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FEATURES OF THE DEVELOPMENT OF RESEARCH COMPETENCE OF FUTURE SPECIAL TEACHERS

Abstract

The article is devoted to the peculiarities of the development of the research competency of future special teachers. Currently, the process of developing the competencies of future special teachers, including research ones, is becoming an urgent problem. Analyzing valuable opinions of scientists, special importance is attached to the definition, meaning of the words “competence”, “competency”. While competence is closely related to knowledge, abilities, skills, competence is the result of knowledge arising from the activities of students. The purpose of the study: to identify the features of the development of research competence of future special teachers. During the research work, mixed research methods were used: qualitative and quantitative. The study was attended by students of 1-3 courses of the Kazakh National Pedagogical University named after Abai, the educational program “Special Pedagogy”. According to the results of the survey, contradictions were revealed in the development of research competencies, in how much they understand research work.

Keywords: competence; competency; research competency, special teacher; research work.

Introduction. In the modern era, the education system is a dynamic and evolving process that continuously adapts to contemporary demands. Effective national policies consistently place education at the forefront, ensuring that citizens become active contributors to societal progress and national development. Consequently, innovative principles, scientific advancements, and groundbreaking ideas in global education are carefully analyzed, critically assessed, and selectively implemented where they offer substantial benefits.

A pivotal milestone in Kazakhstan's education sector has been its integration into the Bologna Process. This reform has established a standardized three-tier system of higher and postgraduate education, encompassing bachelor's, master's, and doctoral programs. The adoption of the Bologna Process necessitates the modernization of various educational components, with a primary focus on enhancing the quality of academic programs through a learning outcomes-based approach. These programs are designed within a competency-based framework that fosters both personal

and professional development throughout the educational process (Yerzhanova, 2022).

Within this framework, higher education institutions prioritize the preparation of future professionals who are competitive, highly skilled, and proficient in their respective fields. A crucial aspect of this endeavor is the development of research competence among prospective special education teachers. Consequently, alongside strengthening students' research capabilities, challenges emerge in improving the quality of independent academic work and fostering a deeper engagement with scientific inquiry.

Competence is widely recognized as an essential characteristic of an individual, shaped by the integration of knowledge, skills, and experience. According to Kuzmina (1990) and Markova (1996), competence is a personality trait determined by one's ability to apply acquired knowledge and skills effectively. Raven (2002) emphasized the significance of individual capabilities, while Zeer (2005) viewed competence as a guiding principle in education, linking it to self-learning, self-determination, and socialization.

Turgunbaeva (2012) described competence as the ability to apply knowledge in real-life problem-solving, whereas Yespolova (2021) defined it as the capacity to utilize acquired knowledge and master skills relevant to one's future profession. Research by Akcil, Uzunboylu, and Kinik (2021) explored the role of technology integration in education, emphasizing that the development of research competence is fundamental to any learning process.

Further studies highlight the importance of research competence in teacher preparation. Ramazanova (2022) examined its role in pedagogical disciplines, while Zhekseminova (2017) emphasized academic writing as a key tool in research competence development. Meanwhile, Uzunboylu, Ethem, and Hamidi (2021) investigated flipped learning methodologies, revealing their effectiveness in fostering research competency. (Uzunboylu et al., 2021).

Abdualiyeva and Seitova (2022) assessed the impact of case-based learning on students' information competence, while Atadjanov (2021) analyzed online thematic discussions as a means of enhancing critical thinking and communication skills. Findings from these studies underscore the multifaceted nature of competence and its critical role in professional training.

Research Aim and Problem Statement

This study aims to explore the development of research competency in future special education teachers. Given the increasing importance of research in higher education, future specialists must cultivate strong research skills to apply theoretical knowledge effectively in professional settings. Research competence fosters scientific inquiry, methodological awareness, and readiness to engage in evidence-based practices. Therefore, understanding its development is crucial in enhancing the quality of higher education.

The Role of Research Competence in Professional Training

To prepare future professionals for the demands of the modern education system, it is essential to integrate research competence

into academic training. As noted by Yespolova (2021), students must acquire core competencies such as analytical thinking, problem-solving, teamwork, and research literacy. Mastering these skills enables them to adapt to evolving professional challenges and contribute meaningfully to their field.

