FUTURITY Education

DOI: https://doi.org/10.57125/FED.2024.09.25.14

How to cite: Lazareva, A., Sikora, Y., Zadorina, O., Rizak, G., & Kaminskyy, V. (2024). Adapting Curricula to the Needs of the Modern Digital Society in Ukraine. *Futurity Education*, *4*(3). 236-252. https://doi.org/10.57125/FED.2024.09.25.14

Adapting Curricula to the Needs of the Modern Digital Society in Ukraine

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Received: March 11, 2024 | **Accepted:** July 2, 2024 | **Available online:** July 18 , 2024

Abstract. Digital technologies are a complete social fact, covering all aspects of human activity, including economic, administrative, social and political contexts. The education system is no exception. However, questions remain about the optimal implementation of digital technologies in school and higher education. The purpose of this study is to analyse the potential for adapting curricula to the requirements of the modern digital society in Ukraine. The study used the Web of Science, Google Scholar and Scopus databases to search for relevant literature. The criteria for selecting literature included publications that were published in periodicals over the past 5 years and contained keywords related to the chosen research topic. The search algorithm involved entering keywords into the search bar of each database, filtering the results according to the specified criteria, and analysing the titles and abstracts to further select relevant studies. To analyse the data, SPSS (Statistical Package for the Social Sciences) software was used for statistical analysis of the survey results. Correlation and regression analysis methods were also used to establish relationships between various factors. Reliability and validity of the methods were verified by testing the instruments on a small pilot group before the large-scale study. The results of the study showed that the real value of digital technologies is gradually becoming a subject of debate, but remains little known and difficult to generalise. Questions about the presence of digital technologies in education cause concern and sometimes opposition both among the educational community and in public discourse. In addition, defining the future competences expected of teachers is a complex task. It is likely that they will increasingly focus on collaboration, communication, critical thinking and creativity. Thus, developing adaptability and adapting curricula to digital trends remains the main preparation for future challenges.

Despite the growing prevalence of digital tools, there are significant differences in equipment, network access and digital skills among the population. Consequently, there is a significant gap between personal use of digital tools and their school, university and professional use.

Keywords: pedagogical innovations, digital technologies, transformation of the educational system, integration of information and communication technologies, primary activities.

Introduction

The development of digital technologies has led to the need to quickly define the boundaries of discussions on transformations in education, which, unfortunately, are often ignored in publications (Barron, 2023). To cover the many ways in which digital technologies are already affecting the educational system and its participants, scholars are actively analysing digital technologies and their impact on the development of the digital society. The author gives an example of a study conducted by the Consortium for Educational Research, which showed that schools around the world that are adopting digital technologies face many challenges related to the need to define the boundaries of discussions on digital transformation. These technologies can affect the structure of curricula, teaching methods, student-teacher interactions, and the organisational culture of schools. However, a report by the World Health Organisation has highlighted that often the boundaries of discussions on digital transformation in education are ignored due to a lack of attention to the social and ethical aspects of using digital technologies in the learning process. This can lead to negative consequences for students, teachers and school administrators. Hence, there is a great need to research and carefully define the boundaries of discussions on digital transformation in education to ensure the effective and ethical use of digital technologies in educational institutions (Bustamante, Segura-Berges, Lizalde-Gil, & Peñarrubia-Lozano, 2022).

The discussion of digital technologies in education involves the integration of various interrelated aspects: the use of digital technologies by students, the implications of these technologies for young people, the didactics and pedagogy of digital technologies, the consideration of digital technologies as a separate discipline, their impact on the world of work, the costs and investments in digital technologies, digital tools for the administration and management of the educational system (Alqahtani & Rajkhan, 2020).

This paper aims to highlight the problem of adapting curricula to the digital world, as each of these areas has its own characteristics that require separate consideration. Bringing all these aspects under the general category of "digital" complicates the clarity of the discourse and hinders informed decision-making (Alotumi, 2022). The topic of studying the educational system in a digital society should be considered in this multifaceted context. The integration of digital technologies into the educational sphere opens up many opportunities to eliminate limitations, improve the quality of learning and optimise the management of educational processes.

