ISSN (Online): 2455-3662
EPRA International Journal of Multidisciplinary Research (IJMR) - Peer Reviewed Journal
Volume: 6 | Issue: 3 | March 2020 || Journal DOI: 10.36713/epra2013 || SJIF Impact Factor: 5.614||ISI Value: 1.188

OPPORTUNITIES FOR IMPROVING MULTIMEDIA EFFECTIVENESS IN THE LESSON PROCESS

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ABSTRACT

The core competency building methodology is based on multimedia technologies. Since there are a number of problems that students must solve in their area of interest and vision, the prospect of multimedia education and its implementation in higher education creates a high level of competence among students.

KEYWORDS: ***multimedia, graphics, audio, video, Adobe Flash, 3d max, SolidWorks, animation, hypertext.***

1. INTRODUCTION

In our opinion, A.L. Semenov's approach is most promising, which distinguishes information competence as one of the main advantages of general education, and communication competence as one of the information competences. Information competence is viewed as a new literacy, first of all, "active, independent processing of information by the person, the ability to make radically new decisions using technological means," as well as "computer skills, information objects and models. work with images ".

2. In our work, it is proved that the dominant methodological a tool for the formation of the above competencies are multimedia technology.

Multimedia technologies and their network implementation in the form of hypermedia become one of the most promising areas of development information technology, the use and study of which teachers preparing to work in terms of competency approach, is now gaining priority. The importance of developing interactive programs, multimedia courses, electronic task books, instrumental designers emphasized in the works of many authors, among which N.P. Petrova, L.M. Mikerova, SV. Panyukova, S.A. Khristochevsky, S.D. Karakozov, A.Yu. Uvarov, I.I. Kosenko, V.A. Kastoronova, I.V. Klemeshova D. Jonassen, R. Grabindger, S. Carver, R. Lehrer, S. Papert et al. The concept of "multimedia" is ambiguous, there are various definitions of this phenomenon: in general, everyone understands that when it comes to multimedia, it is said about combining text, graphics, animation, video and sound. A multimedia program may be structured and presented in various ways. For phenomenological analysis, we give several definitions taken from various Russian and foreign sources. It should be noted right away that many foreign authors do not recent differences between the terms "multimedia" and "Hypermedia", despite its initially different meaning, which in they invested. In addition, a number of authors insist on replacing the term "Multimedia" is a more modern and meaningful term Hypermedia. This combination of two terms describes hypermedia. actually as an "associative, non-linear multimedia association" [2]. Brown T. suggests that the term "hypermedia" be used instead of "multimedia," which no longer reflects current trends development. He explains this by saying that the term "multimedia" is redundant; the concept of "media" is already multiple in structure. Moreover, the term "multimedia" was previously widely used to describe various entertainment industry. Using hypermedia instead of multimedia as applied to the computer world today is the best choice. It emphasizes its ability to interactively control with a computer. This properly distinguishes hypermedia from those concerts. multimedia and shows of the 1960s, which gave the latter its original value ". It should be noted that different authors identify multimedia with varying degrees of clarity. T. Brown cites definitions given various authors [3]:

- "To get the name" multimedia", the application must only include two or more of the following listed: simple or animated graphics, presentation or video, audio, or text and numerical data (Berk and Devlin, [4]);
- multimedia is usually defined as a combination of text, graphics, audio, video, and computer animations (Fox, [5]);
- today multimedia generally means the use of copyright programs like HyperCard or MacroMind Director to create and reproduction of multimedia products (Held, [6]);
- multimedia-computer mixing graphics, sound and video (Kellner, [7]);
- the term "multimedia" describes a new problematic oriented technology that is based on multi-touch human nature and the evolving power of computers, convey various types of information (Little, [8]);

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- multimedia - design and integration method computer technology on a single platform that allows the end user to enter, create, manipulating and displaying text, graphics, audio and video using individual user interface (Strothman, [9]).

Multimedia technologies and their implementation in the form of hypermedia in the network are one of the most promising areas of information technology development. The role of visualization in improving the efficiency of the educational process when teaching interactive lessons, multimedia courses, electronic tasks, laboratory exercises in special disciplines is very important.

The role of computer programs, such as Adobe Flash, 3d max, SolidWorks, is very important for students' creative thinking and a clear visual understanding of the field.

According to Jonassen (1989), multimedia includes interactive integration in more than one media environment. Multimedia, such as slides, presentations or video presentations, interactive video, video production, should be available for a long time. Most researchers agree that the term "multimedia" is associated with the integration of multimedia, text, graphic, sound, animation, video and space modeling into computer systems (Figure 1).

