EDUCAT(H)UM: Education at the Frontiers of the Human: The Challenge of New Technologies (financed by ARIS: N5-0272)

Interviews with Slovenian Experts on Digitalization and ICT in Education and Findings

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Brief Overview of the Slovenian Education System and the State of ICT

Education system

- **Preschoo**l education (age 1-5, not compulsory)
- **Primary and lower secondary** education (age 6-14, compulsory)
- **Upper secondary** education (not compulsory)
    - **general education programmes**: general and technical *gimnazija* and the *matura* (final examination) course prepare students to continue their educational path in higher education (4 years)
    - **vocational and technical education programmes**: students acquire educational qualifications for entering the labour market, and gain access to tertiary education (2, 3, or 4 years)
- **Tertiary** education

For details, see:

https://eurydice.eacea.ec.europa.eu/eurypedia/slovenia/organisation-education-system-and-its-structure

Public and private education

In Slovenia, private education accounts for a very small share of the education system.

Preschool education was provided by 988 kindergartens, of which 868 were public and 120 private. The vast majority of children attended public kindergartens (94%).

Primary and lower secondary schools: 771 public and 6 private.

Upper secondary schools: 143 public and 6 private.

Source: SURS, https://www.stat.si/StatWeb/News/Index/12827

Governmental and policy institutions

- Ministry of Education
- National Education Institute, Slovenia (operational support for the Ministry of Education)
- Ministry of Higher Education, Science and Innovation

Summary of ICT education policies from ICILS

"The Ministry of Education holds the prime responsibility for education in Slovenia. However, it receives operational support from the public National Education Institute of Slovenia (ZRSŠ). In 2016, the Ministry established the Expert Working Group of the Ministry of Education for the Inclusion of the Fundamental Contents of Computing in Slovenian Education (RINOS). In its first report, RINOS made recommendations covering issues of informatics education, digital literacy, teacher education, and the educational ecosystem. In the second report, RINOS prepared an action plan for introducing informatics as a compulsory subject, and in the third report, it developed the curricular framework for informatics in pre-college education. In 2022, the Ministry of Education published the document "Action Plan of Digital Education 2021–2027." This document addressed six areas: National Coordination, Didactics, Changes in Programs and Work Requirements, Education and Training, Ecosystem, and Education Under Special Circumstances. Around the same time, ZRSŠ started the ongoing curricular reform, which also included a reflection on ICT use and digital literacy in education. Digital literacy is meant to be part of all subjects through the EC DigComp framework. In 2023, the Ministry launched the project "Digitainable Teacher" (i.e., digital and sustainable), targeting teachers in primary and secondary education to equip them with digital competencies. Also in 2023, the Government of Slovenia published "Digital Slovenia 2030 - The Umbrella Strategy for the Digital Transformation of Slovenia until 2030." This strategy emphasizes the development of digital literacy through the DigComp competency set for compulsory education. The Ministry launched a project of experimental classes in 2023, introducing informatics as a special subject with a limited scope. Most of these changes resulted from the COVID-19 pandemic, which caused schools to lock down and required the introduction of remote (distance) education. Consequently, Learning Management Systems (LMS) such as Moodle, offered by ARNES (The Academic and Research Network of Slovenia), and videoconferencing systems like Zoom and Teams were introduced. The Ministry also tried to highlight a set of prepared e-textbooks (publishers made them available for free for that time), though their use varied.

The use of ICT across subjects is an ad-hoc process. There is no overall assessment activity specifically targeting the use of ICT in education. The COVID-19 pandemic had a decisive impact on the use of ICT in teaching. Besides the already introduced eAsistent tool, many materials were offered through LMS or via email, while teaching was conducted using videoconferencing systems. Some schools provided computers to students who did not have access to a computer" (ICILS 2023, pp. 47-48, https://www.iea.nl/publications/icils-2023-international-report).

