user and map usability research: what are we looking for? *International Journal of Cartography*, 9(2), 231-254. <https://doi.org/10.1080/23729333.2023.2189064>

Kiefer, P., Giannopoulos, I., Raubal, M., and Duchowski, A. (2017). Eye tracking for spatial research: Cognition, computation, challenges. *Spatial Cognition & Computation*, 17(1-2), 1-19. <https://doi.org/10.1080/13875868.2016.1254634>

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CURRENT CHALLENGES IN HIGHER EDUCATION

Open Badges in Pedagogical Context

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Open Badge; stackability; gamification; motivation; learning pathway, ownership

In a digitalized world education in all levels is following this trend. After content and evaluation provision certification became a hot issue. Digital certification with open badges and other digital credentials, are widely discussed. Meanwhile on another level gamification is penetrating in mainstream pedagogy. This paper is examining the possibilities and role of open badges in pedagogical, methodological context, highlighting the gamification role of awarding badges to different smaller achievements.

Next generation learners in all levels are living in a changed world. Their lives from birth in families, in their leisure time, in secondary or higher education has been dramatically changed. The face to face communication, friendships and all other relations have to give place to virtualised social life, from communication, through different educational applications till games and other engagement types in the virtual world. It is hard to motivate learners, and to track their ever wider learning pathways.

Literature research and field research on the field is ongoing to work out detailed methodology how to use open badges to motivate learners in their long learning pathway. Field research is based on application development of DCP Badge Host portal to issue stackable badges to collect and show complex highrocky of different smaller achievements. Pilot courses and templated methodologies will be offered to partners who will implement badges in their learning provision.

Better motivation in Higher Education and VET for courses offering diploma or occupation certificate, lower dropout rate, transparency of learning pathways and skills accumulation. Soft skills development record to use on labour market.

The topic of relating digital certificates other than representing a successfully finished education is emerging but quite new area. The evidence that gamified educational applications offer like Duolingo with their token or medal collecting (and other gamification) methods are quite promising. Almost all major Learning Management Systems like Canvas or Moodle already offer the possibility to scholars and pedagogs to define and award open badges in their digital educational ecosystem. Based upon the research and development of implementable pedagogical methods to use open badges for learner motivation is more than promising.

N. J. Rigole (2019) Level Up: Using Digital Badges and Gamification Strategies to Increase Student Engagement and Achievement. *Engaged Student Learning: Essays on Best Practices in the University System of Georgia* (Volume I. 2019.) <https://www.usg.edu/teaching-and-learning-excellence/assets/facultydevelopment/documents/ebook/NeilRigole.pdf> (2024.11.20)

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Cloke H. (2022) Gamification In Learning: How to Use Badges. <https://www.growthengineering.co.uk/gamification-badges-lms/> (2024.11.20)

Student Assessment and Vocational Teacher CPD in Kenya: Roots of a Vicious Cycle

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continuing professional development (CPD), vocational education, student assessment, vocational teachers, Kenya

Examinations and assessment practices are part of the institutional framework that influences teaching and learning. However, the influence of examination practices on the learning practices of vocational teachers remains under-researched and more so in developing country contexts.

Viewing teachers as ecologically rational (Rieskamp and Reimer 2007), this study investigated how examination practices influence the teaching and learning practices of vocational teachers in Kenya.

Interview and questionnaire survey data were collected from TVET teachers in six vocational institutions in the Nairobi Metropolitan area and analysed using thematic and statistical analysis.

A simplified mode of assessing practical skills acquired by students was found to have led to a narrowing down of instruction. The simplified assessment method, relying exclusively on pen-and-paper tests to assess mastery of practical skills, dis-incentivises teachers and students from spending time in the workshops to teach or learn practical skills. In addition, examination-oriented teaching, inadequate Initial Teacher Education (ITE), and limited learning resources work together to reinforce the teaching and learning of theoretical content at the expense of practical content.

The interaction of these factors demonstrated the need to adopt multi-pronged approaches to improve the quality of teaching and learning in vocational education.

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Psychometric Validation of The Healthy Lifestyle Scale for Mongolian University Students: A Pilot Study

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university student, healthy lifestyle, health education, psychometric properties, Mongolia

A few studies have been conducted in Mongolia that validated multi-dimensional questionnaires, particularly for university students, to determine their health lifestyle or health-related behaviors. Assessing lifestyle behaviors among university students by using a reliable and valid tool is very important. The current pilot study discusses the psychometric properties of the Mongolian version of the Healthy lifestyle scale of university students (HLSUS) developed by Wang et al. (2012).

Our study aimed to translate the English of the HLSUS to the Mongolian language and examine the reliability and construct validity of the Mongolian HLSUS among Mongolian undergraduate students.

A descriptive cross-sectional study was conducted in three universities in Ulaanbaatar City, Mongolia, including the National University of Mongolia, the Mongolian State University of Education, and the Mongolian University of Science and Technology. Data was collected between October and November of the 2023-2024 academic year among undergraduate students (N=364). We contacted the departments and informed them about the purpose of our study. The departments and lecturers assisted in data collection.

The HLSUS was developed by Wang et al. (2012) based on Pender's Health Promotion Model. The instrument consists of 38 items with eight subscales, such as exercise behavior (4 items), regular behavior (4 items), nutrition (4 items), health-risk behavior (4 items), health responsibility (6 items), social support (6 items), stress management (5 items), and life appreciation (5 items). A 5-point Frequency scale (1=never, 2=rarely, 3=sometimes, 4=usually, and 5=always) measures the reported behaviors.

The HLSUS was translated from English into the Mongolian using the forward and backward translation procedure. The translation was performed by three bilingual translators.

Data analyses were conducted by using the SPSS and JASP software. The reliability of the Mongolian HLSUS was examined by measuring internal consistency. Cronbach's α coefficient measured the internal consistency, with value of .70 or greater indicator. Exploratory factor analysis (EFA) was applied to examine the sample adequacy. The construct validity of the scale was assessed with confirmatory factor analysis (CFA).

The EFA with varimax rotation extracted eight factors from the scale. The eight factors accounted for 59.37% of the variance. The KMO value for the 38 items was .866. The significance of Bartlett's sphericity test was .000 ($\chi^2=5726.28$, $df=703$, $p < .001$). Items 15 and 16 indicated factor loadings lower than .40.

The initial CFA used the eight-factor measurement model. The findings indicated alignment with the original version of the HLSUS except for the factor loadings of items 15 and 16 in the health-risk behavior

subscale. These items were excluded from the second CFA, increasing Cronbach's α value from .56 to .72 of the health-risk behavior subscale. The CFA of the 36-item HLSUS yielded a good fit index (CFI=.92, GFI=.95, TLI=.91, and RMSEA=.70).

Overall, Cronbach's α value shows the final scale's satisfactory internal consistency (total α =.90, exercise behavior α =.73, regular behavior α =.70, nutrition α =.68, health-risk behavior α =.72, health responsibility α =.79, social support α =.80, stress management α =.77, and life appreciation α =.80).

To conclude, our pilot study has shown promising results regarding the psychometric properties of the Mongolian version of the HLSUS instrument, which can be a useful tool for assessing lifestyle in the Mongolian context. According to the EFA and CFA measurements, the final measurement for the present study consisted of 36 items and eight subscales. Studies related to the lifestyle among Mongolian university students focused mainly on factors that negatively influence health, such as alcohol and tobacco use, unhealthy eating habits, and physical inactivity. The HLSUS would be a useful tool with fewer items and includes health-risk behaviors. Further examinations are necessary in a broad population to assess the instrument's validity.

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Erdenebileg, Z., Park, S.H., Chang, K.J., 2018. Comparison of body image perception, nutrition knowledge, dietary attitudes, and dietary habits between Korean and Mongolian college students. *Nutr. Res. Pract.* 12, 61–71. <https://doi.org/10.4162/nrp.2018.12.2.149>

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The Role of Higher Education in Integrate International Students Through Mentoring Program

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students' integration, higher education, mentoring program

Institutions of higher learning are essential to students' assimilation into academic and larger social environments. The effect of higher education on student integration is examined in this abstract. When compared to their lecturers, students may perceive their increased interactions with peers both inside and outside of the institution as a result of their integration into the peer group. Strong integration may account for students' eager focus on their university assignments when they feel supported and integrated by others (Reindl, Auer & Gniewosz, 2022). Encouraging the formation of social networks and a sense of belonging through participation in student mentoring programs and events is vital for students' general well-being and academic achievement.

The study will discuss how higher education affects students, emphasizing the importance of mentoring program and social integration theories in assisting students in overcoming the obstacles of their higher education. These services support students' overall integration into the academic community in addition to helping them achieve academic success. The purpose of this study is to investigate how mentoring programs can support acceptance and understanding of other cultures within the university community that they attend. This abstract's research question is: How can mentoring programs support students in overcoming obstacles in the university and aid in their overall academic community integration? What are the essential components of a mentoring program that are crucial to a student's success in integrating into higher education?

This study used a qualitative methodology. The data will be gathered through semi-structured interviews with seven students who took part in a mentorship program. The data from the interviews will be analyzed with the aid of Atlas.ti software. The discussion of the mentorship and social integration program will then benefit from the literature review.

With an emphasis on social integration for students in higher education, this study is expected to discover and identify the ways in which mentoring programs assist international students in participating in more activities within the higher education system. In addition, to find out the important keys to help effective social integration strategy is crucial in encouraging students to take an active role in their university experience to lower the quantity of students who drop out.

In summary, this abstract highlights the holistic function of postsecondary education in fostering student integration and stresses the ongoing need to develop mentorship programs in order to promote inclusive, encouraging, and stimulating learning environments. Higher education institutions contribute to the creation of more inclusive and cohesive societies in addition to improving the academic and social experiences of its students.

Reindl M., Auer, T. & Gniewosz, B. (2022). Social Integration in Higher Education and Development of Intrinsic Motivation: A Latent Transition Analysis. *Front. Psychol*, 13 (877072), 1-12. <https://doi.org/10.3389/fpsyg.2022.877072>

The Contribution of Life Meaning, Mindfulness, And Resilience on Flourishing Among University Students: A Structural Equation Modeling Approach

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life life meaning; mindfulness; resilience; flourishing

Understanding the psychological factors contributing to student flourishing is crucial in positive psychology. Meaning in life (MIL), mindfulness, and resilience are key constructs that significantly influence well-being and personal growth. MIL is closely linked to resilience and flourishing, with mindfulness playing a key role in enhancing these connections. Research shows that MIL improves quality of life (da Silva & Sathiyaseelan,

2024). MIL and resilience mutually reinforce each other, creating a positive cycle for managing stress Miao & Cao, 2024). Mindfulness also contributes significantly to psychological resilience and flourishing, which are essential for overall well-being (Lam, 2023).

This study evaluates the impact of meaning in life, mindfulness, and resilience on the flourishing of university students, focusing on their interrelationships and combined effects

Utilizing a descriptive-analytical approach, the study engaged 274 university students of Tehran University, selected through convenient sampling. Participants completed the Meaning in Life Questionnaire (MLQ), the Connor-Davidson Resilience Scale (CD-RISC), the Five Facet Mindfulness Questionnaire, the Flourishing Scale (FFMQ). A structural equation modelling approach was employed for data analysis to assess the relationships between the constructs.

The analysis revealed that meaning in life and mindfulness directly impacted resilience. In turn, resilience directly influences student flourishing. Moreover, meaning in life and mindfulness were found to affect flourishing through resilience indirectly. The proposed model demonstrated a good fit with the collected data.

The findings highlight the positive roles of meaning in life, mindfulness, and resilience in fostering student flourishing. Incorporating strategies to enhance these psychological constructs could be beneficial in educational settings to promote overall well-being and personal development among students.

da Silva, I. M., & Sathiyaseelan, A. (2024). Promoting Meaning in Life Amongst Sex Trafficking Survivors Through Mindfulness. In Promoting Mindfulness and Well-Being with Indian Psychology (pp. 74-89). IGI Global. <https://doi.org/10.4018/979-8-3693-2651-0.ch005>

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Lam K. (2023). Grit and Hope as Sequential Mediators in the Association Between Mindfulness and Flourishing ISSN: 2435-5240 The Southeast Asian Conference on Education 2023: Official Conference Proceedings (pp. 73-82) <https://doi.org/10.22492/issn.2435-5240.2023.6>

DISCUSSIONS ON TEACHER TRAINING

Rethinking Role-Plays in Teaching Practice. Methodological Recommendations for Teaching Argumentation and Negotiation Strategies

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advocacy, role-play, educational development, argumentation, negotiation

A main challenge of teaching argumentation and negotiation (Andrews, 2009; Andrews, 2015; Lewicki, 2014; Movius, 2008) is how to practice theoretical knowledge with students, thereby transferring knowledge and developing skills that can be applied in real life. In the age of blended learning and flipped classroom, a number of methods are available, including the incorporation of role-practice exercises (Beza, 2011; Biggs&Tang, 2007; Breuer&Bente, 2010; Buck, 2013; Danka 2020; Fry, Ketteridge & Marshall 2009; Lee&Hammer, 2011; O’Riordan&Kirkland, 2008; Szabó&Szemere, 2016).

The key to effective advocacy is recognising and distinguishing between different conflict situations, especially argumentation and negotiation, and applying the appropriate strategy for the situation. When seeking a compromise in a situation where argumentation should be used to get closer to a solution to a problem, one or the other party may give up its position without a dialectical justification. If, on the other hand, we try to reach an agreement or compromise through argumentation instead of negotiation, we may miss the opportunity to reach an agreement because we are too attached to the truth of our claims.

Putting this knowledge into practice can be difficult because in reality our internal motivations are not fully conscious or transparent, and we typically view conflict situations from one perspective, one role - our own. We argue that role-playing as an educational methodological tool can be a way for learners to practice recognising conflict situations and choosing the most appropriate strategy for them from different roles and perspectives (i.e. with different motivations, goals, interests, needs).

In the current, first phase of our research, we aim to develop a methodology based on a literature review on the teaching of argumentation and negotiation. Our aim is to develop role-playing exercises that develop students' advocacy skills in recognising and distinguishing between the above-mentioned situations (argumentation vs. negotiation) and in developing strategies to deal with them. In the second phase of our research, we intend to test the developed exercises in the classroom, thus providing empirical data to support our claims.

The result of our research is a methodological development - the development of a conscious strategy for role practice - in the above-mentioned topics, which will be suitable for empirical testing both in terms of theoretical grounding and practical feasibility. This will be done by presenting the criteria in detail for the design of the role practice, the theoretical considerations behind each situation and role, and the precise purpose of the associated instructions.

Our pedagogical aim is to develop the skills and attitudes that students can use to distinguish between argumentation and negotiation situations and to apply the strategies they learn in everyday conflict situations. Our didactic aim is to ensure that role-playing as a method does not overwhelm pedagogical objectives and becomes a tool that goes beyond motivating students and enhancing their learning experience.

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The Qualitative Study in Self-regulated Learning of the Pedagogue Students in the Carpathian Basin Institutes

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self-regulated learning, motivation, learning strategies, pedagogue student

This study is part of the main research on self-regulated learning, which was originally a mixed-method approach. However, this study focuses on the qualitative part, following the sociocognitive perspective that focuses on students' motivation and learning strategies.

This study aims to emphasise the motivation and learning strategies of the pedagogue students. This study used the qualitative approach.

The data was collected through the interview by applying semi-structured interviews to gain the primary data from general and in-depth interviews to gain general information, experience and viewpoint of students. There are 42 students involved in the individual interview in five institutes, the Hungarian minority group in the Carpathian basin.

The result shown in the learning motivation is that a large number of the students lay on extrinsic motivation such as good grades and getting a better place to work in the future. With intrinsic motivation, groups are found to have the power to learn what they love and comprehend by heart in each course because of their interest in the courses. Learning strategies focus on three main things such as cognitive, metacognitive, and resource management strategies. The result shows that many interviewees used these strategies to help their learning, such as elaborative, organisation, effort regulation, and peer learning.

The pedagogue students at the five Capathian Institutes have more extrinsic motivation, and they use various learning strategies to improve their learning. This finding would encourage their learning by providing a proper environment and teaching-learning method in each institute.

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Teacher Training Programs: The Perspectives from Special Needs Education (SNE) Teachers

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teacher training programs, special needs education, special education needs, pre-service teachers, teacher's perspectives

The article presents a look into the effectiveness and challenges of current teacher training programs through the lens of special needs education teachers who have attended teacher training programs. The importance of the SNE teachers' perspective cannot be overemphasized, as they are likely to encounter different problems that require specific skills and knowledge that general teacher training programs do not cover. Teacher training programs were historically focused on the general education field, with special education receiving the least of the emphasis. This gap is the reason for the growing recognition of the need for more comprehensive training that equips teachers with the tools and techniques necessary to support students with diverse learning needs. Furthermore, SNE teachers' perspectives are very important in determining the efficiency of the existing training programs. Trained and skilled teachers can identify the learning style required by each SEN student (Pasha et al., 2021). In addition, teachers who receive training in SNE may improve their ability to implement individual education programs (IEP) effectively (Sundqvist & Hannas, 2021). Such programs ensure that SNE teachers are equipped with the skills they need to perform their tasks (Norlund et al., 2024). A meta-analysis study by Donath et al., (2023) indicates that professional development in SNE improves teachers' confidence and competence in managing inclusive classrooms, leading to better educational outcomes for SEN students. Continuous professional development additionally allows special education teachers to stay informed on instructional practices, regulatory requirements, and technology (Crispel & Kasperski, 2019).

The ongoing advancement and complexity of the SNE model require that teacher training courses be flexible to changing times. Besides this, teachers in special needs education have different experiences and face more challenges than mainstream school teachers. Therefore, their perspectives are instrumental in understanding how effective teacher training programs are in developing their knowledge, skills, and strategies to address the needs of SEN students. The study seeks to close the gap between theoretical training frameworks and actual classroom experiences by concentrating on their feedback. This alignment is essential to ensuring that training programs are not only comprehensive but also relevant and practical. Additionally, the inclusion of SNE teachers' perspectives fosters a more inclusive approach to educational research and policy-making. It acknowledges the specialized expertise of these educators and validates their professional experiences. This can lead to more tailored and responsive training programs, ultimately benefiting the students who rely on SNE. Our research will focus on three research questions, as stated below:

- 1-What perspectives do SEN teachers have on teacher training programs?
- 2-What is the relevance of teacher training programs to daily classroom practices?
- 3-What are the challenges faced by SEN teachers during teacher training programs?

Interviews have been chosen for our research methodology to capture the nuanced experiences and insights of SNE teachers regarding their training programs. The study establishes a balance between uniformity in the questions posed and adaptability to examine various perspectives by employing interviews, which is essential for comprehending the range of difficulties and requirements in special education. The interviews are designed with open-ended questions that focus on key areas such as the adequacy of training content, the applicability of theoretical knowledge in practical settings, and the support provided during and after the training.

The data collected through these interviews serves as a powerful tool to justify changes in teaching practices. First, they highlight specific areas where training programs are lacking, such as the need for more hands-on, practical training or continuous professional development opportunities. The findings provide stakeholders, including educational policymakers and the government such strong evidence of the urgent need for adjustments. Moreover, the insights gained from these interviews can inform the design of more effective training programs that are better aligned with the real-world challenges faced by SNE teachers. This evidence-based approach ensures that changes in teaching practices are grounded in the actual experiences and needs of educators, ultimately leading to more effective teaching strategies and better outcomes for students with special needs.

Key outcomes highlighted in the article include an overall improvement in teachers' confidence and competence in addressing diverse learning needs. Teachers reported that specialized training programs equipped them with practical strategies and methodologies tailored to enhance the educational experiences of students with disabilities. Moreover, the article emphasizes that continuous professional development is crucial for fostering an inclusive classroom environment. Teachers expressed that the training provided them with updated knowledge on educational policies and emerging technologies beneficial for special needs education. Another significant outcome is the increased collaboration and support among educators. Training programs often included collaborative workshops that allowed teachers to share best practices and resources, thereby creating a supportive community of practice. However, the article also points out some challenges, such as the need for more individualized training and ongoing support post-training to address specific classroom scenarios. The perspectives of SNE teachers underline the importance of adaptive, comprehensive training programs that evolve with educational advancements and policy changes to ensure sustained positive outcomes in special needs education.

The evidence presented reveals a consensus among SNE teachers that current training programs often fall short of providing the practical skills and in-depth knowledge necessary to effectively address diverse learning challenges. Teachers emphasize the importance of hands-on experience, ongoing professional development, and a curriculum tailored to the complexities of special education. Comparatively, these findings align with broader research in the field of special education, which advocates for enhanced training that combines theoretical understanding with practical application. Studies consistently highlight the gap between general teacher training and the specialized needs of SNE educators, calling for reforms that integrate advanced strategies, behavior management, and inclusive teaching practices. Moreover, the demand for continuous support and resources echoes the prevailing sentiment within the educational community, emphasizing the need for systemic changes to better equip teachers. In essence, this article reinforces the well-documented necessity for evolving teacher training programs to meet the unique demands of special needs education. By addressing these gaps, educational systems can ensure more effective, inclusive learning environments, ultimately improving outcomes for all students.

