

MENTAL ENLIGHTENMENT SCIENTIFIC – METHODOLOGICAL JOURNAL



MENTAL ENLIGHTENMENT SCIENTIFIC – METHODOLOGICAL JOURNAL

<http://mentaljournal-jspu.uz/index.php/mesmj/index>



THEORETICAL FOUNDATIONS FOR IMPROVING THE METHODOLOGY OF DEVELOPING PROFESSIONAL COMPETENCIES OF FUTURE PRIMARY SCHOOL TEACHERS IN THE CONTEXT OF EDUCATIONAL TRANSFORMATION

Mukhlisa Becnazarova

Center for the Development of Higher Education and Global Cooperation

Second-Year PhD Student

Jizzakh, Uzbekistan

ABOUT ARTICLE

Key words: educational transformation, primary education, future teacher, professional competence, professional competency, pedagogical competence, competency-based approach, digital competence, methodological competence, creative competence, reflective competence, professional training, innovative education, pedagogical activity.

Received: 20.09.26

Accepted: 21.09.26

Published: 22.09.26

Abstract: This article examines the theoretical foundations for improving the methodology of developing professional competencies among future primary school teachers in the context of educational transformation. Modern education requires primary school teachers to possess not only pedagogical knowledge and skills, but also digital, communicative, methodological, reflective, and creative competencies. The article analyzes the pedagogical content of the concept of professional competence and scientific-theoretical approaches to its development. It also examines the impact of educational transformation on the professional preparation of future teachers. The potential of competency-based, learner-centered, activity-based, systemic, and innovative approaches to developing professional competencies is substantiated. The pedagogical conditions for improving the methodology of developing professional competencies among future primary school teachers are clarified. The research findings may contribute to improving the professional preparation of future primary school teachers within higher pedagogical education. Particular attention is paid to continuous development of professional

Introduction. Transformational processes taking place in the education system require new approaches to the content, forms, and methods of teacher training. The rapid integration of digital technologies into the educational process, consideration of students' individual educational needs, the use of interactive and innovative pedagogical technologies, and increasing requirements for the quality of education are making the improvement of future teachers' professional preparation one of the pressing pedagogical problems. Particularly at the primary education stage, the teacher's professional competence is an important factor in students' subsequent educational development. Today, a primary school teacher must not only have a good command of the subject, but also take into account students' age-related and individual characteristics, design the educational process, use modern pedagogical and digital technologies, develop students' independent thinking and creative abilities, and regularly analyze their own pedagogical activity. From this perspective, developing an effective methodology for forming and developing professional competencies among future primary school teachers is one of the important tasks of higher pedagogical education.

Educational transformation requires a transition from the traditional "knowledge transmission" model to a model focused on learners' active participation, independent thinking, practical activity, and competency development. In such conditions, the future teacher's professional competence should be viewed not merely as a collection of theoretical knowledge, but as an integral quality enabling the effective application of existing knowledge in pedagogical situations, problem solving, creative organization of the educational process, and reflective evaluation of one's own activity.

The reforms being implemented in the field of education in the Republic of Uzbekistan are also aimed at improving teachers' professional preparation in accordance with modern requirements. Updating the content of higher pedagogical education on the basis of a competency-based approach, introducing digital and innovative technologies into the educational process, strengthening the practical preparation of future teachers, and supporting their independent professional development constitute important directions of this process.

The competency-based approach is of particular importance in developing the professional competencies of future primary school teachers. This approach is aimed not only at students' acquisition of knowledge, but also at their ability to apply it in real pedagogical

activity, independently solve professional problems, and make effective decisions in various pedagogical situations. At the same time, the integration of learner-centered, activity-based, systemic, and reflective approaches makes it possible to comprehensively develop future teachers' professional competencies.

In addition, in the context of educational transformation, digital competence is becoming an important component of the professional competence of future primary school teachers. The use of digital educational resources, organization of an electronic learning environment, and pedagogically purposeful use of artificial intelligence and modern information technologies require new knowledge and practical skills from teachers. Therefore, in the process of preparing future teachers, it is necessary to systematically develop digital and innovative competencies alongside traditional pedagogical competencies. These aspects demonstrate the need to improve the methodology for developing future primary school teachers' professional competencies on the basis of existing pedagogical requirements and trends in educational transformation.

MATERIALS AND METHODS. In this study, theoretical and methodological materials related to improving the methodology for developing professional competencies among future primary school teachers in the context of educational transformation were identified as the main sources of the research. During the study, scientific literature on pedagogy, primary education methodology, professional competency development, modern educational technologies, and pedagogical diagnostics, as well as regulatory and legal documents and scientific articles, was examined. In particular, contemporary studies devoted to developing the professional preparation of future teachers on the basis of the competency-based approach were analyzed as methodological sources [1; 2; 3].