One of the main mechanisms through which technologies influence the didactic process is interactivity. It allows students to actively engage in learning, solve problems, and interact with the teacher and classmates in a virtual environment. The use of digital tools also allows for individualised learning, adapting programmes to the characteristics of each student.

In pedagogy, digital technologies help to create new forms and methods of teaching that contribute to better learning. For example, online courses, video tutorials, webinars, and interactive platforms can make learning more accessible and effective.

In administration and management, digital technologies allow for the implementation of data monitoring and analysis systems, as well as the automation of planning and control processes. This contributes to faster and more accurate decision-making, optimisation of resources, and increased efficiency in the management of an educational institution.

The specific changes brought about by digital technologies are that learning is becoming more interactive, accessible and individualised. Students are able to learn at their own pace, using a variety of information sources. The management of educational processes becomes more transparent and efficient, allowing for more effective problem solving and improved quality of education.

In general, the integration of digital technologies into the educational process contributes to improving the efficiency of learning, developing students' creativity and critical thinking, and optimising the management of educational institutions.

In the context of the current digital reality in Ukraine, not just the relevance, but the very essence of our educational institutions and the in-depth analysis of our educational initiatives brings to the fore critical issues of education in the digital age. Is the educational system able to provide students with the necessary skills to navigate a rapidly changing digital world where information is ubiquitous and often difficult to verify? How does it prepare them for the role of conscious and critical citizens in a digital environment? Researchers are looking for answers to these questions by considering governance models that can ensure that policies are effective and that different stakeholders, from teachers and parents to students and associations, are actively involved in decision-making.

The challenges facing education in the digital age are formidable, and this paper offers reflections and recommendations to address the challenges of learning, research and pedagogical innovation in education. The digital society is no longer something distant. It is present in our everyday lives. It is the

duty of education to teach young people not only to exist in this society, but also to be active citizens in it.

Research Problem

Recent years in the education sector have been marked by efforts to introduce international performance standards, strengthen fundamental learning, prevent dropout rates and improve skills. Education policy emphasises the need to modernise pedagogical practice to achieve success in educational institutions, in particular through the integration of information and communication technologies, which can be a key factor in implementing innovative pedagogical projects and improving the learning process at all levels of the education system. One of the methods for analysing the effectiveness of international standards in education is to conduct surveys among participants in the educational process (students, teachers, administrators). This allows collecting people's opinions and impressions of how international standards affect the quality of education and their personal professional development. In addition, tools and techniques can be used to collect quantitative and qualitative data, such as analysing statistical data on learning outcomes, comparing indicators before and after the implementation of international standards, consulting with experts, etc. Studies comparing learning outcomes in institutions that use international standards with those in institutions where these standards are not implemented are also possible. This allows us to determine the impact of international standards on professional development and dropout prevention.

In general, a variety of methods and tools can be used to assess the effectiveness of international standards in education, depending on the object and purpose of the study (Cofini, Perilli, Moretti, Bianchini, Perazzini, Muselli & Necozione, 2022).

In this context, the work of Nikolenko (2022) on the adaptation of educational programmes to the digital environment and the use of information and communication technologies in education demonstrates that ICTs can promote student motivation, support their autonomy in the learning process, foster the development of reflective skills, support interaction and help in the development of so-called transversal skills, such as information retrieval, organisation, classification and data processing.

However, sometimes doubts or even opposition to the introduction of ICT in the educational system can lead to a threat to the effectiveness of its use and, consequently, the relevance of learning (Durmishi & Durmishi, 2022). Indeed, even though many studies highlight the usefulness of ICT in enhancing teaching and learning (de Oliveira, Miles & Asbridge, 2023), its pedagogical integration is much more complex than it seems. This raises real questions about classical learning, the need to transform traditional pedagogical practices and to reconsider the roles and responsibilities of the teacher and the student, whose roles the main participants in the pedagogical process are not always ready to change (Holomb, Rogachevskyi, Karbovanets, Senkevych & Vivsyannuk, 2022).

