

THE USE OF DIGITAL TECHNOLOGIES IN THE EDUCATIONAL PROCESS

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Introductions. Digitalization is transforming education, as it is happening in other sectors of society. Data is increasingly being used to manage education systems and institutions to better target policy interventions and drive innovation.

Many educational institutions are now implementing digital transformation to maintain a competitive edge. Today, information technologies, digitalization of society, and business are the main innovative directions of the development of society and significantly change the educational process in general, demanding a transition to digital education. The purpose of this transition is to ensure that each student achieves the level of preparation recorded in the approved educational program at each stage of education. It is "digital" literacy that is recognized by the EU as one of the 8 key competencies for a fulfilling life and activity [3].

The need for wide use of modern information technologies and services in various types of activities of an educational institution, creation of a systemic digital environment for the management of an educational institution, formation of a corporate information and educational system, protection of corporate information become the main tasks of the management of an educational institution. In addition, the adaptation of national educational institutions to the changing needs of the main stakeholders,

namely, consumers of educational services, potential employers and government organizations, necessitates an innovative search or development of appropriate tools, approaches, strategies that allow maintaining a high level of education quality in new conditions. Thus, digitalization becomes a driving force of development and a factor in the competitiveness of national educational institutions on the national and international educational market.

Aim. The purpose of the article is to study the practical experience of implementing and using digital technologies in the educational process.

Materials and methods. In the past few years, educational institutions have faced difficulties in their attempts at digital transformation and as a result have invested considerable time and money without achieving the desired results. In general, this is due to the fact that digital transformation is mistakenly perceived as the introduction of only technologies into the educational process. Technology is a tool that promotes innovation and improves educational business processes necessary to meet the needs of pupils, students, and teachers. By turning digital transformation into a path that connects information technology and educational processes, educational institutions can create a differentiated experience for their students, increase operational efficiency and, ultimately, fulfill their mission.

As noted by Kim Fahey [2], educational activities around the world faced 4 main barriers to digitalization of educational processes, namely:

1) *Outdated, fragmented technological ecosystem.* Many institutions use outdated, legacy systems that are not properly secured and integrated with each other to provide the interoperability needed to improve and enhance the end-user experience [5].

2) *Lack of technology management.* Many educational institutions struggle to move towards digital transformation because they lack formalized governance, i.e. a certain IT structure that ensures the effective and efficient deployment of information technology to support the organization's goals and do it on time and within budget.

3) *Lack of necessary skills.* Another challenge is attracting and retaining the talent needed to implement and support the technologies needed to transform an

institution. Typical educational IT departments are typically understaffed and underfunded, forcing those limited resources to focus on "keeping things running" rather than moving the institution forward. In addition, the ability and readiness of the teaching staff to introduce digital tools into the learning process is of significant importance.

4) *Problems of change management.* Organizations often fail to take advantage of the pre-configured self-service and integration capabilities provided by new software, modern digital tools and cloud services because they have over-configured their processes. In addition, these unique processes require expensive maintenance and support. Critical to success is an institution's commitment to change management and recognition of the importance of adapting processes to make the best use of technology and focus on the student experience. In this sense, the development, implementation and support of a corporate educational and scientific information system is of crucial importance, which is the basis for the effective implementation and use of modern digitalization tools of the entire activity of the educational institution and creates its competitiveness in the new conditions of the functioning of the world and national educational markets.

The identified barriers are also characteristic of the current stage of modernization of the educational system of Ukraine, which determines the expediency of an in-depth analysis of digitalization. Taking into account the integration intentions of the educational system of Ukraine to the educational and scientific market of Europe and the world, the experience and trends of its modernization, it can be noted that the educational institutions of Ukraine face an urgent task - the creation of an educational institution of a new type, which, in accordance with the new concepts of entrepreneurial and digital institution, to the peculiarities the functioning and demands of the digital society, the digital economy has the resource readiness to promote accelerated socio-economic development through the intensive transfer of knowledge and technology.

Digital transformation offers educational institutions exciting opportunities and opportunities to improve teaching and learning, as well as the ability to effectively

manage their operations. Despite this, many educational institutions, unfortunately, were not yet ready for the wide implementation of digital and information technologies, the rapid transition from off-line to on-line education, caused by the challenges of force majeure circumstances (COVID-19 and martial law), are still not digitizing or failing in their attempts, causing their technology spending to rise with little return on their investment. In these conditions, the exchange of experience in digitalization of the learning process both on the international and national education market is very useful for Ukrainian educational institutions.

