# EFFECTIVENESS OF DIGITIZATION TOOLS IN PREPARING FUTURE TEACHERS FOR PEDAGOGICAL ACTIVITY

**Hotamova Dildora Komilovna**
Doctoral student of the Bukhara
State Pedagogical Institute.
edu.uz1991@gmail.com

**Annotation:** Preparing future teachers for pedagogical activities through digital tools for organizing the educational process is of great importance. This article discusses modern forms of education such as digital electronic learning, synchronous and asynchronous learning, hybrid learning, timed online education, computer-managed learning, and technologies for electronic and distance education. Each form of education has its own unique styles and tools that help future teachers effectively develop pedagogical skills and innovatively organize the educational process in the future. Additionally, digitized forms of education allow for the enhancement of modern teaching methods and improve students' levels of comprehension.

**Key words:** Digital Electronic Education, Synchronous Education, Asynchronous Education, Hybrid Education, Scheduled Online Education, Computer-Managed Education, E-Learning, Distance Learning, Digitalization, Interactive Learning, Pedagogical Flexibility, Virtual Learning Platforms.

**Annotatsiya:** Bo‘lajak o‘qituvchilarni pedagogik faoliyatga tayyorlashda raqamlashtirish vositalari orqali ta’lim jarayonini tashkil etish muhim ahamiyat kasb etmoqda. Ushbu maqolada raqamli elektron ta’lim, sinxron va sinxron ta’lim, gibrid ta’lim, belgilangan vaqtli onlayn ta’lim, kompyuterda boshqariladigan ta’lim, elektron va masofaviy ta’lim texnologiyalari kabi zamonaviy ta’lim turlari haqida so‘z yuritiladi. Har bir ta’lim turi o‘ziga xos uslublar va vositalarga ega bo‘lib, bo‘lajak o‘qituvchilarga pedagogik ko‘nikmalarni samarali shakllantirish va ularning kelajakdagi o‘quv jarayonini innovatsion tarzda tashkil qilishda yordam beradi. Shu bilan birga, ta’limning raqamlashtirilgan shakllari zamonaviy o‘qitish metodlari va o‘quvchilarning o‘zlashtirish darajasini oshirish imkonini beradi.

**Kalit so‘zlar**: raqamli elektron ta’lim, sinxron ta’lim, asinxron ta’lim, gibrid ta’lim, belgilang vaqtli onlayn ta’lim, kompyuterda boshqariladigan ta’lim, elektron ta’lim, masofaviy ta’lim, raqamlashtirish, interaktiv ta’lim, pedagogik moslashuvchanlik, virtual ta’lim platformalari.

The role of digital tools in the modern education process is increasing. The development of educational technologies not only facilitates the process of acquiring knowledge, but also allows teachers to organize their activities more efficiently. In particular, the use of digital technologies in the process of preparing future teachers for pedagogical activity is an urgent issue. In pedagogical education, various forms of digitization, including digital e-learning, synchronous and asynchronous learning, hybrid learning, fixed-time online learning, computer-assisted learning and distance learning technologies, are widely used. is being used. These methods create an

opportunity to adapt the educational process more effectively and to the needs of students. The article examines exactly these types of education and their importance in training future teachers.

All aspects of our life, cooking, communication, travel, sports, management, everything is under the influence of technology. Technology represents dynamism and adapting to this dynamism requires adequate skills. Education is the only way to arm ourselves and adapt to technological advancement. So, when everything is going digital, education itself cannot be left behind. Below we will consider the types of organization of training in digitization tools.

**Digital e-learning.** It is a product of technology. However, it is different from online learning or just digital learning. In digital education, the student learns with the help of digital technologies. It may include online lessons, e-learning materials in the form of audio-video lectures, textbooks and notebooks for reference. It is a combination of Blended and Virtual Learning. On the other hand, digital e-learning is a method of learning that is completely dependent and facilitated by electronic materials. Teachers and students do not meet each other physically and only communicate using electronic devices.