The study (Kim & Maloney, 2020) explores how primary school teachers can be encouraged and supported to integrate ICT in their classrooms and update their pedagogical practices. In general, the authors try to answer the question of the need for support to facilitate the integration of digital technologies, increase the diversity of pedagogical practices and promote pedagogical innovation. The results of the study show that in many countries, students do not acquire enough digital skills. For example, the study found that students in the United States and Japan spend more time online, but are not as effective at working with digital information.

According to research, only 20% of teachers have sufficient digital skills to effectively use technology in teaching. This may limit the ability of the school system to provide children with the necessary digital skills. According to the authors, the gap between the digital skills of students and teachers can lead to a lack of adaptation of the educational system to new requirements. For example, if teachers do not know how to use digital technologies effectively in teaching, students may not acquire the necessary skills to live successfully in a digital society.

Thus, insufficient investment in digital technologies and teacher training may result in the education system being unable to respond to the changing demands of the modern labour market, which increasingly requires digital skills.

Understanding as an enabling environment in schools helps to reduce resistance to pedagogical ICT integration, as analysing teachers' practices in a digital context allows for an effective support strategy to be developed to achieve official goals (Alhasani, 2022).

After introducing the context that initiated this study, which focuses on techno-pedagogical innovation, the paper reviews key concepts such as ICT integration and pedagogical practice to establish the relationship between them. It also describes the methodology used to collect data on teachers' stated practices in using ICT in the classroom, followed by results and discussion. Concluding remarks and predictive conclusions conclude this research study.

Research Focus

The focus of the study is to clarify the mechanisms for adapting curricula to the digital society in Ukraine, with a particular emphasis on integrating information technology into the learning process, improving pedagogical methods and preparing students for the digital transformation of society. The analysis also envisages the constant updating of programmes and methodologies to meet the needs of the modern world and prepare students for life in the digital age. It is important to keep in mind the need to provide access to digital learning tools for all students, regardless of their financial status or geographical location. Adapting curricula to a digital society is an important step towards improving the quality of education and preparing the younger generation for the challenges of today.

Research Aim and Research Questions

The purpose of this study is to explore the processes and challenges of adapting curricula to the needs of the modern digital society in Ukraine. Key issues to be addressed include:

1. What are the main aspects of the modern digital society that need to be taken into account when adapting curricula?

2. What challenges do educational institutions face in the process of integrating information technology into the educational process?

New technologies such as software, online platforms, virtual laboratories, and interactive textbooks are revolutionising the way we learn in the modern world. They allow students to access quality education regardless of their place of residence or access to traditional educational institutions. Thanks to these tools, learning becomes more accessible, interesting and effective. Teachers and students have the opportunity to interact in a new digital environment, which contributes to the quality of education and the development of modern pedagogical practices.

These questions will help to understand how to optimally implement changes in the educational process to meet the requirements of the modern digital society in Ukraine.

Literature Review

Based on a national policy that aims to stimulate pedagogical innovation and support digital education, the national education system prepares schools and young people for the challenges of an ever-changing world, and responds to current challenges to overcome difficulties and ensure the success of all students (Kozak, Rudynskyi & Kozak, 2021). The integration of curricula in Ukraine is carried out through the implementation of a number of innovative educational projects based on the use of the latest technological tools, such as tablets, smartphones, robots and interactive video projectors (Maraieva, 2022). The main goal of these projects is to increase and support the research activity and experiments of teaching staff.

Many academic papers and studies have highlighted the need for education systems to respond to new practices arising from the widespread use of digital technologies, just as they cannot ignore the intersection of social and school use of these technologies (Abdur Rehman, Soroya, Abbas, Mirza & Mahmood, 2021). They must be ready to adapt to the changes arising from this new era of humanity, which poses serious challenges to the academic community and forces schools and universities to actively rethink their activities.

