

USE OF DIGITAL TECHNOLOGIES IN INCREASING THE COGNITIVE ACTIVITY OF STUDENTS IN THE MODERN EDUCATION SYSTEM

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Abstract:

In this article, the actual aspects and importance of the use of digital technologies in education are highlighted on a theoretical basis, and the necessary recommendations are given. In the article, the priority directions for the development of the educational process based on the use of digital technologies in the higher education system of our republic and the analysis of their possibilities are defined. Also, proposals are presented on the implementation of the existing opportunities for improving the professional pedagogical skills of teachers based on the introduction of digital technologies in higher education.

Keywords: digital technology, digital education, pedagogical skill, task, efficiency, education, personnel, information and communication technologies, cognitive activity.

ZAMONAVIY TA'LIM TIZIMIDA O'QUVCHILARNING BILISH FAOLLIGINI OSHIRISHDA RAQAMLI TEXNOLOGIYALARDAN FOYDALANISH

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Favqulodda vaziyatlar vazirligi Dasturiy ta'minotni ishlab chiqarish bo'limi bosh muhandisi

Anontatsiya:

Mazkur maqolada ta'limda raqamli texnologiyalardan foydalanishning dolzarb jihatlari va ahamiyati nazariy asosda yoritilib, kerakli tavsiyalar berilgan. Maqolada respublikamiz oliy ta'lim tizimida raqamli texnologiyalarni qo'llash, ularning imkoniyatlarini tahlil qilish asosida o.,quv jarayonini rivojlantirishning ustuvor yo'nalishlari aniqlangan. Shuningdek, oliy ta'limda raqamli texnologiyalarni joriy qilish asosida bo'lgusi o'qituvchilarning kasbiy pedagogik mahoratini oshirishning mavjud imkoniyatlarini joriy qilinishi bo'yicha takliflar keltirilgan.

Kalit so'zlar: raqamli texnologiya, raqamli ta'lim, pedagogik mahorat, vazifa, samaradorlik, ta'lim, kadrlar, axborot kommunikatsion texnologiyalar, kognitiv faoliyat.

Introduction

Today, as a result of the development of new pedagogical technologies, the rationally developed and conducted teaching process in the educational system is conducted in a new interactive way, unlike traditional lessons. —Education is of great importance for the young



generation to correctly and fully master this changing social reality and rapidly developing scientific innovations. Education primarily teaches young people the fundamentals of independent thinking that will be important throughout their lives.

In recent years, President Shavkat Mirziyoyev has begun to pay serious attention to reforming the education sector, fundamentally improving the quality of personnel training, and in particular, applying the experience of developed foreign countries to the system. "Strategy of actions for further development of the Republic of Uzbekistan in 2017-2021" focuses on fundamental improvement of the education sector. All these documents aimed at the development and improvement of the educational system have common aspects related to the introduction of innovations in the field, assimilation of foreign experiences, support of creative approaches, strengthening of integration processes between types of education.

One of the main tasks facing modern educational institutions today is to create and introduce educational innovations aimed at meeting the needs of society and the state, the participants of the educational process. An innovative educational institution will be competitive. This shows that the university is equipped with highly qualified pedagogic personnel capable of integration into various educational programs. A modern higher education institution, of course, carries out innovative activities,

in particular, develops and implements educational technologies, new programs and methodologies that allow to achieve new results.

Digital learning is an educational practice that supports the learning process and leads to tangible results. It serves not only to continue the educational process through digital educational tools, but also to increase the quality and efficiency of education. The introduction of digital education into the educational process is carried out on the basis of the use of information technologies. Information and communication technologies are one of the main mechanisms of innovative activities of primary school teachers. They give the pedagogue the opportunity to manage information, use it, as well as disseminate knowledge in all areas of human activity. Accordingly, in the modern information society, a pedagogue has a wide range of professional, cognitive skills using computer and communication technologies, including radio, television, modern mobile devices, gadgets, interactive equipment, podcasting, streaming and augmented reality technologies, web services, mobile applications, etc., leisure, the ability to solve household and other tasks has a special place.