Digital e-education, that is, the use of various electronic resources, distance platforms and training programs, teaches teachers to work with modern technologies. It helps to develop the necessary skills, especially in managing online resources, creating educational content and using interactive teaching methods. Teachers can make the lesson more interesting and adapt to the individual needs of students.

**Synchronous e-learning** is distance learning, but it is real-time learning. It is similar to regular day education, the difference is that the participants are at a great distance from each other. Special software is used to organize lectures.

**Asynchronous e-learning** means that the student receives all the necessary information from online sources or from electronic media (CD, DVD or flash cards) and independently organizes the pace and schedule of learning the material. The asynchronous e-learning system includes all types of CD-courses and e-learning courses. Today, e-learning has become an integral part of the educational process in most HEIs, it has also found its place in the organization of advanced training courses, and some corporations have departments , their task is to organize electronic courses for employees.

**Learn more about the differences between synchronous and asynchronous learning:**

| Synchronous learning | Asynchronous learning |
|---|---|
| Students and teachers engage in learning activities at the same time and follow a predetermined schedule. | Students have the flexibility to access course materials and complete learning activities at their own pace and schedule. |
| It allows for immediate feedback, live discussions, and opportunities for students to ask questions and get immediate answers. | While interaction is still possible, it occurs at different times and responses and interactions may not be instantaneous. |
| For students who must balance work, family or other responsibilities, this may be less flexible. | It adapts students to different schedules and allows them to manage their time independently. |
| Synchronous learning requires the use of real-time communication tools such as video conferencing platforms or collaboration software. | Asynchronous learning relies on the use of online platforms, learning management systems and digital resources. |

In synchronous education, the teacher and students conduct lessons simultaneously in real time. This method gives future teachers the skills to deal quickly in the online environment, respond to students' questions immediately, and manage the learning process. On the other hand, in asynchronous learning, students learn the material on their own time, which gives teachers more experience in preparing and managing educational resources on their own. Asynchronous learning gives students more time to study topics in depth, which requires the teacher to prepare clear and consistent material for students.

**Hybrid learning.** The hybrid curriculum combines synchronous and asynchronous formats to create a structured and interactive learning process where students can ask questions in real time and learn independently over several days.

This approach allows teachers to organize the educational process in different ways, to effectively combine synchronous and asynchronous lessons. This increases their pedagogical flexibility and strengthens their ability to adapt to different learning environments.

**Timed online education.** For some educational institutions that had to adapt during the global pandemic, hybrid learning was simply not an option. Instead, many of them preferred to simulate the same classroom environment virtually. Timed offerings follow a predetermined and fixed class schedule that students must attend. There are check-in and check-out times to prove that they have completed the school day. Unlike synchronous learning, which does not require fixed blocks of time for video conferencing, this type of virtual learning is timed when you log in and log out.

This type of training provides future teachers with the skills to manage the learning process and plan it clearly for a specified period of time. Time management of the educational process and synchronizing with the students, conducting lessons in the right time increases the discipline of the pedagogical process. Also, opportunities to establish effective communication and monitor education through online platforms will expand.

**Computer-Managed Learning (CML)** Also known as Computer-Managed Instruction (CMI), this type of online learning relies on a computer program or application to facilitate the student's online learning process. Through the program or portal, students can get the materials they need for learning, which is also graded or graded by the computer through predetermined criteria based on the students' learning goals.

In this method, the educational process is controlled by computer-automated systems. Through this, prospective teachers develop skills in creating tests, facilitating assessment systems, and monitoring student achievement. Computer-assisted learning prepares them for technology-based teaching methodologies and teaches them to organize the lesson more effectively.

**Blended learning.** Blended learning is a combination of the best processes of online and traditional learning methods. Here, teachers teach students through online classes and face-to-face meetings.

This approach allows teachers to organize the educational process in different ways, to effectively combine distance and face-to-face lessons. This increases their pedagogical flexibility and strengthens their ability to adapt to different learning environments.

