© Rzeszów University Press
ISSN 2719-6550
e-ISSN 2719-7417

"Journal of Education, Technology and Computer Science"
No. 6(36)/2025
https://journals.ur.edu.pl/jetacomps

Received: 17.11.2025
Accepted for printing: 24.11.2025
Published: 31.12.2025
License: CC BY-NC-ND 4.0

DOI: 10.15584/jetacomps.2025.6.14
Scientific

ZUZANNA MAZUR[1], **JULIA ORTYL**[2]

Digital Technologies in School – Opportunity or Threat? An Analysis of the Phenomenon in the Opinion of Pedagogy Students*

[1] Student, University of Rzeszów, Faculty of Education and Philosophy, Institute of Pedagogy, Poland; email: zm130473@stud.ur.edu.pl
[2] Student, University of Rzeszów, Faculty of Education and Philosophy, Institute of Pedagogy, Poland; email: jo130467@stud.ur.edu.pl

Abstract

This article summarizes the opportunities and threats arising from the use of digital technologies in schools. It sheds light on their proper application in the education system, supporting young people in their transition into the modern world. It also demonstrates how inappropriate and excessive use of mass media can have lasting negative consequences, significantly undermining the potential for integrating them in a way that supports student development. The goal is to adapt the stimuli that naturally reach students and maintain the process of proper socialization while simultaneously integrating modern opportunities that offer a wide range of educational opportunities.

Keywords: digital technologies, e-education, educational strategy, educational opportunities, educational threats

Introduction

This article discusses the opportunities and threats arising from the use of digital technologies in grades 1–3 of primary school. This is an extremely interesting and timely topic, and one that should be of interest to all students of preschool and early childhood education, as we, as future teachers, care about the proper development of our students. Below, we present the results of our research and analyze what we consider to be opportunities and threats.

* The article was written at the Department of General Didactics of the Institute of Pedagogy at the Faculty of Pedagogy and Philosophy of the University of Rzeszów under the supervision of Dr. hab. Wojciech Walata, prof. of UR.

In the 21st century, technology has become an inseparable part of our daily lives – shopping, official matters, communication with the outside world. It has also found its place in the education system. The COVID-19 pandemic significantly accelerated the implementation of modern technologies in teaching. This was essential for effectively implementing the core curriculum. When the opportunity, yet also the necessity, of remote work and distance learning arose, many people argued that it was a way of keeping up with the times, facilitating and enabling individuals to self-develop and perform their duties from the comfort of their homes. It didn't take long for us to notice the first problems – loneliness, lack of motivation to learn, a lack of will to live. However, in the realm of online education, problems began to stem, among other things, from teachers' lack of appropriate digital skills to work in such conditions. Constantly sitting in front of a computer had negative health consequences, especially for children, both mentally and physically.

Despite so many alarming signals, despite the consequences and forgetting the negative impact of distance learning, society has begun to implement various technologies in schools. Learning platforms, interactive whiteboards, tablets, phone apps, and so on, are becoming increasingly popular. Their intuitiveness, ease of use, and the time savings encourage both teachers and students to use them. Learning in a technologically-driven environment, using quizzes, competitions, rankings, and games, makes children more willing to participate, and they begin to associate learning with positive associations. Teachers have recognized this as a chance to break the bad reputation of boring school learning. Technologies have become a significant opportunity for teachers – ready-made question databases, games, and learning platforms create incredible opportunities and save time, and educators don't have to sacrifice time outside of work to prepare for classes. It's also a chance to utilize and respect their private lives. Children are eager to use digital technologies both at home and at school. They become immersed in the virtual world, forgetting the real world, which can lead to problems with everyday functioning and long-term health consequences. The philosopher John Locke once compared a child's mind to a blank slate filled with experiences. He contrasted this with modern neuroscience research, which demonstrates that the most important neural connections in the brain are formed during the early years of life. Let's consider how digital technologies will impact the filling of this "slate". If a child doesn't develop these neural connections through appropriate stimulation – sensory, motor, etc. – during this period, they will never be able to recreate them in their entirety. True simulation, real, active contact with a stimulus is necessary, while passively receiving these stimuli through being the recipient of an image or completing a task by swiping a finger across a screen cannot provide this. This blank slate cannot be completely filled in for the child, because by doing so, we are introducing irreversible changes that could prove catastrophic for all of humanity in the future.

