INFORMATION TECHNOLOGIES IN SCIENCE AND EDUCATION

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Abstract. This article examines the role of information technology in science and education, their impact on the development of educational processes and scientific research. Also, attention is paid to the possibilities of using technology to improve the quality of education and scientific research. Examples of the use and significance of digital technologies in research and educational processes are described.

Key words: technology, information, science, education, development, processes.

Information technologies (IT) in education today play a key role in the transition of society to the information age. Modern technologies and telecommunications are changing the very structure

of the organization of the educational process, creating conditions for the complete immersion of students in the information and educational space, improving the quality of education and increasing motivation to acquire knowledge. The latest IT forms a system of computer and telecommunications support that facilitates effective management and organization of processes in various areas, including education. The introduction of information technologies into curricula is actively taking place at all stages of education - in schools and universities [1].

Continuous improvement of information technologies allows the scientific and educational process to develop. The reform of the school education system in the country is aimed at bringing the content of education in line with the current level of scientific knowledge, increasing the effectiveness of educational work and preparing students for life in the information society. In this context, information technologies are becoming an important component of the educational process, a means of optimizing and increasing its effectiveness, and also help to implement many principles of developmental learning.

The effective use of information technologies in the educational process is hampered by poor technical equipment and insufficient funding. Lack of resources limits access to the necessary information materials and educational platforms. An additional obstacle is the skeptical attitude of some older teachers to the possibilities of modern technologies in educational activities [3].

The process of digitalization of educational institutions goes beyond simply equipping the educational environment with technology; it is the formation of a new information environment in which knowledge becomes more flexible and dynamic, erasing the boundaries between the educational and scientific, theoretical and applied.

In this regard, the educational process should be focused on the formation of a new information culture in society and the training of specialists with the skills to apply information technology in teaching and managing educational processes. It is important to develop their ability for professional growth in the context of the rapid development of the information society and high-tech industries [2].

Digital technologies are developing at a tremendous speed. Many areas of activity are switching to digital systems. Digitalization of education - this is what the process of switching to an electronic system is called.

It is necessary to use all the possibilities of the modern Internet to make distance learning effective for students. In particular, we can note the active use of such platforms as YouTube, Zoom, Webinar, Google Meet, Discord, Microsoft Teams, True Conf. Even well-known managers have come into play, providing the teacher with the opportunity to quickly explain new material [4].

Today, the education system has developed key areas for the use of information technology in the educational process. These include the use of automated systems and complexes in training, the use of expert systems and decision support systems, and the development of IT with an eye on future professional activity. In addition, information technology is used as a didactic tool and for modeling various objects and processes, and also contributes to the development of a creative approach in educational and research activities[5; 6].

In this regard, higher education itself is faced with enormous challenges that require the most radical transformation and renewal to which it has never had to be subjected before, so that our society, which is currently experiencing a profound crisis of values, can go beyond purely economic considerations.

There are still many unresolved issues and it is necessary to look for ways to solve existing and emerging problems so that the process of developing the information competence of all participants in the educational process is not painful and thorny, but creative, purposeful and effective.

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