MULTIMEDIA AND COMPUTER TECHNOLOGIES IN TEACHING UNIVERSITY STUDENTS

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Abstract. The article examines the analysis of the use of multimedia and computer technologies in teaching university students. This article shows the huge role of multimedia technologies in the process of self-study of university students.

Keywords: training, computer, multimedia, technology, self-study, student.

Teaching technology is a way of implementing the learning content provided for in educational programs, which includes a system of forms, methods and means of teaching, which ensures the most effective achievement of goals.

Computer technology is a generalized name for technologies responsible for storing, transmitting, processing, protecting and reproducing information using computers. Computers help people in work, entertainment, education and scientific research.

Multimedia technologies are a set of modern means of audio, television, visual and virtual communications used in the process of organizing, planning and managing various types of activities.

Technologies allow students to become more active participants in the educational process, and teachers to create new approaches, methods, models of teaching and education. For example, a teacher can conduct an online survey at any stage of a lecture to determine the level of mastery of the material being studied. The use of computer and multimedia technologies in the educational process is designed to solve important didactic problems. First of all, this is improving the organization of the educational process, accelerating and intensifying the learning process, ensuring its flexibility and individual approach. The use of computer technologies in the educational process is designed to solve important didactic problems. Today's conditions for the development of teaching aids in modern education are determined by increasing integration processes, the dominant components of which are information technologies (IT). A characteristic feature of IT is that it provides almost unlimited opportunities for independent and joint creative activity of teacher and student. From an authoritarian bearer of truth, the teacher turns into a participant in the productive activities of students and, with the help of a computer, creates a favorable environment for the formation of their own intelligence.

Today, information and communication technologies (ICT) play an important role in solving the priority tasks of training and education. ICT can be used in all types of activities: gaming, educational games, practical-experimental, artistic, design, research, group interaction in the classroom, and the like. Modern computer technologies contribute to the development of science, significantly facilitating the process of computing and creating scientific projects. In the field of technology, modern computer technology has become an integral part today. In the coming

decades, the leading factors of the scientific and technological revolution will remain the intellectualization and humanization of labor, the improvement of its technical base, the expansion of individual capabilities, and the increase in the personal significance and responsibility of each participant in social production. One of the modern and promising ICTs is multimedia technologies (MMT), which contribute to the development of multimodal thinking of students. Modality is the characteristics of sensations that reflect the properties of objective reality in a specific multi-coded matrix, when, for example, color is perceived by vision, tone or timbre by hearing, smell by smell, softness-hardness by tactility. To combine modalities of perception and processing of educational material, it is necessary to use such teaching technologies that would make it possible to present information in a format that ensures the simultaneous use of various methods of presenting information (text, image, video, sound and animation).

Multimedia technology makes it possible to ensure, when solving problems of automation of intellectual activity, the combination of computer capabilities with traditional means of presenting audio and video information for our perception, with the aim of synthesizing sound, text, graphics and live video. The advantages of multimedia include the growth of audiovisual information, the expansion of interactive capabilities, and greater clarity of the proposed material, the ability to sort information, and improve methods of accessing information. The concept of "multimedia" should be understood as computer technology, which makes it possible to flexibly manage the flow of various information presented in the form of graphs, music, and the like; programs and computer tools that use this technology; various means of information transmission.

Multimedia is a complex of hardware and software that allows the user to work interactively with different types of data, organized in the form of a unified information environment. Multimedia technology is understood as pedagogical technology, which determines the order of development, operation and application of information processing tools of various modalities. Modern teaching is impossible without the use of multimedia technologies as a tool for improving and optimizing the educational process. Multimedia is understood as modern computer technology that allows you to combine text, sound, video, graphics and animation in a computer system. The use of virtual reality in the pedagogical process creates an effect of presence, and this makes it possible to change the entire system of training and education. It becomes possible to transmit a lot of information materials to students through their direct contact with the objects and phenomena being studied, to simulate educational situations in which the student will need to make some decisions and act according to the circumstances.

Any types of multimedia teaching aids make it possible to simulate the conditions of educational activity, implement them in a variety of situational training exercises, and also contribute to more rational activities of the teacher at a certain stage of the educational process, expanding its capabilities. Therefore, the use of multimedia tools in the educational process for the purpose of developing only cognitive skills and reproducing educational information (knowledge-acquaintance, knowledge-copies, etc.) is impractical and ineffective, since the capabilities of multimedia learning tools are much wider, which determines their use at the highest level. Therefore, one of the priority directions of informatization of society is the process of informatization of education, which involves the use of computer technologies, methods and means of computer science to implement the ideas of developmental education, intensify all levels of the educational process, increase its efficiency and quality, prepare the younger generation for a comfortable (as in psychological, and in practical terms) of life in new conditions. The rapid