Opportunities and Threats of Using Digital Technologies in Education

Many experts believed that digital technologies could introduce a modern education system, increase teaching effectiveness, and help prepare students for life in the modern world. They began to be recognized as opportunities to individualize teaching, equalize educational opportunities, develop digital competencies in schools, and increase student engagement through modern, engaging, and interactive forms of learning. Modern solutions also provided teachers with all the tools they needed, addressing the possibilities and quality of their duties in organizing work and managing schools, students, and their education. Thanks to rapid development, technology in the 21st century has become an indispensable element of everyday life, including in educational systems.

The most frequently mentioned digital technologies used in schools include:

1. Tablets and laptops are used directly by students during lessons. They are particularly useful for engaging educational opportunities. Each student, equipped with a tablet/laptop, can complete tasks recommended by the teacher to enhance their knowledge of a given topic, search for information related to the lesson topic, use programs, learn coding, and practice safe online habits.
2. Interactive whiteboards, in particular, allow teachers to present/display content for the entire team. As the name suggests, interactive whiteboards allow for interaction between both teachers and students, especially when it comes to assignments, allowing each student to approach and complete the task individually. They also offer creative feedback, for example, by displaying a thermometer so each student can mark how engaging the lesson was.
3. Educational apps and games primarily serve to diversify classes, providing students with an active form of expression, and teaching them teamwork and competition. This is a creative way to review or learn material, as it's not passive learning from a textbook but rather an opportunity for each participant to engage.
4. Smartphones are used by students not only during classes, but also outside of them for communication purposes and can be used to create attractive tasks assigned by the teacher, e.g. students making a video on a given topic as homework, thanks to which students stimulate creativity and the possibility of learning the material in a variety of ways.
5. Electronic journals facilitate efficient communication between parents and teachers, allowing teachers to issue interactive reports. Thanks to the electronic journal, parents receive essential information about their child, including attendance and grades, while teachers receive information about lesson topics, goals, descriptive grades, and student information.
6. E-learning platforms provide learning opportunities during distance learning and allow users to return to saved materials. They are used to share and display content to other participants.

What drives people to see great opportunities in the use of digital technologies in education?

Digital technologies were introduced into schools based on the belief that they improve the quality of teaching and adapt it to the realities of the 21st century. Digital technologies are intended to prepare students for life in the information society and the future labor market. Furthermore, the European Union promotes the development of digital competences as the foundation of modern education (c.f. Tarkowski, Majdecka, Penza-Gabler, Sienkiewicz, Stunża, 2018).

The greatest opportunities for the use of digital technologies include:

– individualization of teaching, i.e. with the help of educational platforms and applications it is possible to adjust the pace and form of learning to the needs and abilities of the student, which contributes to equal opportunities (c.f. Kinal, 2015);

– greater student engagement, as the introduction of new technologies increases the attractiveness of lessons. By using multimedia or educational games, we can maintain student attention longer and more easily, which supports the memorization process (c.f. Hojnacki, 2011);

– support for teachers and administration, i.e., digital technologies used by teachers include electronic journals that enable online communication, streamline school operations, and monitor student progress. These also include websites that facilitate preparation for specific classes, such as Testporal, Quizizz, WorldWall, Crazy Numbers, and many others (c.f. Musiał, 2018);

– development of key competences of the future, the task of digital technologies is to develop creativity, critical thinking, communication and cooperation – all these skills are crucial in the dynamic world of work (c.f. Konieczyńska, 2024);

– teaching-learning efficiency (project work) – students can collaborate online, not only with their classmates but also with people from other countries, which allows for the exchange of experiences between children;

– exercises using websites – thanks to the use of an algorithm, the child immediately receives the correct answer after solving the task, which facilitates faster correction of errors;

– adapting the teaching process to the needs of students, individualization of teaching – students can learn at their own pace;

– motivate learning using fun elements by introducing competition in ad hoc electronic games, e.g. Kahoot;

– quick and unlimited access to information and teaching content.

