

THE ROLE AND EFFECTIVENESS OF THE USE OF DIGITAL TECHNOLOGIES IN DISTANCE EDUCATION

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ABSTRACT

The effective use of digital technologies in the organization of distance education plays an important role in the rapid assimilation of new information introduced into science. It will also be possible to quickly enter additional information within the virtual subject being studied. Therefore, the study of methods for introducing digital technologies and their effective use in distance learning processes, the creation of distance learning courses belongs to the group of topical scientific and technical problems. At present, the importance of using digital technologies in improving the quality of education is very high. The purpose of the research work is the effective use of digital technologies in distance education and the theoretical basis for testing its effectiveness. The article mentions the possibilities of the Moodle system, the advantages of course elements, effective methods of teaching science. The use of modern digital technologies and means of communication in distance education will also be discussed. The article outlines the stages of development of digital technologies, defines the meaning and content of the concepts "Digital technologies", "Digital educational technologies". Description of information about the Kahoot and Quizizz software platforms for an interesting organization of the educational process. The advantages of this platform in developing the intellectual and creative abilities of students and increasing their enthusiasm for learning are emphasized. Regardless of whether the educational process is traditional or distance learning, it is necessary to increase students' interest in the lesson, encourage them to work on themselves, and form independent learning skills. Organization of the educational process on gaming platforms, creation of a set of electronic tests and its use in teaching, increasing the effectiveness of the lesson and increasing the independence of thinking of students, interest in the lesson, and a high level of mastery of the subject being taught. It is advisable to use digital technologies in the educational process to develop students' interest, to develop the skills and abilities to use additional literature outside the textbook, to direct students to scientific research, as well as to constantly transfer knowledge to students.

KEYWORDS: *Digitization, Digital Technology, Online Platforms, MOOC, Distance Learning, Moodle LMS, Learningapps.Org, Google Form, Kahoot, Quizizz, Google Classroom, Interactive.*

INTRODUCTION

The reforms carried out in the education system of our republic require the use of world standards and the most effective methods in organizing the educational process. Including the organization of the process of distance education based on digital technologies is a modern requirement. The introduction of Internet technologies has an effective impact on the education sector, as well as all other industries. This is reflected in the regular exchange of correspondence with e-mail and social networks, and libraries with websites and electronic textbooks. Now, instead of traditional forms of education, elements of distance learning have entered the education system. The introduction of modern digital technologies into the educational process has led to the creation of a new form of distance learning in addition to traditional teaching methods.

In distance learning, the student and teacher are spatially separated and communicate with each other using specially created training courses, control forms, electronic communications and other Internet technologies. Distance learning based on the use of digital technologies provides access to the global information and educational network and performs such important functions as integration and interaction.

Therefore, today, when providing quality education to students, modern digital technologies are used, which are the product of scientific and technological development, and its material basis is the creation of electronic textbooks and teaching aids, the use of Internet resources and distance learning. software remains a requirement of the times. That is why it is important to use modern digital technologies and improve the quality of general knowledge and professional training of specialists. The relevance of the topic is to make the educational process more interesting and meaningful for students by using the possibilities of scientific and technological innovations, the Internet and digital technologies in the developed period of our society. At present, great importance is attached to the development of computer technologies and the Internet in our republic. The development of digital technologies, the creation of a favorable environment for the national digital technology market and the development of promising digital start-ups, improving the digital skills of all segments of the population, public administration, and education. As well as a comprehensive measure for the active development of digitalization, the widespread introduction of modern information and communication technologies in all sectors and areas, primarily in public administration, education, healthcare, construction, transport, agriculture and statistics. Are performed.

In recent years, the spread of corona virus around the world has also affected the education system and gave impetus to its development. This has led to new innovations in education and, to some extent, positive news. If we take distance learning as an example, although this type of education is not new, the situation with the pandemic forced us to delve into this methodology. Improving the appropriate use of digital technologies in the context of distance learning in asynchronous and synchronous learning modes serves to increase the overall effectiveness of learning. International experience shows that interactive methods are increasingly used in distance education.

Improve the quality of education in the education system and improve the mechanisms for effective management of the process of training competitive personnel, increase the sharpness of changes in the quality of higher education and graduate employment indicators, thereby improving the quality of employment Monitoring and improving the level of employment and

service of graduates creates a need to use digital technologies that make it possible to record successful steps. An example is the Massive Open Online Course (MOOC), a form of distance learning that minimizes costs by digitizing the educational process and makes courses available to an unlimited audience that understands the language spoken by the teacher). In addition to traditional learning materials such as videos, reading materials, and homework, public open online courses provide access to interactive forums that help build and maintain a community of students, educators, and participants.