ICT subjects in education

Primary and lower secondary education

- elective subject(s): computer science (4th - 9th class)

Upper secondary education

- **general education programmes**: compulsory subject in 1st class ICS (70 hours)
- **vocational and technical education programmes**: only as technical/vocational subjects

List of Interviewees and Method

SIE1 - expert and policymaker in the field of education
SIE2 - expert/university professor
SIE3 - expert/university professor
SIE4 - policymaker in the field of digitalization
SIE5 - policymaker in the field of education

Given the research topic, we were interested in the views of education experts regarding the digitalization of education. We conducted **5 semi-structured remote interviews**. The questions were divided into thematic groups, with the questionnaire serving as a general framework for each interview. The selected questions were not asked in full or in any particular order, but rather in the flow of the conversation or the interviewees' answers. In doing so, we covered all the main questions from each thematic group. Before the interview, the researcher familiarized herself with the interviewee's biography and work.

Interviews

Note: All the details about the interview procedure and questions are available in the Appendix, at the end of this document.

1. Digital Transformation of Schools

Teaching ICT topics

The interviewee (SIE1) points out that the main problem is the teaching of ICT topics. Computer science is an optional subject in primary school, attended by approximately 10% of students. Informatics is only a compulsory subject in upper secondary schools in general programmes. He also points out the prevailing misconception that teaching of computer science or digital content should) mainly cover skills such as using Word, multimedia, and safe use of the internet. Therefore, it is also often found that future students have a misconception of what studying computer science is. They don't know that this is not, for example, about creating PowerPoint presentations or playing computer games. In this regard, it is important to emphasize that digital technology should be used in schools primarily by students and not so much by teachers, so as to get to know how computer technology actually works. SIE3 also emphasizes the lack of in-depth consideration of the goals and purpose of digitalization. The focus is predominantly on technical equipment, with no clear strategy for long-term educational goals. SIE2 points out that digital technology in the field of didactics is an upgrade and not a replacement.

Edutech research and policy

According to SIE1, there is actually no comprehensive research or policy in the field of computing and digital content in education. The only comprehensive research in this area is the International Computer and Information Literacy Study (ICILS). There are no serious long-term educational policies in this field; it is sporadic and ad hoc, mostly linked to each project. SIE4 believes that school policies in the field of digitalization, such as short-term teacher training or tenders for technical equipment, are often insufficiently comprehensive. SIE3 highlights the following trends in the introduction of ICT. The digital transformation of Slovenian schools over the last two decades has been marked primarily by the technical equipping of schools, supported by the Ministry of Education, and by the development of teaching materials and teacher training, which was the domain of the National Education Institute of Slovenia (ZRSŠ). Despite progress in these areas, the interviewee points out that the transformation has not reached its potential, as the lack of a well-thought-out plan for the use of technology has limited its actual impact on improving teaching processes. Although the COVID-19 pandemic represents a turning point in the introduction of ICT, SIE4 points out that progress has often been more reactive than strategic. The key challenge remains the integration of digitalization, thus making it an integral part of the education system, based not only on *ad hoc* projects but on clearly defined educational goals.

School (digital) equipment

SIE1 highlights the positive effects of the project E-schooling, which was systematically planned and implemented both in terms of material equipment and the training of teaching staff in the field of digital competencies. The project was discontinued after the last elections (2022), and implementation in this area is once again fragmented and sporadic. In his opinion, elementary schools are all more or less equally well equipped, which is a result of the aforementioned project E-schooling. Greater differences can be found among upper secondary schools. However, the equipment of schools also depends largely on the initiative of the headteacher in making use of existing opportunities for purchasing equipment and training teaching staff in digital competencies. On the contrary, according to SIE2, COVID-19 has shown that ICT equipment and internet connectivity for educational purposes in Slovenian schools are poor. In SIE2's opinion, schools will have to upgrade their equipment, especially with applications. SIE3 also believes that the current challenge is certainly the elimination of the differences between regions and individual schools.