What are the most frequently identified threats to the use of digital technologies in education?

The most common threats include those resulting from excessive transfer of a child's/student's activity to the digital (virtual) world:

– inhibition of child development: children may have delayed speech development, poor vocabulary, emotional problems or social inhibitions – difficulties in establishing contacts with peers and adults;

– decreased concentration – children's attention span is short, at the age of 5 to 7, it can be a maximum of 30 minutes. This time is shortened, which means that their performance in any given activity will be lower;

– addiction to screens, phones and games – colorful pictures, flashing lights, interesting formulas make children easily addicted;

– the health impact of excessive blue light on eyesight is damaging. Children slouch when sitting at a computer or phone, which worsens their posture. Frequent sitting, on the other hand, leads to less exercise and, consequently, weight gain and other musculoskeletal problems.

– overstimulation of children – in today's world, we are surrounded by a multitude of stimuli, from music in stores, pop-up and interactive advertisements, to movies and online games. This leads to overstimulation not only of children but also of society as a whole. We lose the ability to regulate excess stimuli in the body, which has disastrous consequences for the nervous system;

– inhibition of creativity – ready-made answers, quick solutions at your fingertips inhibit children's creativity, they lack childlike curiosity;

– using unverified knowledge: no verification of information generated by ChatGPT, no verification of any sources of information (not everything on the Wikipedia page is true, after all, it is written by random people).

– pressure to constantly monitor the child's progress, including grade checks: electronic journals, grade notifications, and absence notifications. Children feel pressured, afraid of getting a lower grade or missing school.

– cyberbullying – students are unaware of the negative consequences of their inappropriate online activities. Cyberbullying primarily affects children's mental health, which can even lead to depression. Learning appropriate, balanced, and safe internet use is crucial to avoid tragic consequences. As teachers, we must quickly respond to any signs of cyberbullying, educating our students accordingly.

Educational strategy using modern digital technologies

Current educational strategies should incorporate modern technologies, which in today's world are essential for holistic planning of learning, enabling students to improve and develop fundamental areas: cognitive, social, emotional, and motor/physical. This is achieved through meticulously planned activities by the teacher and the student's step-by-step execution of each task.

In the context of digital technologies, educational strategies implement modern forms through applications, interactive learning platforms, computer games, or a set of electronic toys that intuitively guide students through successive levels of difficulty, providing motivation and satisfaction. These intrusive activities

provide teachers with transparent feedback and the ability to adjust the task's difficulty to suit the student's individual potential. This educational format is also a great way to foster group integration and foster healthy competition. Kits, programs, and even coding blocks (e.g., coding mats, Beebots, Scratch, Lego) are an example of how we can comprehensively create a comprehensive learning environment, making learning enjoyable and fostering children's natural motivation. A seamless blend of learning and play is particularly important: logical and critical thinking, creativity, and effective problem-solving.

A digital educational strategy also offers numerous opportunities to support children with special educational needs, increasing their sense of support, understanding, and empowerment, and creating an environment that fosters comprehensive development. The teacher becomes a guide and facilitator for the student, while technology, used responsibly and effectively, becomes not only a mass conveyor of information and a form of entertainment, but also a model, full of inspiration and potential, in the ever-evolving learning process.

Own research methodology

Looking at this topic through the eyes of students and future teachers, we wonder whether our eagerness to embrace technological advancements might lead us into deeper problems that will have irreversible consequences for us in the future. Reflecting on our memories, childhoods, the methods used in school, and our student experience, we can confidently say that despite the lack of significant use of technology in our teaching, learning was more effective in terms of social interaction, the adoption of values, and the acquisition of skills and knowledge.

Looking at children in school today, we can see dramatic differences in both their growth and functioning. This is due to the rapidly evolving opportunities available. However, we recognize that problems are emerging that were unacceptable in our time. We search for the trigger, the source of it all, and we return to the pandemic era, when technology determined our future. Back then, there was no other option, and when we saw how it “made” our lives easier, we went further, perhaps a step too far. We are currently at a point where we wonder whether this represents an opportunity for us or a threat to the new generation.

