



World Journal on Educational Technology: Current Issues



Volume 14, Issue 6, (2022) 2003-2022

www.wj-et.eu

Training of future teachers through teaching pedagogical technologies

Kalibek Ybyraimzhanov*, Zhetysu University named after I. Zhansugurov, Faculty of Pedagogy and Psychology, NJSC, 187a Zhansugurov Street, Taldykorgan 040009, Republic of Kazakhstan, <https://orcid.org/0000-0002-9773-8899>

Ainur Taurbekova, NJSC, Zhetysu University named after I. Zhansugurov, 187a Zhansugurov Street, Taldykorgan 040009, Republic of Kazakhstan, <https://orcid.org/0000-0002-9220-7723>

A. Turkmenbayev, Caspian University of Technologies and Engineering named after Sh. Yessenov, Aktau 130000, Republic of Kazakhstan  <https://orcid.org/0000-0002-7401-6887>

A. Rysbekova, International Kazakh-Turkish University named after Khoja Akhmet Yassawi, Turkistan 161200, Republic of Kazakhstan, <https://orcid.org/0000-0002-7915-2108>

G. Jylkybekova, Taraz Regional University named after M. Kh. Dulati, Taraz 080000, Republic of Kazakhstan, <https://orcid.org/0000-0001-8209-7480>

Suggested Citation:

Ybyraimzhanov, K., Taurbekova, A., Turkmenbayev, A., Rysbekova, A., & Jylkybekova, G. (2022). Training of future teachers through teaching pedagogical technologies. *World Journal on Educational Technology: Current Issues*. 14(6), 2003-2022. <https://doi.org/10.18844/wjet.v14i6.8637>

Received on August 10, 2022; revised on October 20, 2022; accepted on November 15, 2022.

Selection and peer review under the responsibility of Prof. Dr. Servet Bayram, Medipol University, Turkey

©2022 by the authors. Licensee Birlesik Dunya Yenilik Arastirma ve Yayıncılık Merkezi, North Nicosia, Cyprus.

This article is an open-access article distributed under the terms and conditions of the Creative Commons Attribution (CCBY) license (<https://creativecommons.org/licenses/by/4.0/>).

Abstract

The research paper aims to address the issue of professional training of future primary school teachers, who will ensure quality education based on the new curriculum by developing their professional competencies. In the research work, the results of questionnaires applied to schoolteachers and students of this specialty were compared and analyzed. The analytical analysis considers the theoretical and methodological issues of increasing the quality of education by introducing alternative subjects into the educational program of the specialty in the higher educational institution, to improve the mastery of pedagogical technologies and the ability to use them in the pedagogical process of the teacher in the training of future primary school teachers. Based on this, a model project for training future primary school students is considered. The model substantiates the problems of being guided by didactic requirements of pedagogical processes organized in each primary class.

* *ADDRESS FOR CORRESPONDENCE: Kalibek Ybyraimzhanov, Faculty of Pedagogy and Psychology, NJSC, Zhetysu University named after I. Zhansugurov, 187a Zhansugurov Street, Taldykorgan 040009, Republic of Kazakhstan.

E-mail address: tarmpi_school@mail.ru

Keywords: Specialty, model, pedagogical technologies, quality education, alternative disciplines;

1. Introduction

It is obvious that the modernization of the national education system will improve the economic, social, and cultural level of the country, and strengthen its competitiveness of the nation (Fatima et al., 2020). Following modern requirements, quality education is an indicator that determines the comprehensive development of the state, as well as a guarantee its economic growth. Updating the content of education is a revision of the structure and content of the educational program, methods, and methods of teaching and upbringing. In this regard, there is a need to study and study the scientific works of foreign and domestic scientists to determine the possibility of forming competencies, and professional competencies in the educational process in the training of future primary school teachers in universities within the framework of the updated educational program.

It is necessary to reveal the issues of justification of competence and its content in the pedagogical process and its place as a single component of the pedagogical potential. The occurrence of a modern approach in the field of education and teaching also training, the approach and understanding formed in the traditional pedagogic process will be innovative, and the problem of forming the professional competencies of future primary school teachers, whose scientific cognitive nature is compatible with current demands, considers the need to harmonize with the opened educational space at the international level (Imas et al., 2018).

1.1. Literature review

At each stage, "education"—in the internal conditions of various public and private states, generates their competitiveness and acts as a long-term strategy that ensures them. This means that it is necessary to have specific professional capabilities and that this is competence: Competence-true abilities (Common European Framework) and attitude to real life (Fluckiger, 1995). Competence is the proven ability to correctly select, coordinate and apply knowledge, skills, and other achievements consisting of values and relationships for the successful performance of certain categories of work or training, as well as for professional or personal development in conditions of efficiency and effectiveness (Catalano & Catalano, 2015). Reflection is the combination of knowledge and experience of the individual in opportunities, which makes it possible to participate in decision-making or independently solve problems through certain knowledge and skills in the creation of the individual (Zhadrina, 2004).

A necessary component of the activity of a professional specialty, which every person owns, is the research of domestic and foreign scientists concerning professional competencies. The content structure and features of professional competence are inherent in each specialty and differ in modern approaches and interpretations in this field. Foreign researchers consider professional competence as "deep knowledge," "performing tasks following the task," "the ability to perform professional activities," as well as passing test tasks following the level of competence and skills following the educational program (Blank, 1982; Britell, 1980). And now one of them considers professional competencies as a problem of the relationship between the legal system of requirements in education in the specialty and practical actions (Rauner & Bremer, 2004). Professional competence develops based on improvement and advanced training in the specialty

(Bunk, 1994), considering the content of unity in the relationship of professional competence and qualifications and emphasizing the features of each of them.

The problem of professional competence is comprehensively studied by Kazakhstani scientists. Many people use the concept of competence in an inspiring /intuitive/ form to express a high level of qualification and professionalism (Zhadrina, 2004), and Karaev and Kobdikova (2005) consider professional competence as a characteristic of the quality of specialist training, the potential of labor efficiency. The concept of a high level of professional activity and high qualification is sometimes given in pedagogy—as a derivative structural composition of "general cultural competence" (Pugachev, 2000); justifying competence as "the level of education of a specialist" (Rozov, 2002). Gershunsky (2002) explains: "if you try to determine the place of competence in the system of professional skill levels, then it is between performance and maturity." Competence correlates with various directions of improving the professional skills of a specialist, giving the content " is an integral part of the potential of a teacher" (Choshanov, 1996). Markova (1996) identifies four types of professional competence: "special," "social," "personal," "professional," and "personal."