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Importance of Continuous Professional Development for Teacher Educators in Myanmar Education College

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professional learning community, continuous professional development, teacher educator, teacher training program, mentoring

One of the most focused concepts in education today is professional learning communities. Teachers must have a wealth of knowledge about teaching and learning, a deep understanding of content, and the ability to relate life experiences to the educational process to succeed. Continuing professional development involves acquiring new knowledge and skills for current work and improving career opportunities through continuing education (OECD, 2000). This article examines the effectiveness of professional learning community in enhancing teacher quality and the resulting need for CPD for teacher educators in Myanmar.

This study aims to explore the understanding of the professional learning community for teacher-to-teacher continuing professional development and improving teacher education programmes. Mixed methods using surveys and semi-structured interviews were used in this study. The questions raised in this study of 275 teacher educators from 18 education colleges in Myanmar were:

1. How do teachers in Myanmar understand the idea of continuous professional development for professional development?
2. What CPD activities are required for all teachers in teachers' colleges?
3. What are the main challenges of CPD implementation in Myanmar Education College?
4. Is there a relationship between professional learning communities, leadership, and professional development?

Then, seven teacher educators interviewed at Mandalay Education College participated in this study. All participants who responded to the semi-structured interviews were between 29 and 45. The interviews revealed that professional development involves acquiring the necessary pedagogical knowledge and skills to encourage students to think creatively and critically.

As a result, it appeared that the teacher educators confirmed that their college is a learning organisation. They observed effective leadership that prioritised role-integrated professional development addressed by faculty. Based on the results, participants believe that knowledge sharing, and collaboration are essential and beneficial for learning and knowledge creation. In this study, the researcher concluded that PLCs play a crucial role in the professional development of teacher educators and the improvement of the school community.

The connection between PLC practices and teacher professional growth is viewed as a positive progression and is crucial for determining the overall achievement of schools and students.

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EXCIITE - A European Project for an Inclusive Teacher Practice

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creativity, inclusion, innovation, digital literacy, Erasmus

The EXCIITE project is supported by the European Union Erasmus KA2 programme, composed of the University of Modena & Reggio Emilia (IT) – Fondazione Reggio Children (IT) – Örebro University (SE) – Universitat Oberta de Catalunya (ES) – FREREF (BE) – Eötvös Loránd University (HU) – IC Manzoni (IT).

EXCIITE aims to build a flexible system for teacher training that emphasizes creativity, inclusion, innovation, and digital literacy.

This study examines the role of a self-guided training platform developed within a European project aimed to advance teachers' professional growth through reflection-driven professional learning. The project was established in response to the need to recognize and address the 'core competence areas' of in-service and prospective teachers across Europe to introduce targeted innovations (Council Conclusions on European Teachers and Trainers for the Future 2020). European-level research data indicate that a substantial proportion of teachers report moderate to high training needs in areas essential for developing more effective, diverse, and innovative teaching practices. Specifically, teachers require new competencies, such as managing cultural and linguistic diversity in the classroom, teaching in technology-enhanced environments, and implementing collaborative teaching methods (Eurydice, 2015; EC, 2019). The 2023 Education and Training Monitor highlights that teachers increasingly seek training to address challenges posed by digital transformation and classroom diversity, particularly following the pandemic.

Whilst the ultimate beneficiaries of this project are the school pupils/students who will benefit from more inspiring and inclusive learning environments, EXCIITE addresses this aim by focusing on teachers' competencies: it proposes a conceptual framework, concrete requalification paths for in-service teachers, and a set of methodological and organizational resources suitable to support the "creative and meaningful transition" of school systems, substantiating and enriching the required "digital transition". Its objectives are: 1. To design a series of training modules that combine flexible and personalized learning paths based on a self-assessment tool designed to help teachers recognize their training needs. 2. To build a Hub for teacher training, consisting of a web repository of multilingual learning resources for teachers (building on what is already available in national teacher training agencies and at the EU network level) to help them develop and practice creativity skills, learning innovation, self-regulatory learning, appreciation of diversity and social inclusion. 3. To create an alliance of teacher education institutions capable of collaborating transnationally and supporting the exchange of resources and good practices in in-service teacher education.

In our presentation, we aim to introduce the project structure and goals, including the tools we created and the results of collecting good practices. These good practices include research, methodology and inspiring tools, which have been collected and shared through the HUB in all project languages. As this is primarily an educational development project, the presentation aims to show the tools developed. The Hub website collects and categorizes knowledge relevant to teachers in 4 themes (Creativity, Digital,

Inclusive, and Innovation) and provides practical, methodological ideas on incorporating it more adaptively into pedagogical practice.

We developed a reference framework based on teacher training models (Kennedy, 2005), which served as a basis for documenting and analyzing training practices in partner countries. To assess teachers' training needs in our areas of interest, we designed and administered a survey based on previous international studies, using data collected through exploratory focus groups conducted in each partner country. This approach enabled us to identify specific characteristics and emerging themes within effective training practices, which we have defined as Good Practice Elements (GPEs). For each area examined, we concentrated on seven key Good Practice Elements.

By creating a HUB suitable for supporting in-service teacher training, the study aims to enhance their continuing professional development in these challenging competence areas and prepare the ground for a renewed initial teacher training curriculum. The project is committed to making learning more learner-centred, inclusive, and stimulating through digital technology's meaningful, creative, and interactive use. According to Kowalczyk-Wałędziak and Ion (2024), collaborative networks, peer support, and access to resources critically should enhance teachers' abilities to integrate research into pedagogical practices effectively.

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SOFT SKILLS

Examination of Explanatory Variables Affecting Students' Foreign Language Proficiency and Foreign Language Test Results

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students' sociodemographic and socioeconomic backgrounds, students' foreign language proficiency, foreign language test results

This paper establishes a connection between the demographic, familial and socio-economic backgrounds of high school students at the school level and their language test result. The foreign language knowledge and learning of students can be interpreted as a complex, intertwined matrix network of interrelated factors. According to theoretical and empirical research findings (Wang et al., 2022), foreign language knowledge and learning are constituted by numerous influencing factors. In this paper, I examine language learning and knowledge in relation to students' sociodemographic and socioeconomic backgrounds. The quantitative research results of Martin et al. (2021) among Australian high school students indicate a positive correlation between students' age, socioeconomic status (SES), and language abilities. In an earlier study (Martin et al., 2014), similar demographic factors, such as students' age, gender, socioeconomic status, parents' educational background, prior academic performance, boarding status, attitude, etc., were identified. In Butler's research among Chinese students and their parents in fourth, sixth, and eighth grades (cf. Butler, 2014, Butler, 2015), English language proficiency is associated with the socioeconomic background (SES) of students' parents.

The aim of this research is to gain a deeper understanding of the language socialization processes of young people attending Hungarian-language schools, guided by the following key questions: What relationship can be identified between students' language proficiency and their family, school background, and online learning opportunities? Based on the findings of international empirical large-scale quantitative and qualitative research, I formulated two hypotheses: firstly, I hypothesize that students' subjective perceptions of language proficiency are closely related to their parents' perceptions of language competencies. On the other hand, I hypothesize that students' demographic, familial and school backgrounds (gender, place of residence, type of high school, field of study, the student's grade level, parents' level of education, their occupational status, etc.) are closely related to students' subjective perceptions of language competencies as well as their objective language competencies.

A total of 14 educational institutions (five theoretical, five vocational, and four technical high schools) were included in the sample, with two classes of students from each grade level. Thus, the sample comprised 1,520 individuals. We used a questionnaire survey for data collection. The questionnaire, consisting of 22 questions and 20 tests (10 in Romanian and 10 in English), can be divided into three major question blocks. The first set of questions focused on the students' sociodemographic and socioeconomic data, such as the school they attend, their grade, the type and profile of their class, their gender, and the location of their residence.

The results support the hypothesis that the role of parents, socio-economic background and students' place of residence significantly influence language learning and test results. Additionally, the types of high

school, field of study, the student's grade level, and parents with higher education positively impact their children's subjective and objective language learning and test results.

The results of the research conducted among Hungarian-language high school students in Harghita County support the findings of international studies, which indicate that demographic factors (gender, place of residence, type of settlement, class), the family's socioeconomic background (parents' educational level, employment status), and the school's environmental factors (type of school, type of training) all have a significant and strong impact on students' foreign language knowledge and learning. Additionally, we observed that there are variations within schools (depending on specialization and grade level); however, there are significant performance differences between schools.

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Entrepreneurship Education of the Alpha Generation: Status Quo And Good Practices in Hungary

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entrepreneurship competence, primary school, generation Alpha, financial literacy

Entrepreneurship has long been recognized as a key competence both in EU (2018/C 189/01) and Hungarian legislation. It is explicitly addressed in the National Framework Curriculum (NAT, 2020), which also specifies cross-curricular 'educational objectives', several of which relate to elements of this competence. However, entrepreneurial education at school in most economies continues to be poor (GEM, 2023). Though programmes aimed at developing students' financial literacy have been increasingly introduced since the financial crisis of 2008 also in Hungary, previous research found that the efficacy of entrepreneurial education was impeded by insufficient time allocation in the curriculum, insufficient integration into school subjects, and lack of teacher competence (Gönczöl et al., 2012, Harangozó, 2015, Horváth H., 2017, Kerekesné Horváth, 2012). Programmes focusing on elementary school students are particularly scarce (Hercz, 2019).

Our study, carried out as part of an international project financed by the Visegrad Fund, aimed to analyse the current state of entrepreneurial education at levels ISCED 1 and 2 (that is, in elementary school) in Hungary and to collect best practices that will be online shared on a newly developed platform.

We applied desk research, collecting and analysing three types of documents: (1) prior research about entrepreneurial education in Hungary, (2) educational legislation, strategies and curricula, and (3) websites and online documents of educational programmes and projects related to the development of elementary school students' entrepreneurship competence. We used research databases (MTMT, Google Scholar) and Google search to identify relevant documents and websites based on keywords, and we also used the snowball method.

Our findings show that while there is a wide range of educational programmes focusing on the development of students' financial literacy, often initiated by external stakeholders and providing many different types of professional support to teachers (lesson plans, free courses, webinars etc.), there are much less initiatives that aim to develop entrepreneurship competence in its full complexity, especially for elementary school students. Although entrepreneurship is listed as a key competence to be developed in school education by the NAT and several of its elements appear in the curricula, entrepreneurial education at ISCED 1 and 2 levels is still limited due to lack of policy attention, insufficient time allocation and general teaching methods, as well as teachers' typical attitude towards and lack of competence in entrepreneurial education.

To improve entrepreneurial education at ISCED 1 and 2 levels in Hungary, it would be important to put more emphasis on competence development, and entrepreneurship should be understood in a wider sense as in the EntreComp framework, referring to the complexity of the knowledge, skills and attitudes needed to act upon opportunities and ideas, and transform them into social, cultural, or financial value for others. It is also advisable to identify and integrate the experiences of prior and current good practices

into mainstream formal education. The Alpha project may contribute to this by providing an analysis and a collection of best practices from Hungary and the other three Visegrad countries.

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Exploration of Effective Ways to Develop Experimental Design Skills

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experimental design, inquiry-based education, attitude toward experiments

The focus of student experiments should shift from reinforcing and demonstrating scientific content towards practicing scientific thinking (Hofstein, 2015). Scientific thinking, as it manifests itself in the understanding and interpretation of scientific phenomena, has elements that are more closely related to scientific cognition, such as the identification and control of variables, causality, hypothesis generation and testing, and the design of experiments (Csapó, 2022).

The results of an earlier four-year longitudinal research study on the development of experimental design skills led to the conclusion that 12-13 years old students probably need more help to design experiments than had been offered to them in that project (Szalay et al., 2021). Therefore, in the present four-year longitudinal project, the main principles of experimental design are taught using a scheme that is the simplified version of the Experimental Design Diagram found in the book by Cothron et al. (2000). The hypothesis is that this helps the development of experimental design skills. Systems thinking approach (Orgil et al., 2019) is applied to increase motivation, helping students to relate chemistry to their everyday life and environmental issues. This could also improve students' attitudes towards the subject.

At the start of the project (1st September 2021), 992 seventh-grade students were involved. In each school year of the four-year project, these students spend six lessons on hands-on activities using the worksheets provided. At the start of the research, the 7th grade students (aged 12-13) were divided into three groups. Group 1 (control group) follows the step-by-step instructions. Group 2 follows the same instructions as Group 1, but after the experiment they also complete the experiment design scheme on their worksheets. Group 3 has to design the experiments according to the scheme. The impact of the intervention on students' experimental design skills (EDS), disciplinary content knowledge (DCK), chemistry grades, attitudes to the subject and to experiments is measured using structured tests at the beginning of the project and at the end of each academic year. Statistical analysis of data is done by the SPSS Statistics software. ANOVA and ANCOVA analyses are both performed, because previous experience had shown that students' performance can depend on several factors, not only on the intervention.

During the first two years, the intervention resulted in a medium effect size positive change in the EDS of Group 3 students compared to the control group (Group 1), as measured by the tests (Cohen's d : 0.26). By the end of the second year, there was only a small difference in the change in DCK between the experimental groups and the control group (Cohen's d value of Group 2: 0.10 and Group 3: 0.11). The only positive change in attitudes measured in the first two years is that Group 3 rejects the experimental design tasks less than Group 2. The results of the third year of the project will be shown in the presentation.

The first results have already been published (Szalay et al., 2023). They showed that it is probably worthwhile to base the students' practical activities in designing experiments on a scheme to help them through the process, because a significantly more students in Group 3 than in Group 1 seemed to have understood in the meantime how to do a fair test correctly. The usefulness of an experimental design

template, a simplified version of the one described by Cothron et al. (2000) seemed to be justified. Student worksheets and tests used in the first half of the project can be downloaded from the project website (MTA-ELTE Research Group on Inquiry-Based Chemistry Education, Inquiry-Based Chemistry Education and Systems Thinking project, 2024).

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Informal Learning in Secondary VET, Based on Studying Different Professions in Hungary and Poland.

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Informal learning, observation, cooperative learning, vocational education and training

Our research topic is observation-based and collaborative learning among students preparing for an ISCED level 3 qualification, and among the students and adults they observe. Young apprentices often experience difficulties with formal learning. Teacher feedback suggests that informal learning can often be more effective for them. Our research served as a pioneering effort studying informal learning among vocational students. Connectivism Learning Theory (Siemens, 2004), Situated Cognition (Brown et al. 1989; Lave & Wenger, 1991; Billett, 1996), Social Learning Theory (Bandura, 1986) represent the theoretical background.

Our research focuses on observing 'others' (observing apprentices and experienced adults at work, watching professional programmes on television and internet), communicating and collaborating on the work tasks, and the importance of joint practice, based on apprentices' perceptions. The main reason for focusing on them is that VET research pays little attention to lower secondary VET where young people are often disadvantaged in many respects (Benke & Rachwał, 2022). We are looking for answers to the question of the extent to which this type of learning is present in the lives of apprentices.

In 2022, a questionnaire survey was conducted in Hungary and Poland, completed by 241 vocational students (131 Hungarian, 110 Polish). In Hungary, the sample consists of one school including four sectors; in Poland 4 schools including 8 sectors. The questionnaire consists of 37 questions, structured around five themes: reasons for choosing a profession; observation of and communication about activities related to the profession; the influence of TV and internet, including role models and favourite famous people; satisfaction with school achievements; time spent with friends and on the internet in leisure time. Most questions are closed with intensity questions and with multiple-choice options for some cases. Most variables are discrete variables. To detect the relationships between them, we applied Chi2 and Fischer tests.

For most pairs of variables, no significant relationship was found. A significant relationship was found between observing adults at work and performing a similar task with help. Those who like collaborative exercises and would like to increase their proportion are more numerous. All students are more likely to turn to friends for help. Most students don't have role models, except those who nominated „star persons” seen on TV. We assume that exercises in school workshops are likely to play a greater role in the process of learning from each other than work placements in companies.

The survey yields interesting results, suggesting that different forms of student interest and activity often complement and reinforce each other. The previous quantitative studies - for the time being only for the Hungarian data - were supplemented by an analysis of individual professions. The results indicate that there are significant differences between the professions studied. However, irrespective of the

profession, both samples show higher proportions of students who like joint practices and would like to increase their proportion.

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The Mediating Effect of Higher Education Research and Innovation Practices in Addressing Economic Challenges: Graduates' Employability Prospects

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higher education, research and innovation, employability, mediation analysis

During the age of knowledge economy, among other arenas of the subsystems of the education, higher education is becoming one of the important areas of research agenda vis a vis determining economic growth both at macro and micro level (Schultz, 1961; Oancea, Pospíšil, & Drăgoescu, 2017). It has been recognized for its role in connecting labor-market supply and demand through the supposed link that exists between higher education training programs and job market requirements. As a result of the increasing importance of knowledge in the global economy, employers are looking for recent graduates who possess advanced levels of both knowledge and skills. Recent studies show Higher education institutions are coming under increasing pressure of providing graduates with the skills and competencies required to be able to compete in the world market of workforce (UNESCO, 2019). The idea behind is that by fulfilling this 'matching' demand-driven policies, HE can help to accelerate economic growth, including the need for supporting economic growth through the reduction of economic and other barriers and regional inequities among developing countries. The point of argument happens to be more imperative especially in regions such as Africa and developing economies in general, that are working on their young population for the accumulation of socio-economic development (World Bank, 2019).

Globally, a due attention has been given by both academicians and policy makers to higher education the fact that it plays a tremendous role in determining the employability of graduates by equipping them with the knowledge and skills necessary to the global labor market and thereby drives innovation, economic growth, and social progress (Kivinen et al., 2017; Marginson, 2016). Unequivocally, higher education (HE) research and innovation (R&I) practices have been attributed a significant role in addressing macro-economic problems such as employment issues (Smith, 2020). According to this author, among other roles, the role of university-industry linkage and knowledge and technology transfer has particularly emerged as fundamental and such initiative became a clear interest has received national and global nod, referencing its importance as a mechanism for stimulating national economy.

From African stand of point, even though the continent is facing various challenges, including but not limited to access to quality and relevance education, which doesn't stimulate an innovative environment, and poor infrastructural development, its member states are working hard to boost their human capital accumulation through enormous investment in higher education system (AU, 2015). In the context of this region, Ethiopia stands out as a country that has lofty development objectives and a rapidly expanding higher education sector that is working to address these challenges.

Ethiopia has made significant investment regarding providing access to higher education. These days, according to the MoE (2019), there exist 50 public and 105 private universities which are currently engaged in teaching, research, and community-based services, which paved the way to a significant increase in the number of students enrolled to more than 1.2M.

Nevertheless, there are diverse problems in the system which are induced due to massification of higher education. Among others, the first and most critical issue, which is an ongoing debate among scholars, is the massification of higher education institutions. An undeniable number of scholars appreciate the commitment by the government for allowing access to higher education by establishing as many universities as possible with considerable investment. On the other hand, there exists a significant group of scholars who strongly argue and criticize the government for allowing massive expansion of higher education for the fact that poor education quality is highly linked to such a situation. For example, Alemayehu & Solomon (2017) argued that huge enrolment rates in higher education are highly associated with various limitations. According to them, this massive enrolment doesn't allow to implementation more appropriate, student-centered, and innovative pedagogical approach; it rather encourages teachers for mass evaluation so that students can get the easy way out. They further noted that the Ethiopian higher education system is less organized, unequipped, suffering from qualified manpower who oversees shouldering responsibilities that best fit higher education, and in the adequacy of facilities. Less relevant curriculum, which doesn't consider the Ethiopian socio-cultural context and loosely linked to the daily life learners has also adversely affected the training not to be associated to real situations in the country.

Another notable challenge, which scholars are claiming is a loose university-industry linkage. There needs to be a platform where students can practice what they have gained in academics. The argument is that; graduates are less competent in the world of work irrespective of their grade point average during their study. In this regard, Bareke (2018) in his study managing university-industry linkage concluded that there exists a poor interrelationship between universities and industries, which in turn resulted in a high rate of graduates' unemployment. World bank (2020) also predicted the country continues to struggle with several persistent economic challenges, such as high unemployment rates, and mismatches between skills and jobs.

There have been some empirical research conducted in the context of Ethiopia on different aspects of higher education and their relationship with graduates' employability. Among others, Tesfaye and Ayalew (2020) assessed the graduates skill gap for employability in Ethiopia. They found out that the existence of loose alignment between the curricula and the industry demands. Similarly, Lemma et al. (2018) studied the impact of entrepreneurship education on the entrepreneurial intentions of graduates, and they discovered that it has a positive significant effect. However, none of them took the role of research and innovation as an important variable that determines the employability of graduates. Moreover, they utilized a simple regression technique to estimate the effect of HE on graduates' employability. Therefore, this study is novel in terms of solving the lack of awareness concerning the mediating role that higher education research and innovation practices play a critical role in addressing economic problems. Furthermore, it is strongly believed that it is a step ahead in terms of methodological procedure as well.

