

Multimedia Technologies As An Element Of Development Of Modern Higher Education In Ukraine

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Summary

The article analyzes the use of multimedia technologies, with a personality-oriented, competence-based and systematic approaches and based on the principles of integrity, fundamentality, adaptability and variability. The organizational and pedagogical conditions for the use of multimedia technologies in teaching have been determined and substantiated. A criterion-evaluation toolkit has been developed for diagnosing the level of formation of the studied phenomena and to offer educational and methodological support for the learning process using multimedia technologies.

Key words:

multimedia technologies, communication technologies, education system, educational process.

1. Introduction

The educational standard places high demands on the modern learner. Short terms, large amounts of information and strict requirements for the knowledge and skills of students - these are the modern conditions of the educational process. High demands cannot be met based on traditional teaching methods and tools alone. We need new progressive approaches to organizing the educational process, based on information technologies and, in particular, on multimedia technologies. The main goal is seen in the competent use and didactic possibilities of using various types of information (sound, video animation, graphics, etc.) in the educational process. Currently, information technology has a significant impact on the content, form, and teaching methods. Modern students actively use: a personal computer, Internet services, electronic textbooks, they are educated on audio-video products, computer games and other elements of computer culture. The use of modern multimedia and hypermedia technologies in teaching allows you to visually illustrate the material being studied, including through video lessons (multimedia presentations), allows you to increase the effectiveness and motivation of learning. The research is based on theoretical principles foreign scientists in the field of philosophy of culture and philosophical anthropology, social philosophy, philosophy and sociology of education [4].

The work uses a systemic and dialectical approach. They are determined by the goal and objectives of the philosophical and cultural approach to research problems of digitalization of education in the context of the development of modern society and the widespread introduction of new information and communication technologies. Applying the method of ascending from the abstract to the concrete is carried out in a conceptually grounded use of models of technocratic society in the formation of specific forms of educational practices and ambiguous human qualities in their development, arising under the influence of innovative forms of organization and implementation of educational reforms.

2. Theoretical Consideration

Multimedia technologies enrich the learning process, make learning more effective, involving the majority in the process of perceiving educational information. sensory component of the learner.

Today multimedia technologies are one of the promising areas of informatization of the educational process. Improvement of software and methodological support, material base, as well as mandatory advanced training of the teaching staff sees the prospect of successful application of modern information technologies in education.

Multimedia and hypermedia technologies integrate powerful distributed educational resources, they can provide an environment for the formation and manifestation of key competencies, which primarily include information and communication. Multimedia and telecommunication technologies open up fundamentally new methodological approaches in the general education system. Interactive technologies based on multimedia will solve the problem of "provincialism" both on the basis of Internet communications and through interactive CD-courses and the use of satellite Internet.

Multimedia is the interaction of visual and audio effects under the control of interactive software using modern technical and software tools, they combine text, sound, graphics, photos, video in one digital representation.

Hyper media are computer files linked through hypertext links to move between multimedia objects.

For the organization of computerization, Internet technologies are attractive, however, having the advantages associated with the possibility of obtaining relevant information, the possibilities of organizing a dialogue with almost the whole world, they have serious drawbacks: these are difficulties when working with large volumes information with poor communication lines, the inability to work without communication lines.

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The following main methodological features of the organization of training can be recommended:

- 1) lessons with the use of multimedia presentations are conducted in computer labs using multimedia projectors, resident reference books, automated training systems, video recordings of various programs, etc. ;
- 2) in practical classes, a separate computer should be assigned to each student, on which it is advisable to create his personal folder, called the class code and the student's surname;
- 3) an individual approach should be used, including the wide use of individualized training programs, a bank of multi-level tasks (for practical exercises and laboratory work);
- 4) it is advisable to conduct a significant part of the classes in the form of business games; as assignments, real life multivariate and undelivered tasks, especially those with which graduates will meet in their professional activities;
- 7) the project method should be widely used, within which it is necessary to observe the principles of consistency and continuity; this means that one a global task must be consistently performed in all practical (laboratory) and computational and graphic works, supplemented and expanded, being embodied in a harmonious complete system;

8) the possibility of parallel and concentric study of the main sections of the program should be provided; this allows learners as they master the course to gain more and more in-depth knowledge in each of the sections, without losing the integrity of the presentation of all the material;

9) it is necessary to rely on the following interrelated principles: motivation of cognition; versatile perception; "penetrating" system-information analysis;

10) the problem-based teaching method should be used more widely, provide for the development of real programs by students (documents, tables, databases) that can be used in the learning process.

The use of multimedia technologies in education has the following advantages over traditional education:

allows the use of color graphics, animation, soundtrack, hypertext;

allows for the possibility of constant updating;

has low publishing and reproduction costs;

allows the possibility of placing interactive web elements in it, for example, tests or a workbook;

allows for copying and transferring parts for quotation;

allows the possibility of non-linearity of the passage of the material due to the many hyperlinks;

establishes a hyperlink with additional literature in electronic libraries or educational sites;

Multimedia allows you to combine verbal and visual-sensory information, which contributes to the motivation of students, the creation of an actual setting for learning[1-3].

The organization of classroom lessons using multimedia technologies makes it possible to save time, thereby intensifying the presentation of educational material, through the use of very simple means available to any student. In the course of the lesson, a visualized colorful educational game environment can be created to the limit, which has a literally revolutionary effect in the perception of the subject.