expansion of the range of applications of computers and their peripheral equipment has led to the emergence of new commonly used concepts: "computer teaching technologies", "computer teaching technologies", "new computer technologies" in training (NIT). The concept of "computer technology" very often acts as a synonym for scientific information technology; however, in the first concept, the object of technological processing is highlighted - information (in relation to training - educational information), and in the second - a technical means of implementing information technology - a computer. It should be emphasized that the technical means of NIT training are not only computers. NIT involves the use of the entire variety of modern information processing devices, including computers, their peripheral equipment (video materials, printers, devices for converting data from graphic and audio forms of representation into numerical and vice versa, etc.), communications, video equipment, etc. This is the technical basis of the process of informatization of society unfolding before our eyes.

Computer learning technologies cannot be studied and explained outside the process of general technological development, which is inherently a deep social process. Reducing computer technologies exclusively to technical progress, refusing to consider them in the context of complex economic, social, political, cultural and social development limit or even make it impossible to study the phenomenon of new learning technologies, both in complex and in individual specific cases. Therefore, based on the fact that the technological revolution is a process of global social transformation, it should be assumed that: education systems will enter the 11th century, enriched with radically changed philosophy, goals, structure, content, organization and methods of education and upbringing that emerged as a result of the introduction new computer technologies in educational institutions. Based on the consideration of the process of informatization of education as complex in its essence, the determining trend is to create a model of the environment within which effective cooperation between participants in the educational process takes place. In this regard, there is a tendency to use forms of training aimed at independent acquisition of knowledge based on the use of developed forms of hyper- and multimedia technologies, which combine sound, graphic, animation, and video capabilities of the computer.

Education faces the task of mastering pedagogical computer technologies (by which we mean a complex, integrative learning process using information and computer technology), introducing intensifying methods and forms into the educational process. There is a need to accelerate the adaptation of teachers and students in the context of rapidly developing scientific fields and pedagogical knowledge. Computer technology tools have a dual nature: on the one hand, they are a subject of study, and on the other, they are a teaching tool. The teacher ceases to be the primary source of information, turning into an intermediary who facilitates its receipt. The rapid entry of computer and communication technologies into our lives (in less than a generation) became possible thanks to the widespread use of personal computers and the creation of the global Internet network.

The question of the role of modern computer and, more recently, communication technologies in improving and modernizing the existing educational system has remained relevant over the past two decades. However, it became most acute during the introduction into practice of the educational process of relatively inexpensive and therefore accessible personal computers, united both in local networks and with access to the global Internet network. For the successful implementation of the program for the modernization of secondary education, largely based on its computerization and "internalization," it will be necessary not only to modern technical equipment

of educational institutions, but also to appropriate training of teachers and organizers of the education system. To understand the role of computer technology in education, it is necessary to understand the essence of this concept. Speaking about information technology, in some cases they mean a certain scientific direction, in others - a specific way of working with information: this is a body of knowledge about the methods and means of working with information resources, and the method and means of collecting, processing and transmitting information to obtain new information about the object being studied. With these opportunities, the necessary emotional justification is created for a more interested perception of the phenomena that are being studied, which ensures the activity of the cognition process and the deep assimilation of educational material, which contributes to the transformation of knowledge into beliefs. The activity of mental activity largely depends on emotional experiences, because it is known that educational material is absorbed better if it captures the emotional sphere of students.

Students are attracted by the novelty of multimedia classes. In the classroom during such classes, conditions are created for active communication, in which students strive to express thoughts, they willingly complete tasks, and show interest in the material being studied. Students learn to work independently with educational, reference and other literature on the subject. This technology can be used to announce the topic of a lesson to accompany the teacher's explanation as an information and teaching aid and to control knowledge. The education system has always been very open to the introduction of computer technologies into the educational process, based on software products for a wide range of purposes. Educational institutions successfully use various software systems - both relatively accessible (text and graphic editors, tools for working with tables and preparing computer presentations) and complex, sometimes highly specialized (programming and database management systems, symbolic mathematics and statistical processing packages). Studying with the help of a computer involves the student's independent work to study new material using various means, including a computer.

Conclusion. What distinguishes computer-based learning from previous technology is that if it is possible to use a wide variety of technological tools (including traditional ones - textbooks, audio and video recordings, etc.), then it involves the use of predominantly software tools that ensure effective independent work of trainees. Computer-based learning involves all kinds of forms of transferring knowledge to the learner (with or without the participation of a teacher) and, in essence, overlaps with the above. Computer-assisted assessment can also be an independent teaching technology, but in practice it is an integral element of others, since knowledge transfer technologies are also required to have a special system for assessing the quality of knowledge acquisition. Such a system cannot be independent of the content of the discipline being studied and the methods used by the teacher in traditional teaching or implemented in the training program.

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