



UNIVERSAL INSIGHTS CONFERENCE ON SCIENCE AND SOCIETY

international scientific conference

PEDAGOGICAL BASIS OF USING MULTIMEDIA IN EDUCATION

Usmonov Murod Sodiqovich

Associate Professor, Jizzakh State Pedagogical University

Abstract: *This article discusses the advantages of teaching students using multimedia tools, the technical means of multimedia, the impact of the development of information technologies on the educational process, and the results.*

Keywords: *multimedia, multimedia education, multimedia educational programs, computer environment, virtual stand, text, sound, graphics and images.*

The use of multimedia tools has increased significantly after the introduction of information and communication technologies into the educational process. Media educational tools are widely used by educational institutions. This learning method facilitates the understanding of broad concepts and allows users to learn them in less time than traditional teaching methods. Multimedia technology is able to use several methods of presenting information at the same time: text, graphics, animation, video and sound. The most important feature of multimedia is the ability to influence the user in the process of working in an interactivity-information environment.

The concept of multimedia came into our lives in the early 90s. Many experts interpret this term in different ways. Summarizing their opinions, multimedia can be defined as follows: multimedia is an embodied form of delivering educational materials to the student based on traditional and original types of information based on software and technical means of informatics.

UNIVERSAL INSIGHTS CONFERENCE ON SCIENCE AND SOCIETY

international scientific conference

Multimedia concepts are very diverse and often depend on the technology available at any given time. The word multimedia is defined in the explanatory dictionary of the Uzbek language as follows: multimedia [eng. media, medium-middle , center, means, events] technology that includes various means of information transmission (text, sound, animated and graphic images) and programs and computer tools using such technology. While in the early years the definitions included information about two or more media , in later years they have become synonymous with fully integrated combinations of features such as audio, music, video, user interaction, and usage rights.

has led to changes in educational activities. Computers and the Internet, the interactive use of textbooks and the use of multimedia programs in education , facilitate the presentation of visually and audibly enriched electronic materials for students with different learning styles. It can be said that learning in a computer environment is more suitable for the individual learning pace and helps to remember. One of the information and educational resources that has been frequently used in the educational environment in recent years is multimedia resources. Multimedia is designed to attract many emotions. A multimedia educational environment facilitates and enhances learning . Real or virtual images, texts, sounds, graphics and pictures enriched with multimedia technologies in a computer environment help to prepare qualified educational programs. It is believed that various media such as graphics, video, animation, and sound, when presented together, can facilitate and enhance learning through differentiation in the learning environment .

ICT developments have also changed the way information is presented, received and shared. While electronic learning materials have many advantages in terms of time and performance, they also offer the possibility of repeated use, easy sharing and reproduction. In the educational environment that has changed and continues to develop with computers and the Internet, the

UNIVERSAL INSIGHTS CONFERENCE ON SCIENCE AND SOCIETY

international scientific conference

materials used in computer-aided learning have become inevitable. In order to ensure continuity in the teaching and learning process, it is recommended that the materials used be diverse and appeal to several senses. There are many challenges in preparing course materials, such as taking into account individual differences (learning style, learning speed, etc.) and then presenting them to students.

students using multimedia has the following advantages:

- to learn the material more deeply and thoroughly;
- The desire to engage more closely with new areas of learning will increase;
- Achieving time savings as a result of reduced training time;
- The teacher does not have to be in the classroom;
- The acquired knowledge is stored in a person's memory for a long time and can be applied in practice when necessary. Teaching students using multimedia tools is twice as effective and can save time. When learning using multimedia tools, up to 30% of time can be saved, and the acquired knowledge is stored in memory for a long time. If students receive the materials presented visually (video), their retention of information increases by 25-30%. In addition, if educational materials are presented in the form of audio, video and graphics, their retention of materials increases by 75%. With the help of multimedia tools, information can be presented in text, image, sound and animation forms . Multimedia information resources consist of animated, audio and video information.

