

## ANNOTATION

The dissertation work of Ayapbergenova Gulsum Sagyndykovna “Formation of special competences of future primary school teachers based on the project method”, submitted for the degree of Doctor of Philosophy (PhD) in the specialty 6D010200 - Pedagogy and methodology of primary education

**Relevance of the dissertation research.** Today, in accordance with the requirements of the Law «On Education», the State Program for the Development of Education and Science of the Republic of Kazakhstan for 2016-2019, the State Program for the Development of Education and Science of the Republic of Kazakhstan for 2020-2025, which form the basis of modern state policy in the field of education, the need for a radical revision of the issue of teacher training is increasing. In the state program for the development of education and science of the Republic of Kazakhstan for 2020-2025, in order to ensure continuity of content between levels of education, «increasing the global competitiveness of Kazakhstan's education and science and the upbringing and training of the individual on the basis of universal values», special importance is attached to determining the content of competencies accumulated throughout the educational trajectory.

This obliges the formation of special competences of future primary school teachers, which leads to their self-realization and development.

Today, the paradigm shift from the “education for life” paradigm to the competence-based “life-long education” is required. More and more importance is attached to the personal and professional qualities of a person, his creative abilities, the ability to apply knowledge and skills in the process of solving non-standard situations and life problems, improving their qualifications and developing competences to master completely new facets of knowledge.

By the decision of UNESCO, as a result of the interaction of important programs in the field of world education, the program “Information for Everyone” was published. In this program, a special place in the system of informatization of education is occupied by information technology training, especially with the use of telecommunication technologies, electronic textbooks and teaching aids. This requires the formation of professional knowledge and skills to solve problems that arise in the learning process through the use of information technologies, including the project method in the formation of special competence of future teachers.

Foreign scientists present pedagogical and psychological aspects of the concepts of “competence” and “competency”, which began with the ideas of pragmatism (R. Arnold, W. Clement, J. Raven, K. Rogers, I. V. Robert, V.A. Adolf, Th.N. Hopfenbeck, Oliver McGarr, I. Drach, O. Slobodianiuk, P.A. Ianni, Leonard, Basuki Wibawa).

According to the definition of A.F. Prisyazhnaya: “Special competences reflect the specifics of a subject or over-subject area of professional activity and they can be considered as the implementation of key and basic in a specific area of professional activity”.

Today, the issue of education of young people, their ability to navigate in the future is acute. In this regard, the Program article “Looking into the future: Modernization of public consciousness” is of particular importance, where the conceptual meaning of six directions of modernization of consciousness of both society as a whole and every citizen of Kazakhstan is revealed: competitiveness; pragmatism; preservation of national identity; cult of knowledge; evolutionary, not revolutionary development of Kazakhstan; openness of consciousness. Elbasy, commenting on pragmatism with an emphasis on education, proclaims: “Pragmatism means accurate knowledge of one’s national and personal resources, one’s economical spending, the ability to plan one’s future”.

Pragmatism in education is not a fundamentally new phenomenon.

A new surge of interest in project activities in education came in the 90s. XX century. The study of the project method in pedagogical theory and practice has been the subject of dissertation research by a number of scientists. As noted by V.N. Strenberg, I.A. Malakhova, S.A. Khalilov and other scientists, the project method is based on the concept of pragmatic pedagogy «learning by doing”, developed by the American scientist and educator J. Dewey, as well as his followers V. Kilpatrick, E. Collings and others.

Since 1990 the project method has been actively used in the education system. The study of the project method in foreign and domestic pedagogical theory and practice was reflected in a number of dissertation research. As the supporters of this teaching method A.U. Zelenko, S. T. Shatskiy, JI.K. Schleger V.N. Strenberg, I.A.Malakhova, S.A. his followers V. Kilpatrick, E. Collings and others.