Therefore, the purpose of this study is assessing the effect of higher education dimensions on perceived graduates' employability with the mediating role of research and innovation practices so that a comprehensive understanding of how higher education institutions can effectively contribute to addressing economic challenges and preparing graduates for the workforce will be understood. Hence, the study is meant to address the following research questions.

1. What higher education related factors determine graduates' employability most?
2. To what extent does HE directly determine graduates' employability in the context of addressing economic challenges in Ethiopia?

3. To what extent does higher education research and innovation practices mediate the relationship between HE determinants and graduates' employability as economic challenge in Ethiopia?
4. Is there any statistically significant variation of perceived graduates' employability among different university categories?

This study employed quantitative research with a cross-sectional design. This design is feasible for data that's only collected at a single point in time. This design is usually effective in estimating the association among predictors and the outcome variables. Furthermore, it helps to capture the current situation and identify potential areas of investigation for future research (Setia, 2016). It also helps to generate a hypothesis for casual relationships that can be tested after a collection of reliable data (Mann, 2003). Online survey questionnaire was employed to university lecturers who can best understand the state of employment opportunity and employability of graduates' higher education institutions. A total of 112 responses were gained from the survey and all the responses were used for data analysis. In analyzing the data, the researcher used a quantitative approach. In my analysis, I calculated descriptive statistics (mean, standard deviation) and performed inferential statistical analyses (one-way ANOVA). I also built a regression model examining both direct and indirect effects (mediation analysis). According to Kline (2011), mediation analysis is a powerful statistical technique used in research data analysis to examine complex relationships among variables including the direct, indirect effects, total effects and path coefficients of variables treated in the study.

The findings of the study showed that both education quality and program relevance have positive significant direct effect on graduates' employability while a negative effect was observed between access and the outcome variable. The mediation effect of higher education research and innovation practices was found to be less strong with most of the variables treated in the study. In another words, there is no strong statistical evidence to reach a conclusion that such practices in higher education contribute to graduates' employability. The total effect of higher education on the response variable is found to be statistically significant with program relevance and education quality practices.

The findings of this study in a nutshell portrayed that while there exist direct effects of higher education variables, the indirect effects were found to be statistically negligible even though institutional infrastructure has an indirect impact and contrasted with no direct effect. In other words, the mediating role of higher education research and innovation practices in bridging graduates' employability was found to be statistically non-significant. Furthermore, no statistically significant evidence was found whether there exist differences among the different categories of higher education institutions.

These findings of the study have vital implications for different stakeholders with primary attention to educational institutions and policymakers. For having an improved labor market outcome of graduates, research and innovation investments should be directed at enhancing the quality and relevance of higher education. To ensure this, both the academic and research steams of higher education institutions need to put in place a cross functional plan to meet organizational goals. Moreover, widening participation initiatives of any type without maintaining academic standards and industry-industry linkage, shouldn't be in place. Higher education institutions need to devise strategies where applicable to promote student engagement in research and innovation-oriented teaching practices so that research and innovation mission of the education institutes can play a mediating role in bridging employment prospects of graduates.

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Current Perspectives on EFL Motivation in Ecuador: University Students' English Learning Experiences

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teacher's role, student motivation, Ecuadorian university, EFL experience, students' insights.

In education, motivation is crucial for learning success, especially in EFL and ESL (Guilloteaux & Dörnyei, 2008). Despite its significance, motivation is not clearly defined and involves various meanings and constructs (Dörnyei, 2001). This complexity has led to numerous theories and studies on motivation (Lamb, 2017). In SLA, research focuses on what drives motivation in L2 learning (Al-Hoorie, 2017). This study examines two constructs within Dörnyei's L2 Motivational Self System—the ideal L2 self and the learning experience—to understand their impact on language learning motivation.

Csizér and Kálmán (2019) highlight gaps in L2 motivation research, particularly the role of teachers in shaping the L2 learning experience. There's a lack of empirical studies on English language learning motivation in Ecuador. This study addresses this gap by exploring students' perspectives, providing valuable insights for educators, researchers, policymakers, and EFL students.

This qualitative research uses a phenomenological approach to explore EFL students' perspectives. The study focuses on non-English major university students in Ecuador. Data collection involved pilot focus group interviews and subsequent individual interviews. Ten EFL students participated in semi-structured interviews, selected through convenience sampling. The interviews were conducted online in Spanish, recorded with consent, and followed APA ethical principles. Interviews were transcribed verbatim and analyzed using a reflexive journal to document thoughts on potential codes and themes. Peer debriefing ensured trustworthiness. Relevant codes were sorted into themes (Braun & Clarke, 2006), with connection diagrams developed to refine these themes.

Participants' motivations for learning English varied from academic requirements to intrinsic and altruistic inclinations. Instrumental motives, such as job prospects and higher salaries, were strong predictors. Studies in the context (e.g., Luna-Hernández, 2016; Ortega-Auquilla et al., 2019) found similar results where intrinsic motivations, including personal growth and enjoyment, were significant. Participants also saw English as essential for international cross-cultural relations, aligning with Yashima's (2000) International Posture construct. Altruistic motives, such as supporting family and community, emphasized the social dimension of language acquisition. Despite evidence supporting the ideal L2 self as a powerful motivator, research on the direct impact of teachers on students' ideal L2 self is limited. In Ecuador, the Ideal L2 Self was found as a strong predictor of student motivation (Andrade-Molina et al., 2021). In this study, participants viewed native speakers and teachers as language paragons. The idealization of native speakers reflects the impact of anglophone pedagogical models (Pavlenko, 2003) Teachers as exemplary models align with Dörnyei and Kubanyiova (2014), who viewed the teacher in a privileged position to positively influence students.

Teachers' influence on students' visions of their ideal L2 selves was profound. Participants emphasized educators' critical role in inspiring and guiding their language learning journeys. Effective language

instruction requires balancing academic expectations and approachability (Dörnyei & Ushioda, 2009; Mercer & Kostoulas, 2018)

The study highlighted the significant role of teacher characteristics, particularly empathy and charisma, in creating a conducive learning environment. These qualities are crucial for motivating learners (Kálmán, 2018). Methodological preparedness, including student-centered approaches, also impacts student motivation. Participants identified altruistic traits in their teachers as sources of motivation (Mukminin et al., 2017).

Strong teacher-student relationships, dynamic teaching methods, and certain teacher traits boost positive learning experiences and motivation. The study advocates for a shift in teacher training programs to cultivate attributes fostering a supportive learning environment. Future research should explore the long-term impact of teachers' personas and instructional practices on student motivation.

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CONTEMPORARY ISSUES IN SOCIAL PEDAGOGY

Regional Pedagogical Support Centres: A Strategy for Advancing Teacher Development in Slovakia

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teacher mentoring, professional development, minority education, bilingual support, slovakia, feedback analysis

In the 21st century, educational systems face challenges that require new approaches, particularly in supporting teachers' professional development. Mentoring programs have emerged as key tools in this process, promoting both professional and personal growth among educators. In Slovakia, the recent educational reforms emphasize the importance of such programs, which align with broader European strategies aimed at improving educational quality (OECD, 2021; European Commission, 2010). In Slovakia, teacher mentoring is crucial for professional development. Teacher mentoring programs provided by Regional Pedagogical Support Centres (RPTK), play a crucial role in supporting educators. Among the 32 Regional Pedagogical Support Centres, four are bilingual centres, providing support for Hungarian-speaking and teaching teachers as well. These centres offer mentoring in the teachers' native languages, which is essential for addressing the specific needs of minority educators. The significance of such programs is highlighted by European educational policies that advocate for localized, language-sensitive support systems (OECD, 2021; Bajtoš & Tarinová, 2021).

This study aims to evaluate the effectiveness of mentoring programs in the four bilingual RPTK centres in Slovakia. Specifically, it examines how these programs impact teaching quality and teacher development, using feedback from participating educators. The research seeks to understand how mentoring in the native language of teachers, whether Slovak or Hungarian, contributes to their professional growth and improves educational outcomes. The analysis focuses on the centres' annual work and the perceived effectiveness of the support provided.

The study uses a mixed-methods approach, incorporating both quantitative and qualitative data collection. Surveys with teachers will gather insights into their experiences and the impact of mentoring on their professional development. Statistical analysis will assess the effectiveness of mentoring programs, while qualitative feedback will provide a deeper understanding of the personal and professional growth reported by teachers.

The research is expected to reveal that mentoring programs significantly enhance teaching practices and professional development, particularly in minority language schools. Teachers mentored in their native language are anticipated to report higher satisfaction, improved teaching strategies, and greater confidence in the classroom. The study also aims to identify key areas for improvement in the mentoring process, based on teacher feedback.

The findings will likely underscore the importance of mentoring in supporting minority language educators in Slovakia. The study will recommend the expansion of these programs, emphasizing the need for continuous assessment and adaptation based on teacher feedback. This aligns with broader European educational initiatives that prioritize language-sensitive professional development to ensure equitable education across different linguistic contexts (European Commission, 2010; OECD, 2021).

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Exploring Teacher Motivation and Optimizing the Learning Environment of students in Internally Displaced People (IDP) Camps, Myanmar through the Pink's Motivation Theory

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students in internally displaced people (IDP) camps, learning environment, motivation, Myanmar

In the context of Internally Displaced People (IDP) camps in Myanmar, optimizing the learning environment for students is crucial, with teachers playing a central role. Their motivation levels significantly impact student learning and performance (Shak et al., 2022; Ghenghesh, 2013). Despite numerous challenges such as inadequate funding, shortage of specialized teachers, lack of infrastructure, and limited instructional materials (Ogunode et al., 2022), understanding and enhancing teacher motivation can drive educational improvements. Herzberg's theory highlights that 'hygiene' factors, like excessive workloads and challenging superiors, can undermine teacher motivation, while intrinsic factors such as personal satisfaction and a sense of purpose are powerful motivators (Ghenghesh, 2013; Shak et al., 2022). Highly motivated teachers positively influence student achievement, as their enthusiasm and dedication are mirrored in their students' engagement and performance (Serdarević, 2023).

Intrinsic motivation, stemming from an individual's inherent interest and satisfaction in their work, is a crucial driver of teacher engagement and effectiveness (Serdarević, 2023). This intrinsic motivation is associated with higher teaching skills and self-determined motivation, with teachers who find their work rewarding and enjoyable demonstrating a deeper commitment to their students' learning (Serdarević, 2023).

Pink's Motivation Theory, which emphasizes autonomy, mastery, and purpose, offers a valuable framework for understanding and enhancing teacher motivation (Sato et al., 2022). By fostering autonomy, teachers can be empowered to make decisions and adapt to their students' unique needs. Providing opportunities for mastery allows teachers to continuously develop their skills and expertise, thereby transforming the learning environment in IDP camps (Benware & Deci, 1984).

Furthermore, aligning the purpose of teaching with the unique needs and challenges faced by students in IDP camps can help teachers find deeper meaning and fulfilment in their work, further bolstering their intrinsic motivation (Benware & Deci, 1984). This comprehensive approach, addressing intrinsic and extrinsic factors, is essential for optimizing teacher motivation and enhancing student learning outcomes in IDP camps.

The main aim of the research is to enhance the educational outcomes in IDP Camps in Myanmar by understanding and improving the motivational factors of autonomy, mastery and purpose among teachers, and by optimizing educational practices and the learning environment under challenging conditions.

Research Aims:

1. Explore how motivational factors (autonomy, mastery, and purpose) display in the teaching experiences of volunteer teachers in IDP.
2. Identify and analyze the challenges and barriers to quality education in IDP camps as perceived by teachers and assess their impact on teacher motivation and teaching effectiveness.
3. Evaluate the effectiveness of existing support mechanisms for teachers in IDP Camps and how these mechanisms influence their motivational factors of autonomy, mastery, and purpose among teachers.

Research Questions:

1. How do autonomy, mastery, and purpose display in the teaching experiences of volunteer teachers in IDP camps?
2. What are the barriers to accessing quality education for students in IDP camps as perceived by their teachers, and how do these barriers impact teachers' motivation to teach effectively?
3. How effective are existing teacher support mechanisms, such as senior teacher mentorship and community support, in enhancing the quality of education, and how do they influence teachers' feelings of autonomy, mastery, and purpose?

Hypotheses:

1. Greater teaching effectiveness and better student learning outcomes are correlated with higher levels of felt autonomy, mastery, and purpose among IDP camp teachers.
2. Teachers' motivating factors—autonomy, mastery, and purpose—are severely affected by obstacles including a lack of resources, inadequate training, and security concerns, which lowers their efficacy as educators.
3. Teachers who have access to effective teacher support systems, such as mentorship and community support, experience more empowered, accomplished, and purposeful, which improves the quality of teaching.

The study employs a qualitative research design, utilizing in-depth interviews with 7 volunteer teachers from 4 IDP camps from the selected areas across Myanmar. A semi-structured interview questions based on Pink's motivational theory explores teachers' perceptions and experiences and the learning environment of the students in IDP Camps in the selected areas. To analyze qualitative data from interviews, MAXQDA will be used. It allows for efficient coding, thematic analysis applied to the interview transcripts to identify recurring themes and patterns., and organization of qualitative data. This method will help elucidate the relationships between teacher motivation, teaching effectiveness, and educational outcomes, providing a basis for proposed changes in practice.

The expected results indicate that there is a positive correlation between increased levels of perceived autonomy, mastery, and purpose among instructors and improved educational efficiency. Early findings suggest that by promoting a stronger and more flexible learning environment, improving these motivational elements may minimize the negative consequences of resource constraint and infrastructure issues. It is anticipated that these results will aid in the creation of focused interventions that increase teacher motivation, improving the standard of instruction in IDP contexts.

The study anticipates that strategic enhancements in teacher autonomy, mastery, and purpose will lead to significant improvements in educational quality in IDP camps. Compared to existing research which predominantly focuses on structural and resource-related challenges, this study contributes a novel perspective by highlighting the potential of motivational factors as key levers for educational reform in crisis-affected settings. Recommendations will focus on practical strategies to empower teachers

through training, support mechanisms, and policy interventions aimed at enhancing motivational conditions.

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Feed The Refugee Child! A Quest for a School Feeding Program in Kakuma Refugee Camp, Kenya

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refugee education, school feeding program, SDGs, marginalised communities, Kakuma Refugee Camp

Hunger among students in the Kakuma Refugee Camp schools in Kenya is one very critical issue that needs urgent attention. The children's right to education which is a fundamental right is negatively impacted by the problem of food provision and rationing in the camps which has left the young ones to fend for themselves (Benedetta, 2017). Currently, Kenya has initiated county-wide school feeding programs, but these have not been extended to refugee camps where the need is equally, if not more, critical and with its experience in county-level programs, it can provide the framework and support needed to initiate the program in the refugee camps. The benefits of school feeding programs are well-documented, including increased attendance, improved academic performance, and better overall health education. The nation's aim of providing universal primary education has been greatly aided by subsidised meal programs, which are largely used to encourage the enrollment and retention of rural children and females (Langinger, 2011).

As a former teacher in Kakuma Refugee Camp, I have witnessed firsthand the severe impact of hunger on students' ability to concentrate in class and performance in school. Refugee children often attend classes on empty stomachs, some having missed meals at home because their families cannot afford to provide for them. In connection with the Sustainable Development Goals (SDGs) 2 (Zero Hunger) and 4 (Quality Education), this paper highlights the urgent need for a comprehensive school feeding program in refugee camps.

The study will use a mixed-methods approach, primarily utilizing secondary data and ethnographic evidence to explore the impact of hunger on refugee students' education and advocate for a school feeding program in Kakuma Refugee Camp. Given the resource constraints that preclude conducting a field study, the research draws on existing literature, reports, and statistical data from reputable sources such as the United Nations High Commissioner for Refugees (UNHCR), the World Food Programme (WFP), and various non-governmental organizations (NGOs) involved in refugee aid and education. Complementing the secondary data, an ethnographic approach is adopted, incorporating my personal experiences as a former teacher in Kakuma. This will provide a broader perspective of the day-to-day realities faced by students and the effects of food scarcity on their educational experiences and overall well-being.

By highlighting the significant positive impact, a school feeding program could have on the educational and overall well-being of refugee children in Kakuma Refugee Camp this study projects that the implementation of a consistent and nutritious school feeding program will lead to improved student attendance and retention rates, enhanced students' concentration, cognitive function, and academic performance. The collaboration between the Kenyan government, NGOs, and international partners will likely foster a sustainable model for school feeding programs, promoting long-term food security and educational improvements. In summary, this study aims to demonstrate that addressing hunger can

create a more conducive learning environment, ultimately contributing to the broader goals of equity and human dignity for refugee children in line with Sustainable Development Goals 2 and 4.

The establishment of a school feeding program in Kakuma Refugee Camp is an urgent and necessary step towards improving the educational and health outcomes of refugee children. By addressing hunger and ensuring access to clean water, such a program would significantly enhance the quality of education in the camp, aligning with SDGs 2 and 4. The collaboration of the Kenyan government, NGOs, international partners, and the community is crucial in making this vision a reality. Ensuring that refugee children have full stomachs as they pursue their education is not just a matter of charity but a fundamental step towards equity and human dignity.

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Pathways to Foster Parental Engagement: Hidden Factors That Encourage Becoming a Foster Parent

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foster parents, aspirations, parental engagement, foster care

In the international literature, considerable attention has been given to the decision-making mechanisms behind becoming a foster parent. Both intrinsic and extrinsic motivational factors influence decision-making processes (Andersson, 2001; Baum et al., 2001; MacGregor et al., 2006; De Maeyer et al., 2014; Piel et al., 2017). Furthermore, the regional and sociocultural context remains unavoidable (Davi et al., 2021; Gouveia et al., 2021).

The purpose of this presentation is to map the factors that encourage individuals to become foster parents, and to identify variations across different demographic and social background variables. Our main research question is: What characterizes the aspirations of foster parents within Hungarian social and territorial contexts?

To approach the problem from multiple perspectives, we conducted mixed-methods analyses in Northeast Hungary. In the first phase of our research, we used convenience sampling to survey 104 foster parents. In the qualitative phase, we conducted semi-structured interviews with 15 foster parents.

The key finding of our research is the development of an eight-factor model identifying the main influences on the decision to become a foster parent. Significant differences in these factors were observed based on demographic and social background variables, including the foster parents' educational level, their partners' educational level, nationality, marital status, subjective financial situation, and religion.

The results obtained from non-probability sampling cannot be generalized; however, they contribute to the recognition of the multidimensional nature of the factors that encourage and hinder becoming a foster parent.

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The Role of Social Values in International Students' Sport Persistence

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sport persistence, social values, cultural adaptation

The benefits of participating in sports are well known, providing advantages for physical, mental, and social well-being. In addition to promoting cardiovascular health and mental resilience, sports can also help with social inclusion. This is especially relevant for international students, as sports can be a valuable tool for adjusting to new cultural environments. Despite the well-documented benefits of sports participation, the concept of "sport persistence" - referring to sustained commitment to sports activities - remains underexplored, particularly in the context of international students. While existing research has highlighted the role of social values such as teamwork and community building in promoting sport persistence, there is a need for a more comprehensive understanding of how these values influence international students' ongoing engagement in sports. Addressing this gap is important for designing effective support programs and policies aimed at fostering sport persistence among this population.

The focus of this study is to review existing literature on the persistence of international students in sports, particularly examining the integration of social values into sports programs. The objective is to identify and assess interventions and best practices that encourage sustained participation in sports for this demographic. The study aims to answer the following research questions: (a) What are the common features of sports programs and interventions that support sport persistence among international students? (b) How are social values incorporated into these programs? (c) What are the practical implications? (d) What areas require further research? By addressing these questions, the study aims to offer valuable insights for policymakers and practitioners to develop more effective, culturally sensitive sports programs that contribute to the overall well-being and social integration of international students.

This study employed a systematic review methodology, following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. A comprehensive search was conducted using the EBSCO Discovery Service, which included 85 databases to gather relevant studies. The search strategy focused on keywords related to "sport persistence," "social values," and "international students." The selection of studies was based on predefined inclusion and exclusion criteria, prioritizing empirical research that examines interventions aimed at supporting sport persistence among international students. The methodological quality of the included studies was assessed using the Joanna Briggs Institute (JBI) critical appraisal tool. Out of 285 identified records, 14 studies were subjected to full-text screening, with 6 meeting the inclusion criteria. The analysis involved identifying common themes and characteristics of successful sports programs, with particular attention to how social values were integrated into these interventions. The findings were used to draw conclusions about effective practices and areas requiring further research, with implications for both policy and practice in supporting international students' sustained engagement in sports.