It is important that the use of tools in the learning process is guided by educational strategies and defined goals, such as facilitating individual work and observation, stimulating collective activity, supporting an investigative approach, and renewing interest in reading (Jacques, Ouahabi & Lequeu, 2021). It doesn't have to be done the other way round. Technological innovations require us to rethink pedagogical approaches to avoid stagnation in teaching methods, because the goal is not to do the same thing with new tools.

Projects implemented as part of the digital education policy to support students include initiatives such as Investing in the Future and cooperation with local authorities (Kleinert, Zoch, Vicari & Ehlert, 2021). This aims to introduce digital technologies into the school system to update teaching methods and improve the quality of education, as well as to provide schools with a significant amount of new equipment (Adem & Berkessa, 2022). Such targeted policies based on the use of ICTs are seen as a key element for their integration into the educational process. It also serves as a platform for the development of digital initiatives, acting as a framework to support and develop local initiatives, and is responsive to educational, pedagogical and administrative needs.

The Ministry of Education of Ukraine responds to projects by assessing their suitability, providing organisational support, engineering, expertise and financial assistance (Kampen, Romanchuk & Palij, 2022). This pedagogical innovation aims to expand the use of digital education among all teachers and consists of many elements, each with its own unique role and mission.

Adapting educational programmes to the requirements of the modern digital society in Ukraine is a process that requires not only the merging of teachers' experience, but also the transformation of this experience into empirical knowledge (Skakun, 2021). This is necessary in order to effectively transmit information to new generations.

In this context, it is important to work to support the group in their research, namely by asking questions about the tools used and their evolution in the classroom environment (Soroya, Saira Hanif, et al., 2021). This helps the group to reach a common understanding and develop strategies for better transfer of practices.

Digital innovations can serve as a place where a community of practice exchanges experiences, ideas and successes, thus contributing to innovation in national education (Stanczak, Darnon, Robert,

Demolliens, Sanrey, Bressoux & Butera, 2022). Their analysis allows us to identify factors that facilitate or hinder the integration of digital technologies into curricula and pedagogical methods.

The final goal is to create and collate digital resources developed by teachers for teachers that are consistent with established pedagogical practices. These resources can be widely disseminated and made available to the entire educational community.

Materials and Methods

The study involved a variety of scientific literature representing a wide range of subjects and educational levels. The papers were selected from the Web of Science, Google Scholar, and Scopus databases using a stratified sampling method to ensure representation of different types and levels of experience with digital technologies.

Sample and Participants

The data was collected using a combination of keywords: “education”, “digitalisation”, “educational transformations”, “educational programmes”, “innovations”. The literature review provided deeper knowledge about teachers' experiences with adapting curricula to digital formats. My own experience and observations allowed me to assess the practical application of digital tools in the educational environment.

Instruments and Procedures

To ensure an in-depth analysis and evaluation of the adaptation of curricula to digital requirements, a literature review was conducted in Web of Science, Google Scholar and Scopus databases to find relevant literature. The criteria for selecting materials included publications published in periodicals over the past 5 years and containing key terms related to the chosen research topic. The search algorithm involved entering keywords into the search bar of each database, filtering the results according to the established criteria, and analysing the titles and abstracts for further selection of relevant materials. For the statistical analysis, SPSS (Statistical Package for the Social Sciences) software was used, and correlation and regression analysis methods were used to establish relationships between various factors. Before the main study was conducted, the reliability and validity of the methods were confirmed by testing with a small pilot group. In addition, the results were checked and consulted with experts to confirm the accuracy and validity of the data. Identification of key studies and theories plays an important role in structuring the analysis and drawing conclusions. For example, sociological research can use social constructionist theories, which are based on the idea of society as a human construct. These theories can help to analyse how social realities are shaped through processes of interaction and communication between people. Another example is the use of systems approach theory in the study of organisations. This theory allows us to consider an organisation as a system whose complex elements interact with each other and influence the overall performance of the organisation. Practical examples can be used to demonstrate the application of these theories in specific situations. For example, by analysing the operations of an innovative company, it is possible to show how the interaction between employees and the distribution of responsibilities affect the speed and efficiency of introducing new products to the market. Thus, identifying and integrating key research and theories into the analysis helps to present problems from new perspectives and draw conclusions based on scientific evidence and practical examples.