Furthermore, research competency aligns with national educational priorities. The Republic of Kazakhstan emphasizes the professional preparedness of special education teachers by ensuring their familiarity with legal and regulatory frameworks. Key legislative documents, including the Constitution of Kazakhstan, the Law on Education (2020), and the Law on Social, Medical, and Pedagogical Support for Children with Disabilities (2010), outline the responsibilities of educators in supporting students with special needs. Additionally, the State Program for the Development of Education and Science (2020–2025) aims to enhance teacher qualifications and reinforce their research competencies (2021).

Materials and Methods. This study employed a mixed-methods research approach, incorporating both qualitative and quantitative data collection techniques. Surveys, including open- and closed-ended questions, were used to gather information from participants. The research methodology involved literature analysis, expert evaluation, content analysis, and statistical assessments. A competency-based approach, grounded in humanistic education principles, served as the foundation for data interpretation.

The research employed a comprehensive range of empirical and theoretical methods to explore the issue at hand. Empirical methods included observation and its various forms, interviews, questionnaires, and experiments, among others. Theoretical methods encompassed analysis, synthesis, analogy, abstraction, comparison, induction and deduction, literature review, generalization, and systematization. To identify the characteristics of developing research competence among students, a survey was conducted. The participants consisted of first- to third-year students enrolled in the "Special Education" program. The survey was administered via the Google Forms platform,

with each question offering five response options. Students selected the answers that best reflected their experiences, thus indicating the level of their research competence.

The collected responses were analyzed using both quantitative and qualitative methods:

- the survey method focused on determining students' research competence;
- quantitative analysis involved converting survey responses into percentages for comparative purposes;
- qualitative analysis entailed examining students' open-ended responses to identify recurring themes and insights.

The results of the survey were presented in the form of diagrams, providing a clear visual representation of the data.

In the course of the study, a survey of students of the educational program "special

pedagogy" 1-3 courses on the development of research competence of future special teachers was conducted. During the survey, several questions were considered on the topic under study:

- What do you mean by research?
- What are the signs that you are ready for research work?
- How do you understand writing thesis (projects)?
- What type of essay do you use in doing independent work?
- Know and prepare to write articles for magazines?

Results. According to the results of the survey "What do you mean by research?" students studying under the educational program "Special Pedagogy" 2-3 courses, who took part in the survey, answered the question.

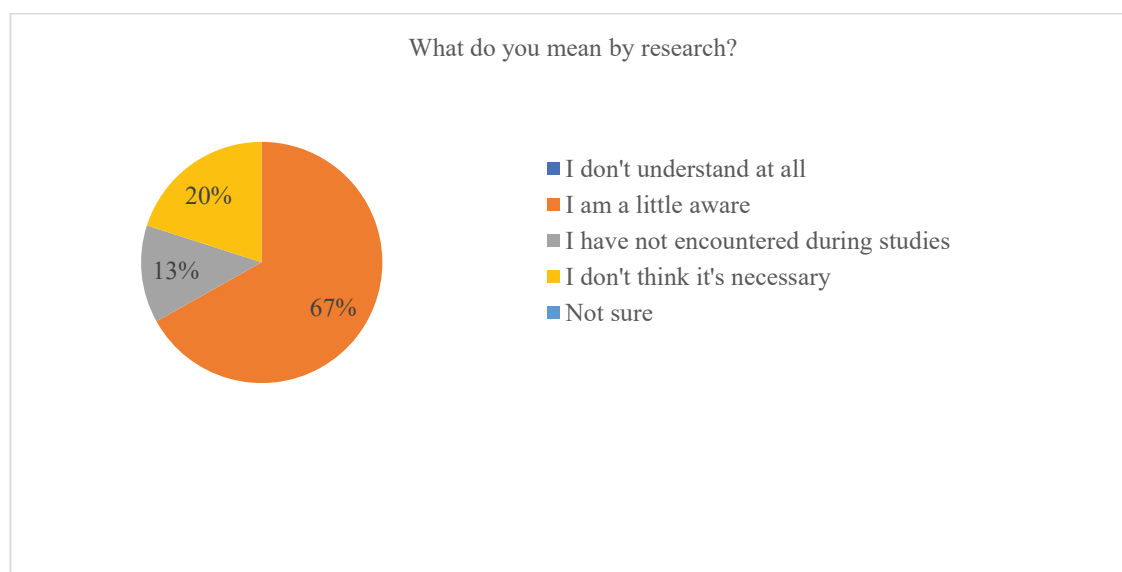


Figure 1: The results of the survey on the question «What do you mean by research?»