Regarding the usual focus on digital equipment and the lack of deeper reflection on the goals and meaning of digitalization of education, SIE5 agrees with the statement that digitalization has been primarily focused on technical equipment and infrastructure. Since 1994, the main priorities have been to establish basic computer infrastructure, train teachers in basic digital skills, and develop teaching materials. Longer-term considerations about how digital technology affects the pedagogical process and what its broader educational goals are often overlooked. SIE2 also highlights the risks of implementing digital technologies and AI, such as ChatGPT, which is or will be a very good tool for mentoring and tutoring weaker students, but hopefully, it will not widen the existing gap between the excellent and the rest.

The impact of the COVID-19 pandemic on digitization in education

According to SIE3, the COVID-19 pandemic represented a turning point for digitalization, forcing teachers to quickly adapt and use digital tools. During the pandemic, shared platforms proved to be the most effective, but according to SIE3, too few schools continued to use these tools meaningfully after the crisis ended. It also highlighted inequalities in access to the internet and equipment, which continue to be an obstacle to equal educational quality across regions.

Findings:

1. The interviewees emphasize that teaching how to use digital technology as a tool and raising awareness of its dangers is misguided, as it focuses on it at ICT lessons, not on ICT science, such as learning programming languages, etc.

They also do not see the point in the exclusive didactic use of digital tools, but rather as a supplement to existing ones.

2. Regarding policy in the field of digitalization of education and ICT content, interviewees note that there is a lack of long-term orientation. Actions are more ad hoc and reactive than strategic. The only comprehensive study in Slovenia is ICILS.
3. Elementary schools are roughly equally equipped, mainly due to the e-Schooling project and the response to the shortcomings that became apparent during the COVID-19 pandemic. In secondary schools, not included in the project, there is a greater difference. It is noticeable that the quality of school equipment also depends on the engagement of the school principals. With the launch of digital technology, it usually refers to material equipment rather than to content and education or training.
4. The COVID-19 pandemic represented a turning point for digitalization, as it forced teachers to quickly adapt and use digital tools, but, according to SIE3, too few schools continued to use these tools meaningfully after the crisis ended.
5. Regarding the digitalisation of education, there is usually greater focus on digital equipment; at the same time, there is a lack of deeper reflection on the goals and meaning of edutech.

2. The Role of the Teacher

Acquiring digital skills

According to SIE1, teachers need external initiative when acquiring digital skills and learning to use new technology in the classroom. They do not like being in a situation where they have to teach content they know little about or do not feel comfortable with. Only the most committed teachers take the initiative to acquire these skills on their own. According to SIE5, older teachers often feel greater pressure due to their lack of experience with digital technology. In comparison, younger teachers sometimes pay too little attention to the pedagogical aspects of technology use. These differences highlight the need for a personalized approach to training and support.

According to SIE1, age is not a relevant factor in a teacher's digital competency. According to SIE3, however, the teachers' age is an important factor in the introduction of new technologies. Most Slovenian teachers are over 50, which may affect their willingness to adopt new ideas. Nevertheless, the interviewee emphasizes that age is not a key problem, as appropriate training and support are often more decisive.

Pressure and fatigue from technology

During the pandemic, teachers experienced Zoom fatigue, partly due to the generally stressful situation, which led to resistance to applications and technologies. Today, this is no longer the case, according to SIE1, as working via Teams or Zoom has become quite established and takes place under normal circumstances. SIE1 sees an advantage in using these tools, as most of the work with teachers, such as seminars, workshops, and the like, is done via the Zoom application. This is, at the same time, more convenient for teachers as it saves them time and travel costs. The situation is different for schoolchildren, as education requires proximity. SIE2 also perceives fatigue in the post-pandemic period, mainly due to the large number of additional projects and applications, none of which offer a comprehensive solution. They have to find their way around this abundance on their own. They spend a lot of time familiarizing themselves with such an extensive offer, only to discover that it is quite useless for what they need in their work. SIE 3 strongly agrees with the statement about the phenomenon of technology fatigue, which goes hand in hand with the hyperproduction of technological solutions, new knowledge, etc., which teachers are expected to incorporate into their practices regularly.

