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PROGRESSIVE CAPABILITIES OF MULTIMEDIA AND THEIR USE IN THE EDUCATIONAL PROCESS AS AN INTERACTIVE MULTI-CHANNEL COGNITIVE TOOL

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Abstract: Multimedia technologies enrich the learning process, make learning more effective, involving most of the sensory components of the learner in the process of perceiving educational information.
Keywords: technology, multimedia technologies, Internet technologies, information, audio information, media exposure, electronic source, information technology

Introduction. Today, multimedia technology is one of the promising areas of informatization of the educational process. In the improvement of software and methodological support, the material base, as well as in the mandatory advanced training of the teaching staff, the prospect of the successful use of modern information technologies in education is seen.[4]

Internet technologies are attractive for organizing computer classes in schools, however, having the advantages associated with the ability to obtain relevant information and the ability to organize dialogue with almost the whole world, they have serious drawbacks: these are difficulties when working with large volumes of information with poor communication lines, inability to work without communication lines. These shortcomings are eliminated by using optical compact discs called CD ROMs and DVD discs. Available software products, including ready-made electronic textbooks and books, as well as our own developments allow the teacher to increase the effectiveness of training. The Internet is becoming an indispensable assistant for teachers in finding and obtaining information, and as a means of communicating with colleagues.[1,3]

Of all the cognition tools, multimedia makes it possible to represent knowledge in various ways, including all modalities of perception. Working with multimedia tools, schoolchildren have at their disposal a rich arsenal for self-expression of the material studied. Multimedia implements a more creative approach to the process of assimilation and presentation of knowledge.

A learning system in which students acquire knowledge and skills in the process of planning and completing gradually complicated practical tasks-projects. One of the personality-oriented technologies, a way of organizing students' independent activities, aimed at solving the problems of

the educational project, integrating the problem approach, group methods, reflective and other techniques.[2]

In our opinion, the most advanced multimedia features are to use them in the educational process as an interactive multi-channel cognitive tool. The research, project approach in the system of teaching schoolchildren, their development of their own multimedia hypermedia projects, the constant use of multimedia training for all blocks of disciplines of general cultural and subject preparation, allow us to transform the traditional learning process into a developing and creative one.

Information technologies allow students to give a unique opportunity to learn a new concept, independently of the teacher, to notice a pattern, put forward their own hypothesis, and feel how mathematical questions arise.

The ability to use the project method is an indicator of the teacher's high qualifications, his progressive teaching methodology and student development. It is not for nothing that these technologies are referred to the technologies of the 21st century, which presupposes, first of all, the ability to adapt to the rapidly changing human conditions of a post-industrial society. But it should also be noted that the project method can only be beneficial if applied correctly, with a well-designed structure of ongoing projects and the personal interest of all project participants in its implementation.[5]

Teaching methods are closely related to the nature of the presentation and perception of information for both the student and the teacher. And in connection with this fact, it should be noted that the use of multimedia technologies significantly affects the nature of the presentation of information, and, consequently, the teaching methods. There are opportunities to use the methodology do as I do - this is a joint activity of the teacher and student. Or the presentation option is not brought to the end, but the student is invited to illustrate the text himself. Game teaching methods are widely used.

Multimedia elements create additional psychological structures that contribute to the perception and memorization of material, for example, summing up the results of each presentation is preceded by a certain sound or melody, which sets the learner for a certain type of work.

Reasonable and appropriate is the use of the creative potential of students. Organization of the work of students on the creation, development and design of specific Web pages contributes to a significant intensification of their cognitive activities. This work is accompanied, as a rule, by deep intrinsic motivation, allows you to connect teachers and students with each other, be smart and imaginative, and achieve self-expression.[3]

Computer science education traditionally uses computer-based training programs for a number of reasons. Firstly, computer science specialists were one of the main developers of computer-based training programs, and secondly, formal algorithm description languages made it possible to perform high-quality automated control of grammatical constructions, and thirdly, the content of a number of computer science sections is well structured, which contributes to its computer submission.

The most productive and promising areas for the use of Internet by students are: interpersonal communication, the search for additional information on various academic disciplines, familiarization with educational projects, self-production of Web sites.

The current research on the use of multimedia can highlight the following problems:

- when using multimedia, personalized learning styles are not taken into account. In other words, a real individualization of training based on the use of multimedia occurs only if the cognitive style of the author of multimedia programs coincides with the style of the user;

- do not take into account the communicative or socio-cognitive aspects of learning. The introduction of graphics, video images and audio information does not solve the problems of

ensuring effective communication that has a significant emotional (and therefore motivational) effect on the student;

- the introduction of various types of media exposure (including sound, graphics, video, animation) does not always solve the problem of improving the perception, understanding and storage of information, and sometimes interferes with the perception of the learner due to channel noise;

- the lack of preparedness of teachers for the free use of multimedia in education due to low multimedia literacy (the ability to make an informed choice of multimedia tools for the implementation of pedagogical goals, knowledge of the possibilities and current trends in the development of multimedia, and the possession of educational multimedia development tools for assembling multimedia modules);

-the problem of rejection of existing programs and resources, which occurs due to the inadequacy of multimedia programs to the real educational process;

- the use of multimedia as a new didactic tool in traditional teaching systems does not allow optimal implementation of the educational and developing multimedia resource.

Conclusions: Thus, the traditional educational technologies should be replaced by new informational educational pedagogical technologies. With their help, such pedagogical situations should be realized in the lessons, the activities of the teacher and students in which are based on the use of modern information technologies, and is of a research, heuristic nature. For the successful implementation of these technologies, the teacher must have the skills of a PC user, have the skills to plan the structure of actions to achieve the goal based on a fixed set of tools; describe objects and phenomena by building information structures; conduct and organize the search for electronic information; clearly and unambiguously formulate a problem, task, thought, etc.

Currently, conditions are being formed in schools to solve most of the above listed problems. The essence of new information technologies has crystallized - providing teachers and students with access to modern electronic sources of information, creating conditions for the development of self-learning ability by organizing research and creative educational work of students aimed at integrating and updating knowledge gained in various subjects. A reform of modern education can take place only if electronic sources of educational information are created.

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