

EFFECTIVE USE OF MULTIMEDIA TOOLS IN THE EDUCATIONAL PROCESS**Djabbarov Rustamjon Kholjigitovich**University of Defense and Security
Teacher of the Department of General Tactics**Annotation**

This article analyzes the significance and methods of effectively using multimedia tools in the educational process. Multimedia tools audio, video, animation, and graphic images help make lessons more understandable and engaging. The article highlights the methodological aspects of improving students' learning effectiveness, ensuring deeper understanding of topics, and encouraging student engagement through the use of interactive teaching methods.

Keywords

Multimedia tools, educational process, interactive learning, audio and video resources, animation, visual materials, student engagement, learning effectiveness, pedagogical technologies, innovative methods.

TA'LIM JARAYONIDA MULTIMEDIA VOSITALARIDAN SAMARALI FOYDALANISH**Annotatsiya**

Ushbu maqolada ta'lim jarayonida multimedia vositalaridan samarali foydalanishning ahamiyati va usullari tahlil qilinadi. Multimedia vositalari audio, video, animatsiya va grafik tasvirlar darslarni tushunarli va qiziqarli qilishga xizmat qiladi. Maqolada interaktiv dars usullarini qo'llash orqali o'quvchilarning bilim olish samaradorligini oshirish, mavzuni chuqurroq anglashini ta'minlash va o'quvchilarning faolligini rag'batlantirishning metodik jihatlari yoritiladi.

Kalit so'zlar

Multimedia vositalari, ta'lim jarayoni, interaktiv ta'lim, audio va video resurslar, animatsiya, ko'rgazmali materiallar, o'quvchilarning faolligi, ta'lim samaradorligi, pedagogik texnologiyalar, innovatsion metodlar.

ЭФФЕКТИВНОЕ ИСПОЛЬЗОВАНИЕ МУЛЬТИМЕДИЙНЫХ СРЕДСТВ В ПРОЦЕССЕ ОБУЧЕНИЯ**Аннотация**

В данной статье анализируется значение и методы эффективного использования мультимедийных средств в образовательном процессе. Мультимедийные средства аудио, видео, анимация и графические изображения способствуют более понятному и интересному проведению занятий. В статье освещаются методические аспекты повышения эффективности обучения учащихся, обеспечения более глубокого усвоения материала и стимулирования активности учеников через применение интерактивных методов преподавания.

Ключевые слова

Мультимедийные средства, образовательный процесс, интерактивное обучение, аудио- и видеоресурсы, анимация, наглядные материалы, активность учеников, эффективность обучения, педагогические технологии, инновационные методы.



Nowadays, computers are widely used in the educational process of higher and general secondary education institutions. Especially in primary classes, advanced pedagogical methods and methodological guides using information and communication technologies (ICT) and multimedia applications have been developed and implemented in practice.

Since the introduction of ICT into the educational process, the use of multimedia tools has increased significantly. Media-based educational tools are widely applied by educational institutions. This method of learning facilitates the understanding of broad concepts and allows users to learn them in less time compared to traditional teaching methods. Multimedia technology can simultaneously use several methods to present information: text, graphics, animation, video, and sound. The most important feature of multimedia is interactivity-the ability to engage the user while working in an information environment. [1]

It is known that multimedia technology is mainly implemented with the help of computers. However, currently, most primary classes in our country are not fully equipped with computers. In some primary classes, it is possible to conduct the initial stage of computer-based lessons using televisions and DVD devices. For this purpose, software-based or role-playing (interactive) multimedia educational tools are prepared and transferred onto disks.

Since multimedia lessons are mainly conducted using computers, students must have a basic level of computer skills. This, in turn, requires the development of computer literacy among students. Primary school teachers themselves must also have computer literacy and, at the same time, master multimedia technology. [2]

The concept of multimedia entered our lives in the early 1990s. Many specialists interpret this term in various ways. Summarizing their views, multimedia can be defined as follows: multimedia is an integrated form of delivering educational materials to learners based on traditional and original types of information, using the software and technical tools of informatics.

The concept of multimedia is very diverse and often depends on the technology available at any given time. In the explanatory dictionary of the Uzbek language, multimedia is defined as follows: multimedia [from English *media*, *medium* middle, center, tools, events] a technology encompassing various means of information transmission (text, sound, animated and graphic images) and the software and computer tools that use such technology. [3]

In the early years, definitions included information about two or more media tools. In later years, it came to mean combinations with fully integrated features such as audio, music, video, user interaction, and usage rights. The rapid development of information technologies has led to changes in educational activities. Computers and the internet make it easier to use textbooks interactively and apply multimedia programs, providing visually and auditorily enriched electronic materials for learners with different learning styles.