With the rapid development of technology and a lack of long-term support, teachers often experience personal distress, fatigue, and frustration, which further complicates the implementation of change. SIE4 also believes that teachers often face technological stress, partly due to insufficient support and partly due to uncertainty about how to use new technologies to truly improve learning. Older teachers are perceived as resistant to change, while younger teachers show greater openness to the introduction of technologies. SIE5 also perceives the pace of technological change as a form of pressure on teachers, as we know that, for example, the field of digitization does not remain fresh for long: "the only routine is change."

The role of teachers

According to SIE1, technology raises questions about whether we really need factual knowledge or information that we have at our fingertips. We must expect higher levels of knowledge from students, and schools will have to adapt to this rather than continuing to test factual knowledge. Children are not digital natives. They are quick and skilled, but they do not know how to use technology in a meaningful way. Children need to understand technology and use it safely, including digital technologies and artificial intelligence. Age restrictions on the use of these tools are also important. Students must first learn the basics and do tasks "by hand" to develop critical thinking.

Teachers are not threatened by artificial intelligence, according to SIE1. SIE2 cannot imagine how teaching could take place at the primary and secondary school levels without teachers or with teachers being replaced by artificial intelligence. Nevertheless, ICT is a relevant motivational factor in learning, according to SIE4.

According to SIE3, the role of teachers is changing with the process of digitization. The strong emphasis on digital competencies often neglects the broader complexity of teachers' work, which includes pedagogical, emotional, and moral aspects. The interviewee points out that the work of a teacher is too often understood primarily as exhibiting technical skills. At the same time, the content aspects of teaching, such as critical thinking, remain in the background. Understandably, some teachers perceive technology as a threat due to automation and students' access to information that may exceed the teacher's knowledge, according to SIE3. Good teachers, in particular, are more distressed because they do not know how to integrate technology in the classroom in a meaningful way. It will be difficult to avoid all the technology available to us, some of which is extremely beneficial. If we use it in our daily lives, we should also use it in schools.

From the perspective of the potential of ICT and artificial intelligence, SIE5 believes that teachers have become replaceable. Traditional teachers, i.e., teachers who merely transfer knowledge, have become particularly replaceable, and this kind of profession is disappearing. The teacher of the future must be a facilitator, an encourager, and a motivator. The main problem is to make lessons interesting. According to SIE5, ICT should not be seen merely as a tool, but as a virtual learning environment.

Teacher autonomy

SIE4 says it is not acceptable for teachers to be the ones who ultimately decide how, when, and what to use ICT in the classroom. If our school system were different and teachers were more open-minded, this would be possible. Increasing teacher autonomy would make sense if it meant they could respond more quickly, as our education system is quite rigid when it comes to digital competencies. SIE5 agrees that teachers, with the appropriate competencies, should be able to reflect on and understand individual ICT technologies and be free to judge when to use them, to what extent, and when not to.

Findings:

1. When acquiring digital knowledge and skills, the age of teachers is not a significant factor, as support and training for teachers and, above all, a personalized approach to training play an important role.
2. An excessive focus on digital competencies and other skills often neglects or excludes the broader complexity of teachers' work, which includes pedagogical, emotional, and moral aspects.
3. Teachers need more professional autonomy in deciding how to use ICT.

3. Media education

The impact of digital technology on students

SIE4 believes there is a lot of attention on the disadvantages of technology, about how students spend too much time on various devices. Usually, the suggestion is to simply ban phones so there is less work with digital materials, and the students spend less time on devices. But there is much less reflection about how to use the devices in a meaningful way, how to show students what they can actually do, and how they can benefit from this technology. In short, this is about the smart use of technology that can help us obtain high-quality knowledge. The negative attitude towards digitalization, which is in the minds of decision-makers and teachers, is based on the belief that children spend too much time in front of screens and that this time is wasted. This is not necessarily true, as they can also do meaningful things that fulfil them.