For the purposes of this research, a diagnostic survey was used, with a questionnaire designed primarily for students of preschool and early childhood education preparing to work with children in preschool and early childhood education. The survey, developed on the Forms platform, consisted of two sets of questions. The first set focused on the opportunities for using digital technologies and contained six categorized questions and one open-ended question. The second set focused on the threats arising from the use of digital technologies and contained 11 categorized questions and one open-ended question.

Research results

The pilot study was conducted among 41 students from several fields of study, from whom 30 students of pedagogy were selected for analysis. This was an online survey using open-ended questions, allowing for free, extended responses from a purposively selected group of respondents. Of the 30 students, 29/30 were women, and 1/30 were men. Of the 30 students surveyed, their fields were: first-year PPiW (University of Rzeszów) – 6 students; second-year PPiW (University of Rzeszów) – 18 students; third-year PPiW (University of Rzeszów) – 1 student; fourth-year PPiW (University of Rzeszów) – 3 students; and second-year special education – 2 students.

The first series of questions addressed to respondents concerned educational opportunities resulting from the use of digital technologies.

To question (5) about the attractiveness of learning, 18 characteristic responses from respondents were selected (original spelling): classes are more interesting, new technologies = fun, games, new solutions, motivation, variety, speed, unconventional methods, dynamics, diverse forms, personalization, individualized learning, learning = fun, experiments, visualizations, children's engagement, stimulating curiosity, and the attractiveness of digital content (not just e-textbooks). It can be concluded that digital technologies increase the attractiveness of learning through their engaging format. New methods are becoming an excellent factor in encouraging children to learn. They stimulate curiosity, diversify activities, and allow children to associate learning with fun.

Question (6) about learning effectiveness yielded 17 characteristic responses from respondents: faster memorization and easier memorization thanks to visualization, adapting the difficulty level to students' abilities, eagerness to learn, combining pleasure and usefulness, individualized pace of work, immediate response/result, multi-sensory knowledge acquisition, better understanding of the topic, attractiveness of knowledge, monitoring of student progress, educational programs, combining theory with practice, using diverse materials, longer retention of knowledge, optimizing time and efficiency of content delivery. Teaching effectiveness is enhanced by the use of digital technologies, which facilitate memorization and understanding of the topic. They allow for quick verification of knowledge and presentation in an accessible, engaging format.

When asked (7) about adapting the teaching process to students' needs, respondents selected 9 characteristic responses, stating that: this helps adjust the difficulty of tasks to the students' level; weaker children are more likely to learn thanks to an attractive format; it supports students with various learning difficulties (e.g., through the use of a speech synthesizer); algorithms are used for this purpose, allowing us to utilize various forms of work; thanks to the possibility of repeated, independent repetition of material, knowledge retention is increased; interactive forms of learning foster the development of independent thinking and

problem-solving skills; individualization encompasses not only the pace but also the level of tasks; the effectiveness of digital education depends on the quality and design of the programs used – they must be tailored to the child's needs and abilities. Digital technologies enable learning to be tailored to the needs and abilities of students. By using appropriate algorithms, we have a way to match tasks to the child's level of knowledge – without boredom or excessive demands. They can also help students with various disabilities access knowledge.

To question (8) about learning motivation, 6characteristic responses were selected: children associate these activities positively with the use of computers, films, and projectors. This is learning through play, which is extremely attractive to children and therefore motivating. Children are more likely to use these tools thanks to the use of interactive tasks, platforms, badges, rankings, and the ability to compare their results with others or simply with statistics. Children associate digital technologies with everyday activities. The speed of results and the ability to immediately correct errors encourage children to complete tasks. Competitions and awards provide external motivation for children. The mere use of modern technologies creates this effect of novelty and curiosity. The use of digital technologies in the form of games, activities, films, and competitions motivates children to continue learning. Thanks to instant answers and corrected errors, children see their mistakes and how they can improve, which encourages them to use such solutions.