Analyzing the results of the survey, we see how the future specialist teacher understands the research work. But not everyone can have this competence. "What do you mean by research? in the questionnaire" I don't understand at all" – there was no answer. The answer "I have a little information" showed 67%, the answer "I have not met in the educational process" – 13%, the answer "I don't think it is necessary" –

20%, the answer "I have difficulty answering" – There was no answer. From this, we can see that future special teachers have developed an understanding of the research work, and the results of the survey show such a forecast.

According to the results of the survey, the question "What are the signs of your readiness for research work?" future special teachers took part in the survey.

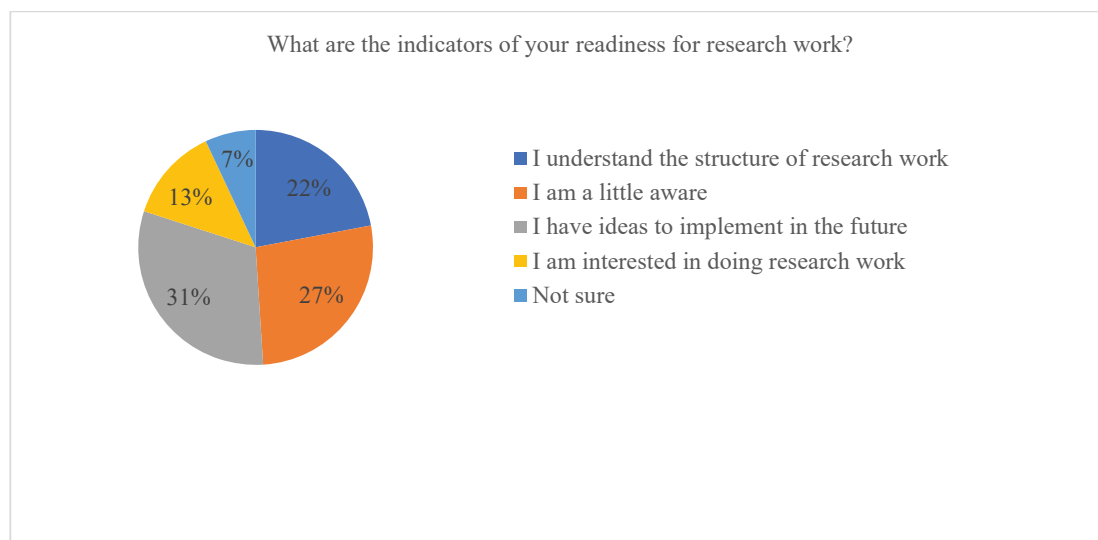


Figure 2: The results of the survey on the question «What are the signs of your readiness for research work?»

“What are the signs that you are ready for research work?” according to the results of the survey, all future special teachers who took part answered. 22% answered “I understand the structure of the research work”, 27% answered “I have a little information”, 31% were interested in the answer “I have ideas to implement in the future”, 13% made a clear choice “I have a great

interest in doing research work”, 7% still could not clearly express their decision. We can see from this that there are still obstacles to the development of research competency of future special teachers.

“How do you understand writing thesis (projects)?” the results of the survey were conducted.