SIE1 believes that media literacy is insufficient, and awareness is low. SIE3 [2nd most important Q] (How do they acquire "media education"?) notes that the field of media literacy remains scattered and unconnected in the Slovenian school system. Although individual elements of media education are covered in various subjects, the interviewee points out that this does not suffice to develop critical use of technology among students. Media education should be more systematically integrated into curricula, and SIE3 proposes creating a special subject that would combine the basics of media literacy and information technology. According to SIE3, students do not learn enough about the verification of information, recognition of manipulation, and online safety, which raises doubts about their digital literacy. An important task for schools is also to train pupils to evaluate information critically, recognise fake news, and use digital tools sensibly. The interviewee points out that today's youth are often more adept at using technology for entertainment than for learning, which indicates a need for schools to focus more on developing these skills.

According to SIE4, there is a lack of systematic teaching on searching for, verifying, and interpreting information in developing media literacy in schools. The risks associated with disinformation and manipulation in the digital environment are still largely left to time-limited actions or initiatives outside the formal school system. Media literacy is too fragmented and insufficiently integrated into teaching. SIE5 similarly considers that media education in Slovenian schools is inconsistent and scattered. There is a lack of a systematic approach that would enable students to develop key skills such as critical evaluation of information, recognition of manipulation, and safe use of digital media. If it were integrated into all subjects, there would be a problem with knowledge standards, as this would not be tested.

SIE1 sees the main problem in the fact that media literacy education is left to the discretion of individual schools or teachers. SIE5 sees it similarly. Existing media education programs are left to individual teachers, leading to differences in the quality

and accessibility of this content among schools. The interviewee suggests a "digital coordinator" as a possible solution, essentially a teacher of any other person with an affinity for the digital world, especially didactics, who would take over the overall management of the (digital) school, the transfer of knowledge and experience within the collective, and ensuring equal opportunities among learners, teachers, parents, and guardians.

Measures to address negative consequences

SIE1 sees a larger problem with students' uncontrolled use of technology outside of school. The problem arises when the media reports on uncontrolled use in general, thereby supporting and reinforcing the rejection of technology in schools. There is also not enough digital technology in schools. According to SIE5, banning or restricting ICT makes little sense, as it only increases its appeal. Banning ICT for children would be like having them in a bubble.

Findings:

1. Media education on the critical use of online sources, reliability aspects, etc., is sporadic and left to the individual initiative of teachers and principals. There is a lack of systematic inclusion in all subjects or as a separate subject.
2. Banning ICT in schools is not the solution as is usually problematized in the general public and the media.

4. Education and Graduate Profile

Purpose of education and profile of graduates

Education must prepare citizens for adulthood, according to SIE1, primarily by developing work habits, specific knowledge, and beliefs. A broad education is important. According to SIE3, the school system should educate individuals who are equipped with the knowledge and skills for critical thinking and the creation of new knowledge. The interviewee emphasizes that, in recent years, there has been increasing discussion about competencies for the labour market, while the importance of knowledge is often neglected. Knowledge is key to the development of competencies, without which it is not possible to achieve long-term goals in education and society at large.

SIE3 believes that the role of schools is to provide students with access to relevant knowledge that they can apply in practice, while also developing an interdisciplinary understanding of different fields. Knowledge must be linked to real-life challenges, which can contribute to a better understanding and application of the skills acquired. It is also not right to train people at the level of general education only for the current needs of the labour market. Schools must align with the economy, enable students to upgrade their knowledge in practice, and equip them with practical skills, which is particularly true for vocational and technical education, but ultimately also for general education. Without quality knowledge, we simply will not be able to create new knowledge, we can be exploited and manipulated much more easily, we will remain stuck in one place, and no development will take place.