Multimedia is becoming increasingly popular thanks to the development of monitors, sound and video cards, as well as the proliferation of high-speed CD-Writer processors for PCs.

Currently, a multimedia computer is able to record sound, video, special effects and work with sound and video to synthesize and play sound and video, animation and combine them all into one multimedia presentation.

Even without much experience, the user can create their own presentations, video products and presentations. A multimedia presentation can attract attention and affect more than one sense organ and hold it for a long time. Many educators today believe that the impact of multimedia on the learning process is poorly understood, but this is very important when working with video products.

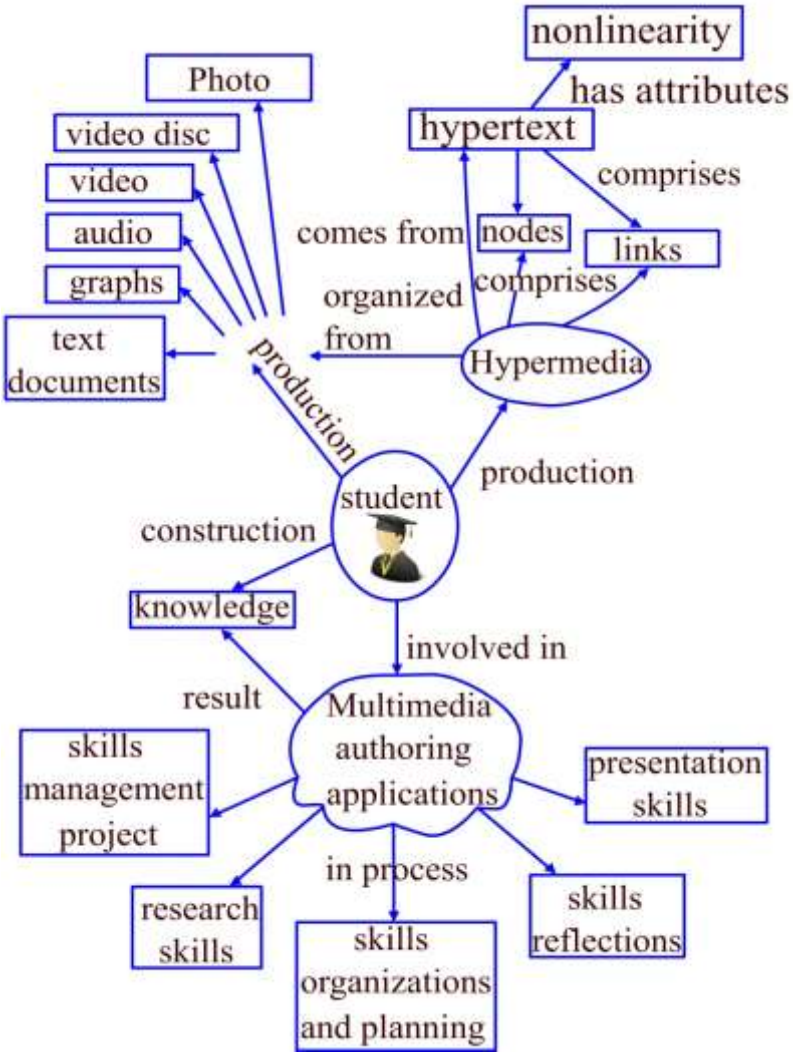

Figure 1. Multimedia as a tool of knowledge

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A number of multicenter studies to date have shown that the effectiveness of teaching is increased by using several channels of information [10]. But when the information is redundant, there can be no improvement. If the information in various channels is contradictory and destructive (the normal structure is broken), the effectiveness of training will be significantly reduced. But all this information must be verified using a multimedia product.

3. The results of my research show that

The results of my research show that when laboratory classes were vivid, the interest of the group in learning and learning was significantly reduced, and student dissatisfaction with the lesson increased (Fig. 2).

