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DIDACTIC OPPORTUNITIES FOR TEACHING SPECIALTY SUBJECTS ON THE BASIS OF DIGITAL EDUCATIONAL TECHNOLOGIES

Khamidov Sherali Shirinovich
Teacher at the Bukhara
State Pedagogical Institute
hamidovsherali1985@gmail.com
Isambaev Rustamjon Radik ugli
Student of the Bukhara State
Pedagogical Institute
isambayev1997@gmail.com

Abstract: This article will focus on methods of teaching special disciplines and their implementation in accordance with approaches to improving general teaching methods. It serves to represent data using digital technologies and present them in a more accurate and simple way. Achieving a complete understanding of the problem by students, as well as teaching them to solve problems independently, consists in developing creative thinking and creative abilities through the use of digital technologies in proving problem solving. Therefore, consideration of the didactic possibilities of digital technologies used in the educational process is one of the important tasks.

Keywords: digital technologies, procedural, dialectical, constructive, digital educational technologies, abstract, modeling, interactive.

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INTRODUCTION

The use of ICT in what is now known as" digital education " and continuing education is evolving day by day, and we have also witnessed during the pandemic that sometimes humanity has to get used to it from its obligation. As the processes of understanding the essence and features of society and digital technology in its structure, mastering knowledge through their application in practice, differ, it is not such a complex process to fully understand or explain the essence of the concept of digitization of Education. Digital education is the teaching of a subject through information technology, and the organization and management of the educational process is carried out without human help. In this process, of course, the pedagogical and psychological approach is seen as factors that ensure that digital education is effective.

The implementation of digital technologies in the educational system is eliminating some of the gaps and shortcomings that have arisen in the industry as a result of globalization. Its service as an effective tool has been finding its proof in the context of practical experimental tests by researchers in developed countries of the world. Digitization of pedagogical activity has a positive effect not only on the content of education, but also on its organization, quality, rapid implementation in terms of time. Reducing or simplifying the role of the human factor in education through the means of digital technologies, virtual teaching has to reduce time limit dimensions in the educational system by creating systems. Such concepts as liberalization in it, the formation of an open educational market in the training of competitive personnel are the problems of the field of digitalization of education on the same day. Currently, in research on the problems of digitization of education, solutions have been proposed aimed at creating a virtual educational environment.

Researchers J.F.Halliwell and R.D.With the advent of the virtual education sector, according to the Putnam's, researchers began to pay attention to changes in previous mechanisms of social capital formation. Some began to seriously argue that the virtual environment of Education threatens the stability of the country. In this case, the imbalance of educational resources is perceived as a loss of a significant part of skills, that is, human or social capital [1].

In the higher education system, the difference between the rapid information flow of the virtual education sector (distance education) and the slow transition of time to the traditional learning process is increasingly felt. Today, continuous higher education should be understood as a plural non-equilibrium system with characteristics such as

variability, generosity and fundamental "complexity" of internal processes, the existence of which is determined by network logic [2].

Literature analysis. The use of digital technologies, in particular computers, in the educational process A.In his monograph, Abduqodirov appears in the following four:

- passive application-computer like a simple counter;
- reactive communication-computer as examiner;
- active communication - when the computer instructs the student and takes the exam;
- interactive communication-the computer uses as artificial intelligence that is, when communicating with a student [3].

Researcher M.V. In his scientific work, Ivanov noted that the degree of accuracy of "conversation" with a machine is never at a high level. The so - called" dialogue mode " is explained by a change in the sequence or volume of information. These procedures ensure that the data stored in the device's memory is fully functional. Real communication is an objective dialectical confrontation that occurs in the same situation, the subject of debate, even the most modern machine cannot understand it, does not understand the contradiction [4].

In their research, scientists from the University of Sydney, avtralia define digital pedagogy as the formation of knowledge through the planning of learning based on teachers ' educational problem and high-level thinking skills. These concepts suggest that teachers must constantly improve their pedagogical skills and knowledge in order to be aware of the latest technologies [5].

At this point, it is seen how necessary it is for educators of the present day to know the use of digital technologies in the course of the lesson. We are all witnesses to the fact that this is especially emphasized by scientists conducting research in the directions of the educational system, and these opinions find their proof day by day.

Main part. Currently, there are different opinions about the teaching of specialty subjects and its role in the higher education system. In our opinion, specialist science in higher education is not only the main digital discipline, but also one of the most important components of human culture. Conscious and deep mastery of the course of specialist subjects presents a number of difficulties for students in mastering them due to the considerable complexity of error theory relationships. Students now have an increasing demand for logical thinking and spatial representations. In the study of specialist subjects, the creation of certain images is often accompanied by a drawing, which, due to the habit of imaging, presents a great challenge for students.

Some teachers do not adequately address these difficulties and overestimate students ' abstract abilities. A characteristic feature of the superficial mastery of the science of "Numerical Methods" in the block of specialized Sciences is the limited reserve of the numerical imagination, the inability to constructively transform images that appear in the mind.

In solving issues, the student does not see the drawings studied due to the poorly developed scientific imagination, they cannot be applied in a newly changed environment, where the mutual arrangement of elements does not resemble a textbook drawing or a drawing drawn by the teacher on a board during the course of the lesson [6].

Digital technology can be used in the classroom as a means of developing new concepts and building shape images, or in the form of other moving models. In order to develop the spatial imagination and constructive abilities of students, it is important that they independently develop models. In the modeling process, the student acquires the skill of applying the studied theoretical knowledge in practice, performing the mutual arrangement of images, certain structural features, the necessary calculations.