The methodological basis of the study consisted of competency-based, systemic, activity-oriented, learner-centered, integrative, and reflective approaches. The competency-based approach made it possible to define the future teacher's ability to apply acquired knowledge in practical pedagogical situations as the main outcome. Through the systemic approach, the components of professional competence were considered as an interconnected pedagogical system. The activity-oriented approach focused on students' acquisition of the necessary competencies in the process of real or simulated professional activity [4; 5].

In the study, the professional competence of a future primary school teacher was considered as the unity of motivational-value, cognitive, practical-activity, communicative, creative, and reflective components. Such a structure helps determine a future teacher's readiness for professional activity not only by the level of knowledge, but also by the ability to

apply knowledge in the pedagogical process, analyze educational situations, make methodological decisions, and evaluate one's own activity [6; 7]. The following scientific methods were used during the study: theoretical analysis, comparative analysis, generalization, systematization, modeling, pedagogical observation, interview, questionnaire, and pedagogical diagnostics. Theoretical analysis was used to examine the content of the concepts of professional competence and educational transformation. Comparative analysis was used to compare approaches to the professional competence of future teachers presented in different scientific sources. Through generalization and systematization, theoretical views related to the research problem were brought into a unified methodological system.

The pedagogical observation method was used to identify future primary school teachers' activity in the educational process, independent work, attitudes toward pedagogical situations, communicative activity, and ability to make methodological decisions. Through interviews and questionnaires, students' attitudes toward professional activity, their assessment of their own professional capabilities, and their readiness to use modern pedagogical and digital technologies were examined. Pedagogical diagnostics was aimed at determining the level of development of professional competencies and identifying existing problematic aspects [8; 9].

Pedagogical modeling was used as one of the important methods of the study. Through this method, the target, content, procedural, and outcome components of the process of developing future primary school teachers' professional competencies were modeled in an interconnected manner. In developing the model, attention was paid to the integration of the main characteristics of educational transformation, modern pedagogical technologies, digital educational tools, practical assignments, pedagogical situations, and reflective activity.

Such a methodological approach makes it possible to form a methodological system aimed at the comprehensive development of future primary education teachers' professional competencies [10].

The research process was conditionally organized in three stages. The first, diagnostic-analytical stage involved studying scientific and theoretical sources related to the topic and analyzing the structure and current state of professional competencies. At the second, design-methodological stage, methodological approaches, pedagogical conditions, and a system of tasks aimed at developing future primary school teachers' professional competencies in the context of educational transformation were developed. At the third, evaluation-reflective stage, the effectiveness of the methodological solutions applied was analyzed according to established criteria, and the identified results were generalized. Factors related to the digital

transformation of education were also taken into account. Future teachers' use of digital resources, ability to select interactive learning tools, organization of pedagogical activity in an electronic learning environment, and purposeful use of modern technologies were considered important indicators of professional competence. Contemporary studies also emphasize the importance of innovative technologies, digital education, and interactive methods in preparing future teachers for professional activity [11; 12].

Thus, the research methodology was based on combining theoretical analysis with practical-pedagogical diagnostics and modeling. This methodological foundation serves to comprehensively study the process of developing future primary school teachers' professional competencies, identify its existing potential, and develop methodological solutions appropriate to the context of educational transformation.

Results and discussion. The theoretical analysis of the study showed that in the context of educational transformation, the requirements for the professional preparation of future primary school teachers are expanding far beyond traditional pedagogical knowledge. A modern teacher should appear not merely as a specialist who organizes the learning process, but as a professional who supports the learner's individual development, adapts educational content, uses digital tools, analyzes pedagogical situations, and continuously improves professional activity. Recent studies also emphasize that, as a result of educational transformation, the requirements for primary school teachers are changing and pedagogical, didactic, information-communication, and reflective aspects are becoming particularly important within professional competence [13; 14].

Based on a generalization of the research findings, professional competence was interpreted as an integrative set of knowledge, skills, abilities, experience, professional motivation, and reflective capacities necessary for a future primary school teacher to organize professional activity effectively. Competence is not limited to the presence of certain knowledge. Its practical value is manifested in the ability to correctly apply this knowledge in a specific pedagogical situation, identify a problem, evaluate alternative solutions, and independently make an appropriate pedagogical decision. In this regard, the competency-based approach helps transform the future teacher from a "knowledgeable specialist" into a "specialist capable of applying knowledge in practical activity" [15; 16].