SIE5 emphasizes that it is important to educate young people to be able to live in today's society, not only in a technological sense but also in terms of other challenges, so that they are prepared for the labour market, have good work habits, are persistent, know how to think, and learn how to solve problems. SIE5 also highlights the issue of motivation among young people and the spoiled attitude that we adults have created by giving them everything they want. He sees this as a lack of initiative and desire. A similar principle prevails in society, where you just look at something and get it. The current general fascination with digital technologies will probably fade, in their opinion, and in the future, we will only use what proves to be good and abandon most of the rest.

How do they see the mission of educating future generations?

According to SIE3, policymakers, school principals, and teachers recognize the importance of education, but changes are happening too slowly. There is often a lack of boldness in introducing innovations that could be evaluated and adapted on an ongoing basis. On the other hand, SIE3 points to the ability of policymakers, such as those in Finland and Sweden, who have seriously pursued digitization and identified its fundamental shortcomings, to acknowledge their mistakes and return to previous methods in some segments. SIE4 believes policymakers need to understand that changes are happening faster than they used to. This also applies to changes in professions and ways of working. Therefore, key competencies or skills are creativity, collaboration, critical thinking, and digital competencies. In the future, there will also be a greater range of non-formal education opportunities for people to retrain. We need to modernize a little and also make it easier for teachers to regain more autonomy, so they can adapt their content or the way they deliver it more quickly.

Findings:

1. Without a solid foundation of high-quality knowledge, the production of new knowledge becomes severely constrained. Insufficient knowledge increases

individuals' susceptibility to manipulation and exploitation and significantly heightens the risk of societal and cognitive stagnation.

2. Even as they rapidly adapt to emerging changes, policymakers, principals, and teachers must retain the capacity to recognize mistakes and shortcomings that arise during this process, acknowledge them, and implement appropriate corrective measures, even returning to reliable previous models.

5. How to Positively Support the Digital Transformation of Schools

SIE1 believes that a clear distinction must be made between what computing is and what digital competencies are. The curriculum should specify which digital competencies teachers should develop, that screen time at home should be limited, and that teachers should know why and for what purpose they should use a particular digital technology.

SIE3 proposes several measures for the successful digital transformation of schools. The first is the development of a more systematic teacher training policy that would include a mentoring institute. Mentoring systems for new teachers would enable better integration into practice and encourage cooperation between schools and universities. It also emphasizes the importance of evaluating digitalization projects. Current practices often leave teachers overwhelmed with information, while the long-term effects remain unmeasured. On the part of parents, teachers, and schools, SIE3 emphasizes the need for greater awareness of digital literacy and the risks associated with technology. The media and public campaigns could play a key role in promoting more thoughtful use of technology at home and at school.

SIE3 suggests a more strategic policy in the field of education and teacher training, which might differ slightly from the projects implemented in Slovenia in recent years. When a major project, such as e-schooling or innovative pedagogy, comes to an end, no one asks what happened afterward, to what extent they were actually implemented, and whether real changes were made or things were just done to meet certain project requirements.

SIE4 highlights the need for an integrated approach to digital transformation. Digital competencies should become part of all subjects, across all curricula, which requires trained teachers and support at the systemic level. SIE5 points out that we will not be able to resist technology because development will continue, and the speaker agrees, stating that it will be necessary to establish an appropriate relationship with technology, which, for him, means avoiding extremes.

Findings:

1. A clear distinction must be made between what computing is and what digital competencies or literacy are.
2. Inclusion of digital literacy in curricula.
3. Teacher trainings in ICT competencies.
4. More strategic ICT educational policy and ensuring that good practices are maintained even after development projects have been completed.

Appendix: Questionnaire

In-depth individual interviews with experts

Note: Slovenian version, used in the interview process, was translated from the English original, prepared by Kamil Wielecki.