In response to question (9) about quick and unlimited access to information, respondents gave the following 5 typical answers: *the use of digital technologies makes it easy to search for information, which is perfect for students to immediately satisfy their curiosity about a given topic; creating a virtual database with students and placing relevant materials there can not only further speed up the data search process, but also provide access to verified knowledge; thanks to such easy access, children quickly learn to verify data and learn critical thinking through independent data search, the knowledge stored in a phone allows children to develop their own interests at any time and place, it also helps in shaping information literacy.* The presence of digital technologies in schools makes it easier for children to access information, which is easily and quickly available. They allow children's curiosity to be satisfied in all aspects. It is important to remember to advise children to check the sources and origin of information so that they can avoid misinformation.

In response to the question (10) about the electronic journal, respondents selected 5 characteristic responses, stating that: *Using digital technologies in the context of an electronic journal allows for tracking a child's progress at any time. We have an easy and fast flow of information and an excellent way to communicate with our students' parents. It is accessible at all times, which is extremely practical for parents working in demanding professions. It is a way to monitor*

a child's behavior, grades. The electronic journal provides access to the schedule, ensuring that information reaches parents and is not forgotten by the children. An electronic journal is a fantastic convenience, allowing for a quick flow of information and easy contact between teachers and parents. However, it should be used with caution to avoid creating a tense atmosphere or exerting excessive control over the child and their grades. After all, it's not the grades that matter most, but the child.

To the question (11) about "Other educational opportunities", 4 characteristic answers were selected, in which the respondents wrote that (): *digital technologies influence the way of teaching, access to knowledge and interaction between students and teachers, it is a great way to adapt materials to the individual needs of children, which consequently leads to increased learning efficiency, it develops children's digital competences that are necessary in the future.*

A summary of the educational opportunities created by digital technologies

As we have seen, digital technologies in schools aid in learning and assessing children's work and knowledge. They can be an excellent means of communication between teachers and parents. They serve as an ideal way to enrich classes, supporting individuality, the pace of work, and students' interests. Their engaging format encourages and motivates students to learn, think creatively, solve problems, and explore various educational methods that deepen and consolidate knowledge. However, it is important to remember to use them wisely, so that modern technologies become a unique opportunity to stimulate the skills necessary in today's world.

The second series of questions addressed to respondents concerned educational threats resulting from the use of digital technologies

The first question in this series (12) concerned students' developmental delays. 14 characteristic responses were selected, in which respondents indicated: *inhibited socialization skills, lack of need for personal development, lack of desire to seek knowledge because it is readily available, inhibited motor development, lack of independence, lack of emotional development, lack of conversation, lack of critical thinking, lack of contact with peers, concentration problems, lack of fine motor skills, speech disorders, lack of manipulative experience and contact with nature as important factors in child development. The dependence of negative effects on the scale and manner of technology use is not about the mere presence, but rather about overuse or inappropriate implementation.* Overuse of digital technologies can lead to significant learning difficulties and a lack of socialization in young people. They may experience a wide variety of problems that may be impossible to completely remedy.

The next question (13) concerned students decline in concentration. 6 characteristic responses were selected, in which respondents wrote: *difficulty focusing*

attention for extended periods, overstimulation of students, accustomed to short forms of learning resulting in an inability to focus for extended periods, and a decline in the ability to process and remember information in-depth (referring to the quality, not just the length of attention span). Difficulty persevering with task-based work and adapting to traditional forms of education (not just focusing but also maintaining cognitive effort). The teacher's important role in maintaining concentration using digital media can be both helpful and disruptive, depending on how it is used. Too much digital technology can lead to a decline in concentration, causing children to lose the ability to maintain attention for longer periods. Students lose motivation to pursue long-term goals and are unable to concentrate on them, let alone achieve them with any effort.

The next question (14) concerned addiction to the Internet, computers, etc., 10 characteristic answers were selected, in which the respondents wrote as follows: *Too frequent use of computer equipment with Internet access can lead to a stage in which a child will not want to spend time in any other way than on the Internet, overusing this form of spending time can lead to addictions and limiting interests, treating a phone or tablet as a break from time spent with a child, lack of control over time spent online can be disastrous, children lose the ability to self-regulate, creativity, the desire for spontaneous play and curiosity are limited, sleep problems and other health problems appear, this can also lead to neglect of home and school duties, children lose socialization skills*. Addiction to a computer/Internet, etc. can lead to the loss of socialization skills in children, they lose the desire to spend time and play with peers. Children lose the desire for spontaneous play and childlike curiosity about the world, they turn into clicking robots.

