

DIDACTIC POSSIBILITIES OF TEACHING SPECIALISTS ON THE BASE OF DIGITAL EDUCATIONAL TECHNOLOGIES

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Abstract: *This article talks about the methods of teaching specialized subjects and their implementation in accordance with the approaches to improving general didactic teaching methods. It serves to express data using digital technologies and to describe them in a more accurate and simple way. By using digital technologies in proving the solution of problems, it is simplified, students can fully understand the problem, and teaching them to solve problems independently is to develop their creative thinking and creative abilities. Therefore, one of the important tasks is to consider the didactic possibilities of digital technologies used in the educational process.*

Key words: *digital technology, procedure, dialectical, constructive, digital educational technologies, abstract, modeling, interactive.*

ДИДАКТИЧЕСКИЕ ВОЗМОЖНОСТИ ОБУЧЕНИЯ СПЕЦИАЛИСТОВ НА ОСНОВЕ ЦИФРОВЫХ ОБРАЗОВАТЕЛЬНЫХ ТЕХНОЛОГИЙ

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Аннотация: *В данной статье говорится о методах преподавания профильных предметов и их реализации в соответствии с подходами к совершенствованию общедидактических методов обучения. Он служит для выражения данных с использованием цифровых технологий и для их более точного и простого описания. Использование цифровых технологий при доказательстве решения задач упрощается, учащиеся могут полностью понять проблему, а обучение их самостоятельному решению задач способствует развитию их творческого мышления и творческих способностей. Поэтому одной из важных задач является рассмотрение дидактических возможностей цифровых технологий, используемых в образовательном процессе.*

Ключевые слова: *цифровая технология, процедура, диалектическая, конструктивная, цифровые образовательные технологии, абстрактное, моделирование, интерактивное.*

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INTRODUCTION

Today, the use of ICT in continuing education, known as "digital education", is developing day by day, and we have seen during the pandemic that sometimes humanity has to get used to it. Understanding the nature and characteristics of digital technology in society and its content, as well as the processes of acquiring knowledge through their practical application, fully understanding or explaining the essence of the concept of digitization of education is not such a complicated process. Digital education is the teaching of a subject through information technology, without the help of humans to organize and manage the educational process. In this process, pedagogical and psychological approaches are considered as factors that ensure the effectiveness of digital education.

The implementation of digital technologies in the education system is eliminating some gaps and shortcomings that have arisen in the field as a result of globalization. Its service as an effective tool has been proven by researchers in developed countries of the world during practical tests. Digitization of pedagogical activity has a positive effect not only on the content of education, but also on its organization, quality, and timeliness. Reducing or simplifying the role of the human factor in education with the help of digital technologies, by creating virtual training systems, it is necessary to reduce the size of the time limit in the educational system. In it, concepts such as liberalization, formation of an open educational market in competitive personnel training are the problems of today's digitization of education. Currently, in research on the problems of digitalization of education, solutions aimed at creating a virtual educational environment are proposed.

According to researchers J.F. Halliwell and R.D. Putnam, after the emergence of the virtual education sector, researchers began to pay attention to changes in the previous mechanisms of social capital formation. Some have seriously argued that the virtual environment of education threatens the stability of the country. In this case, the imbalance of educational resources is perceived as the loss of an important part of skills, that is, human or social capital [1].

In the higher education system, the difference between the rapid flow of information in the virtual education sector (distance education) and the slow transition of time to the traditional educational 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

In his monograph, A. Abdukadirov describes the use of digital technologies, in particular, computers, in the following four ways:

- passive application - the computer is like a simple counter;
- reactive communication - the computer as an examiner;
- □ active communication - during the computer student's guidance and examination;
- interactive communication - the computer is used as artificial intelligence, that is, in communication with the student [3].

Researcher M.V. The level of accuracy of Ivanov's "conversation" with the machine in his scientific work is never high. The so-called "dialog mode" is explained by the change in the sequence or volume of information. These procedures do not ensure the full functionality of the data stored in the device's memory. Real communication is an objective dialectical contradiction that occurs in the same situation, the topic of discussion, even the most modern machine cannot understand it, it does not understand the contradiction [4].

In their research, scientists from the University of Sydney in Australia define digital pedagogy as building knowledge by planning learning based on teachers' educational problem-solving and higher-order thinking skills. These concepts show that teachers should constantly improve their pedagogical skills and knowledge to keep up with the latest technologies [5].

At this point, it can be seen how necessary it is for today's pedagogues to know how to use digital technologies in the teaching process. We are all witness to the fact that this is emphasized by scientists conducting research in the areas of the educational system, and these ideas are being proven every day.

