SMART TECHNOLOGIES IN INFORMATICS

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Abstract. *In the modern educational process, one computer successfully performs all the functions that were previously performed by such devices as televisions, tape recorders, film projectors, and video recorders. In addition, the quality of transmission, storage and display of information has significantly improved. The next article is devoted to the issue of teaching information technology in higher educational institutions based on SMART technologies.*

Keywords: *ICT, intellectual education, higher education institutions, intellectual education, e-learning, intelligent e-learning.*

Introduction. As a result of the advances of the technological era and their successful application in the educational process, the current education system cannot be imagined without information and communication technologies. In modern education, one computer successfully performs all the functions that were previously performed by devices such as televisions, tape recorders, movie projectors and video recorders. In addition, the quality of transmission, storage and display of information has significantly improved. Nowadays, computer literacy has become an important feature of culture, it has become a necessity for every person, wherever he works. Therefore, in the educational process, especially in higher education, teaching information technology in accordance with modern requirements has become an urgent problem [3, 15, 16].

Since information and communication technologies (ICT) permeate all aspects of society, it is difficult to imagine our life without them. Therefore, every member of society must have the skills to use ICTs correctly and effectively. In connection with the globalization of the education market, a new set of requirements is being formed in the national education system. The relevance of the issue is reflected in the direct attention of the government to this area. Within the framework of the Decree of the President of the Republic of Uzbekistan DP-4851 dated October 6, 2020 «On measures to further improve the education system in the field of information technology, the development of research and their integration with the IT industry», as well as ensuring the implementation of the tasks set in the State Program for the implementation of the Strategy actions on five priority areas of development of the Republic of Uzbekistan for 2017-2021 in the «Year of Science, Education and the

Digital Economy» was identified as one of the most important tasks is to meet the market demand for qualified IT professionals [1].

Materials and methods. Based on general trends read from numerous articles on technology, technology education, software application manuals, advanced teaching methods, and teaching methodologies. Five of the most frequently cited, recommended, and noted methods of teaching computer software applications are identified. These include [5]:

         direct learning;
         problem learning;
         video-based training
         cooperative learning;
         study of documents.

Results and Discussion. In connection with the globalization of the education market, a new set of requirements is being formed in the national education system. One of the key requirements is the ability to operate in a competitive and rapidly changing education market. Leading business models and innovations will become the main competitive advantage of universities in the coming years [12, 13, 14, 15]. At the same time, the role of IT is growing, since advanced IT solutions are becoming a key factor in achieving the strategic goals of the university and accelerating innovative changes in management and educational process [2]. Therefore, it is important to organize IT courses in higher education institutions efficiently and in accordance with international standards. The use of SMART technology, which is one of the most effective teaching methods in organizing this course, leads to positive results. Because SMART learning is an educational technology based directly on the achievements of the computer age.

In the course of our research, we got acquainted with the research of a number of scientists on the technology of teaching informatics in higher education, others on the organization of the educational process based on SMART technology [10, 11]. For example, according to N.A. Dneprovskaya, smart education presupposes a large number of resources, the maximum variety of multimedia (audio, video, graphics), the ability to quickly and easily adapt to the needs of listeners [4]. Z. K. Bekturiva and N. N. Vagapova describe it as follows: «This is a completely new educational environment in which educational activities are carried out on the Internet on the basis of agreements between uniform standards, technologies and a network of educational institutions and uses common content. A distinctive feature of this type of education is that it is available to all segments of the population, regardless of place of residence and financial situation. The creation of e-learning tools for academic subjects will further expand the use of modern information and communication technologies in the teaching of these

subjects. This, in turn, is a key factor in deepening students' knowledge in these disciplines and increases the quality and effectiveness of teaching [7]. Another definition of smart education: «In short, smart education is the delivery of education through a single Internet network based on common standards, agreements and technologies of educational institutions and teachers. This is an association of performers» [8]. However, the lack of research on the use of SMART technologies in the organization of teaching computer science in universities prompts a deeper study of this topic.

Nowadays, it is becoming more common to use multimedia presentations created in Microsoft Power Point or Macromedia Flash in the classroom. But at the same time, interactive technologies are entering the field of education, replacing the series of slideshows. One of these «smart» technologies, smart whiteboards, allows students to communicate using an interactive whiteboard - smart whiteboard, interactive display - Sympodium, and also allows the presenter to create presentations during the lesson. Interactive Smart Whiteboards can be used to write with special markers, display instructional materials, and create written comments on screen images. To make the most of the capabilities of such interactive smart whiteboards, special software (Smart Notebook, Bridgit, Synchronous Eyes) was developed, each of which has its own capabilities [9].

The technology of using interactive devices is a process that closely assists in organizing the educational process, presentations and meetings. Interactive equipment is able to show slides, videos, markup, draw various diagrams, conduct electronic voting, and also ensure the active participation of the audience or meeting participants in the learning and discussion process. The active use of smart technology in the classroom helps the teacher to make the learning process much more interactive. With the help of the software, the teacher has the opportunity to create teaching materials in various subjects, conduct experiments and experiments, test the audience on the board with immediate answers, use audio during the lesson, present videos.

When working with interactive whiteboards, the attention of all participants is focused, and they very quickly begin to absorb the training materials. As a result, the performance level of each student rises. The introduction of new educational technologies in education, in turn, will ensure the transition of the educational scheme from reproductive to creative form. Modern smart education has two main goals:

1. Creation of the necessary motivation for teaching students;

2. Search for new forms and tools of teaching through creative solutions [8].

Conclusion. In recent years, the global demand for electronic and smart technologies has increased dramatically. As a result, this new teaching

technology is effectively used in the education system of almost all countries of the world, including Uzbekistan. Interactive devices and technologies for their effective use help teachers and educators use video and audio sources, show slides, draw various diagrams, effectively organize the educational process using electronic voting, focus attention, quickly and easily provide information to students. acquire knowledge through skill, active participation in discussions and debates.

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