In modern pedagogy, the project method is considered as one of the personality-oriented learning technologies that integrate a problem approach, group methods, reflexive, presentative, research, search and other methods. Thus, at the turn of the XX-XXI centuries the project method is understood not only as one of the ways of organizing the interrelated activities of teachers and students (“teaching method”), but as an integral “pedagogical technology” with pedagogical potential, implying a well-founded system of methods and forms of activity of teachers and students at various stages of the implementation of the educational project, criteria for evaluating the results of project activities at different stages of a study project realization.

The project method is actively used in the education system, and arouses great interest among teachers of all school subjects.

At the same time, original monographic works of domestic and foreign scientists of a didactic and methodological nature; articles in collections and periodicals concerning the essence and application of the project method in higher and secondary schools; dissertations devoted to the study of the project method, Internet sites of relevant content show that the modern school does not fully realize the pedagogical potential of the project method. Although the project method is gaining more and more supporters, according to E.S. Polat, there is a confusion and even substitution of concepts. In recent years, almost any event has been called a project.

The study of the state of the issue in the existing theory and practice shows that the project method has not yet received the necessary use in institutions of vocational and pedagogical education. It is mainly implemented in the course and diploma research.

To ensure the formation of special competences among university graduates, it is necessary to form their project skills during the entire period of study, when studying all disciplines of the curriculum on the basis of a broad formation of special competences, starting with the simplest problem tasks and ending with fairly complex real projects commissioned by vocational education and production institutions.

Thus, the weak development of didactic and educational and methodological support for the process of effective training of specialists by means of professionally directed projects; fear or unwillingness of teachers to conduct professionally directed projects, as well as ignoring project methodology when developing textbooks and teaching aids for future teachers, which do not provide for project methodology at all, allows us to conclude that modern higher school does not fully realize the pedagogical potential of the project method.

The analysis of psychological and pedagogical literature has allowed us to identify five groups of works that are theoretical prerequisites for the study of the specifics of the formation of special competences of the project method in the preparation of future teachers.

*The first group* consists of studies that present the characteristics of the project method in the conditions of a university (G.A. Zabelina, A.V. Samokhvalova, E.A. Degtyareva, S.R. Khalilov, M.G. Laperdina, etc.); college (A.A.Kuleshov, L.A.Dordzhieva, etc.); secondary school (A.E. Markachev, L.I. Palaeva, T.S. Tsybikova, M.M. Morozov, E.O. Kozina, etc.

*The second group* is represented by studies on the use of the project method in secondary schools (T.S. Tsybikova, I.N. Malakhova, D.A. Slinkin); in pre-professional training and in institutions of additional education (O.N. Ryabova, etc.). This group also includes studies on the implementation of the project method in the professional training of future teachers (S.R. Khalilov) and students (K.L. Svechnikov, etc.), and foreign language teachers in the study of technical modeling (M.G. Laperdina, L.P. Ovchinnikova, etc.).

*The third group* considers various aspects of the project method in the context of personality-oriented learning (I.I. Zhuzhuk, A.L. Blokhin, E.V. Khmelnitskaya, etc.), as well as the project activities of schoolchildren (E.Y. Barkova, I.S. Nadtochiy, etc.) and students (O. Loboda, I.V. Koryakina, O.I. Gridasova, Y.V. Kirimova, E.V. Maksimova, V.V. Maloy, N.G. Nikokosheva, Zh.S. Fritsko, V.V. Chernykh, Y.G. Shikhvarger, etc.).

*The fourth group* of works highlights the problems of professional formation (N.V. Mirza, Zh.Zh. Tursunova, B.Zh. Espambetova, D.A. Kovaleva, N.M. Ablyazimov, M.M. Mirzakhmetova, B.Zh. Nurbekov, G.E. Kurmankulova, etc.), managerial competence (D.K. Sadyrbekova), communicative (K.U. Kassentaeva, S.T. Mukhambetzhanova, A.D. Ryskulbekova, Sh.O. Omarbekova, B.B. Kenzhayeva, S.S. Izmukhambetova, etc.), preparation of

the future teacher for the design of individual educational trajectories of students (K.A. Ulanovskaya, R.I. Kuzminov, etc.), designing electronic educational resources (Zh.Zh. Karbozova), Internet projecting, telecommunication projects (V.A. Obydenkova), integrative project method (E.G. Nelyubina, N.A. Kocheturova, etc.).