Clarifying the structure of professional competence was one of the important results of the theoretical analysis. In the study, the professional competence of a future primary school teacher was described on the basis of the following interrelated components:

1. Motivational-value component – interest in the profession, awareness of the social significance of pedagogical activity, a positive attitude toward students, and an internal need for professional development;

2. Cognitive component – well-formed theoretical knowledge of primary education content, pedagogy, psychology, methodology, modern educational technologies, and students' developmental characteristics;

3. Practical-methodological component – the ability to design lessons, select teaching methods, develop pedagogical tasks, assess students' knowledge and skills, and perform effectively in various pedagogical situations;

4. Communicative component – the ability to establish effective pedagogical communication, cooperate, and express ideas clearly with students, parents, colleagues, and other participants in education;

5. Digital-innovative component – competence in purposeful use of digital educational resources, electronic platforms, interactive tools, and innovative pedagogical technologies;

6. Reflective-creative component – the ability to analyze one's own pedagogical activity, identify mistakes, evaluate activity outcomes, develop new pedagogical solutions, and engage in professional self-development.

The interrelationship of these components makes it possible to view professional competence as an integral pedagogical phenomenon. For example, the presence of technical knowledge of digital tools in a future teacher does not by itself mean that digital-pedagogical competence has been formed. Selecting these tools according to a specific lesson objective, taking students' age characteristics into account, and using them to improve educational outcomes are important indicators of practical competence. Therefore, in assessing competence, in addition to the "knows" criterion, indicators such as "can apply," "analyzes," "adapts," "creates," and "evaluates one's own activity" should also be taken into account [17].

According to the research findings, the competency-based approach was identified as the central methodological basis for improving the methodology of professional competency development. The main feature of this approach is linking educational outcomes not to the volume of acquired knowledge, but to the student's level of ability to apply this knowledge in professional situations. Therefore, alongside theoretical questions in instructional sessions, the use of problematic pedagogical situations, cases, projects, micro-lessons, modeled lesson fragments, and professional tasks was considered a methodologically effective direction [22].

The activity-oriented approach makes it possible to develop professional competence directly in the process of activity. In this case, the student does not merely master ready-made

pedagogical rules, but also tests them in practice, analyzes pedagogical situations, makes decisions, and evaluates the results obtained. For example, students may be presented with a pedagogical situation such as “the primary school student’s classroom activity has decreased” and asked to identify the causes of the problem, develop pedagogical solutions, and justify the most appropriate strategy. Such tasks activate analytical, communicative, creative, and reflective competencies alongside cognitive knowledge [23].

The learner-centered approach requires consideration of the future teacher’s individual professional capabilities and pace of development. Since students’ professional competencies are not formed at the same level within a group, it is appropriate to use a system of differentiated and individualized tasks rather than assigning all students identical tasks of the same level of difficulty. In this process, the student’s existing level of knowledge, interests, capacity for independent work, and professional needs are taken into account [24].

In the context of educational transformation, the digital and innovative approach was also identified as an important component of the methodology. Modern digital tools provide future teachers with additional opportunities to create educational materials, develop visual and interactive tasks, monitor learners’ activities, and analyze outcomes. However, the mere availability of a digital tool does not guarantee pedagogical effectiveness. The important aspect is the methodological integration of technology with the lesson’s objectives, content, and students’ needs. Contemporary studies also note the possibilities of integrating digital pedagogy tools with the development of future teachers’ theoretical knowledge, practical skills, digital literacy, and reflective competencies [25].

Based on a generalization of the research findings, the following pedagogical conditions were identified as important for improving the methodology of developing future primary school teachers’ professional competencies:

- aligning the content of higher education with the requirements of modern primary education practice;
- linking theoretical knowledge with practical pedagogical tasks;
- creating a problem-based educational environment for students’ independent and creative activity;
- purposeful use of digital and innovative educational tools;
- orienting the content of pedagogical practice toward competency development;
- introducing mechanisms for regular diagnostics and reflective assessment;
- strengthening cooperation among students, higher education institutions, and school practice.

These conditions should be implemented not independently of one another, but as an interconnected system. This is because simply introducing modern technologies or using new methods does not ensure sustainable development of professional competence. Developing competence requires coordination among objectives, content, methods, tools, the pedagogical environment, and assessment criteria [26].

To determine the level of development of professional competence, motivational, cognitive, activity-based, and reflective criteria were proposed. The motivational criterion reflects the student's interest in the teaching profession and aspiration for professional development; the cognitive criterion reflects the depth and systematic nature of theoretical knowledge; the activity-based criterion reflects the level of ability to apply pedagogical knowledge in practice; and the reflective criterion reflects the ability to analyze and improve one's own activity. Joint analysis of these criteria makes it possible to assess not only individual indicators of professional competence, but also its overall state of development.

