

## DEVELOPMENT OF EDUCATIONAL, AND RESEARCH CULTURE OF FUTURE TEACHERS: MODEL, PEDAGOGICAL CONDITIONS AND EXPERIMENTAL RESULTS

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**Annotation.** The article examines the formation of educational and research culture as an essential component of the professional development of future teachers. Educational and research culture is interpreted as an integrative personal characteristic that combines methodological, intellectual, informational, and creative components and determines the quality of professional training in higher education. In the context of modernization and reform of the education system, special attention is paid to the development of students' research skills, reflective abilities, and readiness for self-development. The study substantiates a structural-content model for the formation of educational and research culture, including motivational, cognitive-semantic, activity-predictive, and reflective components. The effectiveness of the proposed pedagogical conditions was experimentally verified through the implementation of a system of creative research tasks, problem-based lectures, and an elective course titled "Planning and Organization of Scientific Research." The results of the pedagogical experiment demonstrate significant positive dynamics in the experimental groups compared to the control groups. The findings confirm that purposeful integration of research-oriented methods into the educational process contributes to the effective formation of educational and research culture among future teachers and improves the overall quality of professional training at the university level.

**Keywords:** formation, culture, educational and research activities, research and development culture, university, development

**Introduction.** Currently, within the framework of the education system, the problem of the formation of an educational and research culture of students has been significantly strengthened. At the same time, researchers note insufficient attention to such aspects of higher education, educational and research culture, scientific and methodological culture, individual subjectivity, creativity, the mobility of students and teachers, etc.

The development of modern education, continuous training, retraining of personnel and further prosperity of the culture of the peoples of Kazakhstan is one of the most important and long-term directions of state policy. This is confirmed by the Law "On Education in the Republic of Kazakhstan" adopted in 2007, the State Program for the Development of Education of the Republic of Kazakhstan for 2011-2020 in 2010, the State Program for the Development of Education and Science of the Republic of Kazakhstan for 2016-2019, for 2021- 2025. Message to the people of the President of the Republic of Kazakhstan, leader of the nation N. A. Nazarbayev Strategy "Kazakhstan-2050" and other subsequent regulatory documents. [1; 2; 3; 4,5]. Educational research culture as a property of an individual exists in various forms - as a high degree of skills, as a way of personal self-realization (habit, way of life, hobby); as a certain result of self-development of an individual, as a form of manifestation of ability and individual style of educational activity.

It is well known that educational and research culture is a complex synthesis of cognitive, subject-practical and personal experience and that it cannot be formed by giving students a learning task or incorporating it "into activity". The student must go through a sequence of situations close to reality and requiring more and more competent actions, assessments, and reflection of the acquired experience. Thus, the nature of the educational research culture is such that although it is a product of training, it does not directly follow from it, but rather is a consequence of the self-development of the student, in our case, the student, and not so much "technological" as personal growth, holistic self-organization and synthesis of one's activity and personal experience.

**Literature Review.** Researchers consider professional development as an integral process of the specialist's personal and professional development (N.M. Borytko, A.A. Verbitsky, N.V. Kuzmina, A.K. Markov, V.V. Serikov, N.K. Sergeev, V..A. Slastenin, etc.) .. The student's educational and research culture in pedagogical literature is considered in the following aspects: as a research activity (N.V. Kukharev, A.I. Kochetov and others); as part of the pedagogical culture (A.A. Moldazhanova); as a synonym for scientific creativity (Y.A. Ponomarev and others); as part of the methodological culture of the teacher (V.A. Slastenin, V.E. Tamarin, etc.); how a certain level of pedagogical thinking (Yu.N. Kulyutkin, G.S. Sukhobskaya, etc.); as a professional-research culture (Z.A. Isaeva and others); as a tool for research work (P.T. Prikhodko and others. ); as a stage in the development of professional competence (A.K. Markova and others); as a professional culture (V.A. Slastenin et al.); as a manifestation of methodological thinking (O.S. Anisimov et al.); as a work culture of a scientist (K.M. Varshavsky, T.I.Salomatova, etc.) ; as the ability of a researcher (E.I. Regirer, etc.); as a result of the implementation of a research approach to the learning process (T.I. Shamova, G.A. Kamyshnikova, etc.); as a means of innovative activity (L.S. Podymova , I.I. Tsyrukun, etc.); as a factor in the development of educational technologies (G.K.Selevko and others); as a component of the mentality of the teacher (B.S. Gershunsky and others); as an integral part of spiritual culture (M.M. Mukhambaeva and others);