*In the fifth group* we include research papers considering the readiness of future teachers to use and implement information technologies (A.M. Zhumabaev, G.E. Sanay, S.T. Nyshanova, Zh.Zh. Aitbayeva, S.T. Sirgebayeva, A.L. Tashimov, R.A. Assanova, Sh.U. Ongarbayeva, A.O. Mukhametzhanova, G.I. Beissenova, B.T. Abenov, D.N. Issabayeva, Zh.K. Aganina, A.V. Zhubandykova, etc.).

The above works actualize the need for a systematic study of the problem of the formation of special competences in future primary school teachers based on the use of the project method in higher education, since thanks to their efforts, the process of modernization of vocational education is possible.

In addition, the relevance of solving this problem is determined by the following reasons.

*At the socio-pedagogical level*, it is conditioned by the needs of society, the economic sphere, production and the system of higher professional education in teachers who understand the scientific and methodological specifics of using the project method in the process of teaching younger schoolchildren, ready and able to use educational innovations in specific conditions.

*At the scientific and theoretical level*, the relevance of the study is set by the need to select theoretical foundations for building a system of training future primary school teachers based on the use of the project method for the development and application of project methods, specifying the concept of "formation of special competences of future primary school teachers based on the use of the project method", identifying its structural and content characteristics, searching for scientific and methodological approaches to its implementation.

*At the scientific and methodological level*, it is determined by the need to identify a set of pedagogical conditions that contribute to the formation of special competences of future primary school teachers based on the use of the project method, to develop a methodology for diagnosing the formation of special competences of future primary school teachers based on the use of the project method and monitoring the effectiveness of the educational process in primary school.

However, despite the increasing relevance of the formation of special competences of future teachers based on project methods, there is a contradiction between goals and real results:

- the need to form special competences of future primary school teachers based on the use of the project method and the insufficient completeness of opportunities in solving this problem in the modern use of the project method;

- between the theoretical justification of the formation of special competences of future primary school teachers and the insufficient provision of the educational and methodological side of its implementation in practice.

The need to eliminate the above shortcomings and contradictions, insufficient theoretical elaboration of the formulated problem and the great practical significance of its solution determined the topic of the dissertation research: "Formation of special competences of future primary school teachers based on the use of the project method".

**The object of the research** is the process of training future primary school teachers at the university.

**The subject of the research** is the formation of special competences in future primary school teachers based on the project method.

**The aim of the research:** to theoretically substantiate and experimentally test the structural-content model and pedagogical conditions for the formation of special competences in future primary school teachers based on the project method.

**Research hypothesis:** *if* the developed structural-content model and the identified pedagogical conditions for the formation of special competences in future primary school teachers based on the project method are introduced into the educational process of the university, *then* the quality of training of future primary school teachers will increase, *since* special competences of future primary school teachers are formed, characterized by a set of subject, methodological, design components.

The aim and hypothesis of the study identified the following **tasks**:

1. To analyze the essential characteristics of the formation of special competences in future primary school teachers; to reveal the content of special competences of future primary school teachers.

2. To determine the possibilities of the project method in the formation of special competences in future primary school teachers based on the project method.

3. To theoretically substantiate and develop a structurally meaningful model of the formation of special competences in future primary school teachers based on the project method.

4. To identify the pedagogical conditions for the formation of special competences in future primary school teachers based on the project method.

5. To experimentally check the effectiveness of the developed structural-content model and the revealed pedagogical conditions for the formation of special competences in future primary school teachers based on the project method.