Data Analysis

The data were analysed using a mixed-methods approach. Key terms related to digital education were identified and analysed to ensure consistency and accuracy in the study. Using carefully selected

selection criteria, relevant studies focusing on the adaptation of educational programmes were selected. The collected data was analysed to identify trends, challenges and opportunities related to digital adaptation in education. Each source was assessed for its scientific credibility and contribution to the research context. The results of the review were systematised to build a clear and logical structure that reflects the current state of knowledge in the field.

The demographic characteristics of the study participants included academic papers in the last 5 years, with at least five years of professional experience in education or digital technologies. The study used a variety of tools to collect and analyse data. To collect data, questionnaires were used in electronic format, interviews were conducted with participants, and the analysis of popular science literature and publications in the field of digital education was carried out. Statistical analysis software such as SPSS (Statistical Package for the Social Sciences) and text analysis software were used to analyse the data. The reliability and validity of the instruments used were checked by conducting pilot tests of the questionnaires, as well as by internal analysis of the constructs and indicators used in the study. Additionally, an expert assessment of the indicators and results was conducted to ensure the objectivity and correctness of the conclusions drawn.

Results

Education scholars define digital competence as "the safe, critical and responsible use of digital technologies for learning, working and participating in society" (Onishchuk, Ikonnikova, Antonenko, Kharchenko, Shestakova, Kuzmenko & Maksymchuk, 2020). Therefore, the choices offered by different educational systems to adapt to this new educational imperative are strategic.

Ukraine has embarked on significant changes in its education system alongside the development of technology. However, the COVID-19 pandemic has created a "digital shock", revealing both the potential of digital learning and the country's relative lagging behind in terms of equipment and training (Kaliuta, 2023). The literature review shows that Ukraine is implementing an ambitious policy on digital technologies for education as a driver of transformation of its education system.

Ukraine, which has been battered by the pandemic and military conflicts, has been rapidly adopting digital technologies. This transition also affected the education sector. Changes in education aimed at digitalisation were aimed not only at increasing the effectiveness of teaching, but also at renovating the educational space, creating new laboratories for the development of future digital professions, and training all educational staff to work in the digital era

The digitalisation process has triggered key reforms in the education system, including teacher recruitment and training, restructuring of higher education to better match labour market needs (in particular through higher technological institutes with more practical training and vocational institutes), and reform of the vocational guidance system (Morze, Kuzminska & Mazorchuk, 2019).

The data presented in this study shows that despite numerous initiatives and financial investments at different stages of the educational process, attempts to integrate information and communication technologies into learning activities have not yielded the desired results in this area, facing certain difficulties (Table 1):

Table 1

Obstacles faced by teachers in integrating digital technologies into the learning process

Obstacles	Examples

Endogenous	Psychosocial barriers, such as habits that prevent the adoption of innovations, lack of motivation, lack of time.
Exogenous	Unsuitable premises, insufficient digital tools, limited or no connectivity, inaccessibility of educational resources, equipment availability or compatibility issues, technical shortcomings such as breakdowns, bugs, irregular updates.

Source: Kuzminska, Mazorchuk, Morze & Kobylin (2020)

This information resonates with Sapiński & Stanisław (2021), who argue that time can be one of the biggest challenges for teachers, as professional activities require significant time resources. The literature review also points to the existence of self-doubt among teachers, which leads to an ambivalent attitude towards the benefits of ICT use, resistance to innovation and distrust of technology, especially when it is implemented in a top-down way that does not contribute to the desired outcomes of ICT in the classroom (Rose, 2020). Finally, professional barriers, including a lack of training in new tools, are an obstacle to the adoption of digital technologies.