MOOCs, created with the participation of large universities or financial companies, are a means of developing independent education or expanding the educational environment of the university [5].

Education, as a fundamental sphere of society, is one of the main areas for the introduction of digital technologies, so the education system is becoming one of the main areas of digital development, taking into account innovative educational trends. The distance learning process aims to deliver lessons interactively to our students through technology-based telecommunication networks. Today, digital educational resources show that the teaching method using modern information and communication technologies is more effective than a simple traditional teaching method.

At the same time, the distance learning process has the following advantages:

- That it is more effective than evening and distance learning;
- Reduction of the training period;
- Does not depend on the geographical location of the university student;
- Distance education can be obtained by anyone;
- Does not depend on the age, specialty and state of health of the student, etc.

Methods

Digital technologies have become so firmly established in our lives that today it is impossible to imagine without them not only our daily activities, but also the development of socio-economic, educational and other spheres. Naturally, the introduction of digital technologies in the field of education, as in other areas, is fundamentally changing its activities. Digital technologies are not only about the relationship between students and teachers, but also introduce innovations in the learning process, from the organization of learning to student assessment and data storage. Digital technology is a discrete system based on coding and data transmission methods that allows you to perform many different tasks in a short period of time. With regard to modern digital education, the rapidly changing technologies around us require further acceleration of education reforms. Today, the achievements of the digital age that are part of our daily life - tablets, iPads, mobile phones, smart watches, virtual glasses - require the introduction of digital technologies in the field of education.

Digital technologies in education are reflected in the following:

- In the effective transfer of information and knowledge to students;
- In the creation of educational materials;
- In effective teaching;

- By creating a new learning environment.

Modern digital technologies used in education include the following:

- Technology "Joint experimental study of teacher and student";
- Technology "Virtual Reality";
- Technology "Panoramic shots";
- 3D modeling technology;
- Technology "Robotics in education";
- Technology "Use of small information means";
- Technology "Multimedia education";
- Technology "Interactive e-education".

We present the benefits of using digital technologies in education now (Figure 1):

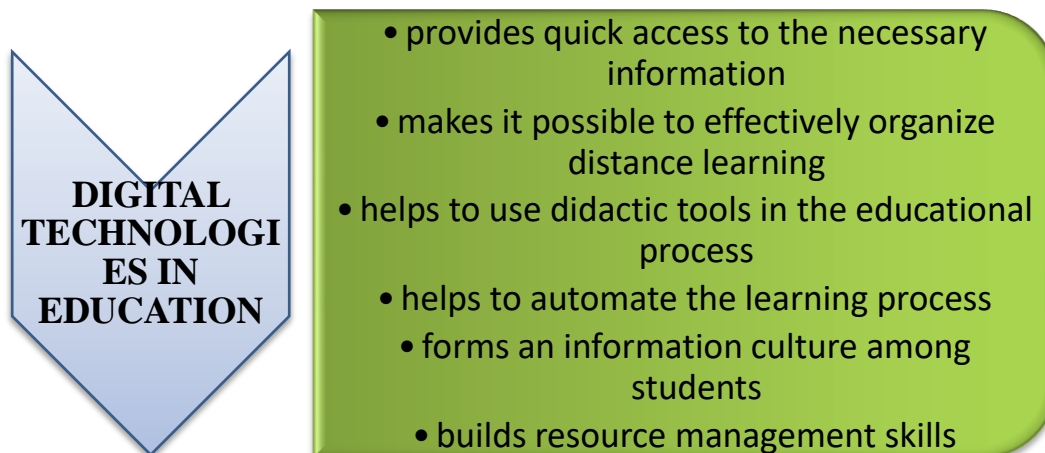


Figure 1. Benefits of using digital technologies in education

As one of the most promising and widely used digital technologies today, we can get digital educational resources that combine various presentation tools. Lecture texts, graphics, video and audio materials, interactive exercises, quizzes and control questions allow you to present information in the learning process most clearly and quickly.

In education, Hemis and Moodle LMS systems are used, which allow the introduction of digital technologies and modern methods, online monitoring and the development of theoretical and practical classes, as well as uploading them to electronic media.