**The leading idea of the research:** the formation of special competences that characterize the totality of subject, methodological, project components in future teachers increases the quality of primary education.

**The methodological basis of the dissertation research was:**

- *at the philosophical level:* dialectical and materialistic approach in education as a concept of the development of the integral pedagogical process (V.I. Zagvyazinsky, V.S. Ilyin, V.V. Kraevsky, A.M. Novikov, etc.); the concept of the integral process of personal development in activity (B.G. Ananyev, Y.K. Babansky, P.Ya. Galperin, A.N. Leontiev, S.L. Rubinstein, N.F. Talyzina, E.G. Yudin, etc.); the axiological approach that defines the human personality as the

highest value and considers a person as an end in itself of the process of social development (M.S. Kagan, D.S. Likhachev, V.A. Slastenin, E.N. Shiyarov, etc.);

- *at the general scientific level*: a system structural approach to the study of the interrelations between the educational process and the phenomena of activity (S.I. Arkhangelsky, V.P. Bepalko, N.M. Borytko, M.S. Kagan, V.V. Kraevsky, N.V. Kuzmina, N.K. Sergeev, etc.); an activity-based approach to the development of the personality in the educational process (V.P. Bepalko, A.A. Verbitsky, L.S. Vygotsky, P.Ya. Galperin, V.V. Zagvyazinsky, I.P. Ivanov, A.N. Leontiev, S.L. Rubinstein, etc.);

- *at the specific scientific level*: the ideas of humanization and humanitarization of education, which determine the personality-oriented educational paradigm (I.V. Bestuzhev-Lada, A.A. Bodalev, E.V. Bondarevskaya, B.S. Gershunsky, B.M. Nemensky, V.V. Serikov, V.A. Slastenin, etc.); theory of educational activity (P.Ya. Galperin, V.V. Davydov, M. V. Klarin, A. N. Leontiev, I.Ya. Lerner, etc.); ideas of the competence approach in education (V.I. Baydenko, T.Yu. Bazarov, A.G. Bermus, V. Gutmacher, G.E. Isaeva, E.F. Zeer, I.A. Zimnaya, etc.).

- *at the technological level*: theoretical ideas in the field of project training by P.P. Blonsky, P.F. Vakhterov, P.F. Kapterev, A.S. Makarenko, S.T. Shatsky, etc., conceptual approaches to the project activities of students at the higher school of V.I. Zagvyazinsky, V.P. Larina, V.A. Pupkov, I.E. Smirnova, etc.

**To solve the tasks, the following research methods were used:** *theoretical*: analysis and generalization of philosophical, psychological and pedagogical sources of domestic and foreign authors on the problem of research to identify the state and development of the problem under study, analysis of regulatory documents, study of documentation of primary school teachers on the use of the project method; *empirical*: questioning, observation, conversations with students, practicing teachers, university professors; experimental testing of the effectiveness of the structural-content model and pedagogical conditions for the formation of special competences in future primary school teachers based on the project method; *mathematical statistics*: for processing experimental data and establishing quantitative relationships between phenomena and processes.

#### **Research sources:**

The Law of the Republic of Kazakhstan “On Education”, Decrees of the Government of the Republic of Kazakhstan in the field of education, State programs for the development of education, sectoral programs and concepts of education of the Ministry of Education and Science of the Republic of Kazakhstan, State compulsory standard of primary education, projects; scientific, educational and methodological works of domestic and foreign scientists; materials of international, republican conferences and periodicals, as well as pedagogical, research experience of the author.

#### **Organization and stages of the study.**

*The first stage* (2017-2018) is search and theoretical. This stage is associated with the formulation and understanding of the research problem, the comprehensive study and analysis of general and special scientific literature, the

base of regulatory and departmental acts on the problem of research in order to determine its methodology, the study of the existing practice of forming special competences of future primary school teachers based on the use of the project method, the definition of pedagogical and regulatory support for the formation of special competences of future primary school teachers based on the use of the project method. This made it possible to identify the theoretical foundations of the research and develop the scientific apparatus of the dissertation.