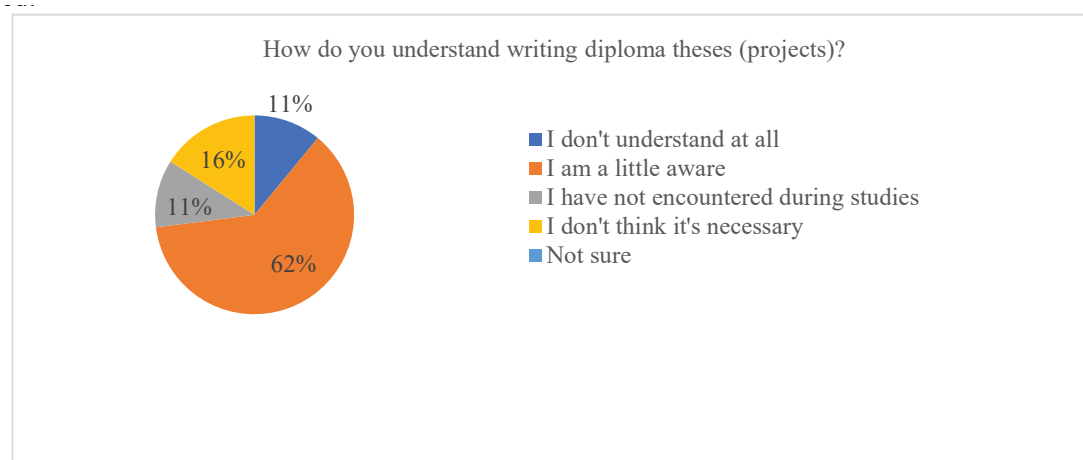


Figure 3: Results of the survey on the question «How do you understand the writing of thesis (projects)?»

On this particular question of the survey, 11% answered “I don’t understand at all”, 62% answered with a little information, 11% said that they did not meet in the educational process. 16%, I do not think it is necessary to answer, and if we analyze from this, we will

see that the student is not able to report on his actions. As a result, future special teachers did not have the answer: “I have difficulty answering”. Analyzing this point, we see that everyone has these competencies, but they need to be developed.

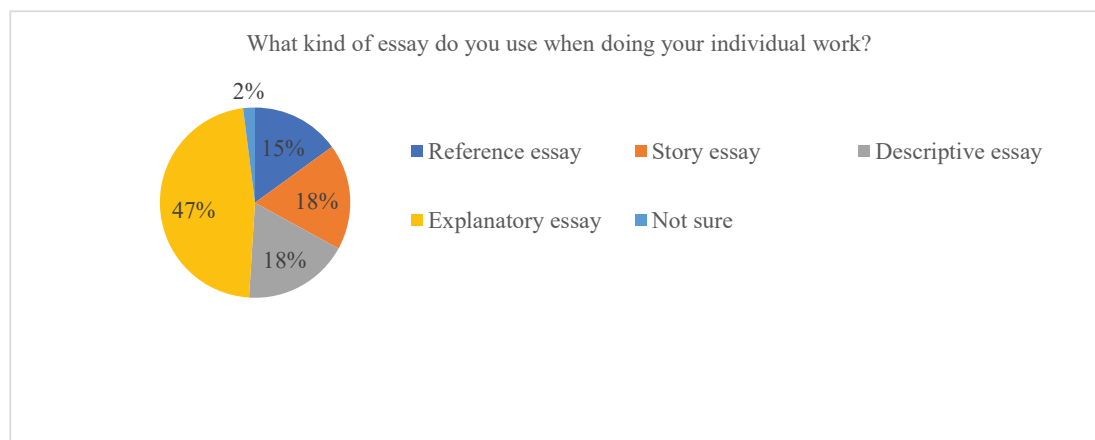


Figure 4: Results of the survey on the question «What type of essay do you use in the implementation of independent work?»

According to the results of the survey, all participants answered the question. 15% gave answers to a reference essay, 18% answered to a story essay, as we see from the results of the survey. 18% gave a descriptive essay answer, the vast majority-47% – gave an explanatory essay answer. In this regard, we are convinced

that the competence of writing essays in the performance of independent work among students is not fully developed.

“Do you know and prepare to write articles for magazines?” all future special teachers answered the question of the next survey.