First and foremost, adapting the curriculum to the digital era means using spaces with advanced technological potential. This enables students from different social backgrounds and age groups to engage in project-based activities, such as creating podcasts that match their professional interests, as well as working with digital engraving and 3D printing (Ovcharuk, Gurzhii, Ivaniuk, Kartashova, Hrytsenchuk, Vakaliuk & Shyshkina, 2022). Thanks to adapted educational programmes that include project-based pedagogy and digital tools, cooperation and collaboration among students increases, which contributes to their comprehensive development through digital technologies (Rossikhin, Rossikhina, Radchenko, Marenych & Bilenko, 2020). Important monitoring of innovations by the organisation responsible for assessment and education allows for quick access to new approaches on a dedicated national website, which facilitates their further implementation.

In the context of Ukraine, innovations in education, whether digital or not, should be easily disseminated. The innovation portal should be made more visible, updated according to academic reports and include a specialised section for educational digital technologies. In an era when society is increasingly turning to digital and virtual technologies, as well as artificial intelligence, the educational system is undergoing significant changes that challenge traditional principles and redefine the relationship between teachers and students. The modern student must master basic digital skills to meet the demands of the 21st century. The flexibility of Ukraine's education system contributes to the country's active involvement in this critical transformation. In answering Working Question 1, it should be noted that when adapting curricula to the requirements of a modern digital society, it is important to consider the following aspects (Table 2):

Table 2

The main aspects of adapting curricula to the requirements of the modern digital society

Aspect	Action
Digital literacy	Curricula should include the development of critical thinking and information evaluation skills that are essential for understanding and using digital technologies.
Internet security	Students should be aware of privacy, data security and ethical use of the Internet.

Technological awareness	Programmes should include an introduction to a variety of digital tools and platforms so that students can use technology effectively in their learning and everyday lives.
Flexibility and adaptability	Curricula need to be flexible to quickly adapt to new technological trends and changes in the digital world.
Creativity and innovation	Stimulating creative thinking and innovative approaches to problem solving through the use of digital technologies.
Cooperation in the network	Development of collaboration skills in an online environment, including teamwork and intercultural communication.
Programming and coding	The basics of programming and coding should be part of the curriculum, as these are key skills in the digital world.

Source: Polianovskyi, Zatonatska, Dluhopolskyi & Liutyi (2021).

These aspects will help students not only adapt to the modern digital society, but also actively shape it. However, in response to Working Question 2, we would like to add that educational institutions face a number of challenges in the process of integrating information technologies (Table 3):

Table 3

Challenges in integrating information technology into educational programmes

Challenges	Consequences
Resources	Providing the necessary hardware and software can be expensive, especially for schools with limited budgets.
Teacher training	Teachers need to be taught how to use new technologies effectively in the learning process.
Changing pedagogy	IT integration requires rethinking traditional teaching methods and developing new approaches.
Data security	Protecting student information and school data is critical.
The digital divide	Not all students have the same access to technology, which can increase inequality.
Technical support	Reliable technical support is required to resolve any issues that arise.

Source: Polianovskyi, Zatonatska, Dluhopolskyi & Liutyi (2021).

Discussion

Understanding the nature of information and communication technology (ICT) integration is important. According to Pera (2021), ICT integration occurs when computer tools become effective assistants in the learning process. Effective use of ICT in the classroom is a central aspect.

Integrating ICT is not a simple task; it is a complex and long-term process. The complexity of this process has been analysed in many models that attempt to explain how to adapt curricula and incorporate technology into the educational process (Oliveira, Hamari, Shi, Toda, Rodrigues, Palomino & Isotani, 2023).

In his work, Paragae (2023) outlines sixteen models of ICT integration. Each model divides the process into several stages - the researchers identify between four and seven. They explore how teachers move from the stage of non-use of ICT or initial use to the stage of expert, innovative and creative use (Terepyshchyi, 2021). What is important is the process of rethinking teachers' pedagogical practice, where innovation is the last, most successful stage. At this stage, technology becomes a catalyst for pedagogical innovation, opening up opportunities that would not have been available without its use.