The above theoretical and practical provisions are taken into account in the course of our research. The very problem of the educational and research activities of students is not new in higher education pedagogy. Many teachers, like Z.A., were interested in this problem. Isaev, Sh.T. Taubaev [6], E. Berezhnova [7], V.V. Kraevsky [8] and others. However, at the moment, it is necessary to recognize a change in its content, an increase in the information flow with a simultaneous shortage of educational and extracurricular time. In this regard, in our opinion, it is necessary to consider educational research activities in the context of self-organizing principles of the student's personality.

Students participate in educational research work (UID) during all years of study, studying the theory of the chosen field of knowledge, solving educational research problems, listening to lectures, studying literature recommended by the teacher and self-selected books, making presentations at special seminars, participating in the discussion of problematic issues. According to S.I. Arkhangelsk, educational research tasks are logically related educational research problems that allow students to gain new knowledge about the object, method and means of scientific research [9]. IN AND. Andreev defines teaching and research skills as the ability to apply the appropriate techniques of the scientific method in the conditions of solving the educational problem, the fulfillment of the educational research task [10].

Educational and research work prepares students to master other types of research, which in a university are most fully expressed in writing term papers and final qualification works that are directly related to the formation of a student-researcher with the ability to conduct research work. basic research skills should be formed: observe and analyze phenomena, study and generalize best practices, put forward and substantiate the actual research problem, formulate a hypothesis and verify the data on which it is based, conduct an experiment, interpret the results, generalize the material in the form of a lecture, course and graduation qualification work.

Of particular importance in understanding the culture of educational and research activities are the concepts of "methodological culture", "intellectual culture", "creative culture", and "information culture". They are indicators of the quality of educational research activities of students. The main components, for example, of a methodological culture is a system of value orientations for creative self-realization and self-development in the system of a fundamental, search, essentially creative process of cognition and self-knowledge; a system of methods of cognition and self-knowledge, taking into account their relationship and interdependence; features of methodological thinking: problematic; associativity; reflectivity, empathy; non-standard; criticality, etc. The content of the student's educational and research culture includes: comprehension of the new paradigm of the development of society, perception of a change in the paradigm of education and the development trend of the general secondary education system,

awareness of the new paradigm of pedagogical activity, comprehension of the new content of education, knowledge of the paradigm branches of pedagogical development, participation in the process of implementing new ideas in the education system.

As a holistic, multidimensional phenomenon, the culture of students' educational and research activities is realized in the personal-value space of their methodological, intellectual, informational, creative culture. Here it should be emphasized once again that the level of culture of educational research determines its quality and the quality of the cognition process as a whole.

Based on this approach, it can be argued that the student's educational and research culture is formed in the course of professional education, active participation in the educational process, which includes professional education and self-education, professional training and self-education, professional development and self-development

**Methodology.** The theoretical and methodological basis of the study is the philosophical theory of knowledge; the doctrine of the importance of professional culture for the development of personality and the formation of its professionalism; general methodological principles of humanization and individualization, integration and differentiation, intensification and standardization of teacher education, modern concepts and progressive ideas for its development; a systematic, personal-activity approach to the analysis and modeling of pedagogical objects, processes, a technological approach to the design of didactic conditions for the formation of educational research culture; ideas for using research activity in education (V.I. Andreev, S.V. Zagvyazinsky, V.V. Kraevsky, P.I. Pidkasisty, V.A. Slastenin, T.I. Torgashina G.I. Shchukina); the theory of educational problems and their use in the educational process (G.A. Ball, L.L. Gurova, I.Ya. Lerner, E.I. Mashbits, L.M. Fridman); psychology of problem solving (A.F. Esaulov); developmental education (I.S. Yakimanskaya); theoretical foundations of professional pedagogy and general didactic foundations of teacher education.

In the study, we implemented the following research methods: theoretical review and analysis of scientific literature; modeling of general and particular research hypotheses and designing the results and processes for their achievement at various stages of the search work; general scientific (experiment); group of empirical methods (group written surveys); methods of statistical processing of research data; interpretation methods for analyzing the results obtained, expert assessment, analysis of educational research and test tasks, observation, generalization of the pedagogical experience of university teachers, diagnostics of individual components of educational research activities, experimental work on the study of the capabilities of individual pedagogical tools and their groups.