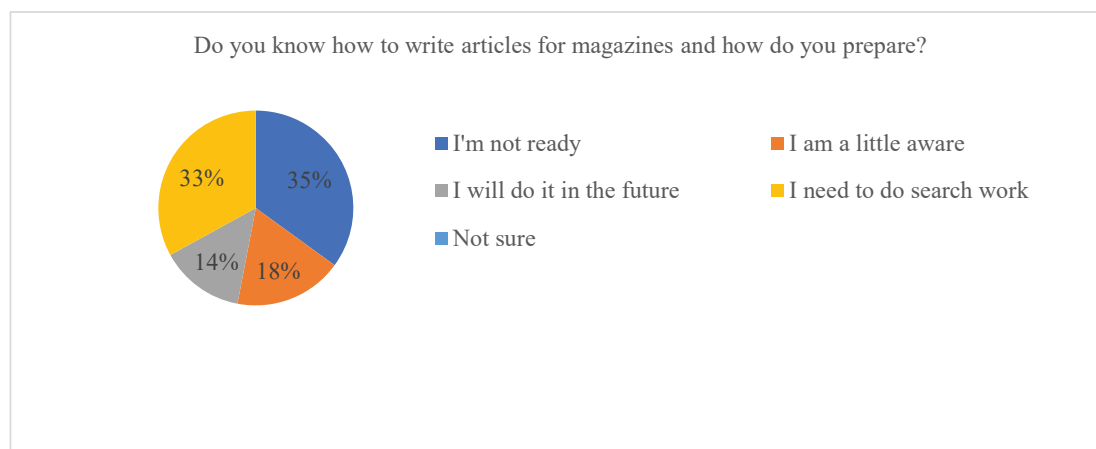


Figure 5: Survey results on the question «Do you know and prepare to write articles for magazines?»

According to figure 5, the main way is to conduct work on determining the interest of future specialists in the question.

According to the results of the survey, all participants answered the question. 35% answered that they were not ready, and 18% said that they had a little information. 14% answered that they will be implemented in the future, and 33% answered that they need search work.

«I find it difficult to answer» – there was no answer. From this, we can see that future special teachers have developed an understanding of the research work, and the results of the survey show such a forecast.

At the same time, the analysis of scientific publications on the research topic made it possible to organize the training of future special teachers, which is to instill interest in deeper

study of research work while at the University, in the future to engage in research work.

Discussion. The valuable opinions of the above-mentioned scientists will be evidenced by the works of the conducted research, as well as the opinions expressed. As a result, most first-year students are psychologically unprepared for the new circumstances of their lives. They are not able to adapt to new types of classes, perform certain tasks; as a result, they face difficulties due to a lack of understanding of research competencies.

In our opinion, the development of the research competency of future special teachers is a necessary value in the system of continuing education at the University and contributes to achieving the most complete satisfaction of the needs of students in the field of Education.

Based on the survey results, among the 45 participants, responses to the first question indicated that 30 students 66.7% reported having a limited understanding of the topic, 9 students (20%) considered it unnecessary, and 6 students stated that they had not encountered research in their academic process. Although some participants possessed a general understanding of research, they struggled to provide specific answers.

Regarding the second question, 14 students 31.1% recognized that research would be necessary for their future careers, 12 students reported having a limited understanding of the subject, 10 students 22.2% claimed to comprehend the structure of research work, while 6 students 13.3% expressed a strong interest in engaging with research activities. The remaining participants found it difficult to respond.

When asked, “How do you understand the process of writing thesis projects (dissertations)?” 28 respondents 62.2% indicated they had a limited understanding, while the rest admitted either to having no comprehension or struggling to provide an answer.

These findings underscore the importance of enhancing students’ research competencies, emphasizing both theoretical foundations and practical applications, to better prepare them for academic and professional challenges.

In the course of our research, we compared our findings with studies conducted in Australia, Turkiye, Ukraine, and the United States, focusing on similar themes of developing research competencies among future special education teachers.

Davidson, Z. E., & Palermo’s (2015) study highlighted that self-acceptance competence showed slight improvements in a specific set of research skills, as well as broader skills such as information gathering and processing, critical thinking, and independent work. Their new research component also received high ratings in student satisfaction surveys. Despite these positive outcomes, students acknowledged the need to further enhance their research skills.

Akcil, U.; Uzunboyly, H.; Kinik, E. (2021) investigated the integration of technology into teaching and learning processes by conducting a qualitative literature review. The study employed a descriptive synthesis model within a literature search method to gather data, shedding light on the current research trends in the field.

The scientific article by Tetiana Fursykova, Olena Habelko, and Valentyna Chernii (2022) substantiated the pedagogical conditions for developing the digital competence of future teachers, emphasizing the creation and maintenance of a digital environment within higher education institutions, the activation of students’ independent cognitive activities through information and communication technologies, and the incorporation of innovative strategies and technologies for enhancing digital competence in distance learning.

Marta Montenegro Rueda and José María Fernández Batanero (2022) focused on the digital training of teachers, particularly special education teachers, as a central axis for transforming the quality of education. Their study provided a systematic review of literature across four databases (Scopus, ERIC, Dialnet, and Web of Science), analyzing 25 studies. The results were categorized based on study characteristics (publication year, country of origin, methodological approach) and conceptual network analysis.