The courses created in the LMS Moodle system (www.estudy.iiiau.uz and www.mt.iiiau.uz) contain interactive learning materials for lectures and practical exercises, i.e. page, presentation, including poll, chat, forum, assignments, wiki, virtual database of tips, audio and video tutorials and quizzes. Students effectively use this visual learning environment to work collaboratively and individually with information, interactive learning pages, and virtual teaching aids developed with the Moodle system. The performance of tasks by students is controlled by the teacher. This provides interactive communication between the participants of the educational process in the

system.[2]Currently, many digital software tools are used to create a digital educational environment, organize online classes, assess students' knowledge, and make the lesson interesting. The most common software tools are Learningapps.org, Google Form, Kahoot, Quizziz, Google Classroom, Zoom, and Skype.

Learningapps.org - a resource for creating electronic simulators, tests, questionnaires, various templates and ready-made materials can be found in the library section.

Google Classroom is a virtual classroom management system in which a teacher can organize their work from other Google services, give assignments to students and receive results, and connect parents to view assignments and students' work.

Google Forms is a very simple universal tool for creating tests, questionnaires, surveys, quizzes, online assignments. The student must have a Google account to view and complete the exercises. Google Docs and Presentations is not only a replacement for the well-known Word and PowerPoint, but also a great tool for organizing student collaboration. It allows you to combine the efforts of students when creating a project or report, filling out a workbook.

Google Classroom is a virtual classroom management system in which a teacher can organize their work from other Google services, give assignments to students and receive results, and connect parents to view assignments and students' work.

Kahoot is a software monitoring tool for creating quizzes, tests and surveys. When using the Kahoot program, the teacher can use two methods of student activity:

1. Classic - perform each separately
2. Team mode - to ensure performance in a group.

Of course, the first method is suitable. In addition to text, Kahoot can upload images, graphics, tables, and audio and video content. Students can answer questions from any device connected to the Internet. The great advantage of this resource is the ability to save the results so that in the future the teacher can analyze and correct the content of the educational material for the next academic year. You can also determine which subjects are difficult for students to learn. This makes the learning process interesting and dynamic through the use of various interactive tests and quizzes to test knowledge of the material being studied.

Quizizz is a platform designed to organize various quizzes and new lessons on the subject, where you can get a complete report on the interactive testing processes that students have decided, and it also provides the ability to send the results to the desired address. Regardless of whether the educational process is traditional or part-time, it is necessary to increase students' interest in the lesson, encourage them to work on themselves, and form independent learning skills.

Organization of the educational process on gaming platforms, creation of a set of electronic tests and its use in teaching, increasing the effectiveness of the lesson and increasing the independence of thinking of students, interest in the lesson, and a high level of mastery of the subject being taught. it is advisable to use digital technologies in the educational process to develop the interest of students, to form the skills and abilities to use additional literature outside the textbook, to direct students to scientific research, as well as to constantly transfer knowledge to students.

Result.

The above digital software tools can be classified according to their use in education and tasks as follows (Table 1):

TABLE 1. CLASSIFICATION OF SOFTWARE TOOLS ACCORDING TO THEIR TASKS

Requirements	Learningapps.org	Google Forms	Google Classroom	Kahoot
Availability of mobile versions	Availability of mobile versions	Availability of mobile versions	Availability of mobile versions	Availability of mobile versions
Requirements for ease	Ease of use, easy to learn, colorful interface	Ease of use, easy to learn, colorful interface	Ease of use, easy learning	Easy to use colorful interface
Easy to use colorful interface	rus	rus	rus	English
Opportunities	Create interactive tasks, the ability to use a template	Establishment of communication and polls	The ability to create courses, various tasks, evaluate and comment on student work	Ability to create interactive tasks
Ability to use for free Ability to create interactive tasks	Available	Available	Available	Available

It is no exaggeration to say that Kahoot is a global learning platform that empowers everyone, including students, students and staff, to reach their full educational potential. The Kahoot Educational Platform is a platform that enables engaging participation for any individual, entity or company, creates educational games, and facilitates data sharing (Figure 2).

