

Better competence of the teachers since they will look on the teaching process from the point view of the students and have better understanding for it, strengthening the teachers' digital and linguistic competences, the possibility of networking and exchange of good practices, competitiveness among teachers, comparability of the common European educational space, are our main priorities.

References

1 *Mirziyoev, Sh.* We will resolutely continue our path of national development and take it to a new level / Sh. Mirziyoev. – Vol. 1. – Tashkent : Uzbekistan, 2017.

2 *Barkley, E. F.* Collaborative learning techniques: A Handbook for college faculty / E. F. Barkley, K. P. Cross, C. H. Major // San-Francisco : Jossey-Bass, 2005.

3 *Alkan, V.* Matematikten nefret ediyorum! / V. Alkan // Pamukkale Üniversitesi Eğitim Fakültesi Dergisi. – 2010. – 28.

4 *Sullivan, P.* Teaching mathematics: Using research-informed strategies / P. Sullivan; Editor: Suzanne Mellor // Australian Education Review / Australian Council for Educational Research. – ACER Press. – 2011. – no. 59.

UDC 510.24

FORMATION OF NEW INFORMATION TECHNOLOGIES OF LEARNING AIMED AT IMPROVING THE EFFECTIVENESS OF THE LESSON IN A QUALITATIVE WAY

D. B. ESHMAMATOVA, R. A. KHIKMATOVA
Tashkent State Transport University, Republic of Uzbekistan

E. E. GRIBOVSKAYA
Belarusian State University of Transport, Gomel

Appreciate science, strive for science. Do not waste even a second of you time.

Youth is the most invaluable period of life.

*Science and knowledge - fireproof, non-submersible, never forget that it is a
fortune that no one can take away from you!*

Sh. Mirziyoev

A teaching method is a way in which a teacher organizes and manages the teaching learning situation, presents clear explanations and vivid descriptions, assigns and checks if learning interacts effectively with learners through questions and probes, answers and reactions, and praise and criticism. A teaching

method is a way of facilitating interaction between the teacher and learners in order to realize set goals.

The formation of new information technologies (NIT) within the framework of subject lessons stimulate the need to create new software and methodological complexes aimed at improving the effectiveness of the lesson. Therefore, for the successful and purposeful use of new information technologies in the educational process, teachers should know the general description of the principles of functioning and the didactic capabilities of software-applied tools and then, based on their experience and recommendations, “embed” them in the learning process.

The aim is to consider ways to use new information technologies in mathematics lessons, which contribute to improving the quality of knowledge, students and the speed of their acquisition. More precisely, the use of software and methodological tools to improve the effectiveness of studying those topics of mathematics that, in the traditional form of education, cause students difficulties in assimilation.

To achieve this goal, it is necessary to solve the following tasks:

- Analyze software tools that allow the use of new information technologies in teaching mathematics;
- to justify the expediency of using software tools in mathematics lessons;
- to propose methodological techniques for using software tools in mathematics lessons.

The following methods were used to perform the work:

- study of scientific and methodological literature;
- generalization of teachers’ experience in the use of NIT in teaching;
- practical methods.

Today, a subject teacher is no longer able to ignore the educational potential possessed by modern information technologies and their corresponding software and technical platform, which take the educational process to a qualitatively new level. Through the use of accumulated methodological knowledge and didactic materials, teachers are able to significantly increase the degree of educational impact in the classroom, increase the level of motivation of students to study new material [1].

As a rule, attempts to introduce a computer into the learning process failed quite quickly due to the imperfection of the software product, organizational difficulties associated with the workload of the computer class and the unpreparedness of the subject for independent work in the computer classroom.

The emergence of software and methodological complexes has somewhat shifted, at least psychologically, the process of introducing information technologies into education, but due to the organizational and methodological difficulties described above, this did not lead to the expected goal.

Today, there is an increasing interest of subject teachers in the use of information technology in teaching. In modern schools, computers are increasingly

used not only in computer science lessons, but also in mathematics, chemistry, biology, Russian, literature, fine arts, and a foreign language [2].

Information technologies not only facilitate access to information and open up opportunities for the variability of educational activities, its individualization and differentiation, but also allow a new way to organize the interaction of all subjects of learning, to build an educational system in which the student would be an active and equal participant in educational activities.

Currently, it is customary to distinguish between the concepts of “information technology” and “learning technology”. “Learning technologies” is usually understood as a system of methods, forms and means of learning, within which the achievement of set didactic goals is ensured.