Professional pedagogical skills are further developed during practice, and students' knowledge, practical skills, and abilities are tested. The socio-pedagogical activity of the future pedagogue plays an important role in the development of professional skills. The more meaningful and extensive this activity is, the more effective it will be.

In order to be the owner of pedagogical skills, a teacher should know his subject based on the requirements of the time, have pedagogical and psychological knowledge, and also find humanity, inquisitiveness and self-sacrifice. IP Rachenko describes pedagogical skill as a part of pedagogical art and writes: "pedagogical skill is a teacher's perfect mastery of pedagogical-psychological knowledge, professional skills and abilities, developed pedagogical thinking and intuition, interest in his profession", moral-aesthetic attitude to life, confidence in one's opinion



and strong will are understood. As AMKaravaeva noted, the use of information and computer technologies not only supports the development of students, but also increases their motivation for education and their interaction in studying. Thus, it is characterized by its important advantages as a factor of improving students' skills:

- 1) improvement of the methods and technologies of the content of the educational process;
- 2) increase the effectiveness of the educational process through an individual approach to each student.

in the psychological theory of educational activity (P.Ya. Galperin, VV Davidov, AN Leontev, AK Markova, SL Rubinshtein, NF Talizina, DB Elkonin, etc.) learning content and the development of the student depend on it. It shows that it does not happen through the transfer of information, but only in the course of its active activity, which always has certain characteristics behind the skills and abilities. This situation forms the psychological basis of the approach based on learning activities, which has had a great impact on the development of the goals, content and methods of education during the second half of the 20th century.

NF Talizina considers the educational process as "the process of solving various tasks of students, carrying out appropriate activities for them." According to VI Zagvyazinsky, education is an activity-based approach, which "presupposes that all pedagogical activities are directed to the organization of intensive, increasingly complex activities, because a person can only know science and culture, the world through his own activities. and learns methods of change, forms and improves personal qualities.

Today, digital technologies are rapidly developing and require keeping up with the times in every field. The use of digital technologies in the education system is of great importance in improving the quality of education and educating socially active young people in the present era, when the speed of obtaining and using information is very large. Previously, we conducted educational programs in the traditional way, that is, in the form of lecturing through large volumes of books and manuals. This, in turn, did not ensure that the quality of education was so high.

We answer the question of what is digital technology as follows: it is a modern form of economic management. In it, a large set of data in digital form and the process of their processing serve as the main factor of production and management. Using the obtained results in practice allows to achieve much greater efficiency compared to traditional forms of management. Examples include various automatic production processes, 3D technology, and cloud technologies. In this article, we will focus on the issue of professional development of future pedagogues through digital educational technology in the educational system.

Learning through digital technologies makes learning easier for learners. In this case, multimedia devices, overhead projectors, computers, laptops, televisions connected to the Internet, telephone lines, smart boards, and projectors play the role of educational system mediators. Training teachers with such tools ensures the improvement of the quality of education. We all know that the use of digital technologies in online classes has a good effect. For example, we can consider online classes given on television as a form of digital education. So in digital education:



- has the opportunity to study wherever and whenever he wants;
- the culture of receiving and using information from the Internet is formed;
- raises the education system to a new level;
- dramatically reduces time and money consumption;
- such as not getting lost in the digital world and having advantages in finding a good job.

Indeed, solid and high-quality modern education is a guarantee of sustainable economic growth, development of science, technology and technology, and provision of quality social services. That is why in our country attention to education as one of the priorities of the state policy is increasing day by day. Especially today, the development of the field through the introduction of digital technologies into the education system is considered as the main goal of our state policy

Maharat is an Arabic word that means skill, mastery, dexterity. Skilled is an Arabic word used in the sense of having great skill and skillful, master.

