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ANNOTATION

to the dissertation titled

“Pedagogical Conditions for Preparing Future Primary School Teachers for Instructional and Methodological Work in Small-Scale Schools”

submitted for the degree of Doctor of Philosophy (PhD)

in the specialty 8D01303 – Pedagogy and Methods of Primary Education

Research topic: Pedagogical conditions for preparing future primary school teachers for instructional and methodological work in small-scale schools.

Research Objective: to theoretically substantiate the pedagogical conditions and develop a structural model for preparing future primary school teachers for instructional and methodological work in small (multi-grade) schools, as well as to conduct its experimental validation.

Research Objectives:

1. To determine the theoretical and methodological foundations of the process of preparing future primary school teachers for instructional and methodological work in small schools and to clarify the essence of the concepts “small (multi-grade) school,” “instructional and methodological work,” and “preparation for instructional and methodological work in small schools.”

2. To identify the components, criteria, indicators, and levels of readiness of future primary school teachers for instructional and methodological work in small schools.

3. To develop pedagogical conditions for preparing future primary school teachers for instructional and methodological work in small schools.

4. To design a structural model for preparing future primary school teachers for instructional and methodological work in small schools.

5. To experimentally verify the effectiveness of the developed pedagogical conditions and the structural model for preparing future primary school teachers for instructional and methodological work in small schools.

Research Hypothesis: if the pedagogical conditions and the structural model for preparing future primary school teachers for instructional and methodological work in small schools are theoretically substantiated, developed, and implemented, then the level of their professional competence will increase, as this will ensure the necessary professional readiness to carry out instructional and methodological activities in the context of small schools.

Research Methods:

• **Theoretical:** analysis and systematization of scientific-pedagogical literature and methodological sources on the research problem; study of educational standards, curricula, regulatory documents, and best pedagogical practices; methods of comparison, generalization, and modeling.

• **Empirical:** purposeful pedagogical observation, interviews, organization of a pedagogical experiment, use of diagnostic methods and tools (T. I. Ilyina’s method “Study of University Students’ Learning Motivation,” E. M. Pavlyutenkov’s method “Identification of Leading Motives for Career Choice,” A. V. Karpov’s method “Diagnostics of the Level of Personal Reflection”).

• **Mathematical-statistical:** processing of research results using the SPSS program; application of descriptive statistics (mean values, percentage indicators), Student’s t-test, and analysis of variance (ANOVA).

Key Provisions Submitted for Defense (validated scientific hypotheses and other findings representing new knowledge):

The theoretical and methodological basis of the research relies on systemic–content, learner-centered, and activity-based approaches. These approaches ensure a set of interrelated perspectives for

organizing the content and process of education, as well as for the professional preparation of future teachers:

The systemic–content approach makes it possible to consider the process of preparing teachers for instructional and methodological work as an integrated pedagogical system, adapting its structure and content to the specific features of small-scale schools;

The interdisciplinary approach contributes to the formation of a holistic worldview in learners and supports the coordination of curriculum content in combined classes;

The activity-based approach ensures the development and reinforcement of practical skills of future teachers through the performance of specific professional tasks.

The conceptual framework of the study has been clarified:

A “small-scale school” is defined as a general education institution with a small student population, combined class-groups, and a specific organization of the instructional process;

“Instructional and methodological work” refers to a system of planning, organizing, and monitoring the learning process in combined classes, including the selection of educational content, methodological support, and assessment of learning quality;

“Preparation of future teachers for instructional and methodological work” is a purposeful process aimed at developing motivational-value, cognitive-methodological, and activity-reflective components necessary for teaching in small-scale schools.

The study identifies the conditions for preparing future primary school teachers for instructional and methodological work in small-scale schools and formulates pedagogical conditions that ensure its effectiveness.

An analysis of educational programs, teaching practice, and regulatory documents demonstrates that the process of preparing future teachers for work in small-scale schools is fragmented and does not fully address the specific features of instructional and methodological work in combined classes. At the same time, the successful implementation of instruction in such schools requires methodological flexibility, mastery of cross-class teaching formats, organization of individualized learning, and lesson planning under resource constraints.

