MULTIMEDIA ELECTRONIC TEXTBOOK AND PROBLEMS OF ORGANIZING EDUCATION ON ITS BASIS

Eshimov Rahmon Rustamovich
Sam. Branch of TSUE, Associate professor of the "Digital Economy and Information Technologies"

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Abstract. *The article describes the multimedia environment, its creators and methods of organizing learning based on multimedia.*

Keywords: *information, information technologies, types of information, animation, multimedia, media environment, multimedia textbook.*

The role of modern information technologies in the learning process is incomparable, in particular, in the system of vocational education, special attention is paid to the issues of learning based on computer software - electronic textbooks, electronic educational and methodological complexes and multimedia tools.

In the creation of these software tools, Explorer, the Microsoft Internet browser, the HTML language, the Microsoft Office FrontPage programming language, and the software tools for creating Microsoft Office PowerPoint presentations are widely used. Below we will focus on the organization of learning based on multimedia tools.

The concept of multimedia was introduced into science in the early 90s. Many experts analyze this term in different ways. In our opinion, multimedia is a type that embodies the provision of educational material to students based on computer software and hardware, as well as based on audio, video, text, graphics and animation effects.

Multimedia - hardware and software that makes it possible to combine video, audio, animation, graphics and text resources of a computer based on creating a presentation.

Multimedia is considered a rapidly developing modern information technology, its specifics, which differ from other teaching aids, are as follows:

- variety of information: traditional (text, tables, decorations and others), original (speech, music, excerpts from video films, TV frames, animations, and others) types are integrated in one software product (Fig. 1). Such integration is performed by computer control through various devices for recording and displaying information: a microphone, an audio system, optical CDs, TVs, VCRs, camcorders, electronic musical instruments;
- unlike text and graphics, audio and video signals are considered in a certain period of time;
- a new level of interactive conversation “human-computer”, here in the process of communication the user receives very wide and varied information and this makes it possible to improve the conditions of education, work or leisure.

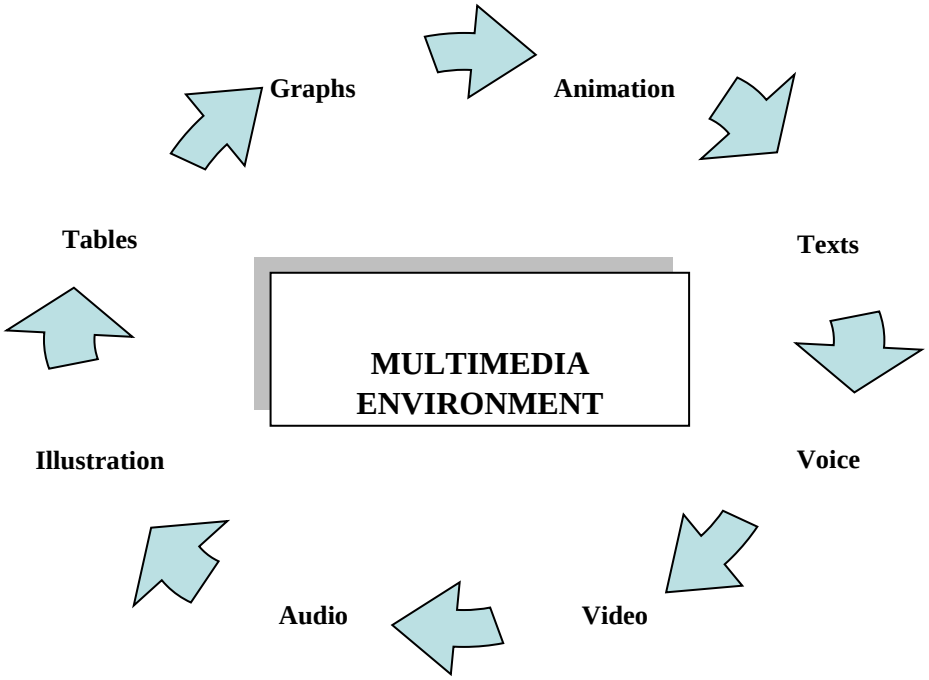

Fig. 1. Multimedia environment

Multimedia makes it possible to create various elements of the media environment, applications of interactive presentations based on the hardware and software of the computer.

The multimedia education system can display in one common computer program the presentation of educational material, the conduct of practice and test using a computer simulator, as well as other additional materials. At present, in developed countries, this teaching method has been widely used in all areas of education.

A multimedia textbook not only facilitates the student's learning, but also increases his interest in the subject, activates the learning process and ensures the development of new knowledge. Multimedia systems will require technical means and apparatus to a certain extent, it may be necessary to use programs for editing photo fragments or multimedia software, which in turn can take up a lot of computer memory and lead to a limitation of the workflow.