Hence, the term vocational skill is used when expressing an opinion about a skill related to a particular profession. when commenting on the teacher's professional skills, his organization and management of pedagogical processes, this

it is possible to understand the level of competence of the participants of the process in terms of coordinating their activities and ensuring their activity.

Organization of practical actions to improve professional skills: avoid mistakes made or made in pedagogical activities, create an opportunity to achieve success in relations with students, colleagues and parents.

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In the period of the new development of our country, the head of our state pays special attention to the automation of education management by the use of information and communication technologies, the further development of electronic resources and distance education, and the popularization of professions in the IT field among students. It shows how high the role and importance of digital technologies is in the education system.

As the main reason for the popularization of the use of digital technologies in the educational system, we can point to the presence of aspects that are convenient not only for pedagogues, but also for students. For example, students will have the opportunity to study as and when they want. In addition, through the use of digital technologies in education, we:

firstly, to educate students online or remotely, even in areas where there is a shortage of pedagogic personnel;

secondly, teachers and students receive, search, distribute and use the information related to the subject they want from the Internet;

thirdly, to increase the efficiency of education based on the use of digital technologies in the system, to reduce time and money consumption;

fourthly, by applying digital technologies to the educational process, not only students' mastery of subjects, but also the degree to which they master knowledge and their readiness for problem



situations, and the formation of critical thinking in them, as well as students' independent learning We will have the opportunity to focus on the development of abilities to work on z.

Pedagogical scientist MMXolmukhammedov in his article entitled "Modernization of the professional education system based on modern approaches" wrote: "The system aims to train middle-level personnel who can make a worthy contribution to the economic growth of regions and sectors, It sets the tasks of teaching young people to ensure their well-being through skilled work, innovative and creative approach to their work, creativity, intellectual and spiritual potential, he writes.

In fact, in the conditions of today's New Uzbekistan, it is natural that the main tasks of the educational system become richer in content, and its social tasks improve. One of these social tasks, the development of strategies that incorporate all components of the formation of students' professional skills in the application and use of digital technologies in higher education, should be the main goal of the system in today's information age. Based on this goal, a number of legal documents and decrees and decisions of the head of state have been adopted and put into practice in our country.

Digital technologies in higher education are changing the way students learn. Using digital technology in classrooms helps students learn by better absorbing knowledge and visualizing difficult concepts.

Thus, the analysis showed that the introduction and use of information and computer technologies in higher education creates and develops a strong incentive for education, self-education, professional growth and creative development. , improves the skills of both students and teachers.

Today, digital technologies are rapidly developing and require keeping up with the times in every field. The use of digital technologies in the education system is of great importance in improving the quality of education and educating socially active young people in the present era, when the speed of obtaining and using information is very large. We used to run educational programs in the traditional way, which was lectures through bulky books and manuals. This, in turn, did not ensure that the quality of education was so high. Currently, the process of digitalization of education has started to improve the quality of education. The current state of the education system is characterized by the increasing role of non-traditional educational technologies. Learning by the learner with their help is much faster than with traditional technologies. These technologies change the nature of knowledge development, acquisition and distribution, deepening and expanding the content of the studied subjects, quickly updating it, using more effective teaching methods, and also significantly expanding the opportunity for education for everyone. gives We answer the question of what is digital technology as follows: it is a modern form of economic management. in it, a large set of data in digital form and the process of their processing serve as the main factor of production and management. Using the obtained results in practice allows to achieve much greater efficiency compared to traditional forms of management. For example, various automatic production processes, 3D technology, cloud technologies. remote medical services, production and



delivery of products with the help of smart technologies, storage and sale of various goods can be mentioned. We will focus instead on digitization in the education system in this article

Learning methods are becoming easier for learners when education is delivered through digital technologies. In this case, multimedia, overhead projector, computer, laptop, televisions connected to the Internet, telephone lines, smart boards, and projectors play the role of educational system mediators. Training teachers with such tools ensures the improvement of the quality of education. We all know that the use of digital technologies in online classes has good results. For example, we can consider online classes given on television as a form of digital education.