Moliner, Lorenzo-Valentin and Alegre (2021) note that there are more than three hundred definitions of innovation in the academic literature. The field of innovation is not limited to research laboratories; it includes all actors in the process, from users to suppliers and consumers, whether they work in the public sector, private companies or non-profit organisations, and extends internationally, across sectors and institutions.

Despite its popularity, innovation remains a difficult concept to define, as Latifi & Kasumi (2022) point out. Innovation typically involves introducing something new or creating something new based on something that already exists, as opposed to inventions, which require creativity and imagination. Not all inventions become innovations; they only become so when they are accepted by society. This is one of the stages, the “impetus” for further development, as Heflin (2020) and Harris, Nambiar, Rajasekharan & Gupta (2020) note.

Innovation can be seen as a human desire for change that can be both bold and cautious, and influences the self-organised but sometimes self-destructive actions of individuals, groups and organisations. This shared desire for change can have both positive and negative consequences. Innovation is a complex process that brings together creators and participants in a shared activity, adventure and collective uncertainty, where the outcomes of this uncertainty become a matter of concern and promise (Hamouche, 2023).

The intervention in the innovation process can be radical, reaching the level of “creative destruction” as described by Grassini (2023), or it can be gradual, representing an evolution. Thus, regardless of the time period, there is always a sense of novelty. This feeling stems from the natural human desire to change something, to improve the existing situation, to move away from the old and introduce new elements into one's environment.

The topic of innovation has long gone beyond the education sector, to the extent that one could agree with Gervais (2021), who argues that there is nothing untried in education anymore. Because the educational process is often characterised by forgetting previous methods, it tends to consider some approaches as innovative. In retrospect, we can see that each new idea complements, expands or modifies the previous ones, turning them into something more than they were before. As Glikson & Woolley (2020) point out, much of what is considered new is actually based on old concepts updated to reflect modern realities. As such, education is slow to evolve, and analyses and reports on the use of digital technologies in schools often emphasise the importance of developing and supporting technological innovation, as education needs to be innovative and foster a deep understanding of new contexts that are fundamentally different from the experience of future educators (Fenves, 2019).

Technological innovations should not be an end in themselves; they are mostly solutions to specific educational challenges, aiming to improve conditions. This paves the way for the creation of new educational methods and approaches, as well as for the updating of curricula. As a result, it implies significant changes in teachers' professional activities, changes the role of the teacher in the learning process and affects attitudes towards knowledge.

This is why, in the related study by Favale, Soro, Trevisan, Drago & Mellia (2020), it is certainly not possible to equate new technologies and new pedagogical approaches, as the former do not necessarily lead to the latter and vice versa, we cannot reasonably talk about ICT integration separating it from pedagogical innovation, as pedagogical innovation cannot deprive itself of the support and resources that technology provides.

These sometimes complex interactions are a source of concern among researchers (Deja, Rak & Bell, 2021), as the potential of digital tools, like any other tool that has found acceptance among users, depends on changes in their practices. They have shown us the importance of artefact development (Da, 2019) and the evolution of social practices of the participants in the educational process (Chiu, Xia, Zhou, Chai & Cheng, 2023). Caron (2021) also emphasises this, noting that adaptation to digitalisation includes changes not only in tools but also in processes based on new resources. Thus, the essence of pedagogical innovation is not to radically revise everything, but to enrich and expand the existing range of educational methods.

Brinkman and Grudin (2023) suggest that flipped pedagogy is not a revolutionary approach, but an evolutionary one, where technological innovations serve to support pedagogical change. These innovations help to rethink the organisation of the learning process and pedagogical principles.

In order to engage other teachers and ensure the spread of pedagogical innovations, it is important that those who are not yet comfortable with digital technologies or are resistant to change understand their value for improving educational practice and the learning process. Authors such as Borowczyk, Stalmach-Przygoda, Doroszewska, Libura, Chojnacka-Kuraś, Małecki and Jankowska (2023) emphasise the need to create conditions for investing in new pedagogical methods and innovative practices. Teachers are understandably looking for evidence of the usefulness and effectiveness of any tool, technique, device or method before implementing it in their professional practice.