In the professional competence of primary school teachers in the organization of education in individual subjects, it is mandatory to work with a text that gives educational material in the content of the subject. The studies considering the problem of academic writing (Academic Writing) in the foreign theory and methodology of academic Writing have become widespread in the modeling of this textual activity. This is a separate academic discipline, which is aimed at developing the skills and abilities of academic literacy (academic literacy). Academic writing is aimed at developing the ability to write scientific, professional, research texts, the purpose of which is to form the research competence of future specialists based on the theory and methodology of language teaching (Academic Literacy, 2002).

The changes made to the educational program of primary schools in Kazakhstan related to "reading," "writing," "listening," and "pronunciation"—the development of speech skills, the need for scientific research and analysis of information materials, the preparation of a competent student capable of using knowledge in various situations in the future, comprehending individual subjects, mastering their content. The advantage of updating the initial curriculum is that the implementation in the pedagogical process of the formation and development of critical thinking skills, functional literacy, and the ability to conduct research and apply information and communication technologies, which will become the basis for students to master modern knowledge in personal reality. The existing curriculum has a certain cipher, with the help of which learning goals are achieved in lessons intended for teaching in individual subjects /a directional reference in the curriculum/ and is general and personalized in differentiated sections and topics (Yespolova et al., 2019).

1.2. Conceptual background

Through the analysis of works based on scientific-theoretical, methodological, and modern pedagogical theory on the general competence of primary school teachers' training, an empirical base was created to substantiate the achievements of theories in the course of teacher training adapted to modern educational content in pedagogical practice. The empirical basis is the justification of coherence and continuity in communication with experience. And in this case, how do we control the practical problem? What will be the justification of this scientific theory in itself by

pedagogical experience?

In our research, the question arises as to how well the future teachers, who are trained to work with the updated educational content program in the current school, can carry out their pedagogical professional activities scientifically and methodologically. We should consider the issue of connection with this experience, that is, the use of advanced theoretical knowledge and pedagogical technologies in the educational process. How do we immediately consider the connection with the experience? First, it is implemented by organizing research methods, and using and applying research methods. For example, how to connect the acquired knowledge of current future teachers with professional activities in pedagogical activities, and to monitor the level of knowledge given to students. What can be done methodologically? After all, if mastering the knowledge provided for the specialization of theoretical and pedagogical-psychological sciences of individual subjects is a part of the formation of professional competence, then as a teacher who organizes education in individual subjects, performing methodical work based on personal professional skills—the ability to competently and systematically use new technologies and innovative methods realization of the ability to use in the pedagogical process.

Based on today's philosophy of education and scientific theory, it can be said that the pedagogical paradigm of education is based on the needs of the times. However, the validity of the studied problem from the point of view of theory is determined by experience. Here, if we pay attention to the professional program of modern teacher training based on the connection with pedagogical experience in determining the professional competence of a future teacher based on experience, it has its theoretical understanding and additions following modern requirements. However, to improve this issue, we were guided by the works of foreign and domestic research scientists in this direction

Concerning our research problem, the English psychologist Raven (2002): about competence "...the ability to organize other people to achieve the set goal, readiness to evaluate and analyze the social consequences of their actions." In the professional activity of a teacher, his competence should take place as the main problem (Vvedensky, 2004). The competence of the teacher is the basis for the success of his professional work (Markova, 1996). The competence of the modern teacher is the basis of his professional potential" (Adolf, 1998). A competent teacher is a professional who can control his actions and organizes the knowledge given to the student in terms of didactic requirements and explains it with feedback (Kudaibergenova, 2008). According to Barsai (2010) "... professional competence of the future elementary school teacher is a qualified specialist who contributes to the educational and cognitive development of students." These research works considered the discovery of the theoretical and methodological bases of the formation of competencies of future teachers in improving their professional qualifications.

During the analysis of research and educational experience in this direction, the following contradictions occurred:

-Inadequate implementation of modern theoretical knowledge on scientific and methodological grounds, combined with pedagogical technologies, into school practice, aimed at the process of forming their professional competence, in the training of future teachers adapted to the updated content of primary education;

-lack of systematization of the process of training competent specialists who can organize the pedagogical process, who have full professional potential, and who can combine theory and practice in the case of training future teachers for schools in higher educational institutions;

- complete lack of scientific and methodological knowledge in the development of professional competencies of the future primary school teacher on a theoretical and practical basis in the pedagogical process focused on the specialty in higher educational institutions, etc.

The above problems are caused by the lack of systematization of the problem of improving the theoretical approaches to teaching certain disciplines taught in the specialty and the use of new technologies. After all, it should be borne in mind that the content of the education provided following the requirements of the time is aimed at meeting new modern needs in the education and upbringing of a new generation. Here, it is necessary to consider the issue of training and education of Primary School students following modern requirements and training of future primary school teachers who can organize the primary pedagogical process following didactic requirements. The fact that due to the change in the cognitive realities of students /students and students/ the knowledge and training provided to them have acquired an innovative character justifies the widespread use of pedagogical technologies. The acquisition of pedagogical technologies by future specialists is reflected in their professional competence. In this regard, we monitored the professional activity of modern primary school teachers and the adaptation of students studying in this specialty at the university to professional activity. During the control, we considered how teachers and future teachers have mastered pedagogical technologies, skills, and abilities to use them effectively and optimally, and how actively the student participates in the pedagogical process.

Our standardization of subjects studied in elementary school with the system of social-humanitarian, natural science-mathematical, and aesthetic education and training subjects gave the reliability of the research. After all, the pedagogical technologies themselves are selected for use following the age characteristics of the elementary school students, which type of technologies are applied to the subjects grouped into three cycles, how positive the results are, and the effect of increasing the student's interest in learning in education allows us to observe and justify it through experiments. This was the main goal of making additions to the content structure of the educational programs of the specialty that prepares future elementary school teachers, based on the practical base, to make sure and justify the correctness of the model presented in the research project. That is, creating an empirical base will be one direction of improving the teacher's methodological skill in professional activities in the pedagogical process of elementary school. Implementation of skills in the competent use of new pedagogical technologies in the training of future primary school teachers. In higher educational institutions, in the improvement of the content of educational programs aimed at training primary school teachers, it is used and implemented in the teaching of individual subjects by grouping and classifying them according to the above-mentioned social-humanitarian, naturalistic-mathematical, aesthetic education, and upbringing directions.

Our existing experience base allowed us to determine the correctness of our research work and scientific justification, and to conduct a survey during the research, based on the results of the subsequent stages of our research work.