So in digital education:

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The opening of Wi-Fi zones and IT parks will greatly contribute to the development of the digital education system. There is an opportunity to develop the ability of educators to work with digital technologies and to organize various open courses through the Internet. This, in turn, will make educators work harder and increase the quality of education due to competition. In addition, when digital technologies and the introduction of artificial intelligence technology are used to detect tax evasion, prevent fraud, analyze data and automate repetitive processes, and increase transparency, large volumes of data - And big data provides an opportunity to store and process a large amount of data received by tax authorities, to better predict revenues and to improve the exchange of documents between taxpayers and tax authorities. The adoption of digital technologies is happening faster than any other innovation in human history: in just two decades, digital technologies have managed to cover almost 50% of the population of developing countries and transform societies with their help. For example, advanced technologies based on the use of artificial intelligence in the healthcare sector are helping to save lives, diagnose diseases and increase life expectancy. In the field of education, the provision of virtual learning environments and distance learning has allowed students to participate in programs that they would not otherwise have access to. In addition, through the use of blockchain-based systems, the use of public services will be convenient, the institutions that provide them will be more accountable, and the processes will be less bureaucratic due to the use of artificial intelligence. Big data can also lead to more flexible and accurate policies and programs. Below we will touch on some digital technologies: cloud technologies are data processing technologies that provide computer resources as an online service to the Internet user.

Digital technologies - Internet of Things (IoT). One of the main technologies based on digital information is the Internet of Things. It is common that many household appliances are connected to the electrical network, but gradually more and more objects of the physical world are connected to the Internet, which allows collecting information and even controlling these



objects remotely. In fact, a virtual copy of a physical object appears on the Internet, containing various parameters of the object and the outside world, and allowing the control of the object over the Internet. As an example of the Internet of Things, a device such as a projector in a movie theater sends a signal to the technical support service about a detected fault and a list of parts that need to be replaced as part of unscheduled maintenance. . Digital technologies - augmented reality (AR). The most promising is augmented reality technology, which allows adding objects from the virtual world to the real world. Imagine walking down the street and seeing more information about things and people around you. Examples of augmented reality already exist and are actively used, in some amusement parks you can already see signs that show the connections between objects in the physical world and the virtual world. Games with elements of augmented reality are actively spreading, clothing stores have virtual windows and fitting rooms, augmented reality is already being tested in cars. At the same time, there are issues that need to be resolved in order to actively use augmented reality technologies. For example, the accuracy of geolocation tools is still insufficient, or the computer vision technologies for connecting physical world objects with their virtual copies are imperfect. However, it is safe to say that in the near future this technology may be associated with breakthroughs.

CONCLUSION

Digital technologies - virtual reality (Virtual reality, VR). The emergence of technical devices that allow a person to be in virtual reality has made this technology in demand in the entertainment industry. Helmets and suits of virtual reality, specialized rooms allow you to enter an unknown world, all your actions are programmed to respond from the virtual world, which allows you to immerse yourself 100%. In education, VR is changing the way students learn. The use of VR in classrooms helps students to better absorb knowledge and learn by visualizing difficult concepts. In conclusion, it can be said that the introduction of digital technologies into various fields, not only in the education system, has a great role in the modernization of the country's education system. It serves to improve the organization of modern education and the effectiveness of education.