It can be said that learning in a computer environment better matches individual learning speeds and helps with memorization. In recent years, one of the frequently used information and educational resources in teaching environments has been multimedia resources. Multimedia is created to engage multiple senses. A multimedia learning environment facilitates and enhances learning. Real or virtual images, texts, sounds, graphics, and illustrations enriched with multimedia technologies in a computer environment help in preparing effective educational programs. When various tools such as graphics, video, animation, and sound are presented together, they can facilitate and enhance learning by differentiation within the learning environment. [4]

Media-pedagogical resources include information from the internet, television, radio broadcasts, cinema, video, and audio materials. Along with the progress of our era, the treasury of knowledge has become richer, and the intellectual potential of young people is increasing. In the process of informatization, there is no need to explain that a true information society has



emerged. Accordingly, the number of media technologies is growing. In this process, images, sound, and text harmonize, and audiovisual culture is gradually developing in a unique way. Today, its wide use in the field of education has become a necessity. Many students sometimes listen to lessons delivered in unconventional ways with great interest. The use of information technologies in lessons allows for such methods. This, in turn, serves to further improve the education system. In other words, in the era of globalization and an information-based society, it is necessary to properly educate the younger generation, prepare them for life, enable them to process various information, and teach them to distinguish between good and bad, right and wrong.[2]

One of the main advantages of multimedia tools is the ability to explain complex processes in a simple and visual manner. For example, in natural sciences, mathematics, or technical subjects, some processes are difficult to explain through text alone, but animations and videos help to understand these processes more easily. At the same time, interactive slides, 3D models, and simulations allow students to view a topic from different perspectives and encourage deeper understanding.

There are also some challenges in integrating multimedia tools into the educational process. For instance, not all educational institutions are sufficiently equipped with technical devices, internet speed may be low, or teachers may lack adequate skills to effectively use modern technologies, which can negatively affect effectiveness. Therefore, improving teachers' qualifications, teaching them to use innovative methods, and equipping educational institutions with modern technical tools are among the urgent tasks. For example, by training teachers to use electronic textbooks, interactive whiteboards, or online platforms, lessons can be organized more effectively. [3]

It is also possible to develop students' skills in independent learning and research. Interactive teaching methods—such as group work, problem-solving tasks, debates, and role-playing games—turn students into active participants. At the same time, students can complete variable tasks according to their interests and knowledge levels, which strengthens an individualized approach. As a result, their critical thinking skills, communication culture, and teamwork abilities significantly improve.

Moreover, multimedia tools greatly expand the possibilities for distance and online learning. In distance education, video lessons, electronic tests, virtual laboratories, interactive forums, and online platforms help reinforce students' knowledge and ensure continuity of lessons. This is especially important in situations with pandemics or other social and geographical limitations, as it maintains the stability of the learning process. Additionally, students can learn at an individual pace according to their level of knowledge, making the learning process more flexible and personalized. For example, students can repeatedly perform complex experiments in chemistry or biology through a virtual laboratory, analyze the results, and understand their mistakes. This practical experience helps students understand the subject more deeply and develops their independent thinking skills.

Furthermore, multimedia tools play a significant role in increasing students' engagement in lessons. Video materials, animations, interactive slides, and simulations make lessons less monotonous and encourage active participation. Interactive forums and online discussions also motivate students to express their opinions freely, analyze the ideas of other students, and develop communication skills. In this way, multimedia tools not only provide knowledge but also help cultivate students' creative and critical thinking abilities. [4]

In conclusion, the effective use of multimedia tools is an important means of improving the quality of education, making lessons more engaging and effective, enhancing students' motivation to learn, and developing their practical skills. Therefore, the systematic, rational, and purposeful application of multimedia tools in modern education is considered one of the key requirements of the pedagogical process. The widespread use of multimedia tools makes the



learning process interactive, visual, and practically enriched, serving not only to develop students' knowledge but also their independent thinking, problem-solving skills, and professional competencies. At the same time, multimedia tools enable students to manage their own learning process, assess their level of knowledge, and develop more independent learning skills, fully aligning with the primary goals of the modern education system.

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