Preparation of a future specialist for pedagogical professional activity is a set of interrelated

personal qualities that establish requirements for training. And the acquisition of competencies following the personality or future profession is his knowledge, skills, and skills. It is the ability to apply knowledge, skills, and skills in specific socio-professional situations that characterize the professional competence of an individual (Izmukhanbetova, 2010). Based on the stated views and explanations in the conditions of a new pedagogical paradigm in Kazakhstan in the educational space, the positions of building and substantiating the organizational and pedagogical process that contributes to the formation of competencies of younger schoolchildren in worldview activities in the knowledge of life are taken (Ybyraimzhanov et al., 2022).

The introduction of the curriculum of the updated education into the pedagogical practice of the school and the use in the professional activities of primary school teachers have shown the need to train competent teachers adapted to the stage of primary education, based on a new theoretical and scientific-methodological approach to goals and objectives. Naturally, pedagogical processes in modern schools require highly qualified, professionally competent teachers who can organize them within the updated content of education. This follows from the tasks of implementing the directions of the organization of the educational process of future primary school teachers in the updated curriculum system. Therefore, the objectives of the university are to train future primary school teachers to adapt to the updated content of education, and formation of their professional competencies following the specifics of the profession.

In this research work, guided by the scientific-theoretical, pedagogical, psychological, and methodological bases of domestic and foreign research scientists in the context of the educational philosophy of training professionals and their competencies, we aim to reveal the theoretical and practical possibilities of the issue of professional training of future primary school teachers, etc. Based on the works, we strive to give our point of view. In scientific works in this direction, the stage of primary education is the initial stage of a child's lifelong learning, so special importance is attached to the formation of the student's personality. At this stage, the formation of a child's social status as a primary school student is determined—by personal qualities, and abilities that are formed as a secondary and high school student, students of colleges /educational institutions of various professional/ educational spheres, university students, citizens of society who have mastered their profession. Therefore, in the formation of the personality of a primary school student, the activities of future primary school teachers with professional potential, corresponding to the qualitative level of implementation of the pedagogical process, creating an integrated system of knowledge, which is based on the interaction of sciences from a professional point of view on the updated content of education, are of particular importance. A predictive system based on the direction of combining the possibilities of high-quality and meaningful professional activity of future specialists in the context of the updated content of education with scientific theoretical and life experience is being developed. This led to a new scientific and methodological approach to the formation of professional competence of the future primary school teacher.

2. Materials and methods

Theoretical (analysis of scientific and theoretical literature, comparison, design of results) and empirical (questionnaire, conversation, observation, analysis of teaching documents, modeling, practical work, exchange of opinions in conferences, methods of analyzing research results) in working with students studying the specialty of a future primary school teacher.

2.1. Participants

To conduct a survey of primary school teachers to identify the pedagogical experience of introducing the updated content of education and the level of their competence in professional activities, primary school teachers of the district and village of Almaty and schools of the city of Taldykorgan were involved. The teachers who took part in the survey are teachers who perform professional pedagogical work with a curriculum based on the updated content of education introduced in the 2016 academic year. Those who have received professional training following the updated content of education. 650 primary school teachers took part in the survey. The surveys were conducted in Kazakh and Russian.

2.2. Data collection instrument

The purpose of the survey was to identify the professional competencies of primary school teachers in pedagogical activity adapted to the updated content of education, and scientific methodological justification of the formation of universities for future teachers. The questionnaire tasks provided three directions in determining the level of professional competencies of primary school teachers adapted to the qualitative /updated/ content of education; Mastering high-quality/updated/educational content (1–8); Application of new technologies (9–16); Professional competencies and personal qualities (17–24).

By grouping the questionnaires received from teachers, it was possible to identify a problem area in the areas of competence formation /level / three / high/full answer/, medium—critical, / partial/, low/incomplete, or difficult to answer/, to identify existing errors in the training of future primary school teachers.

The components of primary school teachers' competencies in professional activity have generally developed, but they have shown the need to work on the development of professional reflexivity. The questionnaire tasks consist of the following;

1. Do you know how to combine theoretical knowledge with practice?
2. What are the advantages of the new curriculum in quality education?
3. Do you know modern assessment methods and can you use them?
4. Difficulties in learning according to the updated curriculum?
5. Has your style of writing and teaching the lesson plan changed because of the high-quality education system?
6. What difficulties have you encountered when using educational and methodological complexes under the new program?
7. What did the advanced training courses on the updated training program give you?
8. Do you have theoretical knowledge of psychology that characterizes the individual characteristics of students in quality education?
9. How much do you use technology in the pedagogical process?
10. Do you use technologies for the educational content of subjects / in mathematical, natural

science, humanities, and aesthetic disciplines?

11. What is your level of computer literacy, information, and communication technologies?
12. What were the problems and difficulties in using technology in quality education?
13. What technologies do you use in the humanities?
14. What technologies do you use in mathematical disciplines?
15. What technologies do you use in natural science disciplines?
16. What technologies do you use in aesthetic disciplines?
17. Do you analyze your teaching activities?
18. How has the new learning system affected your teaching in general?
19. Do you know how to find the positive aspects of each student and build the learning process based on this information?
20. Are you familiar with the individual and age characteristics of your students?
21. Do you think your point of view is the only correct one?
22. Can future primary school teachers independently adapt to professional competence?
23. What do you think is necessary to improve the professional competence of a teacher?
24. Do you have theoretical knowledge about psychology that characterizes personality?

3. Results

3.1. Assimilation of high-quality/updated/educational content / 1–8 tasks of the questionnaire

Characteristic: completeness of the development of a high-quality educational program in the competence of the teacher, the introduction of novelty in the pedagogical process, Table 1 and Figure 1 is shown. Table 1 is an indicator of primary school teachers who have completed courses to improve their professional competence in the direction of quality education. Figure 1 shows the percentage of primary school teachers who have completed courses to improve their professional competence in the direction of quality education.

