

ABSTRACT
of the dissertation of PhD doctoral student
of the educational program
8D01301 – “Pedagogy and Methods of Primary Education”
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on the topic:
“Preparing Future Primary School Teachers to Use Interactive Learning
Tools”

Research topic: Preparing Future Primary School Teachers to Use Interactive Learning Tools

Research objective: to determine the theoretical and methodological foundations for preparing future primary school teachers to use interactive teaching tools, to develop a methodology and verify its effectiveness through a pedagogical experiment, as well as to provide scientific and methodological recommendations.

Research objectives

1. To determine the theoretical and methodological foundations for preparing future primary school teachers to use interactive teaching tools.

2. To identify the specific features of preparing future primary school teachers to use interactive teaching tools in the context of the transformation of digital education.

3. To determine the pedagogical conditions for preparing future primary school teachers to use interactive teaching tools.

4. To develop a structural and content-based model for preparing future primary school teachers to use interactive teaching tools.

5. To develop a methodology for preparing future primary school teachers to use interactive teaching tools, to verify its effectiveness in the course of experimental work, and to present scientific and methodological recommendations.

Research methods: theoretical methods – analysis, generalization, systematization, comparison, specification, and projection of results based on the study of psychological, pedagogical, and scientific-theoretical literature, the experience of higher education institutions, as well as regulatory and educational-methodological documentation; empirical methods – questionnaire survey, observation, and pedagogical experiment, including the ascertaining, formative, and control stages; mathematical and statistical methods – processing of the obtained data, analysis of experimental results and their graphical representation, and expert evaluation.

Main provisions submitted for defense

1. The following definitions have been clarified: “Interactive learning tools are a system of resources with high potential for ensuring active interaction among subjects in an information environment, providing feedback in learning, developing cognitive activity, organizing and carrying out collaborative interactive activities, visualizing acquired knowledge, and understanding it from a practical perspective”; and “preparing future primary school teachers to use interactive learning tools is a pedagogical process aimed at substantiating students’ theoretical

knowledge, methodological skills, digital competencies, professional readiness, and reflexivity regarding the purposeful, effective, and safe use of interactive learning tools in the educational process within a higher education institution.” This pedagogical process is considered through the unity of systemic, activity-based, competency-based, personality-oriented, informational, and communicative approaches and requires the identification of its theoretical and methodological foundations.

2. In the context of the transformation of digital education, the specific features of preparing future primary school teachers to use interactive learning tools include: integrating digital technologies into professional disciplines; developing digital pedagogical competence; designing a digital educational environment; changing the role of the teacher, whereby, under conditions of digitalization, the teacher acts as a tutor and navigator in the information space; the practical orientation of training; and the distinctive feature of modern training, which involves conducting teaching practice with the use of digital technologies, modeling online lessons, developing digital educational projects, and participating in webinars and online conferences.

3. The effectiveness of preparing future primary school teachers to use interactive learning tools is ensured through the comprehensive implementation of special pedagogical conditions. These include organizational-pedagogical, didactic, psychological-pedagogical, and material-technological conditions.

4. The structural-content model for preparing future primary school teachers to use interactive learning tools includes the interrelation of motivational, cognitive, operational, and reflexive components; their criteria and indicators are defined, making it possible to determine levels of readiness.

5. The preparation of future primary school teachers to use interactive learning tools is carried out through the implementation of a specially developed methodology into the educational process of a higher education institution. The effectiveness of this methodology is verified during experimental work, and, as a result, scientific and methodological recommendations are provided.

Description of the main research results:

- the theoretical and methodological foundations for preparing future primary school teachers to use interactive teaching tools have been determined;
- the specific features of preparing future primary school teachers to use interactive teaching tools in the context of the transformation of digital education have been identified;
- the pedagogical conditions for preparing future primary school teachers to use interactive teaching tools have been determined;
- a structural and content-based model for preparing future primary school teachers to use interactive teaching tools has been developed;
- a methodology for preparing future primary school teachers to use interactive teaching tools has been developed, its effectiveness has been verified through experimental work, and scientific and methodological recommendations have been presented.

Justification of the novelty and significance of the obtained results:

– *the first result is novel*. The theoretical and methodological foundations for preparing future primary school teachers to use interactive teaching tools have been determined;

– *the second result is novel*. The specific features of preparing future primary school teachers to use interactive teaching tools in the context of the transformation of digital education have been identified;

– *third new result is novel*. The pedagogical conditions for preparing future primary school teachers to use interactive teaching tools have been determined;

– *the fourth result is novel*. A structural and content-based model for preparing future primary school teachers to use interactive teaching tools has been developed;

– *the fifth result is new*. A methodology for preparing future primary school teachers to use interactive teaching tools has been developed, its effectiveness has been verified in the course of experimental work, and scientific and methodological recommendations have been presented.