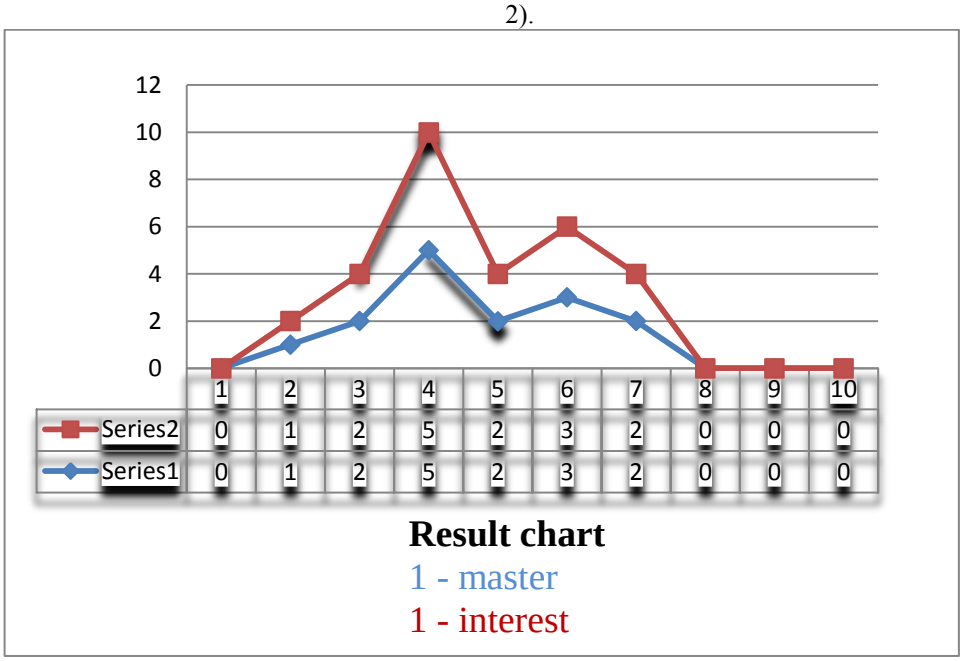

Figure 2. Diagram of course results through visualization of a laboratory lesson

In this case, I saw that the educational process under the guidance of a teacher can reduce the student's interest in science.

The solution to this problem is that the teacher must collect relevant, innovative and brief information on the topic before starting the educational process.

The most effective way to convey this information is through visual training. Obviously, the animation process created by computer programs such as Adobe Flash, 3d max, SolidWorks, in order to attract student interest and interest in the subject, I was able to very quickly attract the attention of students.

In the group, interest and assimilation improved even among students with low academic performance.

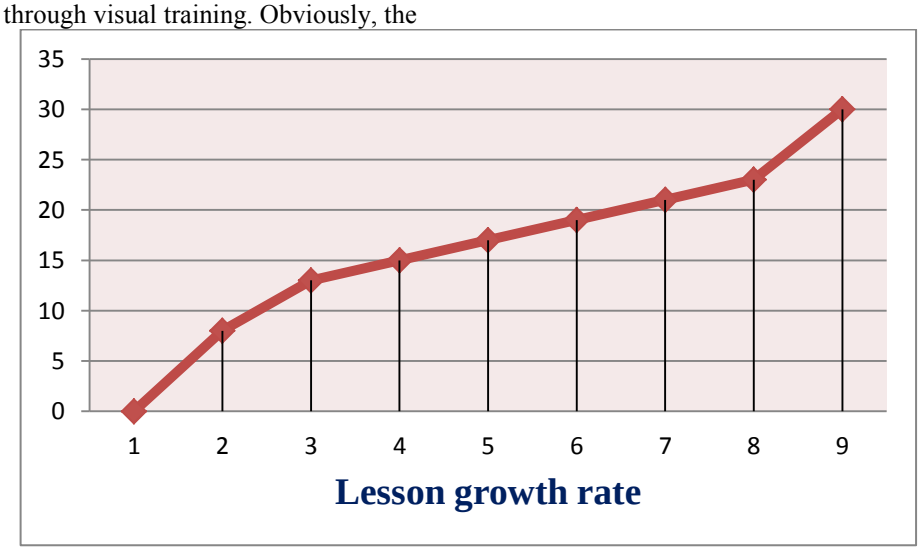

Figure 3. Student growth chart for laboratory work

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Test results were obtained in laboratory studies. It is worth noting that every teacher should have a good knowledge of computer software "Adobe Flash, 3d max, SolidWorks" if he wants to increase the effectiveness of the educational process. Because of the programs mentioned below, they not only can convey topics that are interesting and understandable to students, but they also have the opportunity to convey scientific knowledge to people with disabilities.

Describing the 3d Max program, laboratory equipment is an ideal application for visualizing equipment along the x, y, z axes and for simulating the state of the process.