Table 1

The level of formation of professional competencies in the first direction	Questionnaire questions	Primary School Teachers who have Completed Courses			Conclusion
		ators and number of people	High	Average	
Mastering high-quality/updated educational content	1–8	50% / 328	28% / 179	22% / 143	100% / 650

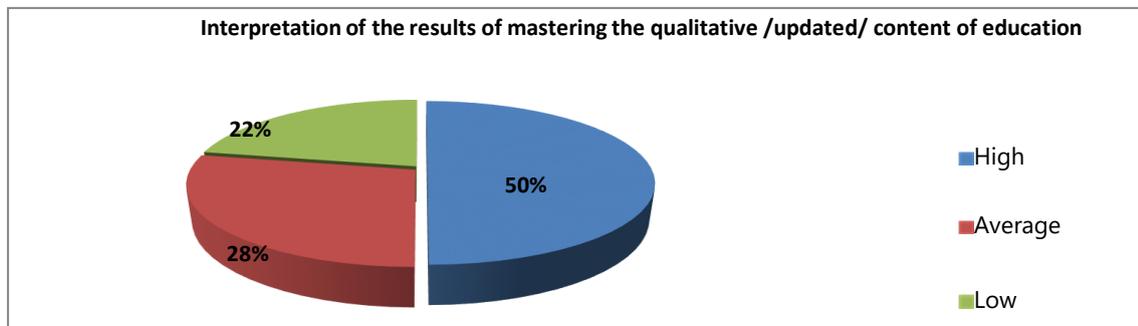


Figure 1
Percentage of Primary School Teachers who have Completed Courses

3.2. Application of new technologies/tasks 9–16 of the questionnaire

Characteristics of competence: teacher's access to high-quality education using technologies in the pedagogical process, Table 2 and Figure 2, is shown. Table 2. An indicator of primary school teachers who have completed courses to improve their professional competence in the second direction of applying new technologies.

Table 2
Professional Competence in the Second Direction of Applying New Technologies

The level of formation of professional competencies in the second direction	Questionnaire questions	Indicators and number of people			Conclusion
		High	Average	Low	
Application of new technologies	9–16	49% /316	32% /211	19% /123	100% /650

Figure 2 shows the percentage of primary school teachers who have completed courses to improve their professional competence in the second direction of using new technologies.

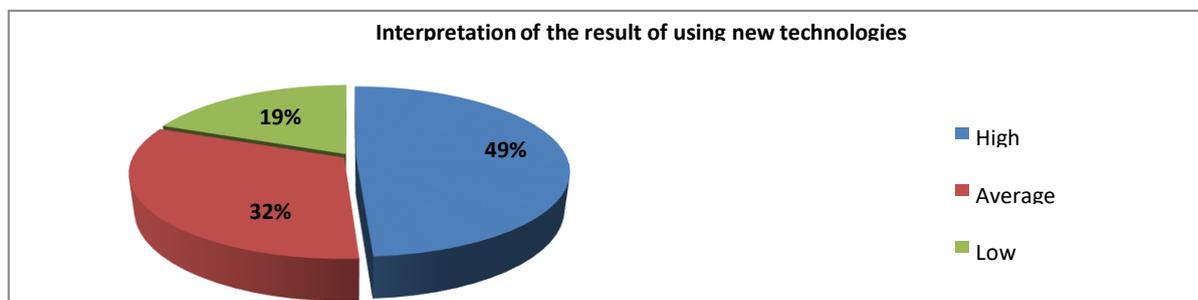


Figure 2
Professional Competence in the Second Direction of Using New Technologies

3.3. Professional competence and personal qualities-/tasks 17–24 of the questionnaire

Description: it determines the position of the teacher in the development of students' potential

through the transfer of competencies and professional personal position and responsibilities of the teacher, Table 3 and Figure 3 are shown. Table 3 shows an indicator of primary school teachers who have completed courses to improve their personal qualities and professional competence in the third direction.

Table 3

Personal Qualities and Professional Competence are in the Third Direction

The level of formation of professional competencies in the third direction	Questionnaire questions	Indicators and number of people			Conclusion
		High	Average	Low	
Professional competence and personal qualities	17–24	45% /290	48% /315	7% /45	100% /650

Figure 3 shows the percentage of primary school teachers who have completed courses to improve their personal qualities and professional competence in the third direction.

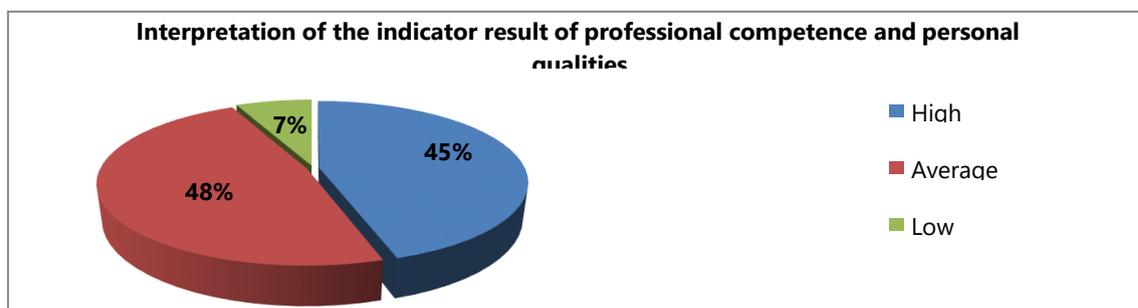


Figure 3

Personal Qualities and Professional Competence in the Third Direction

Following these characteristics, it is possible to see the levels of teachers' competencies, i.e., according to a grouped set of questionnaires, the levels are defined as high, medium, and low. This result made it possible to determine the directions of the formation and development of professional competence of future primary school teachers.

In the course of the study, the determination of the system of competencies and aptitude for professional activity of primary school teachers based on the indicators obtained was discussed.

3.4. Mastering the quality / updated / content of education

A scientifically-based approach of a competent primary school teacher to pedagogical activity in the conditions of providing high-quality educational content:

- knowledge of the conceptual basis of the updated curriculum—a structural system in providing quality educational content / innovative directions and skills of reading, writing, listening, and pronunciation;
- comprehensive monitoring, analysis, evaluation, and assessment of the level of students'

proficiency in reading, writing, listening, speaking of the updated content of education, conducting practical scientific research to identify the shortcomings and achievements of the individual;

pedagogical reflection (critical approach to professional activity, conducting a comparative analysis, taking into account the professionally set assessment of students, parents, colleagues, and self-assessment);

- achieving the necessary development of the scientific and cognitive activity of younger schoolchildren in education, guided by the class level and their age characteristics;

- formation, development, and psychological support of the competencies of younger schoolchildren following their age and class characteristics;

- integration into the educational and cognitive system of the student in the organization of the pedagogical process in quality education.