The systematic review revealed that several factors, including cultural background, gender, and the availability of specific sports programs, significantly influence sport persistence among international students. Programs that effectively integrate social values, such as teamwork, discipline, and community

building, were found to be more successful in promoting sustained participation in sports. Additionally, the review identified significant barriers to participation, such as time constraints, cultural differences, and limited institutional support. The findings suggest that to enhance sport persistence, interventions should prioritize the incorporation of social values, as these not only support the physical and mental health of international students but also facilitate their social integration and adaptation to new cultural environments. The review also highlighted gaps in the existing literature, particularly regarding the long-term impact of these interventions and the specific needs of different cultural groups.

The study concludes that culturally sensitive sports programs that incorporate social values are essential in supporting sport persistence among international students. These programs not only contribute to the physical and mental well-being of students but also play a crucial role in their social integration and academic success. The findings align with existing knowledge that emphasizes the importance of social values in fostering sustained sports participation; however, this study further highlights the specific impact on international students. The review underscores the need for future research to explore the long-term effects of such programs and the role of specific social values in diverse cultural contexts. It is recommended that policymakers and practitioners prioritize the development of inclusive sports programs that address the unique challenges faced by international students, thereby enhancing their overall experience and persistence in sports.

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DIDACTICS AND MODERN METHODOLOGIES

Kindergarten-school Transition in the Early Childhood

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kindergarten-school transition, early childhood, bilingual children, kindergarten

Nowadays, more and more children are able to learn a new language in kindergarten, and one of the key factors contributing to this trend is the influence of parents. Kindergartens, responding to this demand, are opening new groups where children can learn a new language, thereby broadening their cultural horizons. Another significant factor is globalization, which ensures that children who move here will learn the local language and traditions. (Szarka 2021) Hungary, in particular, offers numerous opportunities for children to learn a language in early childhood. (Endrődy 2016)

Our aim with this research is to get a bigger picture of multicultural families' daily lives. We want to give kindergarten teachers a new perspective, help them develop work, and make the kindergarten-school transition more gentle.

Our presentation is about sharing information and fostering a collective understanding of integrating bilingual children in the kindergarten-school transition. We invite you to join us in this exploration. Our methodology will be the focus group probing together with quantitative and qualitative. We would like to get 150-200 quantities with the questionnaire and with the interview 30 quantities.

The harmonic transition in early childhood comes to fruition with five main points:

- The kindergarten teachers compete with each other.
- Make a complex program in the kindergarten and integrate it into the school.
- We need to develop the kindergarten teachers' competence persistently.
- Use various methodology
- Implement a holistic expansion (Nagy 2018)

"Kindergarten teachers' beliefs about school readiness in general, and the increasing demands of early learning standards more specifically, shaped how teachers reached out to parents to encourage home-based parent involvement." (Puccioni 2018 p.257)

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Rethinking the Usage of School Historical Sources and Resources

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history didactics; sources; resources; textbooks

Part I: Uncertain utilization of sources and resources.

In today's East Central European school history teaching, one of the big questions is whether there are sources and resources present in the teaching and in the textbooks, and if there are, what is their educational purpose and what didactical quality they represent. Compared to the education and textbooks of the 1800s, 1930s, and 1980s, today there are many more sources and resources in actual teaching and textbooks in East Central Europe. However, this process is currently in crisis – what we can call an uncertain utilization of sources and resources. Uncertain utilization of sources and resources has a technical-practical and a philosophical-professional reason. The technical reason stems from the fact that the printing and imaging quality of textbooks is getting better and more perfect. (On the iconic turn see: Birdsell–Groarke 1996; Kjeldsen 2018; Géczi 2010; Mitchell 1994; : F. Dárdai 2008) And this is the reason that - paradoxically - the textual sources, pictorial sources and infographic sources found in history textbooks have reached a critically large amount, i.e. an excessively large amount in some textbooks; sometimes there are so many of them - mainly from image sources and infographics - that the amount confuses practicing teachers (“the confusion of abundance”). The second reason for uncertain utilization of sources and resources is theoretical: educational-philosophical and history-didactical reason. The essence of this is that today's school history teaching takes on an excessive number of tasks, and in the meantime it has become unclear and uncertain for both the education system and the teachers, as to why and for what educational purpose the sources and resources are used. This presentation is based on an examination of appr. 50 history textbooks (older and newer, Hungarian, Slovak, German, English) and aims to examine the situation that international history teaching has been experiencing for at least a decade. (Wineburg 2001; Rösen 2004; Kratochvíl 2021; Gautchi 2012; Fink - Furrer - Gautschi 2023; Kratochvíl 2019; Kojanitz 2021) The public academic response to the source/resource utilization crisis has been that it defines certain principles on the basis of which it recommends teaching history as a school subject. Simply put, history didactics recommend to apply certain principles that narrow down the operational goals of history teaching.

Part II: Why there is no point to strictly distinguish sources from resources?

In the school history teaching/learning environment there is no point to strictly distinguish or separate sources from resources. It is so because we assume that the main goal of history teaching is to obtain reliable and relevant historical knowledge that is based on factual knowledge and historical skills, regardless their assessment by historical research if they are primary or secondary sources. In the school history teaching / learning process, visual/iconic sources in many cases, and especially in school textbooks, tend to appear in a form of infographs, i. e. as combination of sources and resources that are of complex visual / iconic + legible/textual + cartographical (incl. symbols) character. In *didactical* and *methodological terms*, both sources and resources should be able to serve as “wells” of authentic information about the historical past; plus they should be able to serve as stimulus and impulses for students' thinking about historical personalities, events, processes, etc. The most decisive factor that

distinguishes the aspects of historical research from using sources / resources in school history teaching/learning environment is that all sources and resources that are used in school history teaching/learning environment *must* undergo a preliminary “didacticization” process, i.e. purposeful didactical and technical transformation in order to make sources and resources teachable and learnable.

Part III: Interpretive key concepts as didactically relevant categories for organizing course materials and a possible means of overcoming Uncertain utilization of sources and resources.

In order to be able to successfully manage the uncertain utilization of sources and resources, and more precisely to be able to re-interpret the role of sources and auxiliary materials in school history teaching, it is absolutely necessary to go back to the question of interpretive key concepts. (In Hung. metafogalmak, diszciplináris kulcsfogalmak; in Eng. key concepts, first order concepts; in Slov. stale prítomné základné kategórie.) Previously, interpretive key concepts were interpreted as key competences (such as Wineburg 2001), and others considered them the main means of historical consciousness formation (such as Rüsen 2004 or Kratochvíl 2021: 60). In the last decade, however, it has crystallized more and more, namely on the basis of taxonomic principles and practical educational experiences (Gautchi 2012; Fink - Furrer - Gautschi 2023: 32; Kratochvíl 2019: 21-22), that in the optimal case the interpretive key concepts provide the theoretical backbone of historical education and culture. The interpretive key concepts were established in the Hungarian cultural field in the latter sense, mainly following the foundations of the theories of László Kojanitz. According to Kojanitz, the following interpretive key terms define and designate the strategic directions of historical learning: causes and consequences; change and continuity; fact and evidence; historical time; historical source; historical significance (Kojanitz 2021, mainly 165-235). In our present study, in which we aim at the reinterpretation of sources and resources in school history teaching, we refer back to the interpretive key terms because if we use them as priority educational aspects, we narrow down the goals and content of history teaching, explicitly or implicitly, namely the for the reinterpretation of sources and auxiliary materials in school history teaching, a radical narrowing of the purpose and content is essential.

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Present in the Past - Examining Anachronisms in Selected History Textbooks and Among Student Groups

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artificial intelligence, history teaching, anachronism

The development of digital interfaces for teaching history (Fodor, 2023) and artificial intelligence has been significant in recent years, and as a result, more and more people are experimenting with their use in education. With regard to the latter, the literature specifically mentions the personalisation of the learning experience (Horváth, 2024(a), p. 9; Malik et al., 2019), for example, the personification of a historical figure in a history lesson (Horváth, 2024(a), p. 9). However, it is important to highlight that there are many challenges in applying AI in education (Horváth, 2024(a), p. 9). The images generated in this way can arouse curiosity, but they must be treated with due criticism (Szalay-Bekő, 2024). AI in history education can play a role primarily in the analysis of anachronisms. The ability to recognise anachronisms has not yet been investigated among Hungarian native-speaking students, but its presence and certain aspects in history textbooks have been highlighted by both Hungarian and foreign authors (Carretero, M. - Pérez-Manjarez, E, 2021, Fekete, Á - Varga, K, 2024, Öztürk, 2011, Vajda, 2018).

The aim of our research is, on the one hand, to investigate the use of AI-generated images in education, and on the other hand, to analyse the tasks and activities related to anachronisms in the currently used teaching tools in Hungary.

For our study, we formulated the following research questions:

1. What types of tasks and activities can develop the processing and recognition of anachronisms in Hungarian teaching tools?
2. What are the qualitative differences in the responses of primary and secondary school pupils to anachronistic images?
3. What cognitive goals can be achieved by using AI-generated images in history lessons?

The study is based on several research techniques. Using an artificial intelligence called Midjourney, we generated images by combining historical events we selected with some elements of the past. The resulting visual elements were then used to create a task sheet, which was first completed by primary and secondary school students in a pilot survey. After the pilot study, the task set was further developed and re-tested with more primary and secondary school students. In addition, we used textbook analysis methods to investigate what similar tasks related to anachronisms can be found in current Hungarian-language history textbooks and workbooks.

Preliminary results showed that students can easily navigate through historical times and, with some helpful guidance, identify the deceptive elements in the pictures. We believe that this type of task can also develop students' critical thinking in history lessons. The student responses to the preliminary surveys show some qualitative differences between levels of education and types of school.

The relevance of the research is that today's society is confronted with a lot of fake news and disinformation every day. Therefore, it is important to develop the younger generation's source analysis and evaluation skills. In our opinion, this can be done by analysing sources containing anachronisms in the teaching of history and by creating them in the classroom. Teaching history through such images can develop critical thinking and the ability to characterise a period in a professional way, which can also help to develop students' information and media literacy.

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In A Life-Like Way. A Didactic Approach to Teaching Heterogeneous Learning Communities Based on Teachers' Narratives.

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students with BESD; pedagogical practices; teacher toolkit

The main reason for our research is that teachers and researchers are confronted with the fact that the number of children and pupils with behavioural, emotional, social and learning difficulties (BESD) is increasing year by year in both national and international contexts (Bíró, 2020; Müller-Hoffmann, 2019). The student communities in schools are becoming more diverse and teachers need to keep up with this trend, so they differentiate more and adopt new teaching methods (Reinhardt-Kököneyi, 2009). Teaching, as a condition for effective learning (Chrappán, 2020), is seen as a way for teachers to facilitate the difficulties of students with difficulties in behaviour, emotions, socialisation and/or learning.

The main focus of our research is to get a comprehensive picture of teachers' experiences with BTMN students and the factors influencing lesson planning in heterogeneous class and group contexts. In the second half of our study, we focus on how teachers differentiate when organising learning, with a particular focus on the forms of work, methods and teaching tools.

In the present qualitative study, semi-structured in-depth interviews (n=9) with form masters in two Hungarian counties, Hajdú-Bihar; Szabolcs-Szatmár-Bereg, were analysed using the text analysis software Atlas.ti. During the study, 4 main themes were developed based on Grounded Theory. These main themes all highlighted problems and their solutions in neurodiverse class communities from a real-life approach. The main themes were: problems within the BESD category; the context of lesson planning; working arrangements and their difficulties; the classroom code of practice (RTR in the classroom).

The professionals in this study interpreted their own realities in the interviews, so our findings provide a realistic and comprehensive picture of the challenges faced by teachers in heterogeneous classrooms. What we have also seen crystallise from the research is that, although teachers' toolboxes are varied, the methods they use do not always live up to expectations. Teachers mostly have a pedagogical approach to differentiation, but in their pedagogical practice they are not always able to adapt to the individual differences of BESD students at all levels and with all means, due to various obstacles or methodological shortcomings.

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GOOD PRACTICES IN STEM EDUCATION

Changing Climates Representations of Climate Change in Berlin Geography Textbooks (1990–2021)

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climate change, textbook analysis, content analysis, Berlin

Climate change has become a major challenge for societies all over the world, and facing this problem is a complex task that starts in school. Early environmentalist movements of the previous century advocated for a stronger emphasis of ecological aspects. Following the 1992 Earth Summit, the concept of sustainable development positioned ecological matters within the broader economic and social context, becoming also mindful of issues of generational equity and justice. Over the last two decades, formal education, Environmental Education, Global Learning, and Education for Sustainable Development advocated for skills that could enable students to work towards a more sustainable future. However, in recent years, the topical issue of climate change has enjoyed growing attention. Indeed, Climate Education became one of the main pillars of sustainability-related discourses.

Despite its growing visibility and popularity, climate and its change are by no means novel topics. The history of Geography as a school subject shows the continuity of the topic over the decades. Recent studies started exploring different facets of climate-related teaching and learning—among others, how textbooks and educational resources depict climate change.

This presentation spotlights climate change as a topic in a historical reading and aims to explore how its representation changed in time. As previous comparative studies indicated, Geography is one of the subjects with the strongest contribution to climate change as a topic, the sampling focused on lower secondary Geography textbooks (160-195 pages in length; on average, 6 pages dedicated to causes and effects of climate change). A total of 11 Geography textbooks published between 1990-2021 for the federal state of Berlin constituted the sample. A mixed-methods approach served to analyze the textbooks. Data collection began with software-assisted (MAXQDA) close reading and in-vivo coding and focused on termini tecnici featured in the continuous and discontinuous text. Concepts constituted the analytical unit applied to continuous text. Categories underwent several iterations during the coding process. The same steps were applied to discontinuous text.

The preliminary results show that Geography textbooks in Berlin mentioned climate change for the first time in 2007 with a tendency to decrease content complexity over time. Before that, environmental problems, such as pollution through industries or industrial agriculture, and the impact on different ecosystems were treated.

There is a noticeable decline in technical depth in favor of greater sensationalism, which is particularly evident in the language used e.g. climate catastrophe, climate collapse as a synonym for climate change. The study shows that students are left with a decreasing knowledge about natural and human-made causes of climate change, while at the same time, more scientifically based causes and consequences of climate change are available and published.

The Effect of LEGO Duplo in STEM Education

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LEGO Duplo, effect measurement, STEM education

The early years of life (from birth to the age of eight) are a significant period when learning takes place through the discovery of the child's own world, environment, relationship with others and their place in society (Revák et al, 2024). This is an important time when young children are first introduced to the complexity of life and its impact on their lives. In early childhood, parents, caregivers, and teachers should support children to engage in problem solving to become creators of their own knowledge (Soylu, 2016). Participating in constructing their own knowledge and making decisions allows children to make sense of the things around them.

Early childhood STEM (Science, Technology, Engineering, Mathematics) education embraces the idea that STEM learning can include all or some of these disciplines. However, it is not that simple, as STEM learning also includes the development of questioning skills and thinking skills. Young children learn through play and in an integrated way, where they apply the knowledge or understanding they have gained from their experiences to new situations. As young children explore their world from birth, they are already exposed to some of the ideas, understanding, knowledge and skills of STEM. In the next 10 to 15 years (when current four-year-olds are choosing careers in high school), many of the fastest-growing occupations will require STEM-related skills and experience (Davis, 2012). While previous research indicates that students' interest in STEM in secondary schools is declining (Marginson, Tytler, Freeman & Roberts, 2021), the growing demand for knowledge and understanding of STEM-related fields justifies that all education systems need to re-examine your activities around STEM learning and engagement. It is essential that educators find ways to engage children in STEM from the earliest years, and research suggests that STEM learning should begin in kindergarten (Thomas & Watters, 2015). Brenneman et al. (2019) state that "high-quality early childhood education and science, technology, engineering and mathematics (STEM) learning have become key drivers of high-quality learning for all students". With increasing emphasis on the positive benefits of high-quality early childhood education (Bertram & Pascal, 2016), STEM has been found to significantly contribute to children's later outcomes in STEM knowledge and skills (Watts, Duncan, Siegler & Davis-Kean, 2014). . As international interest in STEM has increased significantly in recent years, groups such as UNESCO and IDOS support the critical role of STEM education in building a sustainable future for all nations. In general, the goal of STEM education is to increase students' STEM ability, engagement, participation, and aspiration; increasing teacher capacity and the quality of STEM education; supporting STEM education opportunities within the school system; fostering effective partnerships with higher education providers, business and industry; and a strong evidence base must be built (McClure, Clements, Guernsey, Levine, Bales, Kendall-Taylor & Nichols, 2017).

The use of LEGO as a manipulative tool is widely used in interdisciplinary science, technology, engineering and mathematics (STEM) education across age groups (Kazez & Genc, 2016). Lego bricks bring many mathematical concepts to life: basic numeracy and counting, addition and subtraction, multiplication and division, fractions, data and measurement, and statistics and probability. It helps students learn math concepts through modeling. If a student can model a math problem and then understand and explain the

model, the computational process begins without struggle. Modeling helps students visualize what is happening in a problem (Dixon, 2017).

Sarah Jemutai (2019), a psychologist at Nelson University, conducted research in South Africa on the use of 6 Brick Duplo in visual education. As little data were available on the development of visuospatial skills in pre-literate children in an African context, her study sought to explore the impact of a guided block play intervention on the development of these skills. The data showed that using the 6 Brick Duplo Block guided play approach statistically significantly accelerated the development of visuospatial skills in the experimental groups compared to the control groups. The data also revealed that the greatest improvement occurred in children who previously had little opportunity to engage in guided play using physical manipulation. The overall results of this study suggest that the development of aspects of visuospatial perception is accelerated when teachers use this approach to facilitate guided play. This finding has implications for the development of reading, writing and arithmetic skills in pre-literate children (Jemutai, 2019).

Amina Brey (2017) approached the possibilities of using 6 Bricks Duplo from a different angle. According to Brey, 6 Bricks Duplo is a simple, experiential and fun method of learning, through which children can apply their knowledge in a complex way and affects the development of cognitive, sensory and perceptual abilities (Hutcheson, Frank & Smith, 2014). Paylling Harn (2019) aimed to use the playful approach of 6 Bricks and the DUPLO® Play Box to implement positive psychological interventions among fifth grade students. The findings of the study were as follows: (a) Positive emotions and emotional intelligence improved significantly. b) The change was evident in the increase of joy and concentration, in the cooperation between the sexes, and in the formulation of experiences.

The research (pilot research) was carried out in the Kölcsey Ferenc Reformatory Vocational Primary School 2. took place in his class in June 2024. In the current curriculum (NAT 2020), there is no science education in the first and second grade of primary school. At the same time, since September 2022, these children have been members of the "Research for the development of integrated science knowledge and approach in primary school grades 1-4. grade" MTA tender project, in the framework of which they receive natural science education and can participate in several sessions where they can acquire knowledge related to natural science at a level appropriate for their age. In the pilot research, which aimed to develop the impact measurement of the applied method, 10 students with different academic performance participated (4 boys and 6 girls), who were selected with the help of the class teacher.

The purpose of this research is to examine how the use of Lego Duplo in STEM education affects the change in students' conceptual knowledge about water.

We formulated the following research questions:

Q1: How does using Lego Duplo in STEM education affect students' understanding of water?

Q2: How does the use of Lego Duplo in STEM education change students' understanding of cause and effect about water?

The measurement took place in two steps. Before carrying out the pre-test, we collected the concepts that the students should know based on what they learned in the first and second year. Then, for the purpose of repetition and recall, we discussed with the children what they learned about water, what comes to mind when they hear the word water. After that, we reviewed the details of a 1x1 m puzzle picture containing a detailed cityscape. The 10 students were then interviewed in the form of semi-structured interviews. We asked them to stick the water drop mark (which is made of paper) stuck on a toothpick to every part of the puzzle picture where water plays a role and also to tell us why the mark was placed there. With this, we asked him about the role of water and the explanations. The students' answers

written and recorded.

In the next session, we divided the students equally into two groups. We talked again about the importance of water, its role and occurrence. The control group could express in a drawing in which scenes it is important and in what form water appears in the urban environment. The experimental group solved the same task using LEGO Duplo.

Giving time for knowledge to settle, the second step of the impact measurement took place in the last, third session, the post-test (post-test). We asked the students with a semi-structured interview, the members of both groups were asked the same questions. The task was again to mark in an interactive way on the cityscape with the help of droplets where they think water is important and how it appears in the urban environment. The answers were recorded in writing and by audio recording.