The next question (15) concerned addiction to immediate rewards (attractive, endless links). 5characteristic responses were selected, with respondents stating the following: *children become accustomed to rewards; in every situation, they crave more and more. Children are reluctant to engage in sustained effort, preferring everything quickly and easily. Students no longer do anything they want or for the satisfaction of it, but because they will get something in return. Without rewards, there is no work. Children are lost in the real world, and the lack of immediate rewards and additional stimuli leads to boredom and frustration. They become accustomed to rewards and crave more and more.* The problem of immediate rewards is very significant; children do anything to get what they want, and they lack the drive to develop or acquire new skills. The lack of gratification can lead to frustration and aggression, making it difficult to communicate with such a child.

In question (16) about the impact on health, respondents wrote: *overuse of digital technologies can lead to deterioration of vision and hearing, and can also lead to obesity due to lack or limited exercise, prolonged sitting in front of a screen can lead to vision, spine, and sleep problems. It can also cause poor*

posture. Headaches can occur due to excessive screen use. It also negatively impacts the development of the musculoskeletal system. It also impacts mental health through limited peer contact. As can be seen, this has a huge impact on children's health, ranging from vision impairments to poor posture, sleep problems, and mental health issues.

The next question (17) concerned irreversible changes in brain function. 6 characteristic responses were selected, in which the respondents responded as follows: *overuse of digital technologies causes a regression in speech development; children increasingly experience problems with attention, emotions, and concentration; damage to the nervous system, attention problems, and cognitive development disorders also occur; children may have damage to the parts of the brain responsible for controlling emotions, self-control, and impulsivity; the ability to think deeply and remember is weakened.* Overuse of digital technologies can lead to significant problems with the centers of emotional control and concentration. This can also lead to damage to the nervous system, which is currently irreversible and harmful to our society.

The next question (18) concerned student overstimulation. Respondents provided 5 characteristic responses: *constant access to multiple stimuli (sound, image, movement, etc.) can overload children's nervous systems and lead to mental fatigue. Excessive stimuli hinder deeper information processing and limit the ability to focus on a task for extended periods. This can lead to stress and anxiety – children cannot process so many stimuli simultaneously, they may become tired and drowsy. After prolonged exposure to digital stimuli, they may have trouble calming down, and they may experience problems with emotion regulation.* Overstimulation affects not only children but also adults. In our opinion, it is a plague of today's civilization, taking a heavy toll. This leads to mental fatigue, a decrease in concentration, and problems with emotion regulation.

Question (19) about inhibiting creativity. Respondents in 6 selected characteristic answers wrote: *By using ready-made content, children stop being creative, they don't feel like doing anything, because why bother? It's already online, students don't want to break the mold, by using technology excessively, there is a lack of space for free play and creative thinking, the use of technology limits independent experimentation; there is a decline in interest in traditional forms of learning and play, in addition, too much control by teachers and parents can make children reluctant to seek new, their own solutions.* In today's world, children's creativity is at a very low level, ready-made templates and online solutions inhibit and limit children's natural creativity. We need to focus even more on developing it so that our offspring's passion is not just scrolling on their phones, but simply something more.

The next question (20) concerned the use of unverified knowledge. The study participants, in their 5 selected characteristic responses, wrote: *children believe*

that everything on the internet is true, they do not check sources, they approach information found online uncritically, there is a risk of perpetuating false or harmful beliefs, children do not have the ability to obtain information reliably. It is worth checking the sources of our information, thus avoiding disinformation and perpetuating false beliefs. This is very important in shaping children's views, we must be vigilant and teach them to verify the knowledge they find online.

When asked about cyberbullying (21), the interviewers selected 6 characteristic responses, stating: *It appears when parental control fades, it manifests as hate speech, it can be caused by aggression in games, later online aggression can spill over into real life, it can lead to harassment, stress, depression, and exclusion from children's communities, children can be both victims and perpetrators of cyberbullying.* Cyberbullying is a plague on our civilization, hate speech, harassment, and aggression all have a huge impact on children's behavior and well-being. We may not even realize the damage this can cause to the younger generation.