3.5. Application of new technologies

The use of pedagogical technologies in teaching and upbringing, search, and creativity, based on the stock of theoretical knowledge available to the primary school teacher in professional-pedagogical, psychological, physical-hygienic, etc. disciplines and individual subjects studied at the initial stage;

- improvement of theoretical and methodological knowledge on the use of modern pedagogical technologies in the pedagogical process organized at the classroom, step-by-step level of the head;

- to improve the methods of teaching and upbringing in individual pedagogical practice, to develop and protect their proprietary technologies;

- to substantiate and implement the motivational features of learning with a system of new technologies in the conditions of high-quality educational content;

- the use of new technologies in professional activity, the ability to scientifically substantiate the connection of the design and organization of the pedagogical process with experience;

- the ability to use new pedagogical technologies in the pedagogical process of the head in the practice of educational work, depending on the structural and content specifics of the disciplines;

- the ability to approach a student as a person with experience in personal comprehension, to build educational work with a system of new technologies.

3.6. Professional competencies and personal qualities

Development of value orientations in the formation of the personality of the future primary school teacher in adaptation to the specifics of his professional activity;

- conducting research work in the field of Philosophy of education, pedagogy, psychology, and modern theories of learning, depending on the specifics of the professional activity of primary school teachers / working with the Internet, ranking websites, consideration of scientific and methodological works of research orientation/, analysis;

- Be familiar with the domestic and foreign pedagogical experience and possess innovative

methods used in educational work and be able to transform, optimally use, and creatively use in the practice of pedagogical professional activity;

- development of the features of professional activity based on intellectual abilities (knowledge of the profile of the specialty and the level of professional thinking);
- conducting the pedagogical process with didactic principles and requirements for the content structure of the step-by-step system of primary education /1, 2, 3, 4 class/;
- formation of a teacher or a future teacher of the correct attitude to the new pedagogical technologies used in the pedagogical process, and the presence of motivation for;
- professional competence in the organization and management of the pedagogical process in the educational and cognitive activity of students;

Application of the new assessment system and knowledge of the advantages of the updated curriculum in practice in the modern scientific and methodological organization of the pedagogical process. Analysis of the ability to differentially apply new technologies in educational disciplines of mathematical, natural science, humanities, and aesthetic directions. The personal qualities of students in building psychologically positive relationships with students when using pedagogical technologies in quality education and their opinions are analyzed.

The analysis of the research foundations led to a new approach to the goals and objectives of the formation of professional competencies of future primary school teachers adapted to the qualitative/updated/ content of education. It is established that in the educational program for students studying at the university in the specialty direction, there are problems in improving and supplementing the disciplines in which the formation of professional competencies of future teachers is carried out. After all, the majority of primary school teachers interviewed are teachers who have received special professional training to work with the updated educational program. In addition, the introduction of new disciplines necessary for the preparation of future teachers for the specialty at the university has been determined. To solve this problem, a survey/questionnaire/survey of students studying in the specialty of training future primary school teachers was conducted.

To determine the level of formation of professional competencies of future primary school teachers, adapted to the provision of high-quality educational content, the survey was conducted in a complex system (complex system).

3.7. Questionnaire tasks for students

1. Are you satisfied with the level of teaching of various disciplines at the university in your chosen specialty following the updated content of education?
2. in your opinion, is the level of practical training sufficient for future specialists in the pedagogical sphere to master new technologies (methods and techniques) following the updated content of education?
3. What special courses do you consider useful for your future work on the new curriculum? Are there any unnecessary courses and what do you say about them?
4. What is your attitude to the content of the new curriculum as a graduate?

5. Have you familiarized yourself with the structure of subjects taught at school in the specialty at the university?
6. How do you, as a specialist, evaluate the educational preparation of students using new technologies based on the qualitative content of education?
7. Do you think that your knowledge of modern pedagogical technologies in the field of teaching methods is complete?
8. Do you, as a future specialist, consider practical skills sufficient to support new technologies in teaching subjects that you teach at school?
9. Is it possible to equally apply teaching technologies/ mathematics, natural science, humanities, aesthetics/disciplines?
10. How many technologies do you know that can be used in initial training?
11. Graduate-do you consider yourself a professional, ready to work as a primary school teacher with a diploma adapted to the updated content of education?
12. What competencies, in your opinion, should future primary school teachers have in the quality education of students?
13. Can future primary school teachers independently adapt to professional competence?
14. Will you work in your specialty after graduation or not?
15. Do you understand the value and responsibility of pedagogical activity?

620 students from Taldykorgan, Zhetysu University named after I. Zhansugurov, and Kazakh National Pedagogical University named after I. Zhansugurov took part in the survey. Abaya in Almaty, Table 4 and Figure 4 are shown.

Table 4

Professional Competence of Future Primary School Teachers, Mastering the Updated Curriculum

№	Questionnaire tasks for students are conducted in three directions	Questionnaire questions	Indicators and number of people			Conclusion
			High	Average	Low	
1	Mastering the quality / updated / content of education	1–5	21% /130	31% /192	48% /298	100% /620
2	Application of new technologies	6–10	23% /143	36% /223	41% /254	100% /620
3	Professional competence and personal qualities	11–15	36% /223	41% /254	23% /143	100% /620