The discussion results show that reflection has particular methodological significance in developing the professional competence of future primary school teachers. In pedagogical activity, it is important not only to make a successful decision, but also to understand why that particular decision was chosen, what result it produced, and what changes can be made in the future. Therefore, using reflective questions at the end of a session, such as "What did I learn?", "Which of my pedagogical decisions was effective?", "What difficulty did I encounter?", and "What will I change in my next activity?" contributes to professional self-development [28].

The use of collaborative learning opportunities in the process of developing professional competence was also identified as an important result. Group projects, paired micro-lessons, peer assessment, discussions of pedagogical problems, and constructive feedback on colleagues' activities develop students' communication and social competencies, as well as responsibility, initiative, and teamwork skills [29].

Overall, the research findings showed that improving the methodology for developing future primary school teachers' professional competencies cannot be achieved merely by replacing an individual method or technology. This process requires the integration of educational content, pedagogical approaches, teaching methods, digital tools, practical activity, diagnostics, and reflection into a unified methodological system. From this perspective, the combination of competency-based, activity-oriented, learner-centered, integrative, digital, and reflective approaches can constitute the theoretical and methodological foundation for developing future primary school teachers' professional competencies [30].

The theoretical findings obtained are consistent with conclusions advanced in other studies. In particular, studies published in 2025 demonstrated the importance of modern pedagogical approaches, innovative technologies, practical experience, assessment, and reflection in developing the professional competencies of future primary school teachers in the context of educational transformation [31]. Studies devoted to the development of the competency-based approach also note the need to organize the professional preparation of future primary education teachers in accordance with modern educational requirements [32].

Thus, the study identified the integration of the competency-based, systemic, activity-oriented, learner-centered, integrative, digital-innovative, and reflective approaches as the theoretical foundations for improving the methodology of developing future primary school teachers' professional competencies. Their integration expands opportunities to connect the future teacher's professional knowledge with practical activity, make independent pedagogical decisions, use innovative tools, and continuously improve professional activity.

CONCLUSION. The results of the theoretical analysis showed that developing the professional competencies of future primary school teachers in the context of educational transformation is one of the important areas of modern pedagogical education. The digitalization of educational content, expansion of innovative pedagogical technologies, the need to take learners' individual needs into account, and changes in the professional role of the teacher require a reconsideration of the methodology for preparing future teachers.

UNESCO's ICT Competency Framework for Teachers also identifies the integration of technology into pedagogical activity as an important component of teachers' professional development [13; 14].

The study characterized professional competence not as a simple sum of knowledge, skills, and abilities, but as an integrative quality that enables their application in real pedagogical activity, resolution of problematic situations, effective organization of communicative processes, purposeful use of digital tools, and reflective evaluation of one's own activity. On this basis, the professional competence of a future primary school teacher should be developed through the unity of motivational-value, cognitive, practical-methodological, communicative, digital-innovative, and reflective-creative components.

In the context of educational transformation, the methodological system for developing competencies was found to be based on the integration of competency-based, systemic, activity-oriented, learner-centered, integrative, digital-innovative, and reflective approaches. In particular, linking theoretical knowledge with practical pedagogical situations and using case

studies, projects, problem situations, microteaching, collaborative activities, and reflective tasks enriches the content of future teachers' professional preparation.

Based on the theoretical results of the study, it was concluded that the effectiveness of the methodology for developing professional competencies depends on the coordination of educational content, methods, tools, pedagogical practice, and assessment mechanisms. In this regard, assessment should be directed not only toward identifying theoretical knowledge, but also toward students' ability to apply knowledge in pedagogical situations, make independent decisions, propose innovative solutions, and analyze their own activity.

Digital transformation also requires the inclusion of new components in the content of professional competence. UNESCO's 2024 AI Competency Framework for Teachers identifies competencies related to human-centered mindset, AI ethics, AI foundations and applications, AI pedagogy, and professional development [31]. This demonstrates the need to consider not only the use of digital technologies but also their pedagogical, ethical, and critical aspects when preparing future primary school teachers.

Overall, improving the methodology for developing future primary school teachers' professional competencies should be organized as a continuous, systematic, and practice-oriented process. Consistent application of the "theory – practice – reflection – improvement" cycle contributes to supporting students' professional development. The theoretical and methodological approaches substantiated in the study may be practically tested through experimental work in the future, and their effectiveness may be evaluated on the basis of empirical indicators.

