

Development of Digital Competence of Future Primary School Teachers: Challenges and Strategies

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Abstract

In the digital era, the development of digital competence among future primary school teachers is crucial to prepare them for effectively integrating technology into their teaching practices. This scientific article explores the challenges associated with developing digital competence among future primary school teachers and presents strategies to address these challenges. It highlights the importance of digital competence in enhancing teaching and learning experiences, fostering students' digital literacy, and promoting 21st-century skills. By acknowledging and addressing the challenges and implementing effective strategies, teacher education programs can better equip future primary school teachers with the necessary digital skills to thrive in the modern educational landscape.

Keywords: digital competence, primary school teachers, teacher education, technology integration, digital literacy, 21st-century skills.

Introduction

All higher education institutions in Uzbekistan need to improve the methodology of teaching information technology to future elementary school teachers in the conditions of new Digitization. In this regard, the importance of students in education, their professional functions in the labor market as a whole, and this, in turn, led to an increase in the tendency to develop and the development of professional communicative competences by means of information and communication technologies. The education policy of each higher education institution should be aimed at solving the problem of training of competitive specialists who are socially protected, adapted to constantly changing conditions and have developed professional communicative competence.

The increasing prevalence of technology in education necessitates the development of digital competence among future primary school teachers. Digital competence refers to the ability to effectively and critically use digital tools and resources for various purposes, including teaching and learning. This article examines the challenges faced in developing digital competence among future primary school teachers and proposes strategies to address these challenges.

Uzbekistan's membership in the Council of Europe showed the need to harmonize Uzbekistan's educational standards with common European standards. In current situations, the purpose and task of improving the methodology of teaching information technology to future elementary school teachers in the conditions of digitization for students of higher education institutions is to develop professional communicative competence of students. For this, it is very important to effectively implement the goal (mission) and tasks of global learning of foreign languages with the help of information and communication technologies in each higher education institution. In the initial stages of development, programs for the use of information and



communication technologies in the educational process were developed, ideas about their use in the educational process were positively and critically re-examined, and methodological bases for their use in the educational process were created. In the course of the lesson, suggestions that it is possible to organize full education only from information and communication technologies without the teacher interfering with the lesson were rejected. However, information and communication technologies have not only freed teachers from the usual, traditional tasks, but also imposed tasks related to programming, teaching materials and technical coordination. For this, it was necessary to develop a system of special knowledge and skills far from pedagogy and psychology. Conceptual laws defining various educational opportunities of information and communication technologies have been developed.

High-level personalization, rapid data acquisition and processing, and problem-solving capabilities of information and communication technologies were demonstrated. In his scientific works, A.R. Artyomov substantiates the scientific idea of developing professional communicative competence of students through remote teaching of audio and video materials and its computer programs. In order for information and communication technologies to be a powerful factor in the effectiveness of the didactic process, they should correspond to the goal-content program of this process and help to implement the main functions of pedagogical management.

Challenges in Developing Digital Competence

- a) Limited Technological Pedagogical Content Knowledge (TPACK): Future primary school teachers may lack the necessary knowledge and skills to integrate technology effectively into their teaching practices. They may struggle to align technology use with pedagogical approaches and subject-specific content knowledge.
- b) Resistance to Change: Some future teachers may resist incorporating technology due to personal biases, fear of technology, or a preference for traditional teaching methods. Overcoming resistance to change is crucial for promoting the development of digital competence.
- c) Access to Technology and Resources: Unequal access to technology and limited availability of resources can hinder the development of digital competence among future primary school teachers. Disparities in access must be addressed to ensure equal opportunities for all teachers.
- d) Rapid Technological Advancements: The ever-evolving nature of technology poses a challenge for teacher education programs. Keeping up with the latest technological developments and trends can be overwhelming for both educators and students.

Strategies for Developing Digital Competence

- a) Integrating Technology in Teacher Education Programs: Teacher education programs should include courses and modules dedicated to developing digital competence, covering topics such as technology integration strategies, digital citizenship, and critical evaluation of digital resources. Practical experiences and hands-on activities with technology should be incorporated into the curriculum.
- b) Providing Ongoing Professional Development: Continuous professional development opportunities should be offered to practicing teachers and teacher candidates. Workshops,



seminars, and online courses can enhance their digital skills and keep them updated on emerging technologies and pedagogical approaches.

c) Collaborative Learning and Peer Support: Promoting collaboration among future teachers can facilitate the development of digital competence. Peer support networks, online communities, and collaborative projects can provide opportunities for sharing ideas, resources, and best practices related to technology integration.

d) Mentoring and Coaching: Pairing future teachers with experienced mentors who possess strong digital competence can provide guidance, support, and modeling of effective technology integration. Mentors can offer personalized assistance and feedback to help future teachers navigate challenges and enhance their digital skills.

e) Access to Technology and Resources: Ensuring equal access to technology and resources is essential. Teacher education institutions should provide necessary hardware, software, and online platforms. Collaboration with schools, community organizations, and government initiatives can help bridge the digital divide and provide equitable access to technology.

Assessment and Evaluation

Assessment and evaluation methods should be aligned with the development of digital competence. Performance-based assessments, portfolio assessments, and reflective practices can gauge the integration of technology in teaching and learning processes. Feedback and constructive criticism should be provided to support continuous improvement.

In the conditions of digitalization, the future primary class teachers were distinguished by the rapid development of research in areas where it is possible to improve the methodology of teaching information technology. Later, one of several Uzbek scientists, R. J. Ishmuhamedov, suggested that it is better to use information and communication technologies in primary classes, to perform the tasks of consultants, partners and for educational purposes.

Thus, in the conditions of digitalization, it is necessary to improve the methodology of teaching information technology to future elementary school teachers, to develop programs to support the use of information and communication technologies for teaching in elementary school, and to develop training and test programs. output, development of computer courses, distance learning, we can see that the use of the Internet in classrooms is effective.

In the conditions of digitization, it is the most suitable and effective tool for improving the teaching methodology of information technologies among future elementary school teachers, and their goal is to develop students' professional communication. It is desirable to arouse interest in the use of information and communication technologies in teaching in primary classes and to introduce them on a large scale in all higher education institutions. This is confirmed by the fact that the global network of the Internet allows teachers to solve many problems in the field of professional communication skills development.

The ability to improve the methodology of teaching information technology, develop research activities and search for information in future elementary school teachers in the conditions of digitization; is the most effective means of developing communication skills. It emphasizes that it is especially relevant to the communication possibilities of the Internet for solving specific educational tasks, developing and improving certain educational skills and competencies, and organizing educational communication. In this regard, it is important to develop such issues as communication in learning and teaching foreign languages, methods of



obtaining information and audiovisual materials from the Internet, and the use of information and communication technologies in learning various subjects.

In the conditions of digitization, the future primary class provides new opportunities for teachers to improve the teaching methodology of information technologies. Using the Internet allows you to conduct online classes in real time. Studying on the basis of information and communication technologies in the primary school consists in developing students' professional communicative communication, organizing live communication and activity in computer networks.

Conclusion

Developing the digital competence of future primary school teachers is essential for their success in the modern educational landscape. By addressing challenges such as limited TPACK, resistance to change, access disparities, and rapid technological advancements, teacher education programs can equip future teachers with the necessary skills to effectively integrate technology into their teaching practices. Strategies such as technology integration in teacher education programs, ongoing professional development, collaborative learning, mentoring, and ensuring access to technology and resources can foster the development of digital competence among future primary school teachers.

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