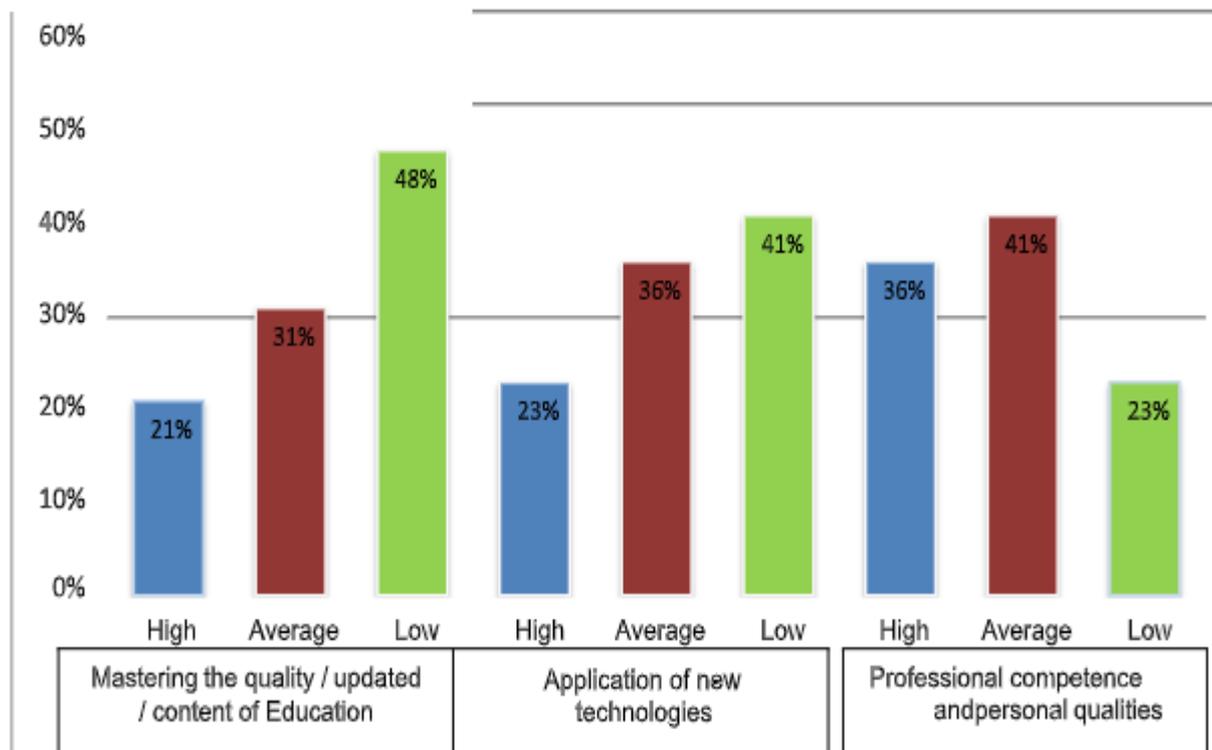


Figure 4

Personal and Professional Competence of Future Primary School Teachers who Master the Updated Curriculum

In the framework of the scientific project, the teachers of Zhetysu university named after I. Zhansugurov conducted collective research on the development and implementation of the model of teachers with appropriate qualifications for future professional activities in the training of future specialists in higher educational institutions, adapted to the content of Education introduced into the school system of Kazakhstan. The model proposed by the research team is the theoretical and methodological preparation of the future primary school teacher for professional activities in school and the formation of a competent personality, capable of applying technologies, capable of organizing the pedagogical process with a new curriculum system. In the course of research within the framework of the scientific project, the development of the model was directly related to the pedagogical conditions. Based on this, the model" formation of professional competencies of future primary school teachers adapted to the updated content of education" is shown in Figure 5.

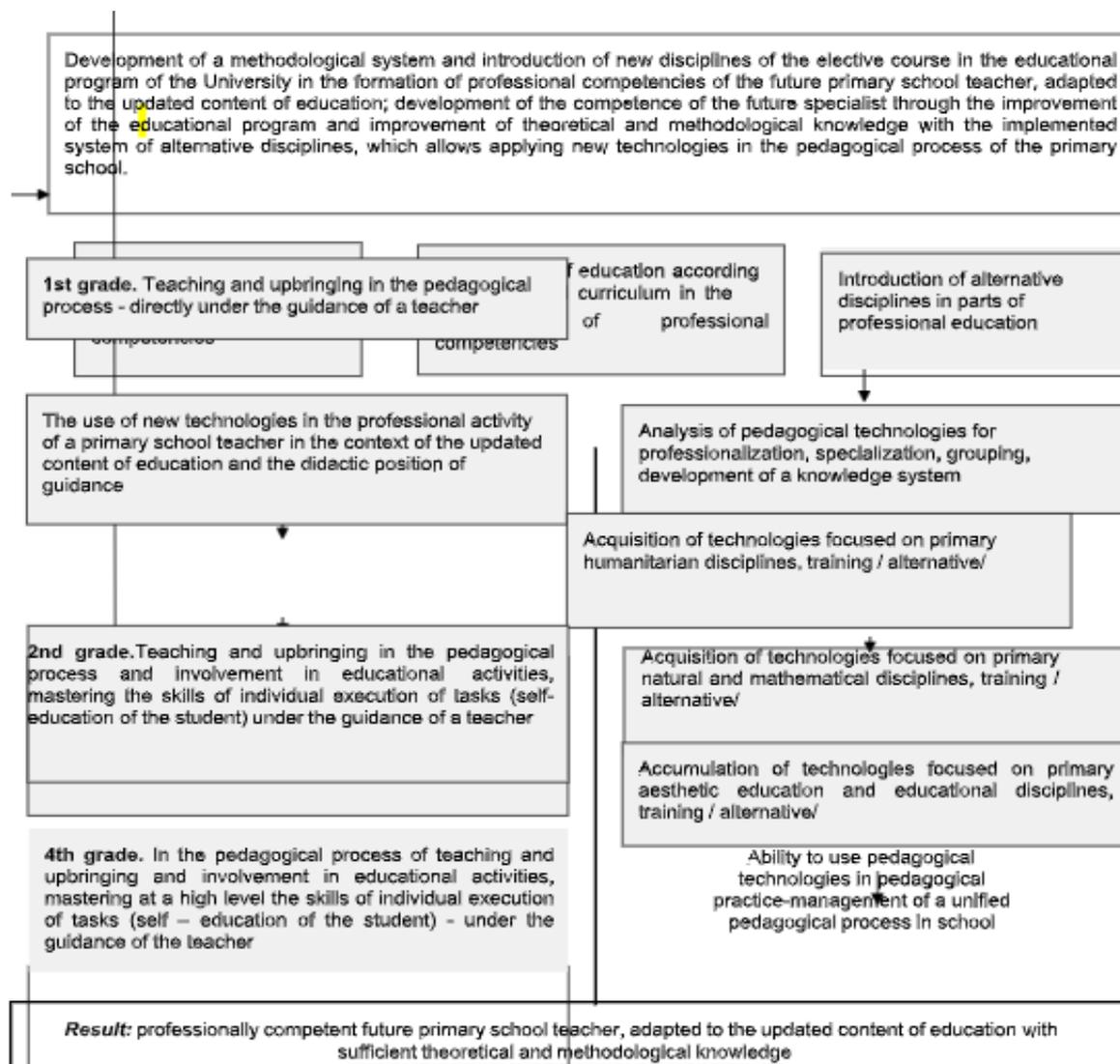


Figure 5

Professional Competencies of Future Primary School Teachers for the Organization of High-Quality Education in School

In the formation of the professional competence of future primary school teachers, ideas were laid in the system of personality-oriented, systemic, competence-oriented technologies, principles of practice orientation, and inclusion in the educational environment.

4. Discussion

At the suggestion of the researchers, the educational program of the specialty 6B01301 "Pedagogy and methods of primary education" of Zhetysu University named after I. Zhansugurov includes specialized academic subjects on the formation of professional competence of future primary school teachers. The disciplines of the alternative program and elective course included in the educational program of the specialty at the bachelor's level are developed following the state

educational standard of higher education of the Republic of Kazakhstan. When determining the individual learning trajectory within the component of choice, the student chose subjects corresponding to the main educational program /specialty/ and /or additional educational program/ Minoru/. The list of disciplines of the Minor program, their brief description, the composition of disciplines, and the formed learning outcomes are contained in the catalog of educational programs (minor).

