



DIGITIZATION OF EDUCATIONAL PROCESSES IN PRIMARY EDUCATION

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Abstract

This article discusses digital technologies that create new opportunities in primary school education. The advantages and features of digital technologies in the educational process are explained.

Keywords: Digital technology, distance learning, electronic textbook, online platforms, efficiency in the educational process, artificial intelligence, internet services, multimedia tools, interactive methods, textbook, international experiences.

Introduction

Digitalization of educational processes creates new opportunities for educational participants, providing them with effective use of educational resources at any time and place, and facilitates the collection and analysis of a large amount of data. Digitalization serves as an effective tool for expanding interactive and personalized learning opportunities, increasing students' interest and activity in the lesson, developing technological skills, forming logical thinking skills, and ensuring interaction and communication, as well as distance and independent learning.

Digital technologies are becoming an integral part of the educational process today. Especially in primary grades, the use of digital tools not only increases students' interest in the lesson, but also plays an important role in developing their basic skills in information and communication technologies. In this regard, it is relevant to analyze the methods of using digital technologies in the educational process and their pedagogical capabilities. Digital technologies are understood as a set of a wide range of technological tools that serve to create, process, store and transmit information in digital format. They are developed on the basis of modern information and



communication technologies and allow for effective information management in various fields.

In particular, their main features include data digitization (converting information such as text, sound, images into digital form), the ability to process and analyze data at high speed, and their wide application in various fields - education, healthcare, industry, and financial systems. Digital technologies include computer and mobile devices, Internet services, artificial intelligence systems, multimedia tools, cloud technologies, wireless networks (Wi-Fi, 5G), and smart devices based on the Internet of Things (IoT).

In the education system, these technologies are widely used to enrich the learning process through electronic textbooks, online learning platforms, interactive tools (smart boards, digital laboratories), and virtual and augmented reality technologies.

In particular, scientists believe that the use of digital technologies in primary grades increases the effectiveness of education and increases students' interest.

In particular, M. Kenjaboyeva emphasizes the importance of approaches based on interactive and game elements in increasing student motivation. B. Khamidov notes that digital tools, along with making lessons visual and understandable, serve to develop creative thinking. R. Akhmedov substantiates the important role of electronic resources in forming students' independent reading skills. A. Karimov emphasizes the effectiveness of consolidating knowledge through interactive platforms such as "Kahoot" and "Quizlet". Digital technologies not only improve the quality of education, but also develop students' digital literacy. At the same time, it is important to introduce them into the educational process in a systematic and methodologically sound manner.

The main advantages of digital technologies in education are the creation of an interactive learning environment, ensuring an individual approach, and expanding the possibilities of practical and experimental teaching. Multimedia tools, interactive platforms, electronic textbooks, and gamification elements make the learning process more effective and interesting.

An analysis of advanced international experiences in the digitalization of educational processes shows that countries such as Singapore, Finland, the USA, China, Japan, South Korea, the UAE, and Turkey are taking leading positions in this area. These countries have achieved an increase in the quality of education through the widespread introduction of digital technologies in the education system, the



development of electronic educational resources, and the automation of management processes.

In particular, according to the results of the 2024 report published by the United Nations, Denmark is leading among 193 countries in the development of e-government and digital services.

This approach expands the possibilities of remote access to educational services. In particular, services such as admission to preschool and general secondary educational institutions, transfer of students, obtaining various certificates, submitting documents to higher educational institutions, transferring studies, and issuing graduation certificates will be available at any time and place. This ensures the openness and convenience of the education system.

At the same time, in the experience of developed countries, special attention is paid to the formation of the concept of "digital citizenship". In this regard, mechanisms for using electronic services at all stages of education, digital management of educational processes, analysis of statistical data and making data-based management decisions are being widely introduced. In particular, in the experience of China, as part of the development of the "smart education" system, unified digital platforms have been created, through which it is possible to comprehensively use services for all stages of education, examination processes, digital educational resources, multimedia tools and virtual laboratories. This system serves to improve the maintenance of educational statistics, assess the efficiency of resource use, and scientifically substantiate the development of new interactive materials that meet the needs of students.

The tools used in the organization of a digital learning environment are systematically divided into various functional groups, which serve to increase the efficiency of the educational process. In particular, learning management systems (LMS) are interpreted as software platforms that allow for the comprehensive organization of planning, implementation, monitoring and evaluation of the educational process. Such systems perform the functions of delivering educational materials, controlling the learning process, and automating administrative management.

At the same time, content creation and sharing platforms allow the development, editing and collaborative use of digital educational resources, which serve to develop the creative and communicative competencies of students. Online learning platforms, on the other hand, allow learners to master courses developed by leading educational



institutions, regardless of time and place, through massive open online courses (MOOCs).

As an important component of the digital education infrastructure, videoconferencing and virtual classroom tools provide real-time interactive communication and serve to effectively organize distance learning (e.g. Zoom, Microsoft Teams). Interactive whiteboards, on the other hand, increase the interactivity of the educational process by allowing for visual representation, annotation, and collaborative editing of educational materials. In addition, assessment and quiz platforms allow for quick and objective assessment of students' knowledge and analysis of results (e.g. Kahoot!, Quizizz). Collaboration and communication tools play an important role in organizing effective communication and project activities between educational participants.

Modern education also widely uses language learning, programming, virtual and augmented reality (VR/AR), and adaptive learning platforms that use artificial intelligence to create learning trajectories tailored to the individual needs of students (e.g. Khan Academy). Digital textbooks and electronic libraries provide continuous and convenient access to educational materials.

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