Practical significance of the research:

– the textbook “Using Interactive Learning Tools in Primary Classes” was prepared and introduced into practice; it was recommended by the Academic Council of Zhetysu University named after I. Zhansugurov (Minutes No. 4 dated November 29, 2024), ISBN 978-601-216-982-9;

– the computer program “Using Interactive Learning Tools in Primary Classes” was developed. – Taldykorgan: Zhetysu University named after I. Zhansugurov, 2024. – 142 pages;

– methodological guidelines on using interactive learning tools in primary classes were developed. – Taldykorgan, 2024. – 29 pages;

– copyright certificates confirming the inclusion of information in the State Register of Rights to Copyright-Protected Objects were obtained:

1. Copyright certificate: “Using Interactive Learning Tools in Primary Classes.” National. No. 52558, dated December 11, 2024;

2. Copyright certificate: computer program “Using Interactive Learning Tools in Primary Classes.” National. No. 65715, dated December 23, 2025;

the educational-methodological package for the elective course “Using Interactive Learning Tools in Primary Classes” was developed, introduced into the educational program 6B01301 – “Pedagogy and Methods of Primary Education” in the 2023–2024 academic year, and piloted in the educational process. The research results can be used in the educational process of higher and secondary professional education institutions that train pedagogical specialists, as well as in the system of professional development and retraining of primary school teachers.

Compliance of the research with the priority directions of scientific development and state programs:

The dissertation research fully complies with the Law of the Republic of Kazakhstan dated July 27, 2007 No. 319 “On Education”, the Law of the Republic of Kazakhstan dated December 27, 2019 No. 293-VI “On the Status of a Teacher”, the Professional Standard for Teachers of Educational Organizations approved by Order No. 31 of the Minister of Education of the Republic of Kazakhstan dated

February 24, 2025, as well as the Concept for the Development of Higher Education and Science in the Republic of Kazakhstan for 2023–2029, approved by the Resolution of the Government of the Republic of Kazakhstan in 2023. The dissertation is directly related to the tasks defined in the above-mentioned documents, namely: improving the quality of teacher training, developing the professional competence of future teachers in a digital educational environment, and effectively integrating modern interactive and digital tools into the educational process. In this regard, the dissertation research fully corresponds to the priority areas of scientific development and the priorities of state educational policy.

Description of the doctoral candidate's contribution to each publication:

Based on the results of the research, 17 scientific works were published.

1) Article indexed in Scopus: Fostering Pre-Service Primary Teachers' Capacity to Employ an Interactive Learning Tool. *Qubahan Academic Journal*, 5(1) (Mar. 2025), 662–673. DOI: <https://doi.org/10.48161/qaj.v5n1a1530>. Doctoral candidate's contribution: 75% (co-authors: Gulnar Zholtaeva – 10%, Gulnar Tazhinova – 5%, Gulnara Syrlybayeva – 5%, Raushan Assylova – 5%).

2) Four articles in journals recommended by the Committee for Quality Assurance in the Field of Science and Higher Education of the Republic of Kazakhstan:

1. Using Interactive Learning Tools in Kazakh Language Lessons in Primary School. *Bulletin of Yasawi University. Pedagogy Series*, No. 1 (131), 2024, pp. 449–463. Doctoral candidate's contribution: 90% (co-authors: Assylova R.O. – 5%, Abdullina G.T. – 5%).

2 Engaging Primary School Teachers in the Use of Interactive Learning Tools. *Bulletin of Ablai Khan KazUIR&WL (Kazakh University of International Relations and World Languages)*, Series “Pedagogical Sciences”, No. 2 (73), 2024, pp. 177–190. Doctoral candidate's contribution: 85% (co-authors: Tazhinova G.A. – 5%, Assylova R.O. – 5%, Kabdrakhmanova G.S. – 5%).

3. Prerequisites for Preparing Future Primary School Teachers to Use Interactive Learning Tools. *Bulletin of L.N. Gumilyov Eurasian National University. Series: Pedagogy. Psychology. Sociology*, 147, No. 2 (2024), pp. 200–218. Doctoral candidate's contribution: 85% (co-authors: Zholtaeva G.N. – 10%, Tazhinova G.A. – 5%).

4. Developing Digital Competences of Future Primary Education Teachers through Interactive Learning Tools. *Izvestiya. Series: Pedagogical Sciences*, 2025, Vol. 78, No. 3, pp. 346–374. Doctoral candidate's contribution: 80% (co-authors: Zholtaeva G.N. – 10%, Abdullina G.T. – 5%, Assylova R.O. – 5%).