Alternative elective courses are carried out in:

Disciplines based on methodological knowledge in professional and specialized disciplines, a grouping of new pedagogical technologies into a meaningful structure, analysis, and development of a knowledge system were carried out.

1. Modern pedagogical technologies in primary education (Computer program), /certificate dated 05.11.2022 No. 25952/ received. The purpose of the program was to master the methodology of analysis and the various use of new technologies based on primary education. Contributed to the development of students' knowledge and ideas about new technologies. He mastered the oriented application of pedagogical technologies in individual subjects in the implementation of high-quality education according to age and class characteristics in the development of functional literacy of younger schoolchildren. Examines analyzes, and masters new technologies from the point of view of didactic requirements as the content of cognitive educational material at the origins become more complex. He knows the methods of applying new technologies in primary education in the competencies of a future specialist.

2. Name of the discipline: "Methodology of application of pedagogical technologies in primary education" (teaching aid), / author's certificate dated 05/16/2022 No. 2615/ received. The purpose of the discipline is for future specialists to master new technologies, group and classify them depending on the content of individual disciplines—natural-mathematical, social-humanitarian cycles, and get acquainted with the methods of use. Has a differentiated application of technologies following didactic requirements in the teaching methodology of individual disciplines. To teach students to develop functional literacy and move on to critical thinking when mastering the educational material of a particular subject. The competencies formed in the discipline (social-humanitarian, natural-mathematical) master new technologies, grouped depending on the direction of the cycle.

3. Title of the topic: "Methodology of aesthetic education and academic disciplines" (Educational and methodological manual), / 2021.02.08. Received copyright certificate No. 19571/. The purpose of the subject is the mastery of technologies based on the methodology of subjects that provide aesthetic education and upbringing. In the course of teaching primary school subjects (music, visual arts, art, physical education), students get acquainted with the technologies of education and training that develop their aesthetic knowledge and taste, accepting the beauty and elegance of works of art. Techniques of the methods of subjects that provide aesthetic education and upbringing will be phased and streamlined, and the use of resources will be considered following the content of the general theme. Learning outcomes: familiarity with the methods of teaching music, fine arts, art, and physical education in elementary school. Competencies in teaching and using technologies aimed at the methodology of subjects that provide aesthetic education and upbringing are realized when studying the subject.

A methodological system for the formation of professional competence of future primary school teachers was created, and adapted to the situation of the updated content of education / defining compulsory, basic, professional, and higher educational institutions /, the pedagogical process acquired a new meaningful character. The results obtained made it possible to use pedagogical technologies in a new methodological system. The grouping of individual subjects in elementary school consisted of three cycles: 1. Social and humanitarian; 2. natural science and mathematics; 3. Items that provide aesthetic education and upbringing. For each cycle, a set of necessary educational resources was collected and created in the system of methodologies in three areas. Using the power of ICT, a QR code was created for the resource created for each method on the Google Docs platform. Using a QR code, any teacher can read the instructions for using this resource using a smartphone.

Resources for the content of the scientific project / didactic materials as part of the updated educational content / were developed jointly with Zerde. Didakt company and used in the pedagogical process. Social and humanitarian cycle: "I have something to say," "Womb of a long word," "Oil of the word," etc. Natural and mathematical cycle: "Full multiplication table," "Golden arrow," "Group tool," "Cities of Kazakhstan," "Group Tool," "Red Book." Aesthetic cycle: "Medical ladder," "Collection instrument," "Musical instruments," "Booklet of Kazakh composers," etc. Active educational resources were used in the educational process of primary school classes and specialty 6B01301 "Pedagogy and methodology of primary education" at the university and were considered as a set of educational resources.

The reliability of the results of the research work was verified by obtaining copyright certificates for published works and in the pedagogical practice of primary and higher educational institutions. During the training of future primary school teachers, an analysis of the methodological disciplines provided for in the educational program of the specialty was carried out, and the scope of the content of the teaching technology was considered. Secondly, observation, observation, and the use of new technologies or lesson planning by primary school teachers in modern schools have been studied. We conducted a study of the processes of using new technologies by teachers in teaching certain subjects in elementary school. On this basis, we have collected and systematized pedagogical technologies in the preparation for future primary school teachers. The reliability of the results of the research work was verified by obtaining copyright certificates for published works and in the pedagogical practice of primary and higher educational institutions.

During the training of future primary school teachers, an analysis of the methodological disciplines provided for in the educational program of the specialty was carried out, and the scope of the content of the teaching technology was considered. Secondly, observation, observation, and the use of new technologies or lesson planning by primary school teachers in modern schools have been studied. We conducted a study of the processes of using new technologies by teachers in teaching certain subjects in elementary school. On this basis, we have collected and systematized pedagogical technologies in preparation for future primary school teachers.

5. Conclusion

The duration of the thematic research work was 24 months. Based on the first results obtained in the research work, it is necessary to continue research in this direction in the future. The reason is that it is necessary to develop the professional competencies of future primary school

teachers in the implementation of quality education in schools following modern requirements. The introduction of alternative subjects in the improvement of the educational program of the specialty that trains primary school teachers in higher educational institutions, the need for professional competent specialists adapted to the didactic and creative use of modern pedagogical technologies, and the patterns of student development. justified. Observe and test the results of the knowledge presented in the content of alternative subjects, introduced based on answers to the first questionnaires conducted in the research project, in the professional activity of the future specialist in the teaching practice of the school. It is necessary to determine and analyze the results of specially acquired knowledge by conducting a questionnaire—this is the basis for continuing research in this direction.

First of all, it is necessary to improve the content of the alternative / elective course/group of subjects to support the future teacher in the direction of the accumulation of pedagogical technologies aimed at elementary humanitarian subjects, to support them in their content. Secondly, to collect pedagogical technologies aimed at studying elementary subjects of natural science and mathematics, identify the specifics of their content, and master the methodological system of application in future professional activities. The need for a future specialist to acquire technical knowledge, teaching the ability to use logical thinking in the scientific knowledge of elementary school students in a comparative, sequential manner. Thirdly, the needs of the future teacher in mastering knowledge aimed at the accumulation of pedagogical technologies aimed at aesthetic education and academic subjects, and the structure of the content are determined.