*The second stage* (2018-2019) is devoted to the study of the empirical foundations of the study, the development of the structural-content model and the identification of pedagogical conditions for the formation of special competences in future primary school teachers based on the project method, questionnaires of students and teachers, processing and analysis of the data obtained.

*The third stage* (2019-2020) is aimed at testing the model of formation of special competences of future primary school teachers based on the use of the project method and experimental verification of the effectiveness of the developed model. At this stage, the results of the experimental work will also be summarized, the results obtained are analyzed and compared with the hypothesis and objectives of the work. This stage is also connected with the generalization of the research results and the design of the dissertation work.

**Research base:** E.A.Buketov Karaganda University, Pavlodar Pedagogical University.

**Scientific novelty and theoretical significance of the research:**

1. The essential characteristics of the formation of special competences in future primary school teachers have been analyzed; the content of special competences of future primary school teachers, as well as the concept of “special competencies”, “the formation of special competences in future primary school teachers based on the project method” have been clarified.

2. The possibilities of the project method in the formation of special competences in future primary school teachers based on the project method have been determined.

3. The structural-content model of the formation of special competences in future primary school teachers based on the project method has been developed.

4. Pedagogical conditions for the formation of special competences in future primary school teachers based on the project method have been revealed.

5. The effectiveness of the structural-content model and pedagogical conditions for the formation of special competences in future primary school teachers on the basis of the project method has been experimentally tested.

**The practical significance of the study:** In order to provide methodological support for the formation of special competencies of future primary school teachers based on the project method, the educational process has been introduced:

Appendices to the programs of disciplines in accordance with the curriculum of the specialty 5B010200 - "Pedagogy and methodology of primary education" ("Theory and methodology of educational work in elementary school" in the cycle of basic disciplines (DB); "Theory and methodology of teaching mathematics in elementary school" in the cycle of core disciplines (PD); ("Methods of teaching

knowledge of the world" and "Methods of teaching natural science in elementary school" (KP));The practical significance of the research lies in the fact that the following have been developed and implemented:

- study guide:

Using the project method in elementary school.

- electronic training manual:

Application of the project method in education.

- methodological recommendations:

Methodological recommendations for future primary school teachers "designing the content of educational subjects".

- elective course:

Formation of special competencies of future primary school teachers based on the project method.

- seminars and round tables:

1. The role and importance of the formation of special competencies of future primary school teachers.

2. Methodology for the formation of special competencies of future primary school teachers based on the project method.

The results and conclusions of the study, the educational and methodological complex of the elective course "Formation of special competencies of future primary school teachers based on the project method" can be used in the system of professional training of future primary school teachers.

#### **The main provisions for the defense:**

1. In accordance with the allocation in the theory of the similarity of personal, specific and general philosophical categories (single, special and general), we consider the concept of "competence" as a set of abilities to qualitatively carry out activities that ensure the fulfillment of professional tasks, the achievement of goals and results (general): "professional competence" as an integral professional and personal characteristic that determines the ability and willingness to perform professional functions in accordance with the norms, standards and requirements accepted in society (special); "special competence" as independent implementation, management, critical assessment of the results of one's work, reflecting the specifics of a specific subject or supra-subject area of professional activity (single).

2. We consider the concept of "the formation of special competences in future primary school teachers based on the project method" as a readiness for independent implementation, management, critical assessment of the results of their work, academic discipline and professional activity, reflecting the specifics of a specific subject or supra-subject area of professional activity, characterized by a set of subject, methodological and design components.

3. The application of the project method in the formation of special competencies contributes both to the creation of an algorithm of creative activity for future primary school teachers based on the further development of progressive teaching methods, and acts as an indicator of their professional qualifications.