After analyzing the audio recordings, the concepts given by the students were recorded for each student in the Microsoft Excel spreadsheet program:

1. During both measurements, in the experimental and control groups, we looked at the number of concept types mentioned by the children as a percentage of the concepts we expect. Each occurring concept was taken into account only once, even if it was mentioned several times in the examined group.
2. We also analyzed how the number of mentioned concepts changed in the experimental and control groups as a result of the session. Since this is a very small sample, we performed this analysis per child. We looked at the quantitative indicators, i.e. whether there was a difference in the number of concepts given by the children between the pre- and post-measurement, and from a qualitative point of view, what new concepts appeared in the post-measurement compared to the pre-measurement.
3. Finally, based on the principle of the word association method, we constructed the association networks of the experimental and control groups for the pre- and post-measurement, on the basis of which we drew conclusions regarding their water-related knowledge (which concepts are the most fixed, which are listed as peripheral knowledge, etc.).
4. Regarding the explanations related to water, we looked at how their ratio changed during the two measurements. On the one hand, we looked at the number of explanations given by the students in both groups, and then the proportion of good explanations among them.

The descriptive statistics and word association method were used to analyze the data.

When searching for an answer to the first question, the analysis helped us to understand the proportion of the concepts we expected to appear in the children's vocabulary, so we can infer the effectiveness of the experiment and the children's conceptual development in both the experimental and control groups. We defined the following as expected terms: hydrant, sewer, well, school, tree, restaurant, cooler bag, construction site, lake, campsite, hospital, house, pool, factory, shop, grill.

It compares the results recorded at two different times, the pre-measurement and the post-measurement. The blue columns show the results of the pre-measurement, while the orange columns show the results of the post-measurement. The performance of individual students, hereafter subjects (for example A1L= Subject 1 who participated in a LEGO session, A6R=Subject 6 who participated in a Drawing session) shows significant differences, which indicates that over time and the intervention as a result, changes occurred in the knowledge level of the subjects.

In the case of A1L, the result of the pre-measurement was around 40%, while the result of the post-measurement improved significantly, reaching 100%. At A2L, the result of the pre-measurement is already high, 100%, but during the post-measurement, a further increase can be observed, exceeding 100%. The

A3L shows a decrease in performance during the post-measurement. Compared to the 80% result of the pre-measurement, the post-measurement yielded a 60% result, which indicates a decline. The results of both the pre-measurement and the post-measurement of A4L are low. The pre-measurement is 30%, while the post-measurement is 20%, which shows a slight decrease. In the case of A5L, there is a significant increase. Compared to the 80% result of the pre-measurement, the post-measurement yielded a 100% result. The result of the A6R pre-measurement is low, 20%, but the post-measurement shows a significant improvement, rising to 60%. With the A7R, both measurements show almost identical results, both the pre-measurement and the post-measurement are around 70%. In the case of the A8R, the result of the pre-measurement is 70%, which slightly decreased during the post-measurement to 60%. A9R also shows a decrease. The result of the pre-measurement was 50%, while the post-measurement yielded a result of 40%. A10R's 60% result in the pre-measurement increased to 80% during the post-measurement, indicating improvement.

During the post-measurement of the Lego group, many more concepts appear than during the pre-measurement. We are talking about exactly 14 new terms, namely: toilet, aquatic plants, soil, park, fountain, kindergarten, bird feeder, playground, fruit, ice cream, camping, bus stop, home. Concepts used during pre-measurement are also present, but their occurrence is much more frequent. We attribute these concepts to the existence of established knowledge (for example, house, lake, shop, factory, swimming pool, police). Concepts with lower frequency are classified as peripheral knowledge (fruit, bird, kindergarten, fountain, bird feeder). It can be said that their number shows a significant increase.

We can see the results of the post-measurement of the drawing session. Here, too, there are signs of established knowledge, there are concepts that were present at the pre-measurement and now appear with greater frequency. We cannot report a quantifiable increase, during the pre-measurement and post-measurement we talk about the same number of concepts quantitatively, but new terms appeared, such as: fountain and camping.

For both the experimental and control groups, we can talk about stable concepts that occurred most often during the measurements. The most common associations of the Lego group are: house, lake, shop, hospital, pool, factory, school, tree, grass, camping, home, police. The most common associations of the Drawing group are the following: lake, house, pool, construction, tree, hospital, well, police, shop, canal, factory, school. These are the most fixed information and knowledge about water in the students' minds.

The aim of the research was to find out how the use of Lego Duplo in STEM education affects the expansion of students' water-related concepts (K1). According to the results, the students' conceptual diversity and the number of concepts increased as a result of the Lego Duplo sessions. This is especially true for students who actively participated in the sessions and incorporated their own ideas into their work. The study provides many examples of how the students expanded their conceptual set and what new concepts they learned during the sessions. The number of concepts in the Lego group increased by 14, and their frequency of occurrence confirms the existence of fixed knowledge. The experimental group that worked with Lego Duplo showed a significant improvement in terms of conceptual diversity and an increase in the number of concepts. The other big question was to what extent the perception of cause-and-effect relationships regarding students' knowledge about water changes when Lego Duplo is used in STEM education (K2). Some of the members of the experimental group, who were treated with Lego, showed a timid and hesitant attitude during the pre-measurement, but during the post-measurement, their formulations were solid and their explanations were logical. Expressions such as sand—"we can shape it when it's wet" thus referring to the importance of water, fountain—"if it freezes, the water is hard, if not, it's liquid", grass—"it only grows if we water it", cool bag—"the water freezes in it and keeps the ice cream cold", vegetation - "when the sun is shining, the plants are thirsty, but they can absorb water from the ground", "water is essential for life", "we must pay attention to nature that don't let the glaciers melt",

etc. The control group, which expressed the importance and appearance of water in the urban environment by drawing, showed a smaller degree of improvement.

The results of this study show that the use of Lego Duplo has a positive effect on students' conceptual development in a STEM educational environment. The increase in the number and diversity of concepts indicates that using Lego Duplo helps students understand and apply complex concepts.

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Connections Between Learning Arithmetic and Object Visual Imagery Ability in Elementary School

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arithmetic, multiplication table, verbal imagery, object visual imagery, spatial imagery

Arithmetic problems can be solved using different strategies: retrieval and procedural (Solokowski et al, 2023). Number facts, like multiplication tables might be verbally stored in an associative multiplication fact retrieval network. They are interference prone (de Visscher et al., 2016), which is due to similarities of the digits and is important in memorizing arithmetic facts (de Visscher et al., 2018). Adult bilinguals have greater proficiency with multiplication tables when using the language in which they originally learned arithmetic as children (Martinez-Lincoln et al, 2015). Verbal and visuo-spatial memory methods shift over time, maybe because of different learning needs (Soltanlou et al., 2015).

Research Question 1: Is verbal memory alone sufficient for initially learning the multiplication table?

Research question 2: How do students who lack object visual imagery learn the multiplication table?

Hypothesis 1: Object visual imagery is also important in learning the multiplication table.

Hypothesis 2: Many aphantasics do not learn the multiplication table in early primary school; instead, they quickly recalculate it each time.

Adults will complete questionnaires about their childhood memories of learning the multiplication table and their object visualization abilities.

Lower primary school teachers will complete a questionnaire about the effective methods they use.

The relationship between object visual imagery abilities and individual methods of learning the multiplication table will be examined, compared to the effectiveness of the rote memorization method that is still commonly used today.

The expected outcomes are that for children without object visual imagery the rote learning of the multiplication table was significantly more difficult than for others, indicating that object visual imagery aids rote learning which is usually considered a verbal task; and that not learning the multiplication table was not a disadvantage after being questioned. The uselessness of learning the multiplication table is in line with, for example, the Montessori method, which considers it harmful.

The direct learning of multiplication tables is increasingly considered unnecessary; this research adds to that perspective by presenting alternative possible learning methods.

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STEM And Non-STEM Students' Values Related to Social, Ecological, And Financial Sustainability in the Neoliberal Model of Higher Education

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STEM, disciplinary socialisation, values, sustainability, academic capitalism

Although the study of STEM (science, technology, engineering and mathematics) fields is a popular area of research both internationally and in Hungary, most of the literature focuses on the role of STEM fields in economic competitiveness, and only a narrow cross-section of studies address the non-economic sustainability values and emerging professional attitudes of students studying in these fields. Some critics have already pointed out that the internationally wide-spread promotion of STEM is emedded in a neoliberal ideology that prioritizes economic growth over social and ecological sustainability (e.g. Smith & Watson, 2018, 2020; Bencze et al., 2018). Yet, in the mainstream education policy and research discourse, STEM is still seen as the key to prosperity.

Our research aimed to provide a picture of neoliberal higher education, but in doing so, we focused primarily on STEM fields because they are named as a strategic area in most documents of neoliberal education policy. In our study, we have examined the economic, environmental and social sustainability values, and the content and scope of students' professional responsibilities in all fields of study. Our research was structured around two main questions. On the one hand, we wanted to shed light on what characterizes Hungarian higher education students' sustainability values and sense of professional responsibility in social, ecological, and economic sustainability in the 21st century, and on the other hand, we wanted to explore how these values differ by field of study taking into account that different fields are characterized by varying degrees of marketization. We hypothesized that STEM students prioritize economic growth over other forms of sustainability, while those studying in fields that are less influenced by the marketization of higher education (humanities, and social sciences) prioritize social and ecological sustainability over economic growth. In the case of professional responsibility, we hypothesized that STEM students - in line with neoliberal values - view professional responsibility as an individual phenomenon, while students in other fields can have a sense of shared responsibility with their professional community that includes action for social and ecological sustainability.

In our study, we analysed data from 443 students at five universities in Hungary, using a quota sample of students by field of study. During our research, we used self-administered questionnaires to assess the professional values and sense of professional responsibility of the participating students. Students' professional values were measured using a Likert scale, where students were asked to rate their responses on a scale of 1-5 for each item about their social and environmental sustainability and neoliberal values (e.g.: based on what I have learned at university and what I have heard from my teachers, it is important in my profession to strive for environmental protection; it is important in my profession for professionals to do work that promotes the competitiveness of the economy, etc.).

To measure the students' sense of responsibility for social and environmental sustainability, I adapted Szabó and Kékesi's (2016) concentric model of responsibility instrument to the topic of sustainability. According to the model, an individual's sense of responsibility can be divided into concentric circles: individual level (personal responsibility), mesoscale (responsibility for the immediate environment), and

the macroscale (responsibility for the wider environment). In our research, the concentric circles of responsibility included the following levels: Individual level (e.g. As a professional, I will be responsible for: making the most of my abilities; making my career successful; earning well); Mesoscale (As a professional, I will be responsible for: keeping my family happy; making the company/organisation I work for financially successful; making the company/organisation I work for an inclusive, tolerant community); Macro level (As a professional, I will be responsible for: taking action against climate change; taking action against social inequalities; speaking out against professional practices that have negative social impacts, etc.).

To analyze students' sustainability values regardless of their field of study, we conducted factor analysis on the items measuring students' values related to social, economic, and ecological sustainability. To analyse students' sense of professional responsibility, we conducted cluster analysis. When analysing differences by field of study, we conducted one-way ANOVAs in the case of sustainability values while we conducted crosstab analysis and Chi-square tests in the case of professional responsibility clusters.

Our research has produced some novel results. Factor analysis of the students' sustainability values revealed that the sample has a low level of differentiation in environmental sustainability values, with a strong techno-optimistic bias. An examination of the internal differences between STEM fields showed that students in science and agriculture have significantly more favourable social sustainability values than students in IT and engineering, and that their sense of responsibility is more strongly influenced by their stance as professionals. The comparisons between fields of study also revealed a particular position for economics, where students' values and sense of responsibility were similar to those of students in IT and engineering. Our results also supported the literature's assumption that the humanities are the most successful in transmitting the value of social sustainability in neoliberal higher education, and that their further marginalisation could lead to an erosion of the important missions of higher education.

The results of our research confirmed that the marketisation of higher education and the spread of neoliberal values may erode the role of values associated with the former mission of higher education in student socialisation (Nussbaum, 2016). In line with the literature, our results showed that students in engineering and IT fields prioritize economic sustainability which is accompanied by a strong eclipse of social sustainability and solidarity (Nussbaum, 2016; Saunders, 2010, 2020). Although there is evidence of a higher commitment to sustainability among students in science and agriculture, their values were in the lowest third of the sample for social sustainability, and for environmental sustainability they had such a strong techno-optimistic and economic focus that it may be questioned whether they are suited to pursue the environmental sustainability criteria set out in literature recommendations (e.g. Broman and Robèrt, 2015) as professionals. The high level of commitment to social sustainability and openness to professional responsibility of students in the humanities also pointed in the same direction as the literature (Nussbaum, 2016). Since neoliberal higher education policy comes with the withdrawal of resources from the humanities and the reduction in the proportion of professionals studying, working and researching in these fields, our results show that there is a real risk of social sustainability values becoming more and more marginalised in the higher education system.

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The Interaction Style of Teacher Education Students

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interaction, teacher interaction, interaction style, teacher training

The teacher's interaction style is a hard-to-change, persistent/constant personality trait, which is reflected in the teacher's behaviour, communication, and is derived from mutual, two-way reactions and this relationship. Its importance is primarily manifested in the development of the cognitive and affective aspects of the students' personality (Wubbels et al., 2005).

We consider it important to be able to point out the different interaction styles even in the case of teacher candidates, giving students the opportunity to shape their personality and discover their self-knowledge already during their studies. The aim of our present research is to examine the interaction style of students participating in Hungarian-speaking teacher training in Slovakia.

Our study discusses the first results from our pilot research. Our sample consisted of university students studying pedagogical sciences, participating in teacher training, who are currently completing their studies in a master's degree, all Hungarian-speaking, in Slovakia. The main goal was to adapt an instrument suitable for measuring teacher interaction. Within the framework of a pilot study, we examined the suitability of the Hungarian version of the 48-item QTI questionnaire (Fisher et al., 1995; Wubbels et al., 2005) for measuring teacher interaction for a broader measurement of Hungarian students in Slovakia.

We examined the reliability indicators of the Hungarian version of the questionnaire. In the article, we will summarize the results from the processing and evaluation of the data, and we designate a direction for our further research, as a result of which we can draw parallels between the interaction style considered ideal by students, the interaction style of practicing teachers and the interaction style of future teachers.

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DIGITAL LEARNING AND TEACHING

AI-Powered Personalized Learning: Revolutionizing Education for the Digital Age

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AI-powered education, personalized learning, digital age education

The educational phenomenon under study pertains to the integration of artificial intelligence (AI) technologies into educational practices, specifically focusing on personalized learning approaches within the context of the digital age. This phenomenon encompasses the utilization of AI algorithms and tools to tailor educational experiences to individual students' needs, preferences, and learning styles.

Traditionally, education has been characterized by standardized instruction methods that may not effectively address the diverse learning needs of students. However, with advancements in AI, there has been a paradigm shift towards personalized learning, wherein AI systems analyze vast amounts of data to provide customized learning experiences for each student. This approach aims to enhance engagement, comprehension, and retention by catering to individual learning pace, interests, and abilities.

Numerous research studies have explored the potential of AI-powered personalized learning in transforming education. These studies have investigated various aspects such as the efficacy of AI algorithms in predicting student performance, the impact of personalized feedback on learning outcomes, and the role of AI in facilitating adaptive learning environments. Additionally, research has examined the challenges and ethical considerations associated with AI implementation in education, including issues related to data privacy, algorithmic bias, and equitable access to technology. Overall, the body of research underscores the promising potential of AI-powered personalized learning to revolutionize education for the digital age while also highlighting the need for continued exploration and refinement of these approaches.

The purpose of this study is to investigate the effectiveness and implications of AI-powered personalized learning in revolutionizing education for the digital age. The motivation stems from the recognition of the limitations of traditional one-size-fits-all educational approaches and the potential of AI technologies to address these shortcomings by providing tailored learning experiences.

The primary research question guiding this study is: How does the integration of AI-powered personalized learning impact student engagement, comprehension, and overall learning outcomes in comparison to traditional instructional methods? The hypothesis posits that personalized learning facilitated by AI algorithms will lead to improved student engagement, comprehension, and performance due to its ability to adapt to individual learning needs and preferences.

Additionally, this study aims to explore the broader implications of AI integration in education, including its effects on teacher roles and instructional practices, as well as the ethical considerations and challenges associated with AI implementation in educational settings. Ultimately, the goal is to contribute empirical evidence and insights to inform educational stakeholders about the potential benefits and considerations of adopting AI-powered personalized learning approaches.

The methodology adopted for this study involves a qualitative approach, which will be gathered through observations, interviews, and focus group discussions with teachers, students, and other educational stakeholders. These qualitative methods will provide insights into the experiences, perceptions, and attitudes towards AI-powered personalized learning, as well as the potential challenges and opportunities associated with its implementation. Thematic analysis and content analysis will be utilized to identify recurring patterns, themes, and narratives within the qualitative data.

1. It is expected that students participating in AI-powered personalized learning interventions will demonstrate higher levels of engagement with educational materials and deeper comprehension of subject matter compared to those in traditional instructional settings. This outcome aligns with the hypothesis that personalized learning tailored to individual student needs and preferences will enhance overall learning experiences.

2. The study anticipates that students in AI-powered personalized learning environments will achieve better academic performance and outcomes, as evidenced by improved test scores, grades, and mastery of learning objectives. This outcome reflects the potential of AI technologies to optimize learning experiences and support student achievement.

3. The research aims to uncover insights into how the integration of AI-powered personalized learning may impact teaching practices and teacher roles. Anticipated outcomes include changes in instructional strategies, such as increased use of adaptive learning technologies and shifts towards facilitation of personalized learning experiences by educators.

Based on the evidence presented, the study concludes that AI-powered personalized learning holds significant promise in revolutionizing education for the digital age. The findings suggest that personalized learning interventions facilitated by AI algorithms can lead to improved student engagement, comprehension, and learning outcomes compared to traditional instructional methods. This aligns with current research indicating the potential of personalized learning to address the limitations of one-size-fits-all approaches in education.

Furthermore, the study highlights the importance of considering ethical and practical considerations in the implementation of AI-powered personalized learning. Recommendations include strategies for mitigating algorithmic bias, ensuring data privacy and security, and promoting equitable access to technology. These conclusions underscore the need for ongoing research, collaboration, and informed decision-making to maximize the benefits of AI integration in education while addressing potential challenges.

Overall, the study's conclusions contribute to the growing body of evidence supporting the efficacy and implications of AI-powered personalized learning in transforming educational practices. They reinforce the importance of leveraging technology to tailor educational experiences to individual student needs and preferences, ultimately fostering a more effective and inclusive learning environment for the digital age.

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An Exploratory Analysis of Teacher Educators' ICT attitudes and awareness for implementing blended learning in Myanmar's Education Degree Colleges using the Decomposed Theory of Planned Behavior

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technology adoption, decomposed theory of planned behaviour, teacher education, ICT integration

The rapid advancement of information and communication technology has transformed society, pressuring academics to equip students with the necessary skills for the labor market and knowledge society. The pandemic further accelerated ICT integration by shifting traditional learning to remote learning.

Education in Myanmar has become increasingly dominated by ICT, leading to the initiation of different learning modes such as online, hybrid, or blended learning. However, the effective use of ICT by teachers in their teaching is still challenging (Sabiri, 2019; Naima, 2017; Gündüz, 2020), due to some factors such as attitudes and skill levels (Dexter et al., 1999; Lang, 2000). Further, blended learning involves several activities, decisions, and assessment procedures beyond simply integrating technology into current teaching and learning methods (Castro, 2019; García et al., 2019; Torrisi-Steele & Drew, 2013). Challenging imposed for the implementation of blended learning involve the lack of a precise definition (Picciano, 2009; Tshabalala et al., 2014), teachers' resistance: negative attitudes (Kennedy, 2021; Wallet, 2018), lack of policy, faculty support, technological skills, and resources (Tshabalala et al., 2014).

Thus, the decision to integrate ICT into education, particularly in the context of blended learning depends on teacher educators' attitudes, awareness, potential barriers, and available support. A teacher's attitude towards ICT is crucial to adopting technology in the classroom since attitudes affect perceptions, thoughts, and responses. (Ajzen, 1996; Fazio & Roskos-Ewoldsen, 2005; Heider, 1946).

Teachers' attitudes towards educational ICT have been extensively studied in developed countries. However, evidence regarding teacher attitudes towards ICT and technology adoption in developing countries remains scarce. Additionally, the applicability of existing technological acceptance models to predict and explain ICT use by teachers in developing nations, such as Myanmar, remains uncertain.

Several technology acceptance theories have been proposed to understand ICT adoption behavior in educational research. These include the Theory of Diffusion of Innovations (DIT) (Rogers, 1995), the Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975), the Theory of Planned Behavior (TPB) (Ajzen, 1985, 1991), the Decomposed Theory of Planned Behavior (DTPB) (Taylor & Todd, 1995), and the Technology Acceptance Model (TAM) (Davis, 1986) and its modified versions. Among these theories, this study utilizes the Decomposed Theory of Planned Behavior (DTPB) due to its decomposed constructs, which offer a clearer understanding of the relationship between the precursors of behavioral intention across various dimensions and its applicability in diverse settings such as health, education, e-commerce, and m-commerce.