Multimedia technical tools can be divided into the following types according to their functions:

- Speech input and output devices (microphones, amplifiers, speakers);
- Video and graphic data input devices (digital video camera, digital still camera, TV tuner, modem);

UNIVERSAL INSIGHTS CONFERENCE ON SCIENCE AND SOCIETY

international scientific conference

- Data display devices (monitor, projector, video card) that display digital images and video information to the user.

A computer stores multimedia data in various formats.

Text: Text is one of the most important parts of multimedia. The design and content of multimedia text are different from other types of text such as newspaper and book text.

Graphics: Pictures, photographs, images, and other works of art are called graphics. Computer graphics deals with the creation, depiction, manipulation, and display of images using computers. Graphics are one of the most important components of multimedia because through them we can represent information in the form of pictures . There are 2 types of graphics: line drawings and images.

Animation: Animation is one of the most dynamic forms of multimedia. Animation is created by recording still images of drawings, objects, people, etc. Audio is speech, music, and other types of sounds. The sound element is used to enhance a simple multimedia environment.

Video: Video shows a sequence of images with a recording . Multimedia computers receive and process speech, music and other sound data, as well as video data. Multimedia technologies are a guarantee of the development of education. Multimedia technologies enrich the educational process, educational material allows you to more effectively perceive educational information. Multimedia is a combination of visual and audio effects using modern software tools and interactive software . Hypermedia is a computer file associated with hypertext media used in multimedia objects. In organizing education using computers and other Internet technologies, along with various advantages, there are also some disadvantages: this may be a problem with communication lines. These problems can be solved using optical compact discs, also known as CD-ROMs and DVDs.

UNIVERSAL INSIGHTS CONFERENCE ON SCIENCE AND SOCIETY

international scientific conference

The use of virtual stands in the educational process not only increases the quality and effectiveness of education, reduces costs, but also contributes to the creation of an environmentally friendly, safe environment. Multimedia stands make it easier for students to retain any information in their memories not only by seeing it, but also by hearing it. The introduction of modern multimedia technologies into the educational process is one of the promising areas of informatization of the educational process, and is an important condition for the intellectual development of students and pupils and the socio-economic development of our society.

In conclusion, it can be said that the development of technology has brought innovations to the educational process and has created the basis for the development of multimedia learning environments. Nowadays, there is a constant need to use multimedia in everyone's work. The use of multimedia technologies in the educational process serves to improve the quality of education and the effectiveness of students' learning.

REFERENCES USED:

1. Djurayeva R. Raqamli ta'lim va innovatsiyalar. O'zbekiston Xalqaro islom akademiyasi. Darslik. 2023 y.
2. Zaripov N.N, Hasanov B.N, Protasov Y.Y, Informatikaning nazariy asoslari. Darslik. Durdona nashriyoti. Buxoro. 2024. 216 b.
3. F. M. Fayziyeva, D. M. Sayfurov, R. K. Atamuratov, L. K. Bagbekova, M. M Tilovova "Informatika va axborot texnologiyalari": umumiy o'rta ta'lim maktablarining 10-sinfi uchun darslik: — Toshkent: Respublika ta'lim markazi, 2021. — 160 b.
4. M.T.Azimjanova, F.Muradova, M.Pazilova. Informatika va axborot texnologiyalari. O'quv qo'llanma. T.: "O'zbekiston faylasuflari milliy jamiyati", 2013 y.

UNIVERSAL INSIGHTS CONFERENCE ON SCIENCE AND SOCIETY international scientific conference

5. N. I. Taylaqov, A. B. Axmedov, M. D. Pardayeva, A. A. Abdugʻaniyev, U. M. Mirsanov “Informatika va axborot texnologiyalari”. Darslik. Toshkent, “Extremum-press”. 2018. – 128 b.
6. N. I. Taylaqov, A. B. Axmedov, M. D. Pardayeva, A. A. Abdugʻaniyev, U. M. Mirsanov “Informatika va axborot texnologiyalari” Darslik. Toshkent, Oʻzbekiston Matbuot va axborot agentligining Gʻafur Gʻulom nomidagi nashriyot matbaa ijodiy uyi. 2017. – 160 b.