**Results.** The solution of the tasks was planned and carried out by us in three stages.

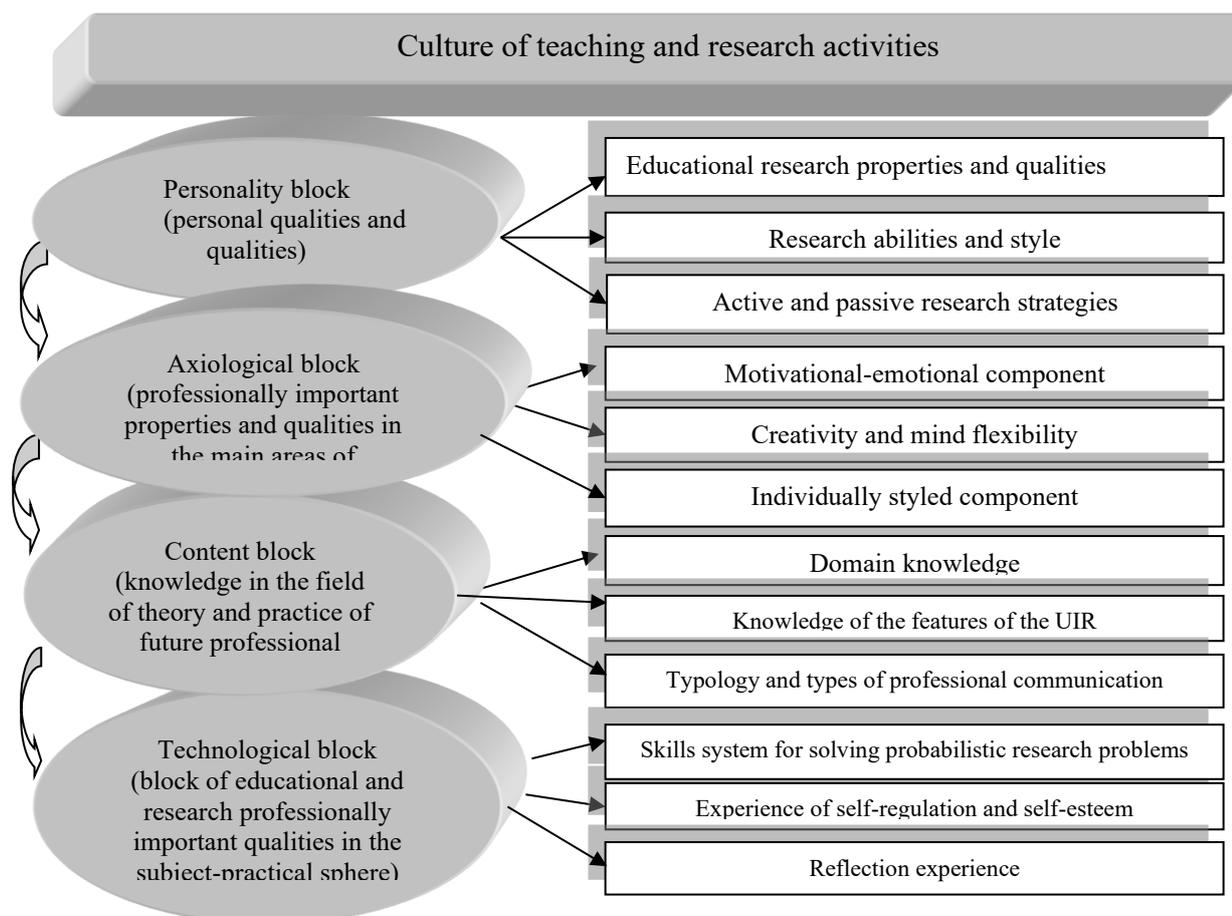
Stage 1 - was associated with the study of theoretical sources on the research problem, regulatory legal acts, program materials and reports on the problems of the quality of training of future teachers. During this period, the subject and object of research were clarified, the starting points of the hypothesis were developed, the best practices of universities regarding the implementation of the formation of research skills of students were generalized.

Stage 2 - was associated with the study of the real state of the problem of the formation of the educational and research culture of future teachers. This period was a process of educational research, as a result of which the essential significance of educational research culture, its quality indicators and the conditions for ensuring its formation in the educational environment of the university were identified.