3) Teaching aid and computer program:

1. Using Interactive Learning Tools in Primary Classes. Taldykorgan, 2024. 142 p. Doctoral candidate's contribution to the teaching aid: 80% (co-author: Zholtaeva G.N. – 20%).

2. Computer program: Using Interactive Learning Tools in Primary Classes. Taldykorgan: Zhetysu University named after I. Zhansugurov, 2025. Doctoral

candidate's contribution to the computer program: 80% (co-author: Zholtaeva G.N. – 20%).

3. Methodological Guidelines for the Use of Interactive Learning Tools in Primary Classes. – Taldykorgan, 2024. – 29 pages.

4) Author's certificates:

1. Using Interactive Learning Tools in Primary Classes. Republic of Kazakhstan. No. 52558, 11.12.2024. Doctoral candidate's contribution: 80% (co-author: Zholtaeva G.N. – 20%).

2. Computer program: Author's certificate. Using Interactive Learning Tools in Primary Classes. Republic of Kazakhstan. No. 65715, 23.12.2025. Doctoral candidate's contribution: 80% (co-author: Zholtaeva G.N. – 20%).

5) Ten articles published in international and domestic venues:

1. Media Education in the Modern School through Interactive Tools. Scientific and Practical Journal "Global Science and Innovation: Central Asia", Proceedings of the XVIII International Scientific and Practical Conference, Astana, 10–15 April 2023, pp. 12–15. Doctoral candidate's contribution: 95% (co-author: Tazhinova G.N. – 5%).

2. Types and Content of Interactive and Didactic Tools Used in Primary Schools. "Problems and Prospects for the Development of Modern Science in the Countries of Eurasia": Proceedings of the IX International Scientific and Practical Online Conference, Pereiaslav-Khmelnytskyi, Kyiv Region, Ukraine, 31 October 2023. Doctoral candidate's contribution: 95% (co-author: A. Tazhinova – 5%).

3. Interactive Platforms and Their Potential in Organising Learning. Proceedings of the III International Scientific and Practical Conference "Innovative Technologies, Issues of Distance Learning and Prospects for the Development of Modern Education", Shymkent, 15–16 February 2024, pp. 89–93. Doctoral candidate's contribution: 90% (co-author: Zholtaeva G.N. – 10%).

4. The Issue of Preparing Future Primary School Teachers to Use Interactive Learning Tools. Proceedings of the International Scientific and Practical Conference "Current Trends and Strategies for the Development of Modern Pedagogical Education", M. Kozybayev North Kazakhstan University, Petropavl, 2024, pp. 161–165. Doctoral candidate's contribution: 90% (co-author: Zholtaeva G.N. – 10%).

5. Types and Content of Interactive and Didactic Tools Used in Primary School. Proceedings of the III International Scientific and Practical Conference "Contemporary Issues of Education, Science and Technology", "INN & SCIENCE ASIA" Scientific and Educational Center, Oskemen, 2024, pp. 9–15. Doctoral candidate's contribution: 100%.

6. Pedagogical Conditions for Using Interactive Teaching Methods to Develop Speech Skills of Primary School Students. Proceedings of the International Scientific and Practical Conference "Integrating Skills in the Process of Developing Preschool Children's Speech in a Digital Society: Problems, Solutions and Prospects", Astana: "BiKA" Publishing House, 2025, pp. 425–429. Doctoral candidate's contribution: 95% (co-author: Syrlybayeva G.T. – 5%).

7. Opportunities for Using Interactive Learning Tools in Higher Education Institutions. Bulletin of Zhetysu University named after I. Zhansugurov, 2022, No. 4 (105), pp. 11–15. Doctoral candidate's contribution: 90% (co-author: Zholtaeva G.N. – 10%).

8. Methodological Features of Using Interactive Tools in the Educational Process. "Current Issues of Science and Education": Proceedings of the International Forum dedicated to the 300th anniversary of the Russian Academy of Sciences. Volume, Part 2. Yekaterinburg, 2023, pp. 406–412. Doctoral candidate's contribution: 95% (co-author: Tazhinova G.A. – 5%).

9. Methodological Aspects of Using Interactive Learning Tools in Primary Classes. Norwegian Journal of Development of the International Science, Vol. 148, 2025, pp. 74–79. Doctoral candidate's contribution: 90% (co-author: Zholtaeva G.N. – 10%).

10. The Role of Interactive Tools in Improving the Effectiveness of Education in the Teaching Process. Integration of the Scientific Community to the Global Challenges of Our Time: Materials of the X International Scientific-Practical Conference. Marseille (France), February 5–7, 2025, pp. 218–225. Doctoral candidate's contribution: 90% (co-author: Zholtaeva G.N. – 10%).