**Electronic education (E-Learning).** Closely related to children, E-Learning is a type of online learning that is timed or self-paced to learn more about a lesson, measure or review it. It is done through an online learning platform that offers self-directed learning. Students typically participate in lessons and quizzes, which introduce a game-changing aspect to learning. Results are recorded for review and monitoring.

**Distance learning technology** is a broader concept than E-Learning, which is an intensive consultation synthesis of interactive self-learning and support. Thus, electronic education is a part of distance education. Distance education provides the delivery of the main educational material to students and interactive work between the student and the teacher during the learning process.

There are many positive aspects of teaching using distance learning technologies:

- The opportunity to study from the place of residence - people living in remote villages do not always have the opportunity to go to the big cities and study at the university. Distance education technologies allow them to study without leaving their place of residence.

- Combining study and work - students will have the opportunity to study without being separated from work, which is especially useful for those who have advanced training or second higher education.

- Acquisition of high-quality technologies and educational content - the student can be trained with the help of high-quality educational materials, communicate with the teacher and create his own individual study plan.

- Impartiality of assessment - distance education technologies provide for permanent control of the quality of knowledge, evaluation of results, impartial automated assessment free from the human factor, and loss of material interest in places.

- Individual approach to education - variable schedule, combining work and study, as well as adapting the learning material to the speed of individual assimilation of information makes distance education convenient for everyone.

Electronic and distance education makes it possible to carry out pedagogical activities regardless of geographical distances. For future teachers, these technologies will teach them the skills to organize their lessons for distance learners, they will master the use of virtual platforms, and they will also have the experience of teaching at an international level. Distance education is aimed at improving students’ independent work skills, which gives teachers the opportunity to precisely plan and control lessons.

Digital educational methods allow future teachers to conduct lessons interactively, using visual and audio tools. Teachers learn to interact with students in real time by delivering their classes through video conferencing, virtual labs, and online forums. These educational methods play an important role in attracting students’ attention and optimizing their learning process.

The article discussed the effectiveness of the types of educational organization through digitization tools in preparing future teachers for pedagogical activity. Digital electronic education, synchronous and asynchronous education, hybrid education, fixed-time online education, computer-controlled education and distance education technologies allow to bring the pedagogical process to a qualitatively new level. These methods create a wide range of opportunities for teachers and help them develop their skills in managing the learning process. Through digital educational methods, teachers have the opportunity to work with students in an interactive and individual approach, and play an important role in the implementation of the educational process in flexible and innovative ways. At the same time, digital educational technologies are an important factor in improving learning outcomes by developing effective communication between teachers and students.

**REFERENCES USED:**

1. Hotamova D.K. Bo‘lajak o‘qituvchilarni raqamlashtirish vositasida pedagogik faoliyatga tayyorlashning zarurati // Ta’lim va innovatsion tadqiqotlar. Xalqaro ilmiy-metodik jurnal, 77-79 b. 2024.

2. Hotamova D.K. The history of the development of psychology, the subject and its place in the activity of medical personnel // International Journal Of Literature And Languages 3 (02), 97-99, 2023

3. A.J.Seytov, A.J. Khurramov, S.N.Azimkulov, M.R.Sherbaev, A.A.Kudaybergenov. S.Kh.Khasanova. International Journal of Advanced Research in Science, Engineering and Technology. T. 8 №2 ISSN: 2350-0328. Pp. 17177- 17185.

4. Fotima Abdurakhimovna Umarova / Use of modern information and communication technologies in the training of designers / Journal of Central Asian Social Studies 2020/8/15

5. Fotima Abdurakhimovna Umarova / The role of ICT in achieving effectiveness in education / Innovative development of education science./international scientific and practical conference/July 2020 3. Х.А. Умаров,

6. А. Умарова / " Использование электронно-образовательных ресурсов в целях создания образовательной экосистемы". Перспективные информационные технологии / Перспективные информационные технологии (ПИТ 2018) 2018