This PhD research will utilize both quantitative (survey) and qualitative (interview) methods for a holistic understanding of the phenomenon (Creswell, & Creswell, 2018). As part of a preliminary analysis of Myanmar teacher educators' adoption of ICT, semi-structured interviews were conducted based on the theoretical framework, and qualitative data was collected. Thematic analysis is employed through a deductive approach to identify emerging themes across data sets, elucidating significant connections to the research topic and questions (Braun & Clarke, 2012). A report of the findings of the data collection will be presented, as well as a discussion of previous research evidence and results.

This analysis aims to explore the possible influencing factors of ICT integration, blended learning understanding, and current ICT attitudes and awareness of teacher educators. According to the analysis of the data, the majority of teacher educators have a positive attitude and are aware of the advantages, disadvantages, and challenges of ICT.

Analysis of teacher educators' ICT adoption behavior can provide insight into Myanmar's teacher education system and demonstrate the applicability of DTPB. It will also offer insights into teacher educators' understanding of blended learning and ICT integration, including their experiences, attitudes, challenges, support, policies, CT skills, and training necessary for professional development in implementing blended learning.

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The Peculiarities of the "Digital Pedagogy" Course Development Process at BME

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digital pedagogy, course development, collaborative learning

The presentation describes the characteristic "open" history of development related to professional teacher training, which took place after the turn of the millennium and is still ongoing. In addition to the contemporary lessons of the story that began two decades ago, the presentation also attempts to analyze future tasks.

The story began in 2006. The content structure of Digital Pedagogy—network models, learning frameworks (Moodle), online tests—as well as the collaborative learning methods and the open curriculum construction (student development of micro-contents)—was an initiative that was theoretically connected to the appearance of connectivity in educational science (Siemens, 2004). The change in the subject matter and the applied methodology also reflects the latest trends for new subject developments.

The central aspect of the development process description is highlighting the change in the focal points of content and the comparison with the progressive international trends of educational theory and practice (Stommel, 2014; Szűts, 2018, 2020). The output training requirements generally applied since the 2010s, the public documents of the curriculum data sheets (TADs) since 2017, as well as the subject topics documented in the educational frameworks for two decades, on the other hand, the notes that have been published and used in teacher training (Digital Pedagogy, 2008; Digital Pedagogy 2.0, 2012) provided the documentation background for the research.

The presentation systematizes the new tasks of curriculum construction based on the experiences of the currently emerging collaborative solutions and new methodological, thematic applications in an innovative educational and teaching environment online. These new tools enable further personalization of learning environments, deeper analysis of learning processes, and more dynamic adaptation to student needs (Onesi-Ozigagun et. al., 2024; Rane et. al., 2023).

The ongoing development of collaborative solutions and innovative methodologies is reshaping the educational landscape, creating new opportunities for curriculum construction. These advancements are enabling a more personalized and adaptive learning experience, tailored to the unique needs and preferences of individual students. Emerging technologies and online platforms facilitate real-time analysis of learning processes, providing educators with valuable insights into student performance and areas for improvement.

Through developments, digital pedagogy can open up new dimensions in supporting critical thinking, creative problem solving, and collaboration while continuously adapting to social and economic challenges (Thornhill-Miller et al., 2023). These new tools also foster a more engaging and dynamic learning environment, where students can actively participate in their education and develop essential 21st-century skills.

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The Use of Artificial Intelligence Among Students in Higher Education

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artificial intelligence, higher education students, machine learning

The rise of AI (Artificial Intelligence) in education is attracting increasing attention. Integrating AI-based tools and methods into higher education can not only improve the quality of education, but also open up new perspectives for students. Alongside the growing interest in AI, an important question is the level of students' awareness and confidence in this technology. There are many studies on the role of AI in education (Luckin et al., 2016; Holmes et al., 2019), but few studies have examined students' knowledge and confidence in AI.

The aim of the research is to assess the level of knowledge of higher education students in AI, as well as their confidence and willingness to use AI. Our aim is to highlight potential barriers and opportunities for integrating AI in education. Our research questions are:

Q1: To what extent are students aware of AI?

Q2: To what extent do students trust the answers and results provided by MI?

Q3: How willing are students to use AI in their studies?

Data is collected through a questionnaire survey. The questionnaire survey is conducted through an online platform targeting different demographic groups in higher education.

We use traditional statistical methods (e.g. descriptive statistics, correlation) and AI-based machine learning algorithms to analyse the data. We use statistical methods to explore quantitative relationships between students' MI knowledge and confidence. At the same time, we explore the potential of machine learning in data analysis, given that while we initially analysed their attitudes towards AI, we now explore the opportunities and challenges that machine learning offers for interpreting research findings.

Based on the preliminary results of the survey, it is expected that the level of knowledge of AI among higher education students will range widely. Some students have only a basic knowledge of AI, while a smaller group has a deeper knowledge. The preliminary data suggest that the majority of students are open to using AI in their studies, but their confidence in the responses provided by AI varies. Students who are more familiar with AI show greater confidence in the technology. Machine learning algorithms are expected to identify complex patterns and relationships that may not be detectable using traditional statistical methods. These results may shed light on the factors that influence students' confidence in and willingness to use AI.

The conclusions of the research suggest that increasing the knowledge of AI is key to boosting student confidence and the uptake of AI in higher education. The findings are in line with other research (e.g. Luckin et al., 2016; Holmes et al., 2019), which also found that AI knowledge increases confidence in technology. The use of machine learning methods in data analytics has significant benefits due to their ability to analyse larger amounts of data and make more accurate predictions. These methods enable the identification of complex patterns and the detection of correlations that cannot be detected by traditional

statistical methods. The results of this research contribute to the literature, providing new data and analysis on students' knowledge and attitudes towards AI and the role of machine learning in data analysis.

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The Development of e-learning In Public Administration Training In Hungary

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e-learning, public administration, higher education

As it is compulsory for civil servants in Hungary to participate in public administration (civil service) training, it is important for them to know the quality of the programmes they are offered. For civil servants, as a target group for continuing training, compulsory training is a heavy burden in addition to their daily work and private life. The quality of the continuing training system is therefore not irrelevant for both the State as an employer and the civil servant as a public employee. There has not yet been any comprehensive research on the quality of continuing training programmes, and in writing this study I am attempting to provide an insight into this specific area of adult education.

With this research, my aim is to examine the main qualitative characteristics of the tens of thousands of e-learning-based continuing training programmes in civil service. Although there is significant amount of in-service training in public administration, e-learning programmes make up the bulk of the programmes. The research was based on the programme offerings for the academic year 2023, the courses that were available to civil servants in that year. For the analysis, I focused on e-learning-based public service training programmes, as these are the most prominent in terms of innovation in teaching methodology and represent the largest share of the training commitments of civil servants.

The research analysed e-learning programmes using a framework of 24 criteria. I intend to present the qualitative characteristics of e-learning programmes along the seven groups of criteria, and to summarise the implementation of the benchmarks in a table at the end.

The table clearly shows the areas that need further improvement. At a conceptual level, it would be worthwhile to think about making self-directed learning the focus of continuing training. At the level of the continuing training system, the continuing training programme and the curriculum itself. The learning materials do not allow for interactive customisation by the learner, which is an obstacle to individual learning paths.

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TOPICS IN HIGHER EDUCATION (ONLINE SESSION)

The Impact of Sociodemographic and Socioeconomic Variables on Students' International Mobility Decisions

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mobility, sociodemographic and socioeconomic variables, studying abroad

Studying abroad is mainly pursued by those with stable financial backgrounds, as they have better financial resources and more significant mobility capital. Women are more likely to study abroad than men because they choose fields of study that prioritize international experience. Additionally, mothers' education plays a crucial role in the mobility decision-making of both male and female students.

This research was motivated by the increasing importance of international experience in today's job market and the need to understand the factors that influence university students' mobility decisions. Researchers from Debrecen University studied the mobility propensity of students in 2023 to determine whether socio-demographic and socioeconomic variables influence students' motivation to study or move abroad. Our research question focused on the revelation of significant correlations between students' willingness to move abroad and various social background variables. We aimed to uncover how factors such as gender, type of settlement, parental education, and financial situation shape students' motivations and decisions regarding their international mobility propensity. The research can inform universities aimed at promoting student mobility, fostering the development of targeted support systems and enhancing international programs.

The methodology of this research involved a quantitative approach, utilizing a structured questionnaire in which the first part explored the sociodemographic and socioeconomic characteristics of the respondents, followed by a block of questions about the respondents' attitudes towards mobility. Almost 400 questionnaires were administered with a demographic breakdown of 40% male and 60% female respondents, primarily aged 19-21 and enrolled in full-time training programs. Descriptive statistical analyses using the chi-square test were carried out and 16 significant correlations were found. The social variables examined include gender, type of settlement, parents' educational level and foreign language skills, subjective financial situation of the family and previous schooling abroad. Data analysis was conducted using IBM SPSS version 23.0 to examine correlations between the variables, and it allowed us to identify significant correlations between social background factors and students' willingness to move abroad. The findings provide valuable insights into the factors influencing student mobility, which can help to understand students' motivations, therefore universities can develop tailored international programs, ensuring a more inclusive and supportive educational environment that fosters international engagement among students.

The key outcomes of this research have revealed significant correlations between various sociodemographic and socioeconomic variables and university students' willingness to study or work abroad. The findings suggest that female students are more likely to pursue international opportunities. Also, students who have previously studied abroad or whose parents speak a foreign language are more inclined to seek international experiences. The type of settlement proved to be statistically supported when the purpose of working abroad was to improve professional knowledge or to learn about other cultures. The parents' foreign language competencies significantly influenced the choice of learning

about other cultures as a purpose for studying abroad. However, students' international mobility was not significantly influenced by their parents' education level.

The conclusions drawn indicate that social background variables significantly influence university students' willingness to engage in international mobility. The findings align with existing literature, which suggests that factors such as gender, prior schooling abroad, and financial status play essential roles in shaping students' decisions to move abroad. In light of these conclusions, it is recommended that universities develop targeted support systems, such as scholarships and financial aid programs, to encourage a broader range of students to participate in international mobility and as a result, a more inclusive environment that empowers all students to explore and benefit from global opportunities is created. In the next phase of the project, we are planning to include foreign students' attitudes for comparison purposes.

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Further Education Plans of Young Hungarians in Transcarpathia Based on The Hungarian Youth Survey 2020

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Hungarian Youth Research, secondary analysis, future plans, minorities,

In Transcarpathia, a quarter of young people has a higher level of education, mainly compared to fathers. Three-quarter of young Hungarians in Transcarpathia plans to work abroad, mainly in Hungary (Bokányi et al., 2018). Bocsi (2018) also finds, based on 2016 data, that knowledge of the majority language and educational policy play an important role in the school choice, higher education and labour market situation of young Hungarians living beyond the border. The study by Gábrity Molnár and Morvai (2018) also reviews the problems faced by young people based on 2016 data. In Transcarpathia, poverty and livelihood problems are the most prevalent. Emigration is high, as many people find better job opportunities abroad, especially in Hungary. Hires-László (2019), using data from MIK2016 (Hungarian Youth Research 2016), finds that 38% of young people plans to leave the country and settle abroad, while 42% plans to work and 26% to continue their education abroad. According to GeneZYs data for 2015, the Transcarpathian region had the lowest proportion of young people wishing to continue their education. In comparison, the highest proportion of primary school graduates and the lowest proportion of vocational school graduates were found in Carpatho-Carpathian region (Papp Z., 2017).

Our aim is to analyze the latest database from the Hungarian Youth Research conducted in 2020, which provides an opportunity to map out the future plans of Hungarian youth living as minorities in Transcarpathia, regarding further education and potential employment abroad. Our main research question is to identify the factors influencing their plans related to further education and to assess their prospects for higher education. In this regard, we hypothesize that Transcarpathian youth is less likely to choose further education compared to their counterparts in Hungary, yet they are more inclined to pursue studies or work abroad.

In the present research, the statistical secondary analysis method was applied using the MIK 2020 sample from Hungary, Transcarpathia, Transylvania, Upland and Vojvodina. The analyses were preceded by database merging, i.e. the data related to the relevant questions were merged into a common database to facilitate comparability and analyses. Our secondary analysis was performed in the data management system SPSS (IBM SPSS Statistics Data Editor). Due to the representative nature of the sample (Nagy & Fekete, 2020), the results can be applied to the Hungarian youth population. In the MIK 2020 sample, 8,000 young people aged 15-29 from Hungary, 2,023 from Transylvania (living in Romania), 1,000 from Upland (living in Slovakia), 541 from Vojvodina (living in Serbia) and 500 from Transcarpathia (living in Ukraine) responded. In the second analysis, multivariate analyses were therefore carried out on a total sample of 12045 respondents. The gender distribution of the sample was as follows 6016 males, 5939 females.

Based on our findings, we can conclude that minority status in Transcarpathia negatively affects the likelihood of further education, while religiosity enhances the willingness to pursue further studies among Hungarian youth in Transcarpathia. Compared to the Hungarian sample, all minority regions outside

Hungary have a higher proportion of people wishing to continue their studies. A higher proportion of young Hungarians living in a minority, beyond the border, plans to work and study abroad than their Hungarian counterparts, and Hungary is indeed the most popular destination for them.

In regions with a Hungarian population living abroad, further education in the mother tongue and the availability of higher education plays a decisive role in, among other things, increasing the chances of young people living there to find a job in the labour market and to move up the social mobility ladder. The availability of mother tongue training at all levels of education also helps to preserve the minority language. Teacher training therefore plays a major role in the survival of the minority and the use of the language (Orosz, 2001). This is why we consider it important to carry out a study on young Hungarians living in the minority and to look at other aspects of the study, in order to gain a better understanding of the effects on young people's plans for schooling and further education and their position in the labour market.

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(Research) Groups for Students in Teacher Education. Professional Socialization and Acquired Values.

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Supported by the EKÖP-24-2 University Research Scholarship Program of the Ministry for Culture and Innovation from the source of the National Research, Development and Innovation Fund

extracurricular community membership, student dropout, professional socialization, teacher education students, university

Student dropout is a relevant issue of teacher education. Related to the research, two contributing risk factors must be highlighted. Firstly, teacher education students face hardships while they try to integrate into the community of their universities; frequently, they do not even find the right peer group in their own training program. (Pusztai & Kovács, 2014; Kormos, 2020) Secondly, the structure of teacher training should be elaborated on. Main problems here are the immense quantity of theoretical knowledge required by courses, the late development of the 'teacher role' in students, and the dissatisfaction with methodology classes (Kocsis, 2003; Kormos, 2020).

We base our research on Tinto's student integration model, according to which successful integration into peer groups on campus and involvement in university life can efficiently improve a student's chances of becoming persistent against dropout (Tinto, 1975; Sütő, 2021). In addition, membership in volunteer groups can also increase students' social capital and improve their institutional integration (Pusztai & Kovács, 2014; Pusztai, 2018; Markos, 2020; Pusztai, 2021). Furthermore, as the theory-orientated aspects of teacher training are often criticized, we aim to examine practice-oriented concepts. For this purpose, we have chosen research-based teacher training. This concept not only gives relevant scientific resources for students, but it also contributes to their self-development and persistence when they begin their teaching careers (Csapó, 2015). Our research scrutinizes extracurricular groups whose members are exclusively or mainly teacher trainee students. The goal is to discover how these communities contribute to the educational and future career of their members.

Our pilot research was conducted with the participation of 9 students (out of 11 relevant members) of CHERD-Hungary Educational Research Internship Program, Debrecen, in the spring of 2024. The students were interviewed in two separate focus groups, using questions from a half-structured interview draft. The interview began with an inquiry about the students' secondary school experiences, focusing on how and why they chose teacher education. Moreover, they were asked to describe the system of teacher education of their university from their own perspective, adding related ideas and impressions. Questions about the community itself was the third part of the interview and the final section required the interviewees to describe their career plans and whether they would apply for a PhD course in the future, motivated by the community they are a part of now. Because of the small number of interviewees and the qualitative nature of the research, the scripts were analyzed via interpretative phenomenological analysis.

Regarding the students' opinions about their training, we have identified the scarcity of strong intra- and intergenerational relationships and the dropout risk factor of the overwhelming quantity of theoretical subjects. The community is a student research group where students conduct their own educational research with the help of a mentor. Ties with these teachers were found to be very stable. Strengthening

intragenerational relationships in this community is also required by the students. Lastly, we can identify three types of future career plans based on the students' attitudes towards research work: 1. Researcher and university lecturer; 2. Researcher teacher in public education; 3. Neutral or unsure, but makes use of own research results.

In conclusion, we have found that the positive effects presented by Tinto and other researchers examining volunteer groups were apparent in the scrutinized community. However, it is important to highlight that this student research group strengthens intergenerational ties rather than intragenerational relations and mainly focuses on preparing its students for the researcher career path than the teaching profession (although, several skills can overlap and some of the research projects conducted by the members can prove useful in school environments.) In the near future, we aim to continue our research by the involvement of other three communities related to ELTE, PTE and SZTE (Polónyi, 2019). Interviews are also planned to be conducted with leading professionals of these communities.

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Teacher Influence and the Relationship Between Difficulties in Further Learning. a Questionnaire Results of a Questionnaire Survey

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higher education, career choice, secondary school, types of teachers

The Hungarian public education system offers two options for school choice. First, when the pupil is 14 years old and chooses a secondary school, and second, when he or she plans to continue higher education (university) at the age of 18-19 (Lengyel - Török, 2012). In our research, the focus is on further education in higher education and on post-secondary education itself. This research is also important because the vast majority of secondary school students have university education as a top priority in their future plans (Lengyel - Török, 2012).

In our research, we look at secondary school teachers' perceptions of their vocation and its impact on students' career choices. In this paper, we therefore set out to investigate which types of teachers have the greatest impact on students in secondary school, in which areas different types of teachers have an influence on students' academic lives, and what difficulties secondary school students face when they have to make decisions about further education (R. Fedor A. - Pálosi R., 2018,). We aim to answer these questions based on our findings from our study conducted in 2024.

Our research was conducted among 11th-12th grade students of four high schools in Szabolcs - Satu Mare - Bereg county. The sampling was exhaustive, all students of the concerned grades were included and interviewed during the data collection. A total of 97 students participated in the survey. The rationale for our sample selection is that this is the age group and also the study period when young people aged 17-19 (quoting Supert, Borcsa, 2017) may already have sufficient experience of teacher characteristics, may have a greater insight into certain characteristics, and may be about to make a career choice, so they are definitely the most decisive for them when it comes to dealing with career choices and planning for the future, and last but not least, they are the age group with the most definite teacher image, so their opinions are the basis for the outline of the most typical teacher types in our research. Factor analysis was used to determine which factors were most likely to mask respondents' uncertainty in terms of future planning. 5 factors emerged, self-awareness problems, conflicting information, lack of information, failure and inability to make decisions, external control. This suggests that the main obstacle to students' career choices is a lack of awareness of their own abilities, strengths and weaknesses.

The results highlight that many aspects need to be taken into account when looking at interest, academic achievement, teacher impact and issues and difficulties related to career choices. What is certain is that it is crucial to focus on this issue, since it is in secondary schools that the basic stages of social and economic advancement and labour market acceptance are created.

Our aim is to find out which teachers have the greatest impact on students' career motivation. The research revealed that a high proportion of the secondary school students in the study want to study in higher education. The difficulties faced by secondary school students when they have to make decisions about further education play a key role in our present research (R. Fedor A. - Pálosi R., 2018,).

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The Relationship Between School and Students in a Cross-Sector Comparison. Focus on The Kolping Secondary Schools.

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Kolping pedagogy, school community, secondary education, low SES students

Kolping pedagogy – rooting in religion, family, profession and community building - aims for developing students' personality. The subject of our study is a section of the Hungarian secondary school system which is also a part of a world-wide uniform pedagogy. Religious schools' academic success has already been examined by many studies (Horwitz, 2021, Jeynes, 2002, Regnerus, 2000, Baron, 1998, Cuyck & Dronkers, 1990, Pusztai, 2004, 2014, Bacskai et al., 2012, Inántsy, 2017), nevertheless, Kolping schools' success can not be defined by grades, more by factors such as low SES students' personality development, religious education, family life education and community building.

According to some of the theories about the relationship between religiosity and social mobility, religiosity can support the mobility of low SES students. Kolping schools want to help the mobility of underprivileged young people with a four-pillar pedagogy (1. Be a good father/mother, 2. Be a good Christian, 3. Be a good professional, 4. Be a good part of the community).