The research identified and substantiated a set of pedagogical conditions that ensure effective preparation of future teachers for instructional and methodological work in small-scale schools:

- creation of a practice-oriented educational environment that immerses students in professional situations typical of small-scale schools;
- implementation of specially organized teaching practice that introduces future teachers to the real environment of a small-scale school;
- methodological support and mentoring provided by experienced teachers working in small-scale schools;
- use of digital educational resources and contemporary pedagogical technologies to compensate for limited traditional resources;
- integration of theoretical knowledge with future professional practice through subject-oriented and practice-based approaches.

- a structural model for preparing future primary school teachers for instructional and methodological work in small-scale schools has been developed. This model ensures coherence, logical interconnection, and continuity across the stages of professional preparation.

The proposed model includes the following interconnected components:

Target Component – reflects the professional orientation, goals, and expected outcomes of graduates prepared to teach in combined classes, design instruction under limited resources, and demonstrate motivation for professional growth;

Content Component – based on a selection of disciplines, modules, and methodological materials addressing the specifics of teaching in small-scale schools and aimed at developing subject-methodological and psycho-pedagogical competencies;

Methodological-Organizational Component – oriented toward practice-based preparation, including immersion in real small-scale school settings, application of digital resources, mentoring, methodological support, case-methods, interdisciplinary tasks, and didactic solutions;

Assessment-Result Component – includes criteria, indicators, and levels for assessing readiness in motivational-value, methodological, organizational-activity, and reflective components.

Implementation of this model contributes to the formation of a stable system of knowledge, practical skills, and professional attitudes necessary for successful teaching in rural small-scale schools.

The pedagogical conditions and structural model for preparing future primary school teachers for instructional and methodological work in small-scale schools were developed and tested in practice. The model presupposes the phased implementation of interconnected pedagogical conditions aimed at forming students' professional readiness. The developed conditions and model include:

- introduction of elective courses addressing the specifics of instruction in combined classes;
- organization of teaching practice in small-scale schools followed by analysis and reflection;
- use of digital educational resources (interactive platforms) and practice-oriented tasks (cases, projects);
- creation of a mentoring environment involving experienced teachers;
- diagnostics of student readiness across motivational, methodological, organizational-activity, and reflective components at each stage.

Preparation of future primary school teachers for instructional and methodological work in small-scale schools is based on the comprehensive creation of an educational environment that fulfills the following tasks:

- implementation of elective courses focused on the specifics of combined classes (e.g., “Theory and Technologies of Teaching in Small-Scale Schools,” “Pedagogical Design of the Digital Educational Environment”);
- organization of teaching practice in small-scale school settings with elements of instructional design and reflection, providing students with immersion in the professional environment;
- application of digital and interactive forms of learning using platforms and case-based tasks;
- mentoring by experienced teachers and modeling of professional situations;
- phased diagnostics of students' professional preparedness across motivational, value-based, and reflective components.

The effectiveness of the proposed structural model is confirmed by the results of practical and experimental work, which demonstrated positive dynamics in the professional readiness of students for instructional and methodological work in small-scale schools.

Description of the Main Research Findings

Relying on scientific and pedagogical foundations, applying pedagogical methods and techniques relevant to the subject of the study, adhering to a systematic plan of practical and experimental work, ensuring alignment between the research goals and objectives, and conducting mathematical and statistical processing of the initial and final data made it possible to achieve the main results of the study.

Justification of the Novelty and Significance of the Obtained Results

The first innovative contribution lies in identifying the theoretical and methodological foundations for preparing future primary school teachers for instructional and methodological work in small-scale schools.

The second innovative contribution consists in clarifying the meanings and content of key concepts such as “small-scale school,” “instructional and methodological work,” and “preparation.”