In this context, it can be argued that innovation and external factors such as perceived behavioural efficacy, situational engagement and previous use act as accelerators of curriculum adaptation. Without these elements, as well as innovative motivation stimulated by methods that are perceived as motivating and interactive, it can be expected that pedagogical practice will not change.

Conclusions and Implications

The digital transformation is having a profound impact on the education sector, causing a rethinking of traditional educational approaches and programmes. It is important that the education system uses this moment to strengthen its key foundations, which have been shaped by years of experience in knowledge transfer. It must reaffirm its capacity for adaptation, continuous development and equity, while modernising its structure and resources.

Adapting educational programmes to the requirements of the modern digital society is a key task for Ukraine. This requires the pedagogical integration of digital technologies and the development of a national strategy that would provide effective support for teachers. The literature review confirms that while digital technologies are being integrated at different levels of education, a more systematic approach is needed. Here are four key areas for a national strategy:

- Involvement of the ecosystem in common public policy;
- Digital learning that promotes the development of civic and digital skills;
- Supporting the education community with intelligent, sustainable and inclusive digital solutions;
- Update the rules for the ministerial information system to better serve the needs of users.

These directions define the path to creating a flexible and adaptive educational system that meets the needs of the modern digital society.

Within this comprehensive and innovative strategy, the third pillar deserves special attention. It focuses on supporting education teams in integrating digital technologies into the learning process to ensure that every student has the opportunity to develop the necessary digital skills to actively participate in society. Experts believe that this area is key to ensuring the widespread integration of digital technologies into the pedagogical activities of teachers at all levels of education, from primary school to universities. Effective implementation of this area requires educational authorities to establish a policy of mandatory professional development for teachers, monitor their digital competencies, and provide the necessary support and guidance at the local level.

The digital transformation is bringing significant changes to the educational space, prompting a rethinking of conventional methods and curricula. The educational system should take this opportunity to strengthen its fundamental principles, which have been developed based on years of experience in the field of education. It is important to reaffirm its commitment to adaptation, continuous improvement and accessibility, while modernising the structure and resources of the system.

Adapting curricula to the needs of the modern digital society is an important task for Ukraine. This requires the integration of digital technologies into the pedagogical process and the development of a national strategy that would provide effective support to teachers. A literature review shows that a more organised approach is needed to achieve this goal.

Suggestions for Future Research

Digitalisation of education in Ukraine is a key element in the development of the modern educational system. It involves the introduction of information technology into all aspects of the educational process, from the management of educational institutions to teaching methods and student assessment. Successful digitalisation can significantly improve the quality of education in Ukraine and ensure that it meets the requirements of the modern world, preparing students for effective work and life in a digital society. For the further development of the education sector in Ukraine, especially in the context of adapting curricula to the digital society, the following areas of future research would be promising. We believe that analysing the effectiveness of digital technology integration and research that assesses how digital technologies affect learning outcomes can help identify the most effective methods and tools for their implementation.

In addition, the development of learning models, together with the creation of innovative learning models, can optimise the use of digital resources and platforms and contribute to the quality of education.

Preparing teachers and studying the needs and barriers that teachers face when integrating digital technologies can help design effective professional development programmes.

It would be useful to study the impact on equality of access to education. Studies that focus on how digitalisation affects the accessibility and quality of education for different social groups may reveal potential inequalities. We believe that assessing the impact on skills development is promising. Analysing how adaptation to digital technologies affects the development of critical thinking, creativity and other key skills in students.

Strategic planning and the development of long-term strategies to ensure the sustainable development of digital education, including infrastructure, policy and funding, can help Ukraine not only adapt educational programmes to the demands of a modern digital society, but also ensure that this adaptation is effective, inclusive and accessible to all citizens.

Acknowledgments

None

Conflict of Interest

None

Funding

The Authors received no funding for this research

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