4. A structural and meaningful model of the formation of special



competencies in future primary school teachers based on the project method, which is a set of interrelated components: motivational, cognitive, activity-based and reflective, as well as approaches, functions, principles, conditions necessary to create an organized, purposeful, pedagogical influence.

5. Pedagogical conditions that ensure the formation of special competences in future primary school teachers, which we understand as a set of external circumstances of the pedagogical process, prerequisites for their acquisition of special competences:

- development of intrinsic motivation of primary school teachers for the formation of special competences based on the project method.
- scientific and methodological support for the formation of special competences of future primary school teachers based on the project method;
- the use of various forms and methods of work (educational and extracurricular) for the formation of special competences in future primary school teachers based on the project method.
- inclusion of primary school teachers in joint project activities, ensuring the acquisition of practical skills in the formation of special competences based on the project method.
- ensuring the coordination and networking of the activities of the teaching staff, institutes for advanced training, public organizations in the formation of special competences of future primary school teachers based on the project method.

6. The results of an experimental test of the effectiveness of the structural-content model and pedagogical conditions for the formation of special competences of future primary school teachers based on the project method.

#### **Abrobation and implementation of research results.**

- publications in scientific journals recommended by CQAES MES RK: Bulletin of the EHI (Nursultan, 2018), Bulletin of KazNU (Almaty, 2018), Bulletin of PSU (Pavlodar, 2018), Bulletin of PSU (Pavlodar, 2019), Bulletin of Toraigyrov University (Pavlodar, 2020);

- in foreign publications included in the international information base Scopus: Journal of Siberian Federal University - Humanities and Social Sciences (Russia, 2021);

- in publications of scientific journals of the far abroad: Ad Alta: journal of interdisciplinary research (Czech, 2019); Modalități conceptuale de dezvoltare a științei moderne (România 2020), Pedagogical writing off to Velikoten University. St. St. Cyril and Metodi (Bulgaria, 2021); Science for Education Today (Russia, 2020), Innovative Science (Bashkiria, 2019), Science Bulletin (Russia, 2020);

- participation in international scientific and practical conferences: “Pedagogical theory and practice: History, modernity, prospects” (Karaganda 2018), “XIX Satpayev readings” (Pavlodar 2019), “Science and education – the most important factor in the development of society in modern conditions” (Karaganda, 2019); in the training manual, electronic textbook and methodological manual.

**The reliability and validity of the results and conclusions** is provided by the initial theoretical positions of the researcher, sufficient duration and orderliness

of work, the consistency of the scientific apparatus of the research, the implementation of a set of methods of scientific and pedagogical research, qualitative and quantitative analysis of experimental data, positive changes in the levels of formation of special competencies among students who participated in experiment, the correspondence of the content of the experimental work to the scientific apparatus of the research.

**The structure of the dissertation:** the dissertation consists of an introduction, two chapters, a conclusion, a list of references and applications. The total volume of the thesis is 140 pages.

**In the introduction,** the relevance of the research topic is substantiated, the degree of study of this problem is characterized, the object and subject are determined and a hypothesis of the study is put forward, the goals and objectives of the work are formulated, the scientific novelty, theoretical and methodological foundations of the research are revealed, the practical significance of the dissertation materials is determined.

**The first chapter “Theoretical and methodological foundations of the formation of special competences in future primary school teachers based on the project method”** offers a meaningful description of the concepts of “competence”, “competency”, “professional competence”, “special competence”, “the formation of special competences in future teachers primary classes based on the project method”; presents a structural-content model and pedagogical conditions for the formation of special competences in future primary school teachers based on the method.

**The second chapter “Results experimental work on the formation of special competencies of future primary school teachers based on the project method”** presents the organization and research methods, the content of experimental work proving the effectiveness of the developed structural and content model and pedagogical conditions for the formation of special competencies in future primary school teachers based on the project method.

**In the conclusion,** conclusions and recommendations based on the results of research work are given, prospects for its development are outlined

The **appendix** contains materials that supplement the main text of the thesis.