The third innovation is the development of a content-structural model for preparing future teachers for instructional and methodological work.

The fourth innovation is the creation of a system of pedagogical conditions and a methodological system for preparing future primary school teachers for instructional and methodological work in

small-scale schools, whose effectiveness has been confirmed through practical and experimental testing.

The fifth innovative contribution is that the proposed model and methodological framework have been implemented in the educational process and recognized as an effective tool for enhancing the professional readiness of future teachers.

Practical Significance of the Research is characterized by the development of a system of comprehensive instructional and methodological materials that ensure the professional training of future primary school teachers for instructional and methodological work in small (multi-grade) schools.

Within the framework of the study, the following results were achieved:

- an elective course titled “Theory and Methodology of Teaching in a Small (Multi-grade) Primary School” was developed and implemented into the educational process;
- two teaching manuals on the issue of small primary schools were prepared, revealing the specific features of organizing the educational process;
- a national (republican) webinar on the research topic was organized;
- methodological guidelines for organizing industrial-pedagogical (pre-diploma) practice in a small school were developed (within the educational program 6B01303 “Pedagogy and Methods of Primary Education”);
- curricula for six elective disciplines were developed, taking into account the specifics of small schools;
- models of multi-level calendar-thematic plans for combined classes were created;
- methodological recommendations for organizing lessons in small schools were developed, considering the age and cognitive characteristics of students.

The proposed materials can be used in higher education institutions for training future teachers, as well as in professional development systems for primary school teachers working in small schools. Their comprehensive application contributes to improving the level of students’ professional training and ensures effective pedagogical activity in rural educational settings.

The obtained research results include:

- the development and implementation of the elective course “Theory and Methodology of Teaching in a Small (Multi-grade) Primary School”;
- the preparation of teaching manuals “Content and Methodology of Education in a Small (Multi-grade) Primary School” and “Fundamentals of Education in a Small School under the Conditions of Updated Educational Content”;
- the organization of a national (republican) webinar “Current Issues in Organizing the Instructional and Methodological Process in a Small School under the Conditions of Updated Educational Content” for teachers and students;
- the preparation of methodological guidelines “Industrial-Pedagogical (Diploma) Practice in a Small School” within the educational program 6B01303 “Pedagogy and Methods of Primary Education”;
- the development of course syllabi for the disciplines “Primary School Pedagogy,” “Didactics,” “Methods of Teaching Mathematics in Primary School,” “Methods of Teaching the Kazakh Language in Primary School,” “Methods of Teaching Natural Science in Primary School,” “Methods of Teaching Environmental Studies in Primary School,” adapted to the specifics of small schools;
- the creation of multi-level calendar-thematic plans for two-grade groups;
- the development of methodological recommendations for organizing lessons in small schools, taking into account the age and cognitive characteristics of students.

The proposed materials can be used in higher education institutions for training future teachers, as well as in professional development systems for primary school teachers working in small schools. The

comprehensive application of the developed materials enhances students' professional readiness and enables effective pedagogical activity in rural settings.

Compliance with the directions of scientific development and state programs: the content of the research fully corresponds to the Strategic Development Plan of the Republic of Kazakhstan until 2025, approved by the Resolution of the Government of the Republic of Kazakhstan dated November 30, 2017, No. 799. The document emphasizes the need to modernize the education system, improve the quality of teaching, reduce the gap between urban and rural schools, and strengthen the practice-oriented training of teaching staff. A small (multi-grade) school is an important component of the rural education system; therefore, training teachers adapted to such conditions fully corresponds to the state personnel policy.

In addition, this research is aimed at implementing the requirements of the Law “*On the Status of a Teacher.*” In particular, issues such as enhancing teachers' professional competence, providing methodological support, and ensuring responsibility for the quality of education are reflected in the content of the dissertation.

Description of the Doctoral Candidate's Contribution

The doctoral candidate has published research findings in international databases (Scopus / Web of Science) and national journals, with the contribution percentage indicated for each work.

