

## МЕТОДИЧЕСКИЕ ОСОБЕННОСТИ ИСПОЛЬЗОВАНИЯ СРЕДСТВ МУЛЬТИМЕДИА В УЧЕБНОМ ПРОЦЕССЕ

*М.Д. Алиев*

Докторант 2 курса специальности «6D011600 - география», Казахский национальный педагогический университет имени Абая, г. Алматы, Казахстан, [muratbek\\_tegenbolat@mail.ru](mailto:muratbek_tegenbolat@mail.ru)

**Аннотация:** В статье рассматривается актуальность использования мультимедиа-технологий в обучении. Обсуждаются структурные особенности мультимедиа и перспективные способы применения данной технологии в образовании.

**Ключевые слова:** мультимедиа-технологии, цифровое видео, анимация, аудио, графика, видео, мультимедийная среда, инновационные методы, Интернет, программные средства.

## METHODICAL FEATURES OF USE OF MULTIMEDIA IN THE EDUCATIONAL PROCESS

*M.D. Aliyev*

Doctoral 2 courses of a specialty «6D011600–geography», Kazakh National Pedagogical University named after Abai, Almaty city, Kazakhstan, [muratbek\\_tegenbolat@mail.ru](mailto:muratbek_tegenbolat@mail.ru)

**Abstract:** Given article deals with the relevance of the use of multimedia technologies in education. The structural features of multimedia and promising ways of applying this technology in education are discussed.

**Keywords:** multimedia technology, digital video, animation, audio, graphics, video, multimedia environment, innovative methods, the Internet, software.

Today, in the rapidly changing world the content of education is being updated to meet the requirements of the times. At present, multimedia is an information technology that introduces innovative methods in the educational process.

In modern science, multimedia is defined as “a means of teaching that includes in its structure various types of information — in the form of texts, audio-

, video-, and animation elements.” Thus, text, sound, graphics, photos and video are merged into a single digital presentation [1].

Multimedia is based on various software and hardware.

Multimedia tools are interactive in nature. These include: a multimedia computer or projector and multimedia computer programs. Multimedia projector provides work on the reproduction of information. Multimedia programs act as a teaching tool (educational multimedia programs) or a means of developing electronic didactic material (tool programs).

To use multimedia technology in educational activities it is necessary to use professional software such as GigaSampler, Samplitude Studio, Gold Wave, Sound Forge, Steinberg WaveLab, PhotoModeler, Adobe Photoshop, Corel Photo-paint, Microsoft PowerPoint, Corel R.A.V.E., 3D Studio MAX, CorelDRAW, Adobe After Effects, Ulead COOL 3D, SoundLibraries, SmartSound, Poser, Adobe Premiere and others [2].

When using multimedia technologies in the educational system, in most cases, pedagogical functions are ignored.

Problems in the educational process and the opportunities and achievements of multimedia technologies in solving these problems can be seen in Table 1 [1].

Table 1

### The possibilities of using multimedia technology

<b>№</b>	<b>Difficulties in the Educational Process</b>	<b>Opportunities to Improve the Effectiveness of Education Using Multimedia Technologies</b>	<b>Achievements of Using Multimedia Technologies</b>
1	Teaching objective complex materials	Presentation of reading materials in parts	Students' interest in learning materials increases
2	Abstractedness of concepts, the need for generalization, comparison and strengthening	Illustration in the formulation, comparison, generalization of the concrete concept	Ease of transition from a specific to abstraction and from individual to general
3	The complexity of the experiment	Demonstration of experiments that can not be held in laboratory auditoriums	Solving the problem of lack of equipment in laboratories
4	Demonstration of dynamics of phenomena and processes	Modeling of phenomena and processes, demonstration in dynamics	Description of the nature of phenomena and processes
5	Teaching fast and simple processes	Monitoring processes in nature using video projectors	Effective use of time in the teaching of phenomena and processes

6	Monitoring and explanation of microprocesses, which occur in the invisible part of the object	Using the capabilities of communication devices and web cameras	Enlargement of monitoring space boundaries
7	The multiplicity of application of basic patterns and phenomena in technology	Acquaintance with the application of natural patterns in the field of technology	Explanation of the nature of patterns and phenomena using video materials

It should be noted that when using multimedia (information) teaching tools, special attention should be paid to the following:

- teaching, involving the work of students with a computer, requires compliance with health and safety standards;
- there is a disparity in the ratio of the volume of received and digestible information;
- in the process of self-learning, student comes across with a huge flow of pseudo-scientific and unverified information;
- the lack of “living” experience when working with informational teaching aids, which forces one to pay attention to the addition of the learning process with traditional practical and laboratory classes;
- different level of computer skills of students [3].

Thus, a brief overview of the essence of multimedia allows to highlight the main distinctive features:

- integration of diverse types of information;
- interactive mode of communication with the user;
- parallel transmission of information;
- the ability to work with large amounts of information;
- work in real time;
- effective management of information processing;
- the ability to create your own multimedia products;
- versatility[4].

The use of multimedia allows solving the following tasks in the educational process: increasing the motivation of students; development of teamwork skills and collective knowledge; formation of a deeper understanding of the material being studied; development of a student's creative abilities (disclosure of his personal qualities).

For the effective use of multimedia technologies in education, future teachers(educational specialists)should:

- knowhow to use multimedia technologies subject, interdisciplinary and special courses;
- plan the purpose and time of use of multimedia, depending on the

content and structure of the lesson;

- take into account the age and abilities of students;
- prepare the multimedia tools in advance in accordance with the topic [5].

In general, the use of multimedia technologies in the system of continuous education is a new step towards solving the problems of improving the educational process. Thus, a new type of teacher should develop the ability to work with multimedia resources and be able to develop visual aids, such as slideshows and electronic textbooks, in order to increase students' interests, attentiveness and expand his views [6].

At the same time, if every teacher can effectively use various multimedia technologies in the educational process, then the quality of lessons definitely improves.

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