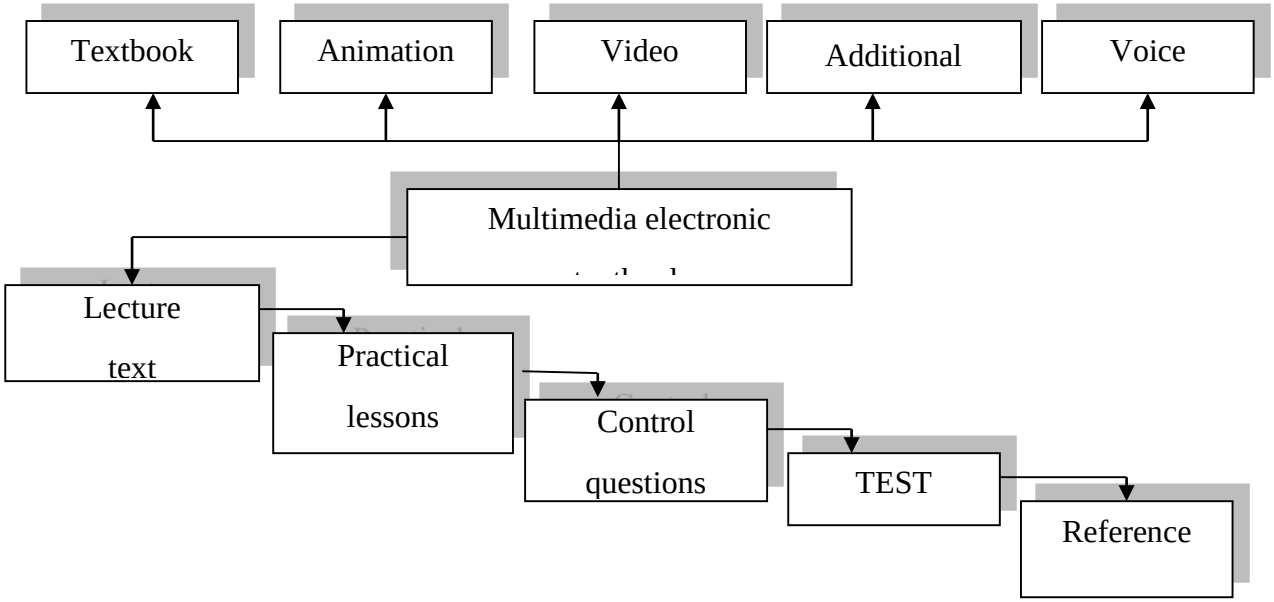

Fig. 2. The composite structure of a multimedia electronic textbook

According to psychologists, students, when obtaining knowledge based on multimedia tools, save 30% of the time, and the knowledge gained is stored in memory for a long time. If students perceive the presented materials on a visual basis (video), then the possibility of storing information in memory is 25-30%. In addition to this, if you present educational materials in the form of audio, video and graphics in the aggregate, then up to 75% of the information is stored in memory.

Multimedia-based learning has the following advantages:

- the possibility of in-depth and thorough mastering of the material;
- directly establish a connection with new areas of education;
- the possibility of reducing the time (to save time) of education;
- the ability to keep the acquired knowledge in memory for a long time.

When creating multimedia applications, various programs are used: Divector, Tool Book, Visual Basic, Power Point, Flash. In some cases, the creation of large multimedia educational tools requires special hardware and software.

When creating multimedia learning tools, it is not advisable to use audio and video fragments of a large volume. Sometimes these features create inconvenience for the effective use of the program. For example, excessive use of voice effects while using the software can lead to inconvenience.

In presentations, multimedia should be used in appropriate and effective places. Therefore, multimedia applications can be used to solve special problems and supplement traditional methods. For beginners, it is advisable to create computer presentations at first rather than multimedia applications.

Computer presentations make it possible to use various drawings (illustrations), video clips, stereo sound, color images, i.e. consecutive multimedia resources. Below we will talk about one of the multimedia tools, i.e. about the e-textbook.

Multimedia electronic textbook (MET) - is intended for the application of an educational methodology based on computer technology for obtaining independent education, as well as for the comprehensive effective development of educational materials related to science, as well as scientific information and is expressed in:

- only in the verbal (text) form of educational and scientific materials;
- in verbal and two-dimensional form of educational materials;
- multimedia (multimedia - multi-information environment) manuals, ie. information in the form of three-dimensional graphics, sound, video, animation and partially verbal form;
- didactic property, the student's entry into the real world, illustrating his stereotypes in the computer world and is expressed in the form of creating an idea about its objects.

MET is a universal software, it makes it possible to automate the types of training in certain professional activities, types of information or processing of types of information.

Multimedia electronic textbooks have the following properties:

- an individual approach to the studied materials in relation to traditional educational literature;
- compliance with the needs, degree of training, intellectual abilities of students;
- the ability to perform practical tasks separately from complex calculations and substitutions;
- the possibility of self-control at all stages of training;
- the ability to accurately draw up work, publish data, etc.

Multimedia electronic textbooks provide the following convenient opportunities for practical training in specialized training rooms:

- using computer support, carry out a large number of tasks, analyze solutions and graphic interpretations;
- the participation of a teacher as a leader and consultant, as well as conducting classes with a computer in the form of independent work;
- prompt and effective control of students' knowledge by the teacher with the help of a computer.
- provision by the teacher, at will, of small in volume, but important in composition, materials in theoretical and practical classes;
- providing students with the opportunity to independently solve problems that can be studied in the framework of extracurricular activities;
- freeing the teacher from such complex tasks as checking homework, various calculations and tests;
- makes it possible to individualize the work of students, especially on homework and tests.

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