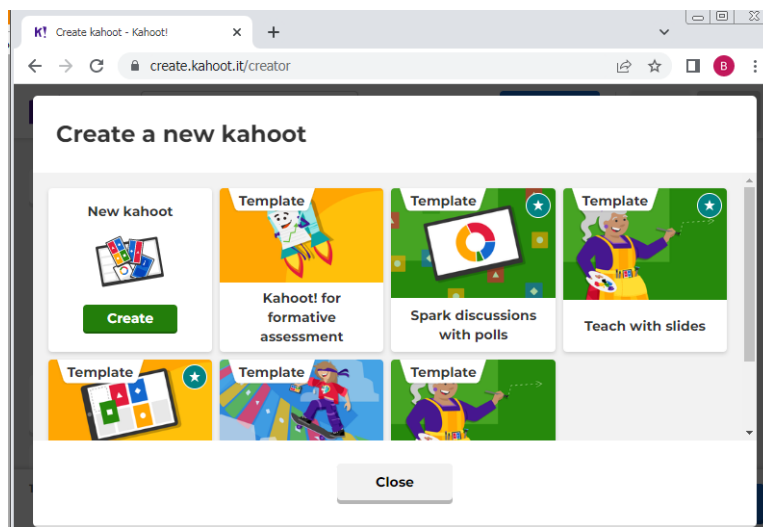


Figure 2. Create a new Kahoot

Kahoot games can be played anywhere, in person or virtually, using any device with an internet connection.

Kahoot also offers free and paid tutorials for classroom, work, individual, virtual, social use at home, or self-study. To work with Kahoot, you can use a personal computer, laptop, tablet or smartphone connected to the Internet.

In addition, this platform is a collaborative learning tool that requires a team of participants to use effectively. Creating a quiz takes a few minutes, and the process itself is very simple and convenient. When the quiz is ready, the teacher publishes the game and presents it to the students.[9]

At the same time, participants gather in front of one screen and enter the game from their devices using the game code. The correctness of answers to questions and the speed of reaction are converted into points and shown regularly. After each question, the names of those who scored the most points are displayed on the screen. The teacher can pause at any time and comment on the question if the students find it difficult to answer (Fig. 3).

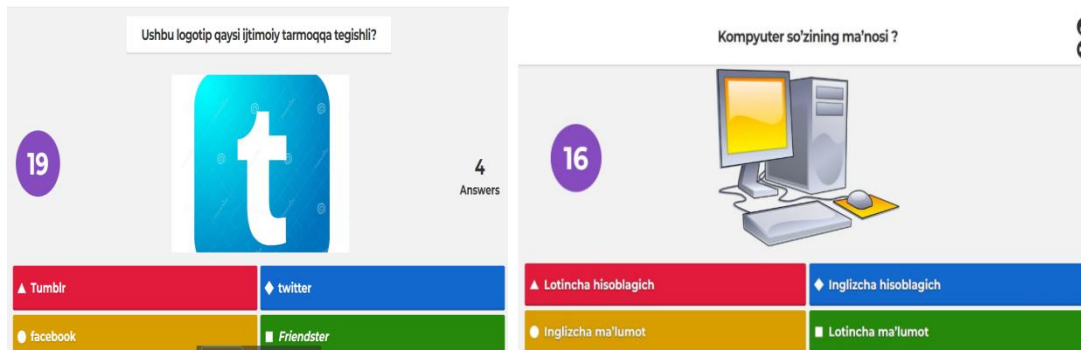


Figure 3. Kahoot interface.

Preparation and organization of work with the Kahoot service is carried out in stages:

- Identify a topic, think about and write appropriate questions for the test;
- Selecting images to include in the test;
- Test creation;
- Connecting students to the test using a special code.

Kahoot is a handy tool for checking intermediate knowledge and consolidating material, as well as introducing a new topic and holding discussions on it. This platform allows you to create your own tasks on any topic and in any language, or you can choose a pre-made topical test or survey from the library, which includes millions of tasks previously created by other users of the application.[11]

На платформе Quizmo можно создавать два типа контента:

In the program window there is a section called "New Quizziz" in Russian, that is, a new interactive test. In it, you can do the following:

- New quizziz (New quizziz);
- A new lesson.

From the "New Quizziz" section - develops quiz questions live or asynchronously in a new quiz section (Fig. 4). To form new test questions, a test form is selected that matches the content of the test. You can add images, sound, and video to test questions. Of the test answers, the correct answers are marked with a "✔" sign. Wrong answers will not be marked.