Stage 3 - included the control and correction phase of the experimental work in order to verify the phased technology of the formation of the educational and research culture of future teachers. During this period, recommendations were developed on the didactic support of this process, the results of experimental work were generalized, and conclusions based on the results of the experiment were formulated.

The experiment was conducted on the basis of the Faculty of Humanities and Pedagogy (now the Institute) of Korkyt Ata Kyzylorda State University, "Bolashak" University of Kyzylorda, in the academic groups of specialties 5B010300 (6B01101) - "Pedagogy and Psychology",

In the process of the study, barriers were also identified in the students' mastery of the culture of educational and research activities. Educational and research activities of students as one of the types of activities aimed primarily at improving knowledge. This work is carried out under the guidance of teachers, as a result of which students discover new, objectively significant knowledge about the object of study, method or means of activity, develop their creative abilities and professional qualities of the individual. At the same time, we, teachers, are also in a situation of developing our professional capabilities, searching for and selecting new, more effective pedagogical methods and technologies. The culture of educational research can be represented in the form of its following structurally substantive components (See Fig. 1.)



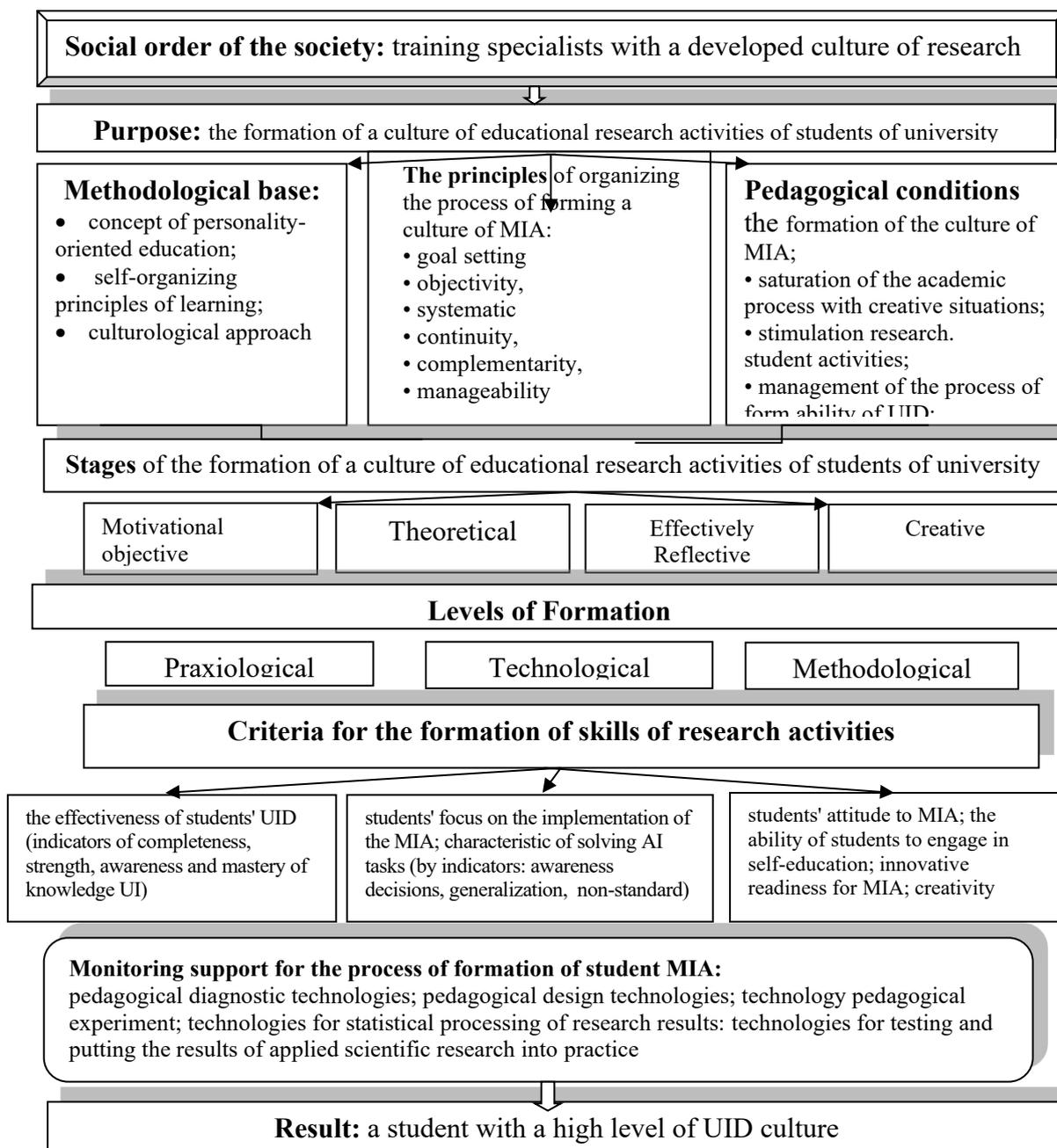
**Table 1 - Culture of teaching and research activities**