Community has a great effect on school success and can support low SES students in learning and personality development. Besides, it has a spill-over effect that creates chances for future life (Pusztai, 2004, Bacskai, 2015, Jeynes, 2002, Dijkstra & Veenstra, 2001, Felderhof, 2002, Kodácsy-Simon & Seres-Busi, 2022). Kolping schools are considered to be „the schools of the last after the last chance” which means that they contribute reducing drop-out rates (half of the Hungarian average). Kolping pedagogy set teachers into the centre of the school work, especially the character of the form teacher plays an important role when it comes to community building (KOSZISZ, 2022). Moreover, the features and methods of Kolping pedagogy has not been examined yet so we truly believe that we can add highly important experience and data both to the national and international pedagogy.

Our research is built up on qualitative and quantitative studies that let us have quantifiable results for the accurate examination (Király et al., 2014). Mixed methods were applied in our research. This allows us to sink into the world we are exploring, whereas the most important tool is the reflective observation (Gobo, 2011). The phases of our research are: 1. Document analysis. 2. Interviews with founders and decision makers. 3. Online questionnaires with the students (Kolping students and the students of other schools /state schools and other types of church-based schools/). 4. Interviews with teachers.

The results of the student questionnaires show that Kolping students have not stronger relationship to their schools than the students of other (state and church-based) schools. In spite of that, they consider the form teachers' role really important who can support them in their studies, personal development and future plans. In contrast to previous studies about religious schools, faith has not an effect on community building and students' future plans in Kolping schools.

Kolping students are extremely different: not only according to their families and social-financial-cultural background but to their abilities and future plans. We can see that Kolping schools in lack of parental involvement that means mainly home-based parental involvement: conversations, eating, family events,

etc. Kolping students differ from students in other types of institutions so, we need further investigation to discover the essence of Kolping pedagogy.

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**21ST CENTURY CHALLENGES IN EDUCATION (ONLINE
SESSION)**

Parents' Expectations of Inclusive Education for Children With Special Educational Needs

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parents, special education needs, inclusion

Inclusive education for children and pupils with special educational needs is a very important element towards social inclusion. Research has shown that parental involvement in the life of institutions has a supportive effect on the development of children's learning outcomes. In this respect, communication about school and classroom work, parental involvement in school decision-making, and partnership between parents and teachers are important elements. The six points of participation developed by Epstein (2001) include: creating a supportive home environment for learning, supporting learning at home, developing effective forms of communication between parents and schools, parents volunteering/acting on behalf of the school/class/child, active participation in school decision-making and working with the wider community. Other research on these types of parental involvement has also shown that their impact on the child/student can be considered positive, with additional effects such as improved school performance, reduced behavioural problems (Vakalahi 2001), improved attendance, reduced absenteeism (Epstein & Sheldon 2004) and reduced drop-out rates (Barnard 2003). It is worth extending the opportunities for families of typically developing children to families of children and pupils with special educational needs. Dillenburger and colleagues (2009) have pointed out that parental involvement is of paramount importance in the education of children and learners with SEN, as parents can provide important information about the child's strengths and weaknesses, background data on the child's development and information on all family factors that affect the child's learning. These data provide important input for the preparation of an individual education programme (IEP), and in many countries parents are involved as team members in its preparation and implementation, sometimes as a statutory requirement. There are also service providers that provide written materials, training or practical training to help parents prepare. It was also found that it is worthwhile to focus on other areas of involvement and opportunities in addition to the tasks of the IEP meetings held once or twice a year. However, addressing and involving parents of children with special educational needs at institutional level can be difficult. On the one hand, this difficulty can prevent important information, experiences and insights about the child from being revealed, so that they are not integrated into individual development, and on the other hand, it can also hinder the development of parents' effective advocacy skills.

There have been several studies on the situation of parents and families of children with special educational needs based on the opinion of special education teachers (Marton, 2019; Kállai, 2023). In our presentation we will try to get to know the opinions and expectations of parents towards the institutions. This includes the types of care provided, development opportunities, the availability of professionals, the forms of communication with teachers and special educators, their frequency, participation in institutional events, and parents' perceptions of the system they consider ideal. The aim of the research is to promote opportunities for parental involvement and to broaden its forms by understanding expectations and needs.

We conducted our research within the paradigm of participatory action research, i.e. we sought to combine theory and practice, to find practical solutions to problems. This means that instead of traditional, academic research, where in most cases the interaction between researcher and researched takes place in a single moment, but with the continuous cooperation of the participants, we were both part of the research and subject of the research, i.e. we participated in it in a double role: on the one hand as travelling educators, with the intention of improving the situation, looking for solutions to the issues in practice, and on the other hand as researchers, observing and analysing the events from an external, observer's point of view. However, in doing so, the intense engagement and involvement in the process compromises researcher objectivity (or intersubjectivity), while participatory action research does not consider social research as meaningless. Although the use of this paradigm is still little known in Hungary, according to international literature, neither self-observation nor participatory action research is alien to the development of pedagogical practice in pedagogical work. Participatory action research does not represent a standardised process, but it is important to underline that these processes are developed through group work, with action and reflection phases following each other, as a cyclical process. The methods and methodological rules of participatory action research can be varied: social science methods (questionnaire, interview, participant observation, etc.) can be used. Our research team is composed of special education teachers from a single special education methodological institution. In the first phase of the action research, we collected the perceptions of the special needs teachers about the parents in the institution, and in the second phase we asked the parents for their views. It was possible to respond anonymously through a self-completion questionnaire (both online and in paper form) (N=150) and semi-structured interviews (N=20) were used to gather opinions and expectations. The research is not representative, but it can provide a number of important perspectives for developing appropriate communication and increasing parental engagement.

Data processing is still ongoing. At the moment, we see that parents are very uncertain about the future of their children, whether they are in kindergarten or school. This may be due to a lack of information (they find it difficult to orient themselves in the Hungarian care system) and, in this context, a lack of support and low subjective quality of life indicators. Their expectations regarding care are characterised by a bipolar attitude, i.e. many are satisfied with the care they have access to (in extreme cases they think that the child does not need it), while others demand a higher level of care and accountability towards parents than private care. In relation to their own more intensive involvement, the majority are reticent and fearful, with parents of children who are learning in an integrated way often fearing that they or their child may have an unpleasant experience at such occasions.

Although the research unit presented here is part of a participatory action research project aimed at exploring and developing opportunities for wider collaboration between parents and special needs teachers, and the sample used is not representative, we believe that we have succeeded in identifying some of the factors that hinder the involvement of parents of children with special educational needs in school life, and that they are also more widely applicable. These include perceptions of a low subjective quality of life, difficulty in accessing information and non-material support, and fear of an unaccepting social environment. These aspects need to be reflected in the development of communication at institutional level and in the individual communication of special needs teachers.

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The Effectiveness of Teaching and Learning Art in Schools

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art, teaching, learning, schools, efficiency

Background of the Educational Phenomenon:

Art has been a significant and influential part of human civilization, reflecting and shaping societies throughout history. From prehistoric cave paintings to contemporary visual and performing arts, art has served as a medium for expressing human experiences, emotions, and intellectual pursuits. In educational contexts, the inclusion of art in school curricula is seen as a means to foster creativity, emotional expression, and cognitive development.

Several key studies and reports have explored the impact of art education on student outcomes:

- Critical Links: Learning in the Arts and Student Academic and Social Development (2002) by the Arts Education Partnership, which reviewed numerous studies showing the positive effects of arts education on various aspects of student achievement and development.

The Arts and Achievement in At-Risk Youth: Findings from Four Longitudinal Studies (2012) by the National Endowment for the Arts, which found that high levels of arts engagement among disadvantaged youth were associated with better academic outcomes and higher career aspirations.

The motivation behind this study is rooted in the recognition of art's significant and multifaceted role in human civilization. Art has historically been a medium through which humans have expressed their basic, emotional, and intellectual needs. Given this profound impact, the study aims to explore the efficiency and benefits of teaching and learning art in schools. Specifically, the research seeks to understand how art education can balance students' intellectual and mental capacities by engaging the right hemisphere of the brain, which is crucial for creative and emotional development.

The primary research question guiding this study is: How effective is the teaching and learning of art in schools in addressing students' intellectual, emotional, and cognitive development?

The hypothesis is that incorporating art education, particularly musical and visual arts, into the school curriculum enhances students' overall intellectual and mental balance, emotional well-being, and academic performance. This is achieved through the development of creative skills, emotional expression, and the ability to understand and retain complex concepts in subjects like mathematics and science through visual and artistic methods.

The goal of the study is to:

1. Assess the impact of art education on students' cognitive, emotional, and academic development.
2. Determine the effectiveness of integrating visual arts into teaching complex subjects to enhance understanding and retention.
3. Provide evidence-based recommendations for educational practices and policies that support the inclusion of art in the school curriculum.

1. Research Design

Mixed-Methods Approach: Utilize both qualitative and quantitative research methods to gain comprehensive insights into the efficiency and impact of teaching and learning art in schools.

2. Participants

Sample Selection: Select a diverse sample of schools from different geographical locations, socio-economic backgrounds, and school types (public, private, charter). **Participants:** Include students from various grade levels, art teachers, other subject teachers, and school administrators.

3. Data Collection Methods

Surveys and Questionnaires:

Distribute structured surveys to students, teachers, and administrators to gather quantitative data on attitudes, perceptions, and reported benefits of art education.

Interviews and Focus Groups:

Conduct in-depth interviews and focus groups with a subset of participants to collect qualitative data on personal experiences, challenges, and perceived impacts of art education.

Classroom Observations:

Observe art classes to gather data on teaching methods, student engagement, and interaction dynamics.

Standardized Tests:

Assess cognitive development and academic performance through standardized tests in subjects such as math and language arts to see if there's a correlation with art education.

1. **Improved Creativity and Innovation:** Students will show enhanced creative thinking and innovative problem-solving skills.

2. **Better Academic Performance:** Students engaged in art education may exhibit improved performance in other academic subjects, benefiting from the cognitive skills developed through art.

3. **Enhanced Emotional and Social Skills:** Students will likely demonstrate better emotional expression, empathy, collaboration, and social interaction skills.

4. **Increased Cultural Awareness:** Students will develop a deeper understanding and appreciation of diverse cultures and perspectives through exposure to various art forms.

Higher Engagement and Motivation: Art programs can increase students' overall engagement in school, making learning more enjoyable and motivating them to attend and participate actively.

6. **Development of Fine Motor Skills:** Participation in art activities helps in the development of fine motor skills and hand-eye coordination.

Overall, the anticipated outcomes suggest that incorporating art education in schools has multifaceted benefits that contribute to the holistic development of students.

1. **Enhanced Cognitive Development:** Art education is often linked to improved cognitive abilities, including problem-solving skills, creativity, and critical thinking.

2. Emotional and Social Benefits: Learning art can enhance students' emotional expression, empathy, and collaboration skills, contributing to their overall emotional intelligence and social development.
3. Academic Improvement: Engagement in art can positively influence students' performance in other academic areas by fostering a more well-rounded education and encouraging innovative thinking.
4. Cultural Awareness and Appreciation: Art education can promote cultural understanding and appreciation, helping students to become more globally aware and sensitive to diverse perspectives.
5. Increased Engagement and Motivation: Art can make learning more engaging and enjoyable for students, potentially increasing their motivation and enthusiasm for school.
6. Challenges and Limitations: There may be challenges such as lack of funding, insufficient training for teachers, and varying levels of support from educational policymakers, which can impact the effectiveness of art education in schools.

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Modern Tools in The Development of Algorithmic Thinking in Early Childhood (The Practice Of The University Of Debrecen's Kindergarten Teacher Training)

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STEM pedagogy, algorithmic thinking, kindergarten teacher training

Nowadays, algorithmic thinking is strongly intertwined with STEM pedagogy and Computational Thinking (CT) (Poh et al. 2016). This process can be observed in Hungarian pedagogical literature and basic documentation (in the framework curricula for NAT). Digital and programmable tools are widely used in kindergartens, so it is important to understand their mechanisms of action and to prepare kindergarten teacher candidates for their use.

Our research follows trends in international research in several dimensions. Based on international research, we have identified the following research dimensions:

1. The role of educators in the use of programmable tools (Nivens 2017).
- 2/a Identifying teacher profiles among programmable and STEM tool users(Linder et al. 2016).
- 2/b Emergence of different professional models in pedagogy using STEM tools (Bers, Porstmore 2005)
- 3) Development of teachers as they gain experience in using digital and programmable tools (Japal-Jamani, Angeli 2017)
4. Children's engagement with STEM tools (Fumihide et al., 2007).

The research methods used in the presentation are, in line with the dual nature of the topic, on the one hand theoretical (exploration and processing of international literature) and on the other hand based on the results of a database analysis through a questionnaire survey based on empirical data collection. Our database was constructed from the responses of several years of students who have studied the theory and practice of using digital tools in kindergarten. Our questionnaire has been completed each year by students who have completed the courses, so we now have a substantial amount of data (N=237).

In this presentation, we will present the results of our research to assess the experiences, needs and opinions of our students regarding the use of digital pedagogical tools in kindergarten and the relevant university course structure. We also asked our students about the effectiveness of the training and the possibilities of using digital tools in kindergartens, and assessed their further training needs. We also asked about the practical usefulness of the knowledge acquired, the developmental impact, strengths and weaknesses of the programmable tools they had learned about. A large proportion of the students were positive about the experience gained and saw great potential for using the tools in kindergartens. They described their experiences in detail and expressed their expectations for future support.

As a conclusion, we outline one of the distinctive directions of the renewal of the kindergarten teacher training at the University of Debrecen, with which we are trying to develop a new image of the training. The renewal of the training will offer students a group of optional modules that have in common the preparation of students for the use of modern digital tools and platforms in kindergarten.

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The Necessity of Renewing Pedagogical Methods – PedaDome

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postmodern pedagogy, alternative school, PedaDome method, geodesic dome, interdisciplinarity

Educational goals and core values have changed significantly over the past decade. The geodesic dome can fulfill important pedagogical purposes and missions in the 21st century (see Monolithic Dome Schools). Contemporary research (Meynert, 2013; Rostoka, Cherevychnyi, Luchaninova & Pyzhyk, 2022, and others) has made it clear the necessity for further renewal of pedagogy.

My research focuses on mapping the responses to the challenges of 21st-century pedagogy: I am seeking ways to innovate the process, content, space, methods, and tools of teaching and education, as well as the roles of teachers and students. My goal is to define a possible type of postmodern school that differs from existing dome research and school practices, with a central focus on experiential pedagogical effects, interdisciplinarity, simulation, blended learning, and flipped classrooms. My target groups include not only the young school-age population but also individuals at any stage of life, and the themes offer almost limitless possibilities for combinations of different subjects.

Considering that reform pedagogies and alternative school experiments similarly sought new paths for harmonious personality development, I interpret these as the starting point of my research, placing them in the context of the present age and combining them with the most modern technical solutions, while also integrating methods and practices from various artistic fields. My research method involves analyzing existing similar practices, adapting them, experimenting, and conducting pilot research to find my own method, which could revolutionize the future of education.

The novelty of the research and its expected results lie in the adaptation of various dome structures, such as 21st century lightweight frame and planetarium-type buildings, for pedagogical purposes, i.e., the creation of a postmodern school. Additionally, the planning and development of new, specific programs aimed at teaching, education, career guidance, and community building using the most advanced tools possible. Existing events, films, lectures, and programs will be processed with a new focus for all age groups and target audiences.

The added values and advantages of the PedaDome include: aesthetics, complexity, meaning that space-sound-content work together on the soul, multifunctionality, mobility, portability (in the case of the tent dome), innovativeness, advertising surface, modernity, high-level technological solutions, richness of experiences, diversity of programs, placement, goals, and target groups, as well as various possibilities for interior arrangement, etc.

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Digital Education for Roma Students

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digital education, roma students, cultural inclusion

The integration of digital education into mainstream educational systems has been a transformative global phenomenon, accelerated by the COVID-19 pandemic. While digital education offers new opportunities for interactive and flexible learning, it also presents significant challenges, particularly for marginalized communities. Roma students in Hungary, as in many other European countries, often face systemic disadvantages in education, including lower access to resources, cultural biases, and socioeconomic barriers.

The motivation behind this study stems from the growing recognition of the importance of digital education in contemporary learning environments and the persistent educational inequalities faced by Roma students in Hungary. Despite the widespread adoption of digital technologies in education, Roma students remain disproportionately affected by the digital divide, which limits their access to quality education and exacerbates existing social and economic disparities.

In the research process involved an extensive review of both Hungarian and international literature, drawing from the fields of sociology and pedagogy. This review focused on existing studies related to the digital divide, educational inequalities, and the specific educational needs of Roma communities. The literature review helped to contextualize the research within the broader academic discourse and provided a foundation for identifying key themes and gaps in current knowledge.

The study is expected to reveal several critical insights into the digital education of Roma students in Hungary. One of the anticipated outcomes is the identification of significant barriers to digital education, including limited access to necessary technology and internet connectivity, as well as cultural mismatches in the design and delivery of digital learning content. Additionally, the research is likely to highlight disparities between Roma and non-Roma students in terms of digital literacy and engagement with online educational resources.

The study is likely to conclude that while digital education offers significant potential for enhancing learning opportunities, Roma students face substantial barriers that limit their ability to fully benefit from these opportunities. These barriers include not only technical and infrastructural issues, such as lack of access to devices and reliable internet, but also cultural and pedagogical challenges that are not adequately addressed in current digital education strategies.

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Relationships Between Academic Achievement Variables of Students At Risk of Early School Leaving

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early school leaving, academic achievement, variables, student

According to Schmitsek Early School Leaving (ESL) emerged as an important societal issue in most EU countries in the 1980s and 1990s. OECD (2008) in the last thirty years the early school leaving one of the major problems of education system. Early school leaving today, one of the biggest problems in the world. Affects more than 26 million people worldwide in only have primary education (UNESCO, 2018). Early school leaving it causes many undesirable consequences - both economically and socially (Balkis, 2018; Henry, Knight, & Thornberry, 2012).

Understanding why students leave school without qualifications is very important. Russel Rumberger (1995) pointed to 3 levels of early school leaving, which are (1) family, (2) school, and (3) the community in which students live.

The aim of the research was defined along 3 segments. First, parental assistance, second the relationship with teachers and third the class community.

The study was conducted among those who were already affected by early school leaving. In order to be able to draw conclusions about the psychometric characteristics of the questionnaire, it was necessary to formulate hypotheses.

Hypotheses:

H1.: We hypothesize that a positive relationship with teachers results in a strong academic achievement.

H2.: We hypothesize that there is a positive correlation between parental expectations parents' expectations regarding educational attainment and parental control.

H3.: We hypothesize that there is a strong relationship between student's future and parental support.

The questionnaire developed by Hanna Tomaszewska-Pekala (2017) and her colleagues was most consistent with the goals of the research. The questionnaire developed by Tomaszewska-Pekala contained 40 items. It focused on future plans, parental control, and parents' expectations, as well as on the school environment, the relationship with teachers, and the relationship with peers. The questionnaire took about 40-50 minutes to complete and was done online. Completion was completely voluntary and anonymous. The questionnaire contained 39 statements that could be answered on a 5-point Likert scale. The study of the current sample of 741 primary school students most of all disadvantages.

In the light of the results, it becomes visible what causes the successful academic progress of those students who are at risk of early school leaving and where intervention is necessary for success.

The reliability of the instrument is good (Cronbach-alpha= 0,612). In this study, the results of the questionnaire are presented with a description of correlation studies. While analysing the data from the questionnaire, we examined which variables show a significant correlation with each other.

parental assistance: we found a moderately strong correlation between trust between parents and children academic achievement ($r=0,538^{**}$)

the relationship with teachers: we found a moderately strong correlation between the understanding of the lessons and the trusting relationship established with the teacher ($r=0,570^{**}$)

class community: we found a strong correlation between indiscipline in classes and performance in school test ($r=0,618^{**}$)

Verification of hypotheses:

H1: We hypothesize that a positive relationship with teachers results in a strong school performance. – true ($r=0,657^{**}$)

H2: We hypothesize that there is a positive correlation between parents' expectations regarding educational attainment and parental control. – not true – ($r=0,254^{**}$)

H3.: We hypothesize that there is a strong relationship between student's future and parental support. – half true ($r=0,495^*$)

Conclusion:

Early School Leaving (ESL) emerged as an important societal issue. The ESL is one of the biggest problems in the world, knowledge of the causes is important for a solution. The attitude of the parents towards the child's school progress and the positive attitude of the teachers among disadvantaged students who are at risk of early school leaving are important. Students with a supportive parenting background perform much better than their peers without such a background.

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Having Children and National Identity in Hungary

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having children, national identity, Hungarian Youth Research 2020, Hungarostudy 2021

The passing on of the culture of developed countries can be endangered by the demographic processes that result in declining populations and aging societies. This gives the importance of researching young people to have children plans along different demographic background variables (Engler 2018, Engler & Pári 2021, Pusztai et al. 2022, Engler et al. 2022).