4. Computer program features

By exploring topics, they can add or change a large amount of information by specifying a topic and using a custom theme related to the topic, having previously launched the database. Thus, multimedia can be a dynamic (transformed), expanded knowledge base represented by different points of view (Figure 4):

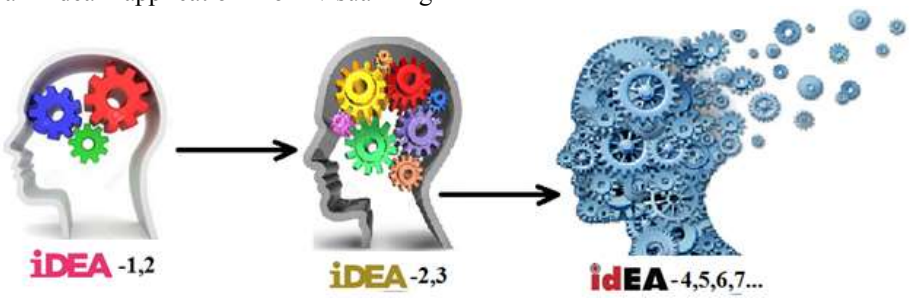

Figure 4. Types of text structures

Multimedia programs are organized as follows: emphasis, interrelated problems and their joint solution.

A multimedia program is usually used to create a sequence of information, to create a personal knowledge database and to add relevant information.

Multimedia information systems allow the user to constantly manage information while monitoring information on the Internet.

5. The organization or architecture of multimedia is open

- Most information can have different sizes;
- Combined data channels allow the user to visually switch from one process to another;
- the idea of networking is supported by a link structure;
- the organizational structure reflects the network idea of the work (may represent different models or conceptual structures - systems of ideas);
- multimedia structure has the ability to accurately represent the information structure;
- Dynamic user information management is a high level of interactivity when the user decides where to go in the program;
- multi-user access to information. Many users of various visual processes can simultaneously access it.

Here are a few definitions of multimedia from Russian sources. Let's start with the definitions of multimedia and hypermedia presented at website http: // www. icsti. su /

A multimedia environment, also called multimedia, provides joint image processing, speech processing and processing documents. This allows you to display an image with text and sound accompaniment. An important area of multimedia is creation of training systems. Multimedia is a subset of hyper environments, combining the elements of the first with hypertext.

Multimedia creation, extensive use of sound and color opened up opportunities for the preparation of videos. This process contributes to video technology. The toolbox used here software is created based on:

- scenarios defining a detailed plan for creating movies;
- pictograms, their combination and determining the execution order tasks;
- scenes when the video image is formed by filling details of a blank screen;
- timestamps to control start and stop individual images.

A hypermedia, also called hypermedia, is a model interactions of association data blocks - sets of different properties, characteristics, parameters. These blocks are texts, images, videos, files, programs, fragments of sound. IN the hypermedia information is divided into relatively small blocks, represented by the vertices of the graph.

When working with a hypermedia subscriber the system displays the contents of each vertex on the monitor screen. The vertices are connected by ribs (ties), activated by keyboard, light pen or mouse. User when working with the hypermedia navigates and moves from one vertex to another, moving across the network of a field of knowledge.

Hyperspace can viewed without reference to the contents of blocks of information. Her software (software) controls the transitions along the edges and forms the necessary documents. An important characteristic of hyper environments serves as the information space she represents.

Scroll blocks of information, establishing links between them depend on developers defining a hyper environment. As a result, special knowledge bases

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(KB). Some of them are accompanied by a scheme. routes in accordance with which the transitions from one block to another. In a number of databases, users are allowed to add new blocks of information and communication.

Applied Market Expands programs created to work in a hyper environment, he, first of all, provides:

- encyclopedias;
- textbooks;
- catalogs of goods and products;
- directories and reference manuals;
- means of collective work in local networks;
- artificial intelligence systems.

Of particular importance is the use of the hyper environment when using audio and video systems that process all possible data species.

6. CONCLUSION

Thus, higher education institutions achieve greater effectiveness in education through the development of methodological competencies of teachers who are able to quickly adapt to consistent and promising reforms in society, use innovative methods in teaching and use information and communication technologies.

Educational multimedia means a didactic software tool that interacts effectively with two (audio and visual) or more (in the future) modalities that provide meaningful learning, perceptual and mnemonic processes that promote learning and learner development. Our research allowed us to distinguish between two main types of multimedia technologies used in education: multimedia products (or multimedia applications) and multimedia editors.

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