References:

1. Republic of Uzbekistan. Law of the Republic of Uzbekistan "On Education," No. O'RQ-637, 23.09.2020.
2. President of the Republic of Uzbekistan. On the "Uzbekistan — 2030" Strategy. Relevant Decree of the President of the Republic of Uzbekistan. – Tashkent, 2023–2026.
3. President of the Republic of Uzbekistan. Regulatory and legal documents on improving the system of training, retraining, and professional development of pedagogical personnel. – Tashkent.
4. President of the Republic of Uzbekistan. Concept for the Development of the Higher Education System until 2030. – Tashkent, 2019.
5. Azizxo'jayeva N.N. Pedagogical Technologies and Pedagogical Mastery. – Tashkent: Fan va texnologiya, 2006.

6. Muslimov N.A. Professional Formation of Future Vocational Education Teachers. – Tashkent: Fan, 2004.
7. Muslimov N.A., Usmonboyeva M.H., Sayfurov D.M., To'rayev A.B. Fundamentals of Pedagogical Competence and Creativity. – Tashkent: Sano-standart, 2015.
8. Xodjayev B.X. Theory and Practice of General Pedagogy. – Tashkent: Sano-standart, 2017.
9. Ishmuhamedov R.J., Abduqodirov A.A., Pardaev A. Innovative Technologies in Education. – Tashkent: Iste'dod, 2008.
10. Yo'ldoshev J.G', Usmonov S.A. Fundamentals of Pedagogical Technology. – Tashkent: O'qituvchi, 2004.
11. OECD. The Future of Education and Skills 2030: OECD Learning Compass 2030. – Paris: OECD Publishing, 2019.
12. European Commission. DigCompEdu: European Framework for the Digital Competence of Educators. – Luxembourg: Publications Office of the European Union, 2017.
13. UNESCO. UNESCO ICT Competency Framework for Teachers. Version 3. – Paris: UNESCO, 2018. – 68 p.
14. UNESCO. ICT Competency Framework for Teachers. – UNESCO Institute for Information Technologies in Education.
15. Shulman L.S. Those Who Understand: Knowledge Growth in Teaching // Educational Researcher. – 1986. – Vol. 15, No. 2. – P. 4–14.
16. Perrenoud P. Construire des compétences dès l'école. – Paris: ESF, 1997.
17. Rychen D.S., Salganik L.H. (eds.). Key Competencies for a Successful Life and a Well-Functioning Society. – Göttingen: Hogrefe & Huber, 2003.
18. European Commission. Key Competences for Lifelong Learning: A European Reference Framework. – Luxembourg: Office for Official Publications of the European Communities, 2007.
19. Darling-Hammond L. Teacher Education around the World: What Can We Learn from International Practice? // European Journal of Teacher Education. – 2017. – Vol. 40, No. 3. – P. 291–309.
20. Caena F. Teacher Competence Frameworks in Europe: Policy-as-Discourse and Policy-as-Practice. – European Commission, Joint Research Centre, 2014.
21. Mishra P., Koehler M.J. Technological Pedagogical Content Knowledge: A Framework for Teacher Knowledge // Teachers College Record. – 2006. – Vol. 108, No. 6. – P. 1017–1054.

22. Koehler M.J., Mishra P. What Is Technological Pedagogical Content Knowledge (TPACK)? // Contemporary Issues in Technology and Teacher Education. – 2009. – Vol. 9, No. 1. – P. 60–70.
23. Kolb D.A. Experiential Learning: Experience as the Source of Learning and Development. – Englewood Cliffs: Prentice Hall, 1984.
24. Schön D.A. The Reflective Practitioner: How Professionals Think in Action. – New York: Basic Books, 1983.
25. Redecker C. European Framework for the Digital Competence of Educators: DigCompEdu. – Luxembourg: Publications Office of the European Union, 2017.
26. UNESCO. Global Education Monitoring Report 2023: Technology in Education – A Tool on Whose Terms? – Paris: UNESCO, 2023.
27. UNESCO. Six Pillars for the Digital Transformation of Education: A Common Framework. – Paris: UNESCO, 2024.
28. UNESCO. Digital Competencies for Teachers and School Students in Member States of the Group of 77 and China. – UNESCO, 2024–2025.
29. UNESCO. Strengthening Teachers' Digital Competencies in Chile. – UNESCO Regional Office, 2026.
30. UNESCO. ICT Competency Framework for Primary Teachers and Evaluation Report of DPED Piloting Programme. – UNESCO Bangladesh, 2026.
31. Miao F., Cukurova M. AI Competency Framework for Teachers. – Paris: UNESCO, 2024.
32. UNESCO. AI and Education: Guidance for Policy-Makers. – Paris: UNESCO, 2021.