Instructions for the researcher

In this study, we are conducting individual in-depth interviews. The interviews are semi-structured: the questions in this script are divided into sections, and their flow follows a certain narrative. The script serves as a general framework for each conversation. At the same time, each interview, like each person, is unique. The researcher should adapt to the interviewee and follow their lead. The interview should proceed as a free-flowing conversation. Before the interview, the researcher should prepare by getting to know the interviewee's biography, familiarizing themselves with their articles, etc., and during the conversation, delve into the areas in which the interviewee specializes.

The researcher does not need to ask all the questions contained in the script during a single interview. However, it is advisable to touch on each of the outlined sections to see if the issue can be developed. It is also beneficial to eventually cover all questions across several interviews. Since it is impossible to plan every conversation in advance, the researcher should be ready to ask spontaneous questions not included in the script – clarifying discussed issues, asking for examples, and probing new threads.

INFORMED CONSENT

[**Note to the researcher:** You do not need to read the entire consent statement before the interview. Inform the interviewee about the purpose and nature of the study.]

The current study is part of the research project "Education at the Frontiers of the Human: The Challenge of New Technologies." The project is comparative and carried out in Polish-Slovenian cooperation. On the Slovenian side, it is funded by the Slovenian Research Agency (ARIS) and conducted by a team of researchers from the Educational Research Institute. The project aims to investigate how information and communication technologies affect the educational process in primary and secondary schools.

The project is interdisciplinary and consists of three main parts:

1. philosophical, concerning the ideological foundations of education in today's world,

2. linguistic, examining the discourse of official documents on the use of new technologies in education issued by national and international institutions,

3. empirical, involving qualitative research.

It is within this last part that we are having today's conversation. To orient ourselves in the issues, we plan to conduct about 10 interviews like this one. Then we plan to perform a few case studies in schools and a series of interviews with teachers.

Your contribution is completely anonymous and confidential. We plan to write scientific and popular science articles based on the collected materials. However, we will not disclose the identities of our interviewees or any information that could identify them.

The interview will last about an hour. During the interview, you may refuse to answer questions or stop the interview. If you wish to withdraw the already provided information, please let me know. We will remove it from our materials. We also encourage you to ask questions and raise any doubts you might have. If you have any questions after the interview or would like to learn more about the project, please contact us.

For any questions after the interview or to obtain additional information about the project, please visit https://educathum.al.uw.edu.pl/ or contact the project leader, Dr. Janja Žmavc, at janja.zmavc@gmail.com.

- Do you have any questions?
- Do you agree to the interview?
- I would like to record our conversation. The recording is only a form of note and will be used to prepare the study. After the research is completed, the recording will be deleted. Do you agree to be recorded?

INTRODUCTION

- Please tell me in a few sentences where you work and what you do.
- How does your professional activity relate to the issue of information and communication technologies in education? We inquire about the interviewee's experience, e.g., research, publications, prepared programs, reports, evaluations, etc.
- Do you work in a school environment and have contact with teachers? (working in a school, your research, teacher training, etc.)

DIGITAL TRANSFORMATION OF THE SLOVENIAN SCHOOL

- Over the past two decades (let's say since 2004), do you see any prevailing trends in the Ministry of Education's policy regarding the implementation of information and communication technologies (ICT) in schools? Has ICT implementation been a priority? Were there any distinctive features of different government teams in this regard?
- What impact did the COVID-19 pandemic have on the digitalization of Slovenian schools? What did teachers incorporate into their teaching practices, and what did they abandon immediately after the pandemic ended?
- What are the legal regulations concerning the development of artificial intelligence and its application in education? Are new solutions being created in this area?
- What are the current challenges related to the process of digital transformation in education?

