THE IMPORTANCE OF CLOUD TECHNOLOGIES IN THE TRAINING OF FUTURE PRIMARY SCHOOL TEACHERS

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Abstract: *This article analyzes the importance of cloud technologies in the training of future primary school teachers, their opportunities within the educational process, and their role in improving the effectiveness of independent learning. In addition, the study highlights issues related to the development of students' professional and digital competencies through digital platforms.*

Keywords: *cloud technologies, primary education, digital pedagogy, independent learning, Google Classroom, Moodle, distance education, digital competence, innovative education.*

The process of digitalizing the education system is becoming one of the key directions of modern pedagogical activity. In particular, the use of innovative technologies in the preparation of future primary school teachers contributes significantly to improving the quality and effectiveness of education. From this perspective, cloud technologies are emerging as an important pedagogical tool for organizing the educational process, utilizing electronic resources, and developing independent learning activities. Through modern digital platforms, students gain rapid access to educational materials, establish remote collaboration, and participate in interactive learning environments, thereby enabling the educational process to reach a new stage of development.

Today, one of the most pressing issues in the primary education system is the preparation of pedagogical personnel capable of effectively utilizing modern information and communication technologies. This is because a primary school teacher is not only a provider of knowledge but also a pedagogical guide who adapts students to the digital educational environment. Cloud technologies expand opportunities for storing, managing, and exchanging educational resources while ensuring the continuity of the pedagogical process. Consequently, they contribute not only to the development of future teachers' professional competencies but also to the formation of creative and independent thinking skills.

This article scientifically analyzes the importance of cloud technologies in the preparation of future primary school teachers, their opportunities within the educational process, and their pedagogical effectiveness. In addition, the study examines issues related to the development of students' digital competencies and the improvement of independent learning effectiveness through educational environments organized on the basis of cloud platforms.

In modern pedagogical education, the application of cloud technologies is considered one of the important factors in improving the professional preparation of future primary school teachers. While traditional educational systems are generally limited to classroom-based instruction, cloud technologies provide opportunities to access educational resources anytime and anywhere. In particular, platforms such as Google Classroom, Moodle, and Microsoft Teams enable students to complete electronic assignments, exchange methodological materials, and engage in remote collaboration. This increases the flexibility of the educational process and strengthens students' independent learning activities.

Educational environments organized on the basis of cloud technologies also possess significant pedagogical value in developing future teachers' digital competencies. Analyses indicate that educational activities conducted through electronic platforms encourage students to search for, process, and analyze information effectively. As a result, students acquire skills in utilizing modern educational tools efficiently and become prepared to apply innovative technologies in their future pedagogical practice. At the same time, cloud platforms strengthen communicative interaction between teachers and students, thereby contributing to the formation of an interactive educational environment.

During the research process, the pedagogical effectiveness of cloud technologies was analyzed based on students' academic engagement, the quality of completing independent assignments, and their level of digital tool utilization. The observations revealed that students studying through cloud technologies demonstrated higher levels of learning motivation and greater interest in practical activities. In particular, electronic portfolios, online tests, and virtual collaboration tools contribute to the development of students' reflective thinking and enhance their adaptability to pedagogical activities.