To form and develop the professional competencies of school teachers who provide quality education in every school and class, the need for new teaching in the modern educational system of training in higher education institutions, the use of new technologies, the need for specialists to fully understand the issue of improving the academic literacy of students in teaching subjects. The need for resources in the implementation of pedagogical technologies in the educational process, grouped and prepared for individual subjects, is presented as a methodological guide for school and university teachers. This is the basis for the development of professional competencies of future teachers and the continuous improvement of schoolteachers' knowledge in the use of resources and the development of new technologies. Also included is the integration of various scientific knowledge when creating a complex action in the organization of an elementary pedagogical process.

Acknowledge

Zhetysu University named after I. Zhansugurov in Taldykorgan and KazNPU named after Abay in Almaty plan to introduce new elective courses /alternative disciplines/ for the formation of competent teachers adapted to the updated educational conditions in the educational program of training future primary school teachers. This research work under consideration was carried out based on the scientific project within the framework of the topic "AR08856810 Formation of professional competencies of future primary school teachers adapted to the conditions of the updated educational situation."

References

- Academic Literacy. (2002). *A statement of competencies expected of students entering California's public colleges and universities* (p. 82). ICAS.
- Adolf, V. A. (1998). *Professional competence of a modern teacher* (Monograph/Krasnoyarsk; p. 118). Mr. Univ. Krasnoyarsk.
- Barsai, B. T. (2010). *Scientific and pedagogical bases of formation of professional and didactic competence of future primary school teachers* [Doctoral dissertation; p. 43].
- Britell, T. K. (1980). Competency and excellence. In R. M. Jaeger, & C. K. Title (Eds.), *Minimum competency achievement testing* (pp. 23–29). North Carolina University.
- Blank, W. E. (1982). *Handbook for developing competency-based training programs* (p. 378). Prentice Hall.
- Bondarevskaya, E. V., & Kulnevich, S. V. (1999). Pedagogy: Personality in humanistic theories and systems of education. Study guide. In *Creative center "Teacher"* (560 p.). Rostov-na-Donu.
- Bunk, G. P. (1994). Kompetenzvermittlung in der beruflichen Aus-und Weiterbildung in Deutschland. *Europäische Zeitschrift für Berufsbildung*, 1, 9–15.
- Catalano, H., & Catalano, C. (2015). The contribution of pedagogical teaching practice activities on the development of communicative competence of the students future teachers for preschool and primary school-ascertaining study. *Procedia-Social and Behavioral Sciences*, 209, 109–115. <https://www.sciencedirect.com/science/article/pii/S1877042815056128>
- Choshanov, M. A. (1996). *Flexible technology of problem-modular training* (p. 160). Public Education.
- Common European Framework of Reference (n.d.). Learning, teaching, assessment [Электронный ресурс]. Retrieved May 10, 2015, from http://www.coe.int/t/dg4/linguistic/Source/Framework_EN.pdf
- Fatima, S., Desouza, K. C., & Dawson, G. S. (2020). National strategic artificial intelligence plans: A multi-dimensional analysis. *Economic Analysis and Policy*, 67, 178–194. <https://www.sciencedirect.com/science/article/pii/S0313592620304021>
- Fluckiger, F. (1995). *Understanding networked multimedia: Applications and technology*. Prentice Hall International Ltd. <https://dl.acm.org/doi/abs/10.5555/210679>
- Gershunsky, B. S. (2002). *Philosophy of education for the XXI century: Textbook for self-education* (2nd ed., p. 512). Pedagogical Institute of Russia.
- Imas, Y. V., Dutchak, M. V., Andrieieva, O. V., Kashuba, V. O., Kensytska, I. L., & Sadovskyi, O. O. (2018). Modern approaches to the problem of values' formation of students' healthy lifestyle in the course of physical training. *Physical Education of Students*, 22(4), 182–189. <https://sportedu.org.ua/index.php/PES/article/view/641>
- Izmukhanbetova, S. S. (2010). *Pedagogical conditions for the formation of communicative competence of students through research activities* (p. 141). PED Science Kand. Dis.

- Ybyraimzhanov, K., Taurbekova, A., Turkmenbayev, A., Rysbekova, A., & Jylkybekova, G. (2022). Training of future teachers through teaching pedagogical technologies. *World Journal on Educational Technology: Current Issues*, 14(6), 2003-2022. <https://doi.org/10.18844/wjet.v14i6.8637>
- Karaev, Z. A., & Kobdikova, Z. U. (2005). *Actual problems of modernization of the pedagogical system based on a technological approach* (p. 36).
- Kudaibergenova, K. S. (2008). *Competency as a criterion of the quality of education: Methodology and scientific and theoretical basis* (p. 327).
- Markova, A. K. (1996). *Psychology is professionalism* (p. 312). International Humanitarian Fund "Knowledge."
- Pugachev, V. P. (2000). *Personnel management of the organization* (p. 54). Aspect Press.
- Rauner, F., & Bremer, R. (2004). Bildung im medium beruflicher arbeitsprozesse. Die berufspädagogische entschlüsselung beruflicher kompetenzen im konflikt zwischen bildungstheoretischer normierung und praxisaffirmation. *Zeitschrift für Pädagogik*, 50(2), 149–161. https://www.pedocs.de/frontdoor.php?source_opus=4804
- Raven, J. (2002). *Competence in modern society. Identification, development, and realization* (p. 394). Kogito-Center.
- Rozov, N. S. (2002). *Philosophy and theory of history. Book 1. Prolegomena* (656 p.). Logos.
- Vvedensky, V. N. (2004). *Professional competence of a teacher, manual for teachers Yamalo-Nenets. okr. Education of Advanced Training Workers* (p. 158, pp. 138–144). Prosveshchenie.
- Ybyraimzhanov, K., Baimyrzayev, K., Taurbekova, A., Gulden, Y., & Tynyskhanova, A. (2022). Formation of speech activity of primary school students in foreign language teaching through technology integration. *World Journal on Educational Technology: Current Issues*, 14(2), 507–519. <https://doi.org/10.18844/wjet.v14i2.7023>
- Yespolova, G. K., Ybyraimzhanov, K. T., & Mussabekova, G. (2019). Research competence of pupils as the component of content of education (Scopus). *Opcion*, 35(88), 948–961. <https://produccioncientificaluz.org/index.php/opcion/article/view/24233>
- Zhadrina, M. Z. (2004). *Result orientation as a condition for the implementation of a competency-based approach to education at school* (p. 26). Kazakh Academy of Education named after Y. Altynsarina. <http://rmebrk.kz/journals/4682/59860.pdf#page=156>