In accordance with the basic conceptual provisions, a structurally-substantive model for the formation of a culture of students' educational and research activities has been developed, which includes:

- 1) socio-educational needs and professional-value orientations of the university and the individual;
- 2) the principles of organizing the process of forming a culture of educational and research activities of university students;
- 3) the content and pedagogical conditions for the implementation of the process of forming a culture of educational research activity;
- 4) qualitative and quantitative results of this process.

The presence and compliance with these conditions leads to the formation, development of skills of students in educational and research activities. Based on the identified regularity and

principles, we have developed a structurally meaningful model for the formation of a culture of educational and research activities of university students (Figure2).



**Figure 2 - Structurally meaningful model of formation**

UID of university students.

Our model is based on the indicated “conceptual chain”: fact - problem - initial conceptual positions - idea - design - hypothesis - move - desired result (table 1).

Consequently, the culture of educational and research activities is implemented at three levels: personality-value; process and activity; communicative.

**Table 2 - The Content of the conceptual chain of the formation of the culture of educational research activities**

Conceptual chain	Content of the work of problem of the formation of student MIA
Initial fact	University students have poor knowledge of UID skills with the objective need to complete a graduation project, low quality graduation work
Problem	How to ensure students have a high level of proficiency in teaching skills in didactic training?
Leading conceptual position	The belief in the potential research capacity of each university student
Idea, design, move	To implement in the didactic training of university students the principle of unity of educational and research activities, to ensure, on the basis of the modeling of scientific research in the learning process, a solid mastery of basic knowledge and research skills
Desired result	Strong assimilation of basic subject knowledge, the formation of a UID culture of students of a high level of development, high quality of the final qualification work

For a clearer organization of monitoring the formation of the culture of educational and research activities of students, we have developed a system for diagnosing the level of formation of the culture of educational and research activities of future teachers [12].

**Table 3 - System for diagnosing the level of formation of the culture of educational and research activities of future teachers**

The component of UID	Criteria	Indicators	Determination methods
Motivational	Motivation	- ability for creative self-realization; - internal prerequisites for educational self-realization; - educational research motives and interests; -activity; -priority of the goal.	Tests V.I. Andreeva, I.F. Isaeva, M.I. Sitnikova, M.I. Maryina, adapted to the study
Cognitive semantic	Research knowledge	- completeness of assimilation of the content; - the completeness of the assimilation of the concept; - coefficient of assimilation of practical actions; - the strength coefficient of the acquired concepts	Didactic tests, method of elementary and operational analysis A.V. Usova adapted to the study
Activity-predictive	Research skills	- the coefficient of completeness of mastering educational and research skills; - the coefficient of strength mastery skills; - awareness.	Didactic tests, method of elementary and operational analysis A.V. Usova, expert assessment
	Reflection	- reflective analysis; - self-assessment of the ability to research and innovation	Tests V.A. Slastenin, L.S. Podymova adapted to the study
	The results of the <i>DSC</i>	relevance, originality, novelty of the study, literature analysis, implementation of results, quality of design, etc.	Expert assessment

In addition, in our view, in the process of diagnosing the formation of a culture of educational and research activities of students, the individual differences of students in the following indicators were taken into account:

- the nature of the course of mental processes (sensations, perceptions, ideas, memory, attention, thinking, imagination, speech);
- level of knowledge, skills, semantic conclusions, (completeness, depth, effectiveness);
- performance (the ability to perform an activity, the degree of its intensity, ease or difficulty of flow, distraction);
- level of intellectual, cognitive and practical independence and activity; pace of advancement (fast, medium, weak);
- attitude to learning (positive, indifferent, negative), motivation; the presence and nature of cognitive interests (amorphous, stereotypical, broad);
- level of volitional development (high, medium, low).