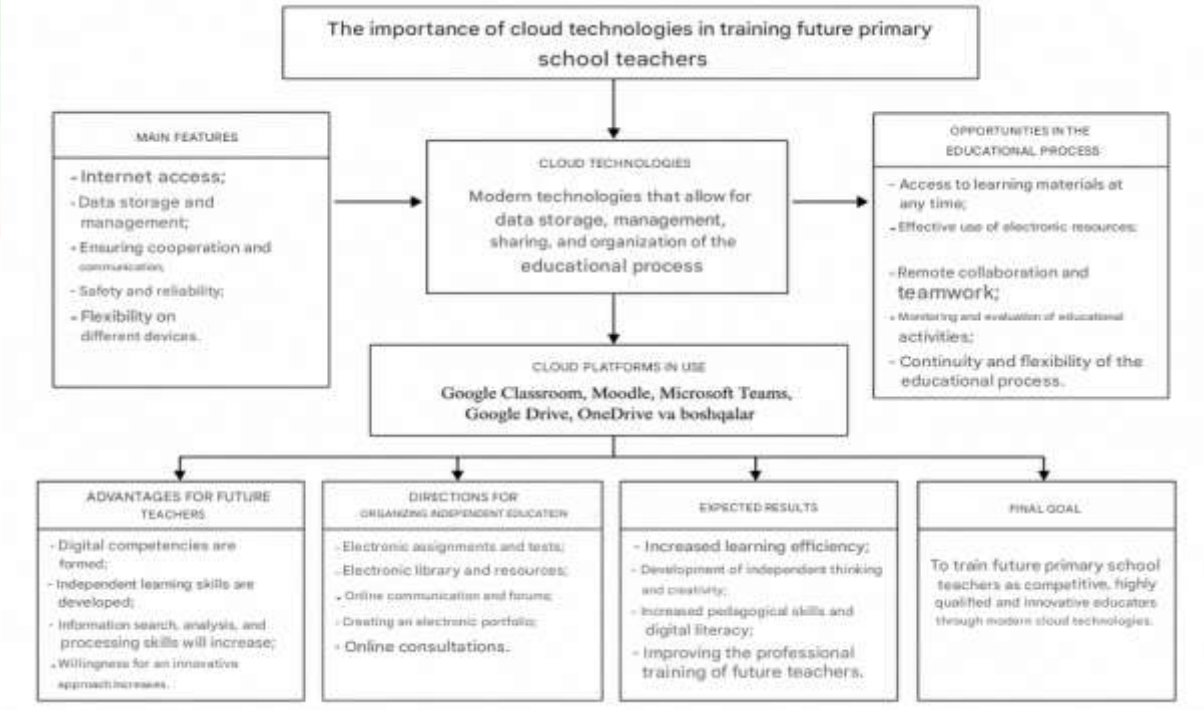

Figure 1. Pedagogical importance of cloud technologies in the training of future primary school teachers

The presented diagram systematically illustrates the main opportunities provided by cloud technologies, the platforms utilized, and their pedagogical effectiveness in the process of training future primary school teachers. In addition, the diagram demonstrates the interrelationship between the directions for organizing independent learning through cloud technologies, the factors contributing to the development of digital competencies, and the expected educational outcomes.

The conducted analyses indicate that cloud technologies serve as an important pedagogical tool for improving the professional preparation of future primary school teachers. In particular, educational environments organized through platforms such as Google Classroom, Moodle, Microsoft Teams, and other digital systems positively influence students' independent learning activity, information management skills, and the development of digital competencies. Furthermore, cloud technologies ensure the flexibility and continuity of the educational process while strengthening interactive collaboration between teachers and students. As a result, students develop creative thinking abilities, independent decision-making skills, and innovative approaches toward pedagogical activities.

Educational environments organized on the basis of cloud technologies function as an effective methodological foundation for preparing future primary school teachers for modern pedagogical practice. These technologies create opportunities for improving educational quality, increasing the effectiveness of independent learning, and developing digital pedagogical competencies. Therefore, the widespread implementation of cloud technologies in higher pedagogical educational institutions and the improvement of innovative methodologies based on these technologies are considered among the priority directions of today's education system.

REFERENCES

1. Decree of the President of the Republic of Uzbekistan "On the Development Strategy of the New Uzbekistan for 2022–2026," 2022.
2. Michael Fullan. The New Meaning of Educational Change. - New York: Teachers College Press, 2007.
3. O'.Tolipov, M. Usmonboyeva. Applied Foundations of Pedagogical Technologies. - Tashkent: Fan Publishing, 2006.
4. R.Ishmuhamedov, M.Yuldashev. Innovative Pedagogical Technologies in Education and Upbringing. - Tashkent: Nihol Publishing, 2017.
5. U. Sh. Begimqulov. Issues of Introducing Information Technologies in Pedagogical Education. - Tashkent: Fan Publishing, 2018.