

INFORMATIZATION OF EDUCATION AS A MEANS OF IMPROVING THE EFFICIENCY OF THE EDUCATIONAL PROCESS

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***Annotation.** This article describes the development of modern information and communication technologies, which made it possible to make the virtual learning environment an open system that is constantly evolving and transforming. However, such processes are often increasingly chaotic and do not allow timely tracking of the emergence of new methods and forms of learning that are integrated into virtual learning environments. Such processes include the introduction of virtual reality forms into virtual educational environments. Despite the similar semantics of these two concepts, they reflect different volumes of being. Auto emphasizes that an important condition for the development of any processes, especially in the informatization of society, is the informatization of education, because in this area people are trained and educated, who are the forming factor of the environment in which they will have to live in the future and work.*

***Key words:** informatization; efficiency; educational process; education; Computer technologies; innovation processes; educational computer programs*

Introduction

Informatization of education is one of the most important conditions for the successful development of the processes of informatization of society. After all, it is in the field of education that those people are trained and educated who not only form a

new information environment for society, but who themselves have to live and work in this new environment. The first steps in the field of informatization of education were made in our country in 1985, when an exceptionally important government decision was made to send several thousand of the first Soviet personal computers to the field of education and to introduce a general course in the basics of informatics and computer technology in secondary schools.

Materials and methods

Informatization of the society is often understood as the introduction of IT-technologies in the education process. According to the theory of information society, informatization includes, first of all, growth of information and knowledge, and only after that - The introduction of IT-technologies in all the areas of society.

The first stage of informatization of education (electronization) was characterized by the widespread introduction of electronic means and computer technology in the process of preparing students, first technical (late 50s - early 60s), and then humanitarian specialties (late 60s - early 70s) and assumed teaching the basics of algorithmization and programming, elements of the algebra of logic, mathematical modeling on a computer. The relatively low performance of computers of that time, the lack of easy-to-use, intuitive for the average user (not a programmer) and user-friendly software tools did not contribute to the widespread use of computer technology in the field of humanitarian education.[2]

The second stage of informatization of education (computerization) (mid-70s - 90s) is associated with the emergence of more powerful computers, software with a friendly interface, and is characterized primarily by the use of human-computer dialog interaction. Computer educational technologies made it possible to study various (chemical, physical, social, pedagogical, etc.) processes and phenomena on the basis of modeling. Computer technology began to act as a powerful learning tool as part of automated systems of varying degrees of intelligence. In the field of education, automated systems of training, knowledge control and management of the educational process are increasingly being used.

The third, modern stage of informatization of education is characterized by the use of powerful personal computers, high-speed high-capacity drives, new information and telecommunication technologies, multimedia technologies and virtual reality, as well as a philosophical understanding of the ongoing process of informatization and its social consequences.

Informatization of education is the process of providing the education system with the theory and practice of developing and using new information technologies focused on the implementation of the goals of education and upbringing.[3]

Analysis and discussion

In turn, it is customary to single out the following main directions for the introduction of information technologies in education:

- 1) the use of computer technology as a means of teaching, improving the teaching process, increasing its quality and efficiency;[1]
- 2) the use of computer technology as a tool for learning, self-knowledge and reality;
- 3) consideration of the computer and other modern means information technologies as objects of study;
- 4) the use of new information technologies as a means of creative development of the student;
- 5) the use of computer technology as a means of automating the processes of control, correction, testing and psychodiagnostics;
- 6) organization of communications based on the use of information technology tools for the purpose of transferring and acquiring pedagogical experience, methodical and educational literature;
- 7) use of modern information technologies for the organization of intellectual leisure;
- 8) intensification and improvement of the management of an educational institution and the educational process based on the use of a system of modern information technologies.