Main part. Nowadays, different opinions are expressed about the teaching of specialized subjects and its place in the higher education system. In our opinion, specialized subjects in higher education are not only the main digital discipline, but also one of the most important components of human culture. Conscious and in-depth

mastering of the course of specialized sciences causes a number of difficulties for students in mastering them due to the rather complex nature of the relations of the theory of errors. Now the demands of students' logical thinking and spatial imagination are increasing. In the study of specialized subjects, the creation of certain images is often provided by drawing, which creates great difficulty for students due to the usual nature of the depiction.

Some teachers do not adequately address these challenges and overestimate students' abstract abilities. A characteristic feature of the superficial mastery of the subject "Numerical methods" in the block of specialized subjects is the limited reserve of numerical imagination, the inability to constructively change the images that appear in the mind.

When solving problems, the student does not see the studied drawings due to a poorly developed scientific imagination, he cannot apply them in a newly changed situation, where the mutual arrangement of elements is not similar to the textbook drawing or the drawing drawn by the teacher on the blackboard during the lesson [6].

Digital technologies can be used in the classroom as a means of developing new concepts and building images of shapes or other moving models. In order to develop students' spatial imagination and constructive abilities, it is important for them to independently develop models. In the process of modeling, the student acquires the ability to apply the learned theoretical knowledge in practice, making 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 for the conscious and deep learning of science by students.

The wide use of digital technologies in the educational process allows to further increase the efficiency of educational and educational work and the pedagogical process. At the same time, a change in the way of thinking, forms and methods of all kinds of educational activities is 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 teaching tool in the educational process, as well as in the development of appropriate educational programs and methods for their use [7].

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

Today's education system at its current stage and management of this system cannot be imagined 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 allows not only to reduce the burden on the teacher, to increase the quality of teaching, but also to make the educational process more creative and interactive.

The principle of using digital technologies in the educational process has the following three forms:

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

The greatest prospects are opened in the use of simulation in education with the help of digital technologies, which creates conditions for the development of thinking, the formation of decision-making abilities. Working with digital learning tools is more effective when it takes place in an interactive mode that provides training. We can see this in the example of achieving high results using e-learning programs in "Numerical Methods" classes.

The use of didactic possibilities of digital technologies at the decisive level depends on the correct organization of students' educational work. Using software-pedagogical tools, the teacher is obliged to determine in which order it is appropriate to use them during the lesson to stimulate the mental activity of students in each specific case. In this regard, if we mention the conditions that must be observed in the didactic requirements for the use of digital technologies:

correct selection of educational material (subject) for presentation using digital technologies;

- that many topics of the course of specialized subjects require a comprehensive presentation;

• it is required to work with the teacher's preliminary explanations, textbooks and developed training manuals;

- that students find out how to work on a computer (tablet, smartphone);
- pay attention to the main issues of the studied materials;
- the teacher observes the work of students during the use of digital technologies;
- the teacher asks the students how they understood the exercises and helps them if some of them have difficulties;

• to combine the education of students with other forms and methods of education;

• pay serious attention to the development of students' ability to independently understand and master new material using digital technologies;

• if the teacher clearly defines the work with the software - training manuals, then the students' "research" actions will help to solve the main questions of the studied topic individually.

Solving the economic problem associated with the introduction of digital electronic educational resources into the information space of the educational system requires

simplifying the methods of using them in education. For this purpose, the types of digital e-learning resources are selected depending on the content of the actions performed by the teacher and students when using a certain software, which leads to the simplification of the teacher's management actions (Table 1).

Table 1.

Actions of teachers and students in using various types of digital electronic resources

A type of digital electronic resource	Student actions on using the software	Management actions of the teacher
Information reference	Supporting information (video, drawing, audio recordings) for solving traditional educational (extracurricular) tasks.	Creating a selection area for electronic resources, organizing their search, advising students in the process of information perception.
Instrumental - practical	Practical design of information objects, analysis by creating models of real processes.	Provide advice and pedagogical assistance in interaction of students with software products.
Learning assessment	Perform actions with given commands. Reflecting and managing the actions taken based on the results of the program.	Organization of pedagogically appropriate use of digital electronic resources.
Complex	Self-study based on the combination of various types of digital electronic resources to solve educational (outside the classroom) tasks	Synchronization of the use of electronic resources with the development of educational programs and additional educational programs.

CONCLUSION

It is necessary to mention that the use of digital technologies in the educational system is one of the urgent tasks of today. In this case, we can see the formation of knowledge, skills and abilities of students as a result of individual work in teaching specialized subjects through digital educational technologies. The obtained result is to further improve the quality of education by effectively using the possibilities of digital technology and using the ideas of modern development effectively and purposefully.

REFERENCES:

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. Абдуқодиров А.А., Пардаев А.Х., Масофали ўқитиш назарияси ва амалиёти. Монография. Т.: Фан. 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.