

METHODS OF USING INFORMATION TECHNOLOGY IN TEACHING MATHEMATICS IN TECHNICAL UNIVERSITIES

Turaev Utkirbek Yahshilikovich

Senior teacher. Jizzakh polytechnic institute

Annotation: This article describes the classification of information technology used in teaching mathematics in higher education institutions and the way they are used.

Keywords: mathematics, software, virtual labs, information technology, computer mathematical systems.

Today's modern specialist in higher education must be able to think systematically, make the right decisions in unusual situations, constantly work on their own. and the development of a professional culture. This, in turn, requires fundamental changes in the curriculum that ensure the quality of the learning process in the curriculum. One of the most important components of the training of competitive specialists in higher education institutions is its mathematical training, which is a long-term search for solutions to the problem of improving the quality of mathematical training.

Currently, information technologies are widely used in teaching subjects in universities. However, researchers believe that math is a science that can be fully and purposefully taught using information technology. It is not accidental that the first tools of informatization have been used to solve mathematical problems.

The use of new information technology in teaching mathematics to future engineers in technical universities will help them to ensure a continuous learning process through: computer visualization; availability of specific formulas and rigid algorithms to solve math problems, the possibility of introducing problem-based learning techniques, automation of learning outcomes and self-control. Monitors the end result of learning, the possibility of developing learning, identifying students' creative abilities; formation of psychological training.

Teaching mathematics in higher education institutions is supposed to bring the interests of individuals and societies together. Person-centered learning is at the heart of this idea, with each student learning to form a mathematical culture as part of a universal human culture. Information and communication technologies are now able to solve practical problems of mathematics much more than half a century ago. The creation of modern information and communication technologies is also directly related to mathematical activity. The interaction of participants in the learning process is facilitated by the use of an information environment.

It facilitates the individualization of information and communication technology students' learning abilities as much as possible and provides teachers with the optimal control over the process. The use of information and communication technologies can easily be used in a variety of images, allowing complex concepts to be more precise and clear, making lessons more interesting and creating interactive lessons. Information and communication technology is a common concept, but it is used in a realistic context, as well as in technical and software environments. Information and communication technologies are used by users with a high level of competence, and the types of information used by them in various disciplines can also be described in different types.

- a) Text Processing Technology. Perform the following processes
- b) graphics processing technologies. Allows you to modify and create graphical images using specific software tools;
- c) data processing technologies. Software is used for data processing, resulting in the creation, storage, editing, processing and printing of spreadsheets. These software tools are also called table processors, with the help of budget and statistical tasks, creating databases that are easy to use;
- e) hypertext technology. It consists of creating a nonlinear hierarchical structure, divided into text strips on a computer screen. Each piece of text can be linked to others by inserting keywords, phrases, links or hyperlinks to specific

parts. This will allow you to fill in the information about the object being studied and select a link to the student's information. Such text has the capability of introducing new sections that are linked to existing features;

e) multimedia technology. Enables animation of pictures, video, text and voice. Media objects include: video clips; media reports; animated maps and schemes; interactive maps and schemes (users can independently control the appearance of sound, text or graphic explanations by pressing the buttons). Effective game simulators and multimedia tools are developed to enable the organization of the learning process at a modern level;

j) hypermedia technology. It combines two concepts: multimedia and hypertext. While this technology has paved the way for the development of hypertext technologies, hypermedia software allows you to work not only with text, but also with nonlinear objects that produce two- and three-dimensional graphics, video and sound;

h) Computer Training Systems. Systems that help to master new material, control the amount of knowledge, and prepare the learning material. They are used in the process of modeling the learning process, selecting the right learning strategies for each student, and providing automated accounting of new information entering the database.

i) network information technology. Network information technology enables the integration of technology of data collection, transmission, storage and processing on the computer by means of communication and telecommunication equipment. Local networks emerging from the use of modern computers have increased the efficiency of computer technology, improved the quality of data processing, and have become the basis for the emergence of new information and communication technologies that elevate production management to a new level.

Information technologies traditionally include hardware and software, while new information technologies include hardware and software tools and devices for

the collection, storage, processing and transfer of information, modern telecommunications information systems, systems, audio, video and more.

It is possible to determine the types of educational software, methods of their application in teaching mathematics in higher education institutions on the basis of methodological goals and advantages of their practical use.

1. Electronic encyclopedias, almanacs, multimedia demonstration packages provide the learning process with the necessary teaching materials and visual aids. They have directories, navigation systems, videos and various animations and are accompanied by sound. In addition to visualizing the presented object or process, there are also software tools that allow them to change their parameters, that is, interactively, and are used mainly for lecturing, interpreting descriptions, and organizing students' independent work during lectures.

2. Virtual Laboratories. Such software can be used to study the properties of geometric objects in detail. They enable interactive drawings and measurements, help students to construct geometric objects and analyze their properties, and solve the problem of proofing. It can also be used for the construction of bubbles, cross sections and cylindrical bodies. It is advisable to use animated clips to create and edit space drawings. It is possible to edit created objects, that is, to change plane transparency, line thickness, orientation, positioning, color and size of objects, and also to create three-dimensional and two-dimensional images in separate windows. There is also the ability to describe invisible objects in the background of the drawings, which can be rotated around the axis of symmetry and viewed from different angles.

The use of virtual laboratories in teaching mathematics in higher education institutions helps to study the properties of geometric figures, to form theorems and their arguments.

Despite the high availability of information technology tools, the pace of new methodological developments in the field of e-learning has been slow. That is why today this problem is one of the most pressing.

References:

1. Pidkasisty P.I. Samostoyatelnaya poznavatel'naya deyatelnost' shkolnikov in obuchenii: Theoretic-experimental. M.: Pedagogy, 1980. p. 158.
2. Polat, E.S. Новые педагогические и информационные технологии в системе образования: учеб. пособие для студентов пед. вузов и системы повышения квалификации кадров. М.: ИТс "Академия", 2001.
3. Dyachenko, S.A. Using Integrated Symbolic Systems Mathematica in Process Observing Mathematics in вузе: дис. ... канд. пед. 2002. 164 pp.