Biggs, E. E., Gilson, C. B., & Carter, E. W. (2019) conducted research at the University

of Illinois at Urbana-Champaign, emphasizing the importance of paraprofessionals in educating students with disabilities and the crucial role of special education teachers in supervising and supporting paraprofessionals. The authors carried out in-depth interviews with 22 participants, including teachers and paraprofessionals, to identify the key competencies necessary for effective collaboration and their recommendations for improving this collaboration.

While these studies provide valuable insights into the development of research and digital competencies among future teachers and special educators, they do not specifically address the development of research competencies among future special education teachers. Notably, the issue of fostering research competencies in future special education teachers remains an underexplored area.

Our research stands out by focusing on defining the research competencies of special education teachers and developing a specialized course titled “Developing Research Competencies of Special Education Teachers.” This course is designed to systematically cultivate research skills through lectures, seminars, practical tasks, and project-based work, ensuring a comprehensive approach to professional preparation.

These findings hold significant academic value and can be effectively utilized in higher education institutions to enhance the process of developing research competencies among future special education teachers.

Conclusion. In conclusion, we can say that there are almost no opinions about the features of the development of research competency of future special teachers. First of all, there is a need to develop students’ competencies, providing them with useful information for engaging in scientific work. During the survey, several questions were considered within the framework of the topic under study: “what do you mean by research?”, “What are the signs of your readiness for research

work?”, “How do you understand writing thesis (projects)?”, “What type of essay do you use in doing independent work?”, “Do you know and prepare to write articles for magazines?”. By asking these problematic questions, we learned about their views on research work and it is important to develop their interest in research work since entering a university. There are no difficulties in writing diploma projects, research projects, projects conducted among young scientists, if the entire discipline studied from the date of crossing the university is given due to the peculiarities of the development of research competence of students. After all, each semester should have its own scope of research, purpose, indicators and complexes that arouse interest in science.

At the same time, it is obvious that the development of research competencies by future special teachers through scientific and independent work will also improve the quality, but the understanding of each task will also affect the development of competencies. In our opinion, it is necessary to make the right decision and link the continuity in the implementation of scientific work by carefully analyzing the effective aspects of the features of the development of research competence of future special teachers. Developing research competence is a critical aspect of teacher preparation, particularly for future special education professionals. Despite ongoing educational reforms and policy initiatives in Kazakhstan, challenges remain in fostering students’ research abilities. Addressing these gaps requires a comprehensive approach that integrates research training into the curriculum, enhances independent learning opportunities, and supports students in acquiring the skills necessary for academic and professional success. By overcoming existing barriers, higher education institutions can ensure that graduates are well-equipped to contribute effectively to the evolving educational landscape.

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SCIENTIFIC-PEDAGOGICAL THEORIES OF IMPROVING PHYSICAL EDUCATION FOR UNIVERSITY STUDENTS

Abstract

In modern conditions, the problem of improving physical education of university students acquires special relevance in the higher education system. This research is devoted to the analysis of scientific and pedagogical theories aimed at improving physical education of university students. The research work is based on theoretical methods, including analysis of scientific literature, comparative analysis, classification, and synthesis of theoretical concepts. The study examines key international theories (Physical Literacy, Self-Determination Theory, Social Ecological Model, and others) and concepts common in Kazakhstan (Theory of Personal Physical Culture, Theory of Adaptive Physical Education, Theory of Sports-Oriented Physical Education, and others). The analysis aims to identify conceptual foundations, philosophical and ideological differences, target guidelines, methodological approaches, implementation principles, and expected results of the theories under consideration. The study examines in detail the differences in practical application of theoretical approaches, their philosophical and cultural foundations, and development prospects. SWOT analysis of the theories made it possible to determine strategic directions for their possible synthesis to improve the system of physical education for students. Based on the analysis, promising directions for integrating progressive elements of international experience into the context of the national physical education system are formulated, taking into account educational traditions and socio-economic realities.

Keywords: Physical education of students, improvement of physical education, theories of physical education.

Introduction. Modern globalization trends in the educational space of physical education bring to the forefront the need to integrate international theoretical and methodological approaches with national traditions and the specifics of educational systems. The problem of selective borrowing of progressive elements from international experience

while preserving the national specificity of the pedagogical paradigm in the Republic of Kazakhstan is particularly relevant. In the context of forming updated educational content, critical understanding and adaptation of foreign concepts becomes a strategic resource for improving the existing physical education system.