Multimedia computer technologies give the teacher the opportunity to quickly combine various means that contribute to a deeper and more conscious assimilation of the studied material, save lesson time, and saturate it with information.

The introduction of multimedia technologies in the teaching of a modern informatics course has revealed a number of positive aspects and several difficult points. So the organization of classes using multimedia technologies with the use of a special projector makes it possible to clearly demonstrate the capabilities of the studied software providing and saving time, thereby intensifying the presentation of educational material. At the same time, additional requirements appear for the

preparation of multimedia materials and the organization of the lesson.

The inclusion of information multimedia technologies makes the learning process more technological and effective. Yes, there are difficulties on this path, there are mistakes, and they cannot be avoided in the future. But there is the main success - this is the interest of students, their readiness for creativity, the need to acquire new knowledge and a sense of independence. A computer allows you to make lessons different from each other. This sense of constant novelty fosters interest in learning [3-5].

So when using multimedia in the lesson through interactivity, structuring and visualization of information, the student's motivation is strengthened, his cognitive activity is activated, both at the level of consciousness and subconsciousness.

Of all the information channels, the visual one is the most powerful, therefore its use in the field of education by means of multimedia is more developed. However, this does not negate the importance and significance of other media. For example, the efficiency of mastering the material significantly increases the creation of its own rhythm dominant for each multimedia textbook with the help of the optimal selection of musical accompaniment. The clever interaction of keyboard and mouse in multimedia textbooks in combination with other media adds another advantage of this educational technology. It is based on the fact that manual exercises significantly develop memory. It is no coincidence that earlier in the gymnasiums contour maps were drawn - to "fill" the hand and to better remember. If in the future to achieve an increase in the standardization of use (to minimize accidental keystrokes), then the moments associated with the mouse and keyboard will be easier to formalize. Here it is necessary to rely on research in the field of engineering psychology and ergonomics.

Individual works of the individual author's consciousness (text, images, sound series, video) are combined into a new system. Interacting with each other already at the stage of script development (calculation of all the functionality expected from product in accordance with its intended purpose), they lose independence [2,6].

As a result of this interaction, a multimedia work receives qualities that are not found in individual works. The fact is that science (linguistics, art history, etc.) has accumulated knowledge about these separately taken forms of information, and the properties of the multimedia environment are just beginning to be studied. Ultimately, multimedia in education is as effective as the specific educational task - to teach something, to develop the skill of working with something.

There is no doubt that multimedia technologies enrich the learning process, make learning more effective, involving most

of the student's sensory components in the process of perceiving educational information. So, according to G. Kirmeier, when using interactive multimedia technologies in the learning process, the share of the learned material can be up to 75%. It is possible that it is most likely clearly an optimistic assessment, but it was known long before the advent of computers about an increase in the efficiency of mastering educational material, when both visual and auditory components are involved in the perception process. Multimedia technology turned educational visibility from static to dynamic, that is, it became possible to track the studied processes in time. Previously, only educational television had such an opportunity, but this area of visibility there is no aspect related to interactivity. Modeling processes that develop in time, interactively changing the parameters of these processes is a very important didactic advantage of multimedia teaching systems. Moreover, there are quite a few educational tasks related to the fact that the demonstration of the studied phenomena cannot be carried out in the class, in this case the multimedia means are the only possible ones for today.

The experience of using multimedia technologies shows:

students' interest in work and their activity is sharply increasing;

the algorithmic style of thinking develops, the ability to make optimal decisions is formed, to act variably;

the teacher is freed from the mass of routine work, the opportunity for creative activity is provided on the basis of the results obtained [4-7].

The forms and place of using a multimedia presentation (or even a separate slide of it) in a lesson depend, of course, on the content of this lesson, the goal set by the teacher. Nevertheless, practice allows us to single out some general, most effective techniques for using such aids:

1. **When studying new material.** Allows you to illustrate with a variety of visual means. The application is especially beneficial in cases where it is necessary

show the dynamics of the development of a process.

2. **When pinning a new topic**

3. **To test knowledge Computer testing is a self-test and self-realization, it is a good stimulus for learning, it is a way of acting and expressing oneself.** For a teacher, it is a means of quality control of knowledge, a programmed way of accumulating grades.

4. **To deepen knowledge, as additional material for lessons.**

5. **When checking the frontal independent work.** Provides along with oral visual control of the results.

6. **When solving educational problems.** Helps to complete the drawing, plan the solution and monitor intermediate and final results independent work on this plan

7. **A means of emotional relief.** During block lessons or long consultations before exams, it is worth turning on video screensavers of experiments or cartoons, at the same time, students lose fatigue, become interested, they look for answers, turn to the teacher with questions, and are charged with new energy.

Multimedia - programs look like a video, but with the ability to intervene in the course of action and conduct a dialogue.

8. **As a means for the production of handouts didactic material, codograms and cards.** A personal computer in the hands of a teacher, in addition to a scanner and a printer, is a mini-typography of the teacher [6-9].

Conclusions

Thus, the traditional educational technologies should be replaced by new informational developing pedagogical technologies. With their help in the classroom such pedagogical situations, the activities of teachers and students, in which it is based on the use of modern information technologies and is of a research, heuristic nature, must be realized. For the successful implementation of these technologies, the teacher must have the skills of a PC user, possess the ability 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 a search for electronic information; clearly and unambiguously formulate a problem, task, thought, etc.

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

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