One of the key components of the United Nations 2030 Agenda for Sustainable Development is quality education. It is inclusive and quality education for all. Digital technologies have emerged as an important tool to achieve this goal[1]. As we all know, digital technologies are becoming an integral part of our lives today: in education, manufacturing, improving energy efficiency, as well as striving to achieve results in reducing or eliminating pollution and waste. The role of digital technologies is especially important in the field of education. Due to the pandemic, the need for it has increased significantly. Distance education, online classes, KHAN academy programs have been developed. Among the students, hemis program instead of paper and pencil, various programs for projects and independent work took place. All of these actions can be used to solve performance problems. For example, more than 70 companies, such as Racing Mind and DreamBox, have created learning platforms or customized learning platforms that can automatically schedule based on learning needs. Growing at charter schools like



Rocketship Education in California and New Classrooms in New York, teachers encourage students to learn new things from iPads at home and then discuss that learning during class.

As President Shavkat Mirziyoyev noted: "To achieve development, it is necessary and necessary for us to acquire digital knowledge and modern information technologies. This gives us the opportunity to take the shortest path to ascension" [2]. Teaching using digital technologies increases the quality and efficiency of education. Examples of them are electronic boards, notebooks, computers, and projectors. At the same time, the move of student learning assessment to online platforms avoids red tape, increases the transparency of assessment, and at the same time creates conditions for teachers to be more engaged with students. As an example of these platforms, we can cite the HEMIS information system introduced for higher education institutions. Currently, HEMIS information system is used by more than 214 higher education institutions in Uzbekistan, which includes more than one million students and teachers. From the HEMIS information system, students can get the information they need in electronic form, and it provides the intervention of subjects. Parents of students can also enjoy such facilities.

In the Decree of the President of the Republic of Uzbekistan dated April 29, 2019 "On approval of the concept of development of the People's System of the Republic of Uzbekistan until 2030" No. PF-5712, in the rating of the international student assessment program "PISA" Uzbekistan will be among the first 70 in 2021, 60 in 2025 and In 2030, it is planned to be among the first 30 advanced countries [4]. As a result of this, it can be proven that the digital university project has been started and continues in higher education institutions. Currently, our higher education institutions are moving to reduce the number of different reports and completely abandon the paper form.

The use of artificial intelligence in educational processes has led to great results. In developed countries, artificial intelligence is increasing the accuracy of diagnosis and diagnosis in the field of medicine. The use of artificial intelligence in education prevents bureaucracy and increases the speed and accuracy of the analysis of large amounts of data, the responsibility of the participants of the educational process, teachers and other officials. If we focus on online classes, this process has developed significantly during the pandemic. Using less paper for handouts and books is a way to save time and energy, improve resource utilization, expand the reach of students and teachers, and save time and energy. But if we take the situation in Sweden, they do not agree. According to experts, children's ability to read and write has deteriorated due to tablets and computers. The digital education reform that Swedish schools have undergone in recent years does not seem to have paid off. The government plans to reverse the National Education Agency's decision to make digital devices compulsory in preschools. It also aims to completely stop digital education for children under the age of 6.

From 2016 to 2021, the reading skills of 4th graders in Sweden fell from 555 to 544 on the PIRLS International Assessment of Reading and Comprehension. This methodology is used to determine the skills of students of the fourth grade: the fourth year of school is an important stage in the development of children. One of the reasons for declining reading and writing skills is the increased use of screens in school, say education experts.



In August, the Karolinska Institute, Sweden's largest medical university, concluded: "There is clear scientific evidence that digital tools are making students' learning worse rather than better." This year, the Swedish government is allocating huge amounts of money for the purchase of paper books for the country's schools.[5] The use of VR (virtual reality) in education gives great achievements. It's currently being used by some universities, and companies that make VR goggles, suits, and the like are working on it. Are such opportunities created in our higher education institutions bearing fruit? Odiljon Abdurazzokov said in an article published on the daryo.uz website: "Why are our universities not among the top 1,000 in the ranking of international universities, because many universities from neighboring countries are ranked there." In the same article, he quotes one of his teacher's words: "It is better to have great people working in ordinary buildings, not ordinary people in great buildings." Not the techniques of the top thousand universities in our neighboring countries, but more teachers being educated and more attention to attracting educated teachers. when focused, qualified teachers use these technologies more effectively and provide better quality education.

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