In our study, we wanted to examine a less researched aspect, the effects of national identity on having children. When planning the future, the individual makes various decisions in which commitment plays a major role (Simon 1982, Elster 1991), We think that the family as trust and commitment invested in the future is consistent with the choice of the social, economic and cultural milieu that surrounds it or with the trust and commitment felt towards it (Fukuyama 2022). According to our hypothesis, the trust and commitment felt towards the broader social environment surrounding the individual can influence decisions that require trust and commitment made in the narrower family environment, such as having children.

We wanted to verify our assumption with the secondary analysis of the databases of two national, representative, large-scale researches (Hungarian Youth Research 2020, Hungarostudy 2021). The data were analyzed using the SPSS program. In the study, on the one hand, we analyze the data of the Hungarian Youth Research 2020 (N=8000), during which, using a database representing young people between the ages of 15 and 29 in Hungary. We examine the relationship between young people's childbearing and their plans to have children, as well as their marital status, with one aspect of their social integration, with Hungary and judging claims related to Hungarian identity. On the other hand, we used the database of the Hungarostudy 2021 survey (N=7000) for the analysis. The Hungarostudy 2021 population health status survey provides a main sample of 7,000 Hungarians over the age of 18, representative of gender, age, and counties. The second component of the research is provided by a sub-sample of 2,000 people representative of young age groups (18–40 years old). We used both databases in our analysis.

According to the results of the analysis of the database of the Hungarian Youth Research 2020, the identity related to Hungarianness is significantly higher among young people with children and many children, as well as those who plan to have children and to have more children. The results of the Hungarostudy 2021 research also supported the basic assumption that there is a connection between the willingness to have children and Hungarian identity. According to our results, the willingness to have children increases with the strengthening of national identity, while a positive correlation was also found in the case of Hungarian identity and the planned number of children.

Overall, it can be seen that the results of both researches (Hungarian Youth Research 2020 and Hungarostudy 2021) supported the fact that the national identity strengthens as the number of children increases, and the higher the national identity of the individual, the more the willingness to have children increases. Our results can contribute to social support for the increase in willingness to have children, but

at the same time, we must mention that there are many other methods of social research studies of both social integration and the national identity we interpret within it, which can deepen and nuance our results.

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Teacher Perspectives on Their Roles in Parental Involvement - Resilient Support of Parents

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parental involvement, pedagogy, resilience, teachers

The theoretical framework of the research focuses on the concept of parental involvement, specifically activities that support children's development and academic performance. The literature highlights the importance of proactive involvement from both schools and parents for successful outcomes (Killus & Paseka 2020, Epstein 1998, L. Ritók 2009, Imre 2017, Kim 2009, Marton 2019). Teachers have a crucial role, but may view themselves as professionals who know more than parents (Desforges and Abouchaar 2003, Jeynes 2011, Starcevic et al. 2016).

The parent-teacher relationship is crucial, with mutual respect forming the basis for cooperation. However, teachers face the burden of lacking resources for preparing parents, leading to differing expectations on both sides (Jeynes 2011, Széll 2018).

This research aims to explore the complexities of parental involvement in education by examining teachers' perspectives on their role in supporting parental involvement. The study seeks to uncover strategies and approaches that can empower both parents and teachers to work together effectively for the best possible outcomes for students. The researchers argue that teachers, who have the knowledge, authority, and tools, should take the lead in promoting parental involvement in schools. They believe that by being proactive and collaborative with parents, teachers can facilitate successful engagement, leading to improved educational outcomes. The research question focuses on understanding teachers' perceptions regarding their role in supporting parental involvement. The study aims to gather teachers' opinions and experiences on this topic.

The qualitative research focused on teachers in three counties with many disadvantaged schools. 45 semi-structured interviews were conducted and analyzed to understand teachers' perceptions of parental involvement issues, with a focus on problems involving teachers as subjects (Sebastian 2019, Strauss and Corbin 1998).

The research used a method called interpretive grounded theory, which combines inductive and deductive reasoning to continuously analyze and interpret data. The method focuses on developing theory primarily from the data.

The study used grounded theory to analyze data from semi-structured interviews. The main concepts identified were parent literacy, problem interpretation, role interpretation, and parental involvement. Through open, axial and selective coding, new concepts of leeway, intention, and knowledge were established. Reflexivity stood out as a core category in terms of frequency and focus. In our study, reflexivity refers to what the teachers interviewed consider to be their personal, reflective opinions.

The open coding process revealed a pattern of active and passive responses, with a tilt towards the passive side. Action boundaries are influenced by external factors but also created by teachers themselves, impacting their space for action. The question is whether personal boundaries relate to teachers' intentions.

Teachers who perceive the positive effects of professional development and collaboration are more likely to actively engage in partnerships and continuous improvement. Conversely, those teachers who experience the difficulties of parental involvement as victims and sufferers of failure will not have the intention and the desire to form a partnership, therefore distancing themselves from even those parents who would be open to cooperation. All of this is also related to insufficient external conditions, such as deficiencies in teacher training and school conditions, which create a real barrier to involvement.

It is important to objectively explore the room for action, intentions, and knowledge (on the part of the teacher, parent, and other actors) and plan the intervention taking these into account. The following question arose: what depends on the intentions of the teachers and what depends on external factors? Are personal boundaries based on self-defense and self-affirmation? Why do they exist? Are personal boundaries necessary because teachers are left alone with problems and feel untrained?

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POSTER PRESENTATIONS

Current Issues of Adult Education From the Point of View of Migration, Overview of EU and Domestic Documents

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migration, integration, migrant education

Migration, which is becoming more and more important worldwide, represents a special aspect of adult learning. The majority of EU member states have been affected by the phenomenon of migration for many years, and among them the issue of adult education and vocational training for migrants or immigrants is particularly interesting from an andragogic point of view, since this target group is highly inhomogeneous in terms of education, socio-cultural background, religion, and worldview. Although this phenomenon is not yet considered a major challenge in Hungary, those working in the field of public education and vocational training are already concerned with the question of how, with what purpose, content and method migrants and immigrants can be integrated into the Hungarian society and labor market. According to Eurostat, 5.1 million immigrants arrived in the European Union from non-EU countries in 2022. This figure was 1.5 million in 2013, 2.5 million in 2018, and 2.3 million in 2021 (Eurostat, 2024).

The wave of migration with its social, economic, political and other consequences places a heavy burden on the affected countries, among other things, it strongly affects the institutions of public education in the case of children, vocational training in the case of adults, and adult education and training. For the time being, humanitarian issues are in the spotlight and little attention is paid to the adult education aspects of migration, to the situations that need to be solved from an andragogical point of view, and andragogical professional problems that arise, and what answers state, civil and church vocational and adult education institutions can give in each country. . How do they cope with the problems arising from linguistic, cultural and religious differences and how, through what kind of training (catch-up, language, professional, etc.) can they integrate migrant workers with different qualifications into the labor market in a short time. I consider the target group of my research to be refugee/migrant adults between the ages of 18-63 who have arrived from any country and have at least a basic education, including groups that are open to retraining and integration from a physical and mental point of view. I would like to pay special attention to women in this age group, who are usually at a disadvantage compared to men in terms of their integration and adult learning.

Research questions that are explained

- 1) How does migration affect European adult education organizations?
- 2) Is there a uniform organizational/content/methodological EU recommendation for catch-up, language, professional and labor market training for immigrants?
- 3) Are there professionals prepared to train immigrants in each country?

Eurostat (2024): Migration and migrant population statistics

https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Migration_and_migrant_population_statistics

Last download: April 23, 2024

IOM - World Migration Report, 2022

URL: <https://worldmigrationreport.iom.int/wmr-2022-interactive/>

Last download: 08.04.2024.

Possibilities of Using the One Page Profile in Education

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person centred approach; one page profile; qualitative research

The study deals with the person-centred approach, its application in education and a one-page profile as one of the techniques based on the abovementioned approach. The theoretical part focuses on the issue of a person-centred approach in education and the possibilities of one-page profile application in educational practice. Person-centered thinking is an approach in education that helps to better understand a person's individuality, leads to respect for other people, develops creativity, self-evaluation, and enhances the experience. The approach emphasizes the needs, feelings, and goals of the individual (Crisp, 2018; Paysse, 2020; Slowik, 2021). In the context of the Person -centred approach can be very efficiently used to identify the needs and goals of the student the one page profile and the information can be used for the increasing the students awareness of its own learning, to enhance their personality development. A one-page profile (OPP) is a brief document providing the educator with information about the student, their interests, strengths, needs, and provides guidance on how the educator can help the student meet his or her goals (Sanderson, Smith, Wilson, 2010). Studies demonstrate the benefits of using a one-page profile in education unless it is used correctly and consistently. Studies focusing on increasing the activity of passive learners have shown that by improving communication between parents and teachers, the activity of previously passive learners has increased significantly. This effect is attributed to several factors. The first is the increased motivation, the second is the adaptation of the teaching style of individual teachers who used the one-page profiles of their students (Sanderson, Smith, Wilson, 2010; Foudová, Slowík, 2017).

The aim of the study is to identify pupils' needs, characteristics and the desired support that might be provided according to the knowledge obtained from their OPP. Partial aims are:

1. to identify student interests that are relevant to their learning.
2. to identify the needs and goals of pupils that are relevant to their learning and the achievement of their goals.
3. to explore opportunities to support pupils using information gathered through the one-page profiles.

The research questions are:

- a) What do the closest people to the students value about them the most?
- b) What do pupils consider important in their lives?
- c) What goals do pupils have?
- d) How can we support pupils in their stated goals?

The needs, motivation and the individual potential of the student can be identified by investigating the answers to the above formulated questions and further proposals for the personality development in the school education.

The research design is qualitative, using document analysis as the research method. The one-page profiles created by students at lower secondary level of education were analysed through the content thematic analysis.

Through OPP, students answered three questions: What do people like about me?, What is important to me?, What do I want to achieve and how can you help me achieve it? The students had only limited space of 1 page, thus they were forced to choose what they thought was the most important.

As part of the content analysis, we chose several categories, or units of analysis, for each question.

1) In the first question, "What do people like about me?", we identified responses that can be classified into the following categories (analytical units):

- Obedience/obedience; respect for elders; helpfulness; talents (sports, artistic).

2) In the second question, "What is important to me?", we identified the following categories of responses (analytical units): - Family; friends; grades; - education; - career; - sports; - faith; - pet.

3) In the third and final question: "What do I want to achieve and how can others help me to achieve it?", the following categories (units) were analysed:

- Support from loved ones; - space for expression; - education; - employment; - working atmosphere in the classroom.

The OPP is a useful tool in the application of person-centred thinking in education. Students were given space to express themselves, we showed them that we care not only about their knowledge but also about them as human beings. We learned what is important to them, what their plans and ambitions are, what their environment values about them, or what we can do to help them move forward. As the OPP is one way of applying person-centred thinking in education, it is crucial that when we apply it, we emphasise the so-called well-being of the pupils, so that they feel listened to and understood, which we consider to be the greatest benefit of applying OPPs in education.

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Enhancing Parental Involvement in Education: Strategies and Implications

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parental involvement, awareness, online communication, cooperation

The literature refers to parental involvement as parental activities that support children's learning and development processes in a cognitive and non-cognitive way (Jeynes, 2007; Hill and Tyson, 2009). Lack of parental involvement can have a significant impact on students' academic performance, as parents play a fundamental role in promoting their child's academic progress and development, both in the primary and secondary socialization arenas. Without active parental involvement, students do not receive the essential support mechanisms, guidance, and affirming feedback necessary for academic success.

We conducted qualitative research with 45 teachers from primary and secondary schools to explore parental involvement in school life across different educational institutions. Our study aimed to determine whether and how this involvement is realized, and to identify effective practices that strengthen the relationship between schools, teachers, and parents.

The research was carried out in the economically disadvantaged region of Northern Hungary, where a high unemployment rate poses a serious challenge in securing job opportunities (Garami, 2020). We employed a multi-stage, stratified sampling method for our study. The initial stratification was based on county, school type, and site data from the National Competence Measurement, which included achievement scores adjusted for social background and levels of parental involvement. Using this combined data, we identified four distinct school subsamples. In the second stage, we applied non-representative (availability) sampling to select teachers associated with these school groups.

The results of the research show that the promotion of three-way cooperation between parents, teachers and students is essential for improving school communication and cooperation.

In addition, we emphasize that relational communication - whether in person or online - and community events play a key role in strengthening collaboration, which can contribute to improving students' educational experiences and results.

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Students' Attitudes Towards STEM Subjects in Selected Secondary Schools of South Slovakia

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STEM education, natural sciences, secondary school students

Natural science education is facing a number of problems: there is a lack of knowledge in science, its application and solutions to everyday problems; the popularity of natural science subjects and students' motivation for science are steadily declining. Fewer and fewer students are pursuing further studies in science and engineering. Moreover, there is a shortage of good professionals in the fields of chemistry and physics, even more in education, where there is a shortage of Physics and Chemistry teachers internationally. As a result of the rapid evolution of society and science, our education has to meet several new challenges: the need to provide skills that can be effectively applied in the labour market; the need to prepare students to adapt to change and continuous lifelong learning (Szarka et al., 2021). STEM is an educational curriculum based on educating students in four core areas - science, technology, engineering and math. What makes it different from other curricula is the fact that it aims to teach the four areas as a whole.

Learning science is closely related to general thinking skills. In order to master scientific concepts, advanced thinking skills (for example, recognition of similarities-differences, part-whole or causal relationships; application of analogies, models) are necessary; the acquisition of scientific knowledge can be realized by having skills such as generating, testing, revising theories and hypotheses and reflecting on these processes (Zimmerman, 2007). However, the relationship is mutual. Learning natural sciences and mastering the hierarchical conceptual system promotes the development of general thinking skills that can be applied in other fields as well (Adey and Csapó, 2012). The presented research focused on the attitudes of 1st and 2nd grade secondary school students in selected schools towards STEM subjects and their competences in these subjects. Our further research will also focus on the relationships between general thinking skills and competences in STEM subjects.

Empirical quantitative research was carried out using an online survey in selected schools of south Slovakia (N=1163) and a representative sample of secondary schools in Komárom-Esztergom county in Hungary (N=354). The research sample consisted of 41.4% girl and 58.6% boy respondents. The survey consisted of a thorough background questionnaire, 20 STEM items, 5 items aimed at inductive thinking, 12 Raven and 12 Kolb test items. In this contribution we will only focus on the background and STEM-related items of the research. The STEM items of the research consisted of questions and tasks in 5 school subjects: Mathematics, Biology, Chemistry, Physics and Informatics and were carefully selected to map 4 competence areas in each subject. The selected competences were: making predictions, determining the steps of an experiment or planning of methods and procedures, solving emerging research problems or implementation of an experimental plan, formulation of conclusions or data analysis.

Most respondents had good marks in STEM subjects, girls had slightly better grades than boys in most of the studied STEM subjects. Mathematics was the only subject where boys had better grades (mean 1.69

vs. 1.72 for girls). Despite the good marks, teacher demonstration experiments being performed during nearly each lesson and frequent student experiments, the students' attitude to STEM subjects was neutral or rather negative. Interestingly, boys had a more positive attitude towards some STEM subjects (apart from Chemistry and Biology). Boys also achieved higher points in STEM questions of the research (mean 8.86, girls 8.21 from 20). There were no significant differences in the achieved points for STEM questions between the Slovakian and Hungarian group.

Natural sciences are the foundation of our technical world. Humanity's problems - energy needs, environmental crises, disease and epidemic prevention - can only be alleviated, controlled and avoided by means of science. Education based on a scientific approach is part of the modern world (Wieman and Gilbert, 2015), but it cannot work well without the support of a good educational background. Several studies have shown that teachers' preparation, experience and views on inquiry-based learning greatly influence the success of learning (Roehrig and Luft, 2004; Fogleman et al., 2011). It is therefore highly necessary to introduce opportunities to develop scientific and research skills in practice during teacher training.

Acknowledgement: The research was supported by grant BGA/145/2024 "Support for the J. Selye University's research activities - social science research on Hungarians in Slovakia" provided by the Government of Hungary.

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Are We Up To Teaching Generation Alpha? Digital Competences of Teacher Training Students

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teacher training students, digital competence areas, proficiency levels, DigCompEdu, DigComp 2.1

Measuring and developing the digital competence levels of teachers training students has been part of our research since 2015. Our previous research shows that although students are part of a digital generation for whom the use of IT tools is an integral part of everyday life, most of them do not use digital technologies at a proficient level, do not take advantage of group knowledge sharing, interaction-based content production and sharing (Harangus, 2015).

In our study we present the results of a longitudinal research. Starting in the academic year 2021/22, we have assessed over three academic years, among students entering teacher training, whether they have the level of digital competence necessary to be able to not only communicate the knowledge content of their subject area to the required standard as future teachers, but also to develop the key competences envisaged by the framework curricula.

We used a questionnaire for our survey. In the first stage, the questions were developed according to the levels and areas of competence defined in the DigCompEdu (Redecker, 2017) and DigComp2.1 (Carretero–Vuorikari–Punie, 2017) reference frameworks. In the second phase, we focused on measuring the need for competences in different digital areas and the importance of skills and competences. In the third phase of our research, we identified the knowledge, skills and abilities that teacher training students need to develop in order to become proficient in digital solutions as teachers, through competency assessment tasks.

The results outlined the areas of competences, skills and abilities that need to be developed: students are partially competent in the areas of information and data literacy, communication and collaboration, and safety, while there are significant gaps in the areas of digital content creation and problem solving.

Based on the data obtained, the digital competence areas and proficiency levels that need to be developed in teacher training have been outlined. Our further aim is to develop and apply tasks that develop the areas where deficiencies have been identified.

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Using Chess in Primary Mathematics Education

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chess, primary mathematics education, game-based learning, non-digital games

In 2011, in Armenia chess was introduced as a subject in primary school. In Canada, Chess 'n' Math organisation has already children to develop their chess skills. From 2004 to the present, the project “Chess for Overall Development” has been developed and is being implemented in Satka, Chelyabinsk region, Russia (Zaretsky et al., 2023). The application of chess in the education is becoming a practice in more and more countries. The most organised and effective method is to make chess a compulsory school subject, the positive effects of which were first recognised in the Netherlands, followed by Iceland, Sweden and the Philippines. As education in Hungary and Romania is information- and competence-centred, researchers see no prospect of chess becoming a compulsory subject in the near future and the necessary tools (textbooks, exercise books) are lacking.

The main aim of my research was to give fourth grade students an insight into the world of chess, following the methodology of the Chess Palace developed by Judit Polgár. Research questions: - Are children of the digital age interested in chess? - How do they feel while playing? - What are the difficulties they encounter during the game? - What mathematical problems cause the greatest difficulties? - What types of games do they prefer? HYPOTHESIS H1: Chess education has a positive impact on students' problem solving, abstract and logical thinking. H2: Solving different mathematical problems in a playful way can contribute to the improvement and development of pupils' numeracy skills. H3: Chess encourages students to learn and develop while providing a positive experience.

In this experiment, we used the action research method, introducing a new tool and testing its suitability. In our intervention program eight lessons of 50 minutes each for teaching the subject were built for each teaching approach. It was a two-group experiment, as we compared the results of the experimental and control groups. The location of the experiment made it a natural experiment, as it took place in a school setting. The pre- and post-tests we developed measured the ability-related knowledge items. First, we assessed the fourth graders and, as one of the observed (urban) classes had better results, we decided to implement the improvement in the school where the children had worse results (a rural/village school).

The main aim of my research, to get students to learn and use chess, was clearly a success. The questionnaire, as well as my own experience, showed that the children really enjoyed it, especially because they were playing in pairs. They were completely open to new knowledge and new games, which answers my first research question, that children of the modern age have the same interest in this game as before technology. Most of the pupils in the experimental group increased their scores in the post-test. A large improvement was observed for the majority of pupils, with the exception of four pupils who scored lower on the post-test. These results also show that the development lessons have had a positive impact on pupils' results. Our second hypothesis (H2), that solving different mathematical problems in a playful way can contribute to the improvement and development of students' numeracy skills, has been proven right. Our experience of the motivation and attitude of the pupils was definitely positive, as evidenced by the questionnaire in which they were asked about their experience and what they would change about the way the sessions were run. All of them described positive experiences, mostly because playing together,

and they would not have liked to change anything, except maybe playing more in pairs, which they indicated in the meantime, and which I tried to adapt to while the lessons were run. Based on these findings, I believe that my third hypothesis (H3), that chess encourages students to learn and improve while providing a positive experience, was confirmed.

I consider the work with the pupils and that I got to introduce them to chess useful, and it confirmed the effectiveness and developmental impact of Judit Polgár's method. I am convinced that it is worth introducing elements of chess into education and using it in both class and leisure activities, because it develops the students' whole personality, not only mathematical and strategic thinking, but also it has a character-building effect. What they definitely need to improve on is their divided attention, they didn't manage to also focus on what their partner was going to move that could even endanger their pieces, they just planned their own moves.

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