It greatly helps the development of logical thinking to solve any problems, especially problems of proof. Therefore, we can see that a properly selected system of exercises is important in the conscious and deep assimilation of science by students.

The widespread use of digital technologies in the educational process makes it possible to further increase the effectiveness of educational and educational work and the pedagogical process. At the same time, changes in the way of thinking, forms and methods of all types of educational activities are inevitable, and therefore there are certain advantages, and at the same time certain problems. Solving these problems currently occupies one of the central places in the theory and practice of teaching. In this regard, it is required to make certain adjustments in the strategy of using digital technologies as a means of training in the educational process, as well as in the development of appropriate training programs and methodology for their use [7].

It is necessary to clearly distinguish between the needs and possibilities of using digital technologies as a means of training (education, development) at each stage of an integral system of Education.

At the current stage of today's educational system and in the management of this system, it is impossible to imagine without digital technologies. The use of digital technologies in the educational process is an urgent requirement for the development of modern society.

The use of digital technologies in the educational process not only allows you to reduce the load on the teacher, increase the quality of teaching, but also leads to making the learning process more creative and mutually interesting.

The principle of the use of digital technologies in the educational process in the following three manifestations:

- as a simulator;
- as a tutor performing certain functions for the teacher;
- it is carried out as a device that simulates the actions of a specific environment and specialists in it.

With the help of digital technologies, the greatest prospects are opened in the use of training for simulation purposes, which creates conditions for the development of thinking, the formation of decision-making abilities. Working with digital educational tools is more effective when it occurs in an interactive mode that provides training. We can see this in the example of how to achieve high results by using electronic curricula in the lessons of the subject" numerical methods".

The fact that the didactic possibilities of using digital technologies are carried out at a decisive level depends on the correct Organization of educational work of students. Using software - pedagogical tools, the teacher is obliged to determine in which order it is advisable to use them during the lesson in order to stimulate the mental activity of students in each specific case. In this regard, citing the conditions under which didactic requirements for the use of digital technologies must be observed:

- correct selection of educational material (subject) for presentation using digital technologies;
- that many subjects of the specialist science course require a comprehensive presentation;
- the fact that the teacher is required to work with preliminary explanations, textbooks and developed teaching aids;
- students will be able to determine the procedure for working on a computer (tablet, smartphone);
- that they pay attention to the main issues of the materials under study;
- in the process of using digital technologies, the teacher monitors the work of students;
- to ask students by the teacher how they understand the exercises being studied, as well as to help them if some of them experience difficulties;
- combining students with other forms and methods of education in teaching;
- to seriously focus on the development of students ' ability to independently understand and master new material using digital technologies;
- when the teacher determines clearly in advance the work with software tutorials, then the "research" actions of students will help to individually solve the main questions of the topic under study.

Solving the economic problem associated with the inclusion of digital e-learning resources in the information space of the educational system requires simplifying the methods of their use in training. To do this, when using a particular software, types of digital e-learning resources are selected depending on the content of the actions performed by the teacher and students, which leads to a simplification of the teacher's management actions (Table 1).

Table 1.

Actions of teachers and students in the use of digital electronic resources of various types

Digital electronic resource type	**Student efforts to use the software product**	**Teacher management actions**
Information reference	Auxiliary information (video, drawing, audio recording) for solving traditional educational (extracurricular) tasks.	To create a space for the selection of electronic resources, to organize their search, to advise students in the process of perception of information.

Instrumental-practical	Practical design of information objects, analysis by creating models of Real processes.	Counseling and pedagogical assistance in the interaction of students with software products.
Training assessment	Perform actions with the commands given. Reflection and control of actions performed on the basis of the results of the program.	Organization of pedagogical purposeful use of a digital electronic resource.
Complex	Education is a self-study based on a combination of different types of digital electronic resources to solve (extracurricular) tasks	Synchronizing the use of electronic resources with the development of educational programs and additional educational programs.

Conclusion. It is necessary to mention that the application of digital technologies in the educational system is one of the urgent tasks of today. In this we can see the formation of their knowledge, skills and skills as a result of the individual work of students in teaching specialist subjects through digital educational technologies. And the result obtained is to improve the quality of education more efficiently and purposefully using the ideas of modern progress, effectively taking advantage of the possibilities of digital technology.

REFERENCE:

1. Helliwell J.F., Putnam R.D. Education and social capital. - National Bureau of Economic Research, 1999. - № 7121.
2. . Игнатова Н.Ю. Образование в цифровую эпоху: монография. Нижний Тагил, 2017. 128 с.
3. Абдукодиров А.А., Пардаев А.Х., Masofali o'qitish nazariyasi va amaliyoti. Монография. Т.: Fan. 2009. -145 б.
4. Иванов М.В. Пути совершенствования методов преподавания в высшей школе // Современная высшая школа. - 1982. - №3. - С. 118-122.
5. Milton M., Vozzo L. Digital literacy and digital pedagogies for teaching literacy: Pre-service teachers‘ experience on teaching rounds //Journal of Literacy and Technology. - 2013. - Т. 14. - No. 1. - P. 72-97.
6. . С.Авдеева. Учебные материалы нового поколения в проекте ИСО. Народное образование. № 9, 2007, С. 187-194.
7. Белайчук О.А., Лебедева Н.А. Математический конструктор - интерактивная творческая среда для создания учебных моделей по математике. Вопросы информатизации образования. №9, 2010, С. 212.