In order to invest in digital transformation initiatives that deliver tangible benefits in terms of strategic, operational and financial goals, it is helpful to first define the essence of digital transformation. Digital transformation in the educational system refers to organizational changes that are carried out with the help of digital technologies and business models in order to improve the efficiency of the institution. In other words, it is the transformation of the entire business model with the help of digital technologies for better customer service and optimization of business processes. This is manifested in:

- using more digital channels and tools, such as websites, social networks, chatbots and e-marketing;

- collection, connection and activation of data from all business processes and types of activities of the educational institution for making informed decisions, for example, creating and supporting the effective work of the corporate educational and scientific system of the educational institution;

- providing students (pupils) with the opportunity to independently perform such tasks as registration of attendance at classes, requests to receive videos of educational classes for independent study of the academic discipline/lesson, communication/feedback with the lecturer/teacher using cloud services, requests regarding various issues of using the e-library, manuals of the educational institution and public organizations, etc.

The implementation and widespread use of various tools for the digitization of the learning process and supporting processes are identified as a key factor in the

competitiveness of educational institutions in the digital society.

In Ukrainian society, the modification of the educational system is the result of a synergistic combination of efforts of each specific educational institution and government organizations. Thus, the Ukrainian Institute for the Future developed a report "Ukraine 2030E – a country with a developed digital economy" where it is determined that digitalization is the introduction of digital technologies into all spheres of life: from interaction between people to industrial production, from household items to children's toys, clothes, etc. This is the transition of biological and physical systems into cyberbiological and cyberphysical ones (combination of physical and computing components). Transition of activities from the real world to the virtual world (online) [3].

Results and discussion. On the basis of a thorough analysis of achievements and expected prospects for the development of our country, scenarios of the development of the digital economy and projects of digital transformation have been determined. Digitalization of education is among the key projects. Significant changes in this area are primarily related to a change in the model of learning and teaching: from the model of "knowing everything" to the model of "knowing how to learn throughout life and become self-fulfilled and competitive." It is clearly determined that working with information based on the principles of memorization gradually loses its meaning due to the development of the Internet as a global source of information. Digital transformation in the education sector should take place in three directions: 1) interaction with pupils/students; 2) process optimization; 3) changing the educational model.

The educational sphere needs reform and transition to a modular cross-platform system, in which the pupil/student will be able to choose subjects without being tied to an educational institution and receive the maximum amount of services and materials online. In addition, the accreditation of international online education platforms is necessary with the assignment of credit points to them, gaining which the pupil/student will be able to independently form his educational plan. The main trends of digitalization and digital transformation of socio-economic systems and the selection

of trends in the digitalization of education, the study of digitalization issues in the field of higher education are presented in the works of many Ukrainian scientists. The researches of many scientists proved the necessity of digitalization of university education, assessed the advantages, disadvantages and risks of the process of digitalization of education in the country. Thus, A. Kadyrbaeva [2] considers new approaches to the organization of education and new educational solutions based on new formats of face-to-face and online education. V. Areshonkov [6] believes that the digitization of higher education and the creation of digital universities is a response to today's challenges and defines a list of tasks for state administration bodies and the management of higher education institutions regarding the spread of digitization of domestic university education. Korotenko O. [1] pays attention to the issues of flexibility and mobility of education, especially in the conditions of digitization and functioning of higher education institutions in force majeure circumstances (Covid 2019 pandemic). She considers online education as an innovation in the field of education.

Scientists A. Trofimov, K. Milyutina, L. Romanova, O. Drobot, and N. Rubel are engaged in studying the influence of personal qualities and specifics of activity on the use of distance learning tools by specialists in inclusive education [7]. As a result of the conducted research, they claim that distance learning is less effective than traditional, therefore, in order to use this form of learning in the future, it is necessary to adjust the saturation of online resources with modern content and types of interactivity. This opinion is supported by researchers [1] and note that distance learning is considered fundamentally necessary in modern conditions and is one of the directions of development of the world education system. They explore the nature and spread of mass online courses as a typical form of distance learning.

Thus, the formation of a digital educational institution is an urgent task of the modern stage of transformation of the educational system. All this substantiates the need for continuing research in this direction, the development of new methodological approaches, strategies and effective means of digitization of the main types of activities of national educational institutions.

Conclusions. Digital technologies are actively present in the education system today. The educational process is increasingly transformed under the influence of new technologies in order to provide the skills and knowledge that will be needed in the future in a rapidly changing labor market. The learning process becomes more dynamic: there are no longer boring lessons with monotonous presentations. Training is presented in the format of a game. All this happens due to gamification, personalization and digitization of content. Let's consider these components in more detail. As recommendations for strengthening the implementation of digital technologies in the learning process, it is proposed to manage the teacher's digital maturity as a tool for the formation of modern digital competencies based on the modification of the DigCompEdu self-assessment system and the development of a system for monitoring the digital maturity of teachers.

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