The most important tasks of informatization of education are:

- improving the quality of training of specialists based on the use of modern information technologies in the educational process;
- the use of active teaching methods, increasing the creative and intellectual components of educational activities;
- integration of various types of educational activities (educational, research, etc.);
- adaptation of information technologies of training to the individual characteristics of the student;[4]
- development of new information technologies of education, which contribute to the activation of the cognitive activity of the student and increase the motivation to master the means and methods of informatics for effective application in professional activities;
- ensuring continuity and continuity in training;
- development of information technologies for distance learning;
- improvement of the software and methodological support of the educational process;
- introduction of information technologies of training in the process of special professional training of specialists of various profiles.

One of the most important tasks of informatization of education is the formation of an information culture of a specialist, the level of formation of which is determined, firstly, by knowledge about information, information processes, models and technologies; secondly, the skills and abilities to apply the means and methods of processing and analyzing information in various activities; thirdly, the ability to use modern IT in professional activities; fourthly, the ideological vision of the surrounding world as an open information system.[6]

Another of the tasks of informatization of education is the construction of a single information educational space (state, region).

The process of informatization of education includes a system of the following activities:

- 1) equipping educational institutions and educational authorities with hardware and software of information technologies;
- 2) connection via high-speed channels to regional, national and international computer educational networks, to the global Internet;
- 3) creation and placement on the Internet of educational information resources, integration of various databases at the regional and state levels: educational portals, official websites of educational institutions and government bodies, thematic resources, methodological sites, electronic libraries, information retrieval and analytical systems, etc. ;
- 4) development, examination, approbation and implementation of software for educational purposes, including digital educational resources;
- 5) the formation of an information culture among all participants in the educational process: employees, teachers, students, their parents (in terms of information interaction with the school);
- 6) creation of a system of support and maintenance of information technology tools in educational institutions and government bodies;
- 7) creation of a system of continuous training of a teacher in information technologies (courses, express courses, mini-seminars , permanent seminars, conferences, competitions, solving pedagogical problems, a system of individual consultations, the work of problematic and creative groups, self-education, professional communication, etc.).[5]

The concept of informatization of education characterizes several stages of this process.

Stage 1 is characterized by the following features:

- the mass introduction of new information technologies, and primarily computers, begins;
- research work is being carried out on the pedagogical development of computer technology and a search is being made for ways to use it to intensify the learning process;

–society follows the path of understanding the essence and necessity of informatization processes;

–there is a basic training in the field of informatics at all levels of continuous education.

Stage 2 is characterized by the following features:

–active assimilation and fragmentary introduction of NIT tools into traditional academic disciplines;

–development by teachers of new methods and organizational forms of work using computer technology;

–active development and the beginning of the development of educational and methodological support;

–posing the problem of revising the content, traditional forms and methods of educational work.

Stage 3 is characterized by the following features:

–widespread use of modern IT tools in education; - restructuring the content of all levels of lifelong education on the basis of its informatization;

–changing the methodological basis of teaching and mastering by each teacher a wide range of methods and organizational forms of teaching, supported by appropriate means of modern information technologies.

The practical implementation of computer technologies and the transition to subsequent stages of informatization are associated with the selection of the content of individual subjects in order to create computer programs. The software must reflect the current curriculum and be time-bound with the school's curriculum. Thus, one of the leading scientific and methodological problems in this case is the creation of a methodology for designing modern information technologies in relation to school education.

As it is easy to see, each period of informatization of education has two parallel branches of development: the technological basis and innovative processes in the education system itself.

Taking into account the huge impact of modern information technologies on the education process, many teachers are increasingly willing to include them in their methodological system. However, the process of informatization of school education cannot happen instantly, according to any reform, it is gradual and continuous.

Conclusion

In today's educational paradigm, informatization is becoming an integral part of teaching. As noted, the demand for advanced technologies that can be effectively used in the educational environment is constantly increasing. The analysis of surveys shows that it is necessary to use information technology tools in teaching, because they are evaluated as useful by the participants of education and make the educational process technological, fast and easier to master the educational material.

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