1. Training of future primary school teachers for work in an understaffed school. *International Journal of Evaluation and Research in Education*, Vol. 14, No. 5, 2025, pp. 4040–4049. doi: <http://doi.org/10.11591/ijere.v14i5.32093>

Authors: Äbildina S., Baimaganbetova Zh., Amzeyeva G. — 20% contribution by the doctoral candidate / 80% by co-authors

2. Enhancing Teaching Skills through Digital Feedback in Microteaching: A Study with Prospective Primary Teachers. *International Journal of Information and Education Technology*, 15(9), 1820–1828. doi:10.18178/ijiet.2025.15.9.2383

Authors: Zhúmabaeva Zh., Zhaksylykova Q., Aytenova E., Zhailauova M., Nurgalieva S. — 50% contribution by the doctoral candidate / 50% by co-authors

3. Bolashaq pedagog mamandardy shagyn jinakty mektepke dayarlau. *Science and Life of Kazakhstan*, No. 12(1), 2019, pp. 226–230.

Authors: Äbildina S.Q., Igenbayeva R.T. — 20% / 80%

4. Shagyn jinakty mekteptegi tarbie protsesin uyymdastyru erekshelikteri. *Science and Life of Kazakhstan*, No. 6(02), 2020, pp. 296–300.

Authors: Igenbayeva R.T. — 20% / 80%

5. Zhanartylgan bilim beru zhagdayynda shagyn jinakty mektep múǵalimderin dayarlau. *Bulletin of Toraighyrov University. Pedagogical Series*, No. 1, 2021, pp. 114–124.

Authors: Äbildina S.Q., Igenbayeva R.T. — 20% / 80%

6. Shagyn jinakty mektepterdin bolashaq múǵalimderin dayarlau zhane pedagogikalyq protses komponentterinin erekshelikteri. *Bulletin of Toraighyrov University. Pedagogical Series*, No. 2, 2022, pp. 350–362.

— 100% contribution by the doctoral candidate

7. Shagyn jinakty bastauysh mektepte bilim beru maznúny men ádistemesi. *Teaching Manual*, Karaganda: Aka, E. Boketov University Press, 2021, 233 p.

Authors: Abildina S.Q., Igenbayeva R.T. — 40% / 60%

8. Zhanartylgan bilim beru maznúny zhagdayynda shagyn jinakty mektepte bilim beru negizderi. *Teaching Manual*, Almaty: Evero, 2021, 276 p.

Authors: Igenbayeva R.T. — 20% / 80%

9. The impact of innovative approaches on prospective primary teachers' quality of education: An exploration of practice. *Journal of Infrastructure, Policy and Development*, 8(15), 9248 (2024). <https://doi.org/10.24294/jipd9248>

Authors: Zhúmabaeva Zh., Zhaksylykova Q., Aytenova E., Zhailauova M., Nurgalieva S. — 30% / 70%

10. Shagyn jinakty mektepterde interbelsendi ádisterdi tiimdi qoldanu. Prospects for the Development of Modern Science, V International Scientific-Practical Conference, Seoul (Korea), March 11–13, 2020, pp. 90–95.

Authors: Äbildina S.Q., Igenbayeva R.T. — 20% / 80%

11. Qazaqstandagy shagyn jinakty mektepter damuynyn ádisnamalyq negizderi. Europe and the Turkic World: Science, Engineering, and Technology, V International Scientific-Practical Conference, Ankara (Turkey), May 6–8, 2020, pp. 315–320.

Authors: Äbildina S.Q., Igenbayeva R.T. — 20% / 80%

12. Pedagogical conditions for preparing future primary teachers for instructional-methodological work in small-scale schools. Proceedings of the III International Scientific-Practical Conference “Current Problems of Psychology and Pedagogy”, ed. by O.I. Kayasheva, N.V. Nikolaeva, St. Petersburg: NITS Art, 2025, 194 p.

Authors: Äbildina S.Q., Kolomiyets O.M. — 20% / 80%