To question (22) concerning the pressure to monitor students, the respondents in the selected 8 characteristic answers answered as follows: *children learn only for good grades, not for the knowledge itself, students feel controlled at every step, children's well-being decreases, children associate their value with school grades, they feel that they are not allowed to make mistakes, children feel that the result is more important than the learning process itself or the child's involvement in it, children lose their natural motivation to learn, fear of assessment and comparison with other students appears.* Too much pressure to monitor children's learning results can be detrimental. Students feel trapped, comparison with others and identification with a specific grade is problematic, because children no longer learn for knowledge, but only for a specific grade, and this is out of fear.

Question (23) about other negative aspects of using digital media in the selected 4 characteristic answers, respondents wrote as follows: *children do not feel the need to spend time with peers, they deceive their parents that they are doing homework while in fact they are playing and watching, social isolation occurs, difficulties in relationships with other people.*

A summary of the educational threats posed by digital technologies

According to respondents, digital media in schools pose numerous risks, ranging from developmental delays and addictions to serious mental and physical health damage and dependence. Social relationships at such a young age are particularly important for the proper socialization process. Digital technologies do not enable the full development of basic social functions, such as empathy and cooperation. Using only remote learning methods limits direct contact with teachers, making it more difficult to obtain reliable feedback from students to fully tailor individual learning content.

Conclusion

Our topic aims to demonstrate the conscious use of modern technologies in schools. Based on the opinions of our students, we can conclude that technologies can significantly support and increase the effectiveness of education for the younger generation, who are growing up in a modern environment that offers many opportunities to support and even replace our own activities. Innovative activities in schools provide an opportunity to wisely utilize and support education on many levels, to diversify classes, which leads to increased student engagement in tasks beyond the traditional format and beyond the school walls in an engaging way. However, over-reliance on the entire upbringing and education process leads to a simplification of teaching and can lead to the omission of significant aspects of learning, socialization, and the use of pedagogical methods. Digital opportunities should be adapted to demonstrate students' creative approaches to course topics without replacing fundamental factors such as reasoning and reflection. Providing ready-made materials will significantly impact the future functioning of units. It is crucial to engage students in generating their own ideas and creative activities without searching for ready-made content, so that future generations can act based on their own assumptions, while being safely inspired, and so that they are not passive recipients of all media content. Conscious and careful consideration of this topic is key to the proper functioning of all units in the educational process.

References

Hojnacki, L. (2011). *Szkoła wobec nowych technologii – między szansą, a zagrożeniem*. Retrieved from: https://ktime.up.krakow.pl/symp2011/referaty2011/hojnacki.pdf (10.7.2025).

Kinal, M. (2015). *Nowe Media w pracy nauczyciela edukacji przedszkolnej i wczesnoszkolnej*. Retrieved from: https://www.researchgate.net/publication/378549919_NOWE_MEDIA_W_PRACY_NAUCZYCIELA_EDUKACJI_PRZEDSZKOLNEJ_I_WCZESNOSZKOLNEJ (10.7.2025).

Konieczyńska, A. (2024). *Jak wykorzystać nowoczesne technologie w edukacji*. Retrieved from: https://www.vogue.pl/a/ksiazka-szkola-w-czasach-ai-o-wykorzystywaniu-nowoczesnych-technologii-w-edukacji (8.7.2025).

Musiał, E. (2028). *Smartfonizacja edukacji – szanse i bariery*. Retrieved from: https://www.ceeol.com/search/article-detail?id=713640 (7.2025).

Tarkowski, A., Majdecka, E., Penza-Gabler, Z., Sienkiewicz, M., Stunża, G.D. (2018). *Analiza strategii i działań mających na celu rozwój kompetencji cyfrowych w państwach Unii Europejskiej – Centrum Cyfrowe*. Retrieved from: https://centrumcyfrowe.pl/wp-content/uploads/sites/16/2022/06/Analiza_strategii_i_dzialan_majacych_na.pdf (8.7.2025).