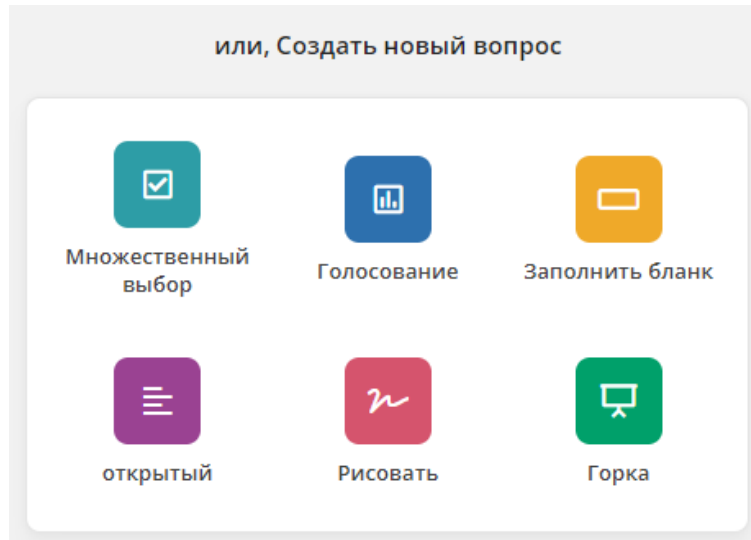


Figure 4. Create a new test question window in Quiz.

To add a new test question, select New Question under Create Question. New test questions can be created by selecting the desired test form. New test questions Test question time can also be set separately for each test question (Fig. 5).

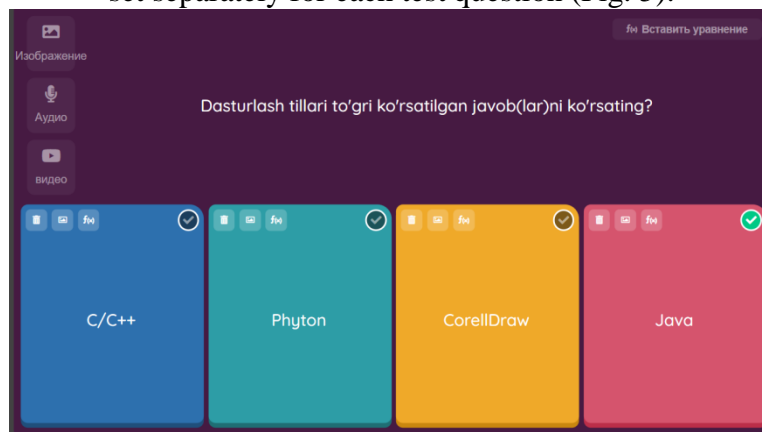


Figure 5. Quizziz interface.

DISCUSSION

Digital technologies create new opportunities and new challenges in the education system. The main opportunities include solving educational problems, expanding the choice of the form of education, increasing the means of transferring knowledge. The need to understand the place and role of digital technologies in modern education should be reflected in modern research in the field of methodology and didactics of preschool and primary education. Currently, the problems of using digital technologies in the integration of preschool and primary education are the reason for research related to the choice of strategy and direction for further development. It is clear that a digital transformation program should already be developed in order to move towards a

competitive model of education and research in the future. Today, the role of digital technologies in our education system is incomparable, and one can observe not the ability of our schoolchildren and students to master science, but how they simultaneously study, how they assimilate science, their interest in tasks, and comment on problems at their level. As a result of this, the ability of students to learn independently, adapt to personal learning and work on themselves develops. With a phased transition to a credit-modular learning system, recommendations and the introduction of additional digital platforms to the teacher in addition to standardized digital programs will help speed up and facilitate this process. At this time, when developing and quality education is very important, the use of new teaching methods opens up great opportunities for greater student involvement in the lesson, reducing the feeling of boredom and the old methods that cause it. The ability to choose the most reliable and effective resources towards the use of digital programs is very important for improving the quality of lessons. The correct distribution of time in the lesson and the effective use of every minute is an important factor in the teacher's success in teaching students.

CONCLUSIONS

Digital technologies create new opportunities and new challenges in the education system. The main opportunities include solving educational problems, expanding the choice of the form of education, increasing the means of transferring knowledge. The need to understand the place and role of digital technologies in modern education should be reflected in modern research in the field of methodology and didactics of preschool and primary education. Currently, the problems of using digital technologies in the integration of preschool and primary education are the reason for research related to the choice of strategy and direction for further development. It is clear that a digital transformation program should already be developed in order to move towards a competitive model of education and research in the future. Today, the role of digital technologies in our education system is incomparable, and one can observe not the ability of our schoolchildren and students to master science, but how they simultaneously study, how they assimilate science, their interest in tasks, and comment on problems at their level.

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