Among the various definitions of the concept of “information technology”, the interpretation of this term given by M. I. Zheldakov seems to be more acceptable: “Information technologies are understood as a set of methods and technical means of collecting, organizing, storing, processing, transmitting and presenting information that expand people’s knowledge and develop their capabilities to manage technical and social processes” [2].

It should be noted that in recent years the term “computer and telecommunication technologies” has become widely used. However, since the concept of “information” includes both computer and telecommunication means, we will continue to use the term “new information technologies” and the corresponding abbreviation – NIT.

The definition of information technologies (without the prefix “new”) includes a wide range of tools and methods of working with them: from printed publications to modern computers. The peculiarity of most NIT in higher education is that they are mainly based on modern personal computers (PCs). At the same time, the PC confidently entered the system of didactic tools, became an important element of the subject environment for the versatile development of students.

NIT tools are traditionally understood as “software and hardware and devices operating on the basis of microprocessor technology, modern means and systems of telecommunications for information exchange, audio-video equipment, etc., providing operations for the collection, production, accumulation, storage, processing, transmission of information”.

Therefore, it is best to define the concept of “new information technologies in education” based not on the use of a computer, but on the pedagogical essence.

Since learning is the transfer of information to the student, it can be concluded that information technology has always been used in teaching. Moreover, any methods or pedagogical technologies describe how to process and transmit information so that it is best understood by students. When did computers become so widely used in education that it became necessary to talk about information technology training, it turned out that they have been actually implemented in the

learning processes for a long time, and then the term “new information technology of learning” appeared. Thus, the emergence of such a concept – a new information technology – is associated with the emergence and widespread introduction of computers in education.

Information technologies include programmed learning, intelligent learning, expert systems, hypertext and multimedia, microcosms, simulation training, demonstrations. These particular techniques should be applied depending on the learning objectives and learning situations, when in some cases it is necessary to better understand the needs of the student, in others, the analysis of knowledge in the subject area is important, in others, the main role may be played by taking into account the psychological principles of learning.

As we can see, the main thing in new information technologies is a computer with the appropriate hardware and software. Therefore, information technology in education should be understood as the process of preparing and transmitting information to the student, the means of implementation of which is a computer.

This approach reflects the initial understanding of pedagogical technology, how to use technical means in training.

Pedagogical technology is “not just the use of technical learning tools or computers, this is the identification of principles and the development of methods for optimizing the educational process by analyzing factors that increase educational effectiveness, by designing and applying techniques and materials, as well as by evaluating the methods used”.

Thus, the learning process with its own characteristics becomes at the head, and the computer is a powerful tool that allows you to solve new, previously unsolved didactic tasks [3, 4].

It can be argued that in education, “pedagogical technology” and “information technology” – these are synonyms in a certain sense. Can the use of a computer be considered a sufficient reason to name this technology a new one? Probably not. The fact is that the vast majority of such technologies rely (if at all) on well-known (good or not so good) pedagogical ideas. Moreover, they do not meet the basic requirements of the concept of “technology” at all. Using modern learning tools and instrumental environments, beautifully designed software products are created that do not contribute anything new to the development of learning theory. Therefore, we can only talk about automating certain aspects of the learning process, transferring information from paper media to a computer, etc.

It is possible to talk about the new information technology of education only if:

- it satisfies the basic principles of pedagogical technology (preliminary design, reproducibility of goal formation, integrity);
- it solves problems that have not been theoretically or practically solved in didactics before;
- the means of preparing and transmitting information to the student is a computer.

Thus, the emergence of the concept of a new information technology is associated with the emergence and widespread introduction of computers in education, which include programmed learning, intelligent learning, expert systems, hypertext and multimedia, microcosms, simulation training, demonstrations. These particular techniques should be applied depending on the learning objectives and learning situations, adhering to the principles outlined above.

It can be concluded, that the main thing in new information technologies is a computer with the appropriate hardware and software. The use of software in the educational process (software and application tools) confirms the very definition: information technology of education is the process of preparing and transmitting information to the student, the means of implementation of which is a computer. This approach reflects the initial understanding of pedagogical technology as the use of technical software in teaching.

References

1 *Polat, E. S.* New pedagogical and information technologies in the education system / E. S. Polat. – M. : Omega-L, 2004.

2 *Zheldakov, M. I.* The introduction of information technology in the educational process / M. I. Zheldakov. – M. : New knowledge, 2003.

3 *Sovetov, B. Ya.* Information technologies in education and society of the XXI century / B. Ya. Sovetov // Computer science and information technology in education. – 2004. – № 5.

4 *Agapova, N. V.* Prospects for the development of new learning technologies / N. V. Agapova. – M. : TK Velbi.