  Examples of barriers:

  - *material nature, e.g., slow internet in schools, insufficient or outdated equipment, its diversity and incompatibility, lack of funds for educational software and applications,*
  - *insufficient competencies among teachers,*
  - *students' unpreparedness to use ICT, lack of equipment in lessons, and at home.*
- How do you evaluate the existing programs aimed at modernizing schools?
  - example programs in Slovenian education,
  - we inquire about other programs known to the interviewee.
- What are their advantages and disadvantages? Which of them are useful and effective, and which are not? Why?
- How would you comment on the following hypothesis: the digitalization of Slovenian education is primarily viewed through the lens of further equipping schools with necessary equipment, while there is a lack of deeper reflection on the goals and meaning of this process. Why is it so, or why not?

THE ROLE OF THE TEACHER

- Do the modernization programs we discussed come with training and education in digital competencies for teachers?

- How are teachers motivated or obliged to acquire digital competencies and use new technologies in teaching?
- In your opinion, how do teachers perceive the pressures to modernize schools? How do they react to the need for further education?
- From your observations, to what extent do teachers use the equipment provided to schools? To what extent can they use the information and educational tools available online?
- Do you notice a certain level of fatigue with technology among teachers after the pandemic? Or their reluctance to introduce changes to their teaching practices?

You can ask teachers about such beliefs: identifying digital tools with remote learning; technical problems,interviews slow internet; requiring a lot of work to activate students; difficulties organizing teamwork; and the belief that students are better at using computers and new technologies.

- What significance does the fact that most teachers are 50+ have on the absorption of ICT by Slovenian schools? Do you observe age differences in teachers' use of ICT and digital tools?
- In your opinion, how does ICT change the role of the teacher in the education system?
- Do teachers feel threatened by the expansion of new technologies? How do teachers perceive their role in the face of phenomena such as easy access to knowledge or the dynamic development of generative artificial intelligence?
- Or, on the contrary, is there enthusiasm among teachers for the possibilities offered by the digital world, and do they see ICT as a great way to make their lessons more attractive?
- Is a non-teacher-centric model of education possible? Would teachers be ready to accept such a model?

MEDIA EDUCATION

- What are the reflections of decision-makers, principals, and teachers on the impact of digital transformation on social life and child development?
- Where can students gain media education? Online, there are media education teaching programs and ready-made lesson scenarios for teachers. However, there is no dedicated subject to this issue. How, then, are students' digital competencies developed?
- How are students taught the basic principles of functioning in the digital world?

- Is it taught in school how to find, sift, and verify information online? Is there discussion, for example, about manipulation in the media and the creation of fake news?
- Are these tasks relegated to school IT specialists? And if so, how do they fulfil these tasks?
- What is the awareness among decision-makers, principals, and teachers of the risks associated with ICT and functioning in the virtual world?

  Examples of problems and risks:

  - *addiction to phones, computer games, etc.,*
  - *overstimulation, negative impact on the neurological system,*
  - *negative effects on social relationships, making contacts, and functioning in the real world,*
  - *deepening isolation among children and closing them off in the virtual world,*
  - *threat of cyberbullying, hate on social media,*
  - *lack of physical activity (risk of obesity, postural defects, vision problems),*
  - *deterioration of fine motor skills.*

EDUCATION AND GRADUATE PROFILE

- What should schools prepare students for?
- What is the profile of a Slovenian school graduate? Primary school, high school? Vocational schools, technical schools?
- What kind of people should the Slovenian education system educate? Is this anthropology specified in any way? By any specific documents or program declarations?
- Have the tasks assigned to schools, especially modernization programs, changed over the years, under different ruling teams?
- Does the Slovenian school still educate? Or does it only teach?
- How do principals and teachers view the task or mission of educating successive generations?
- How does ICT relate to the issue of education? Are electronic equipment and digital tools seen by teachers primarily as teaching aids, or do they also see some other potential beyond that?

RECOMMENDATIONS

- [If not previously mentioned] How to sustain and support the digital transformation of schools to benefit students, staff, and school management?
- What should we pay attention to when we go to school? What is worth discussing with teachers in the context of new technologies?

That's all I wanted to ask. Would you like to add anything else or clarify any point?

Thank you very much for the conversation.