The effective-reflective stage of the formation of the UID culture, in addition to the implementation of the complex system of complicated creative tasks during the educational process, implied the following types of work:

1. The training of teachers in the development of their creative potential and arming with didactic tools for the formation of the culture of students UID. The formation of their research skills and the organization of work on the creation and use of technological chains of increasingly complex tasks.

2. Development and conduct of an elective course.

In connection with the task, we have developed a program of the elective course "Planning and organization of scientific research" (see Table 3).

**Table 3- Elective course program “Planning and organization of scientific research work” (1 credit)**

№	Name of the Theme	forms of employment		
		Лек	Сем.	СРСИ
1	Module I. The Importance of Science in the Development of Civilization Lecture I. Science as a form of human consciousness and a specific area of human activity.	1		
2	Seminar I. Problems of scientific creativity. The history of the concept of the research method and its application in pedagogy		1	
3	Lecture 2. Age features of the formation of research qualities and abilities.	1		
4	Module 2. Methodology of scientific knowledge and creativity. Lecture 3. Scientific research as the main form of scientific work.	1		
5	Seminar 2. Organizational structure Science of Kazakhstan		1	
6.	Lecture 4. Methodology of pedagogical research.	1		
7	Seminar 3. Methodological foundations of scientific knowledge			1
8	Lecture 5. The conceptual apparatus of pedagogical research.	2		
9	Module 3. The structure of pedagogical research. Lecture 6. General characteristics and organization of scientific and pedagogical research.	2		
10	Seminar 4. Preparation for thesis writing and the accumulation of scientific information			1
11	Lecture 7. The logical structure of scientific research.	1		
12	Seminar 5. Work on the dissertation research. General didactic teaching methods and their impact on the development of research			1
13	Lecture 8. Principles and methods of pedagogical research. The principles of the formation of research	1		
14	Seminar6. Processing the results of experimental studies			1
15	Seminar 7. Presentation of the results of scientific work and information transfer		1	
16	Seminar 8. Organization of work in a research team		1	
17	Seminar 9. Planning the work of a scientist. Internal motivation and interest in research. Age-related patterns of development of research		1	1

The purpose of teaching the course "Planning and Organization of Scientific Research" is the formation of knowledge about the management of scientific processes, the organization of research, the activities of scientific groups and scientists, the methodology of pedagogical research.

In the course of mastering the content offered as part of the elective course, students consolidated, systematized knowledge of research methods and the features of their application to solve research problems. Students were offered tasks that required updating of the orientational component: to pose a research task, plan the course of its solution, highlight the criteria, select diagnostic methods, etc.

The developed curriculum program is important in preparing educators for the management of student research activities. The main goal of the proposed course is the theoretical and practical training of teachers to guide academic and scientific research of university students, diagnostics of the teacher's readiness to lead such activities, the development of research activities by the teacher, as well as the development and internalization of the principles of scientific ethics by teachers themselves [15].

The purpose of the course is to provide students with the functional skill of research as a universal way of mastering reality, the development of the ability to research type of thinking, and the activation of the student's personal position in the educational process based on the acquisition of subjectively new knowledge. The content of the elective course "Planning and organization of scientific research" proposed in the study contributes to the formation of skills for conducting scientific research.

The main objectives of the course:

- To deepen and supplement the theoretical knowledge of students of the theory and technology of pedagogical research, research and experimental work in educational organizations
- To acquaint students with the methodology and methods of pedagogical research;
- Show the importance of research culture in the professional competence of students;
- Create conditions in the professional and practical activities of the student to form the ability to conduct research methods and techniques (technology).
- To form students' research abilities, a culture of scientific creativity.

In the process of studying this course, students should master the following knowledge, skills:

- the ability to observe, analyze and explain observational data, to separate significant facts from non-essential; the ability to conduct an experiment (referring to its formulation, explanation and presentation of the results);
- awareness of the epistemological cycle and the ability to carry out an active search at its individual stages;
- understanding of the structure of theoretical knowledge; mastery of general scientific ideas and principles; the ability to highlight the main thing in complex natural phenomena, abstract, analyze and generalize the material.

The course is designed for 1 credit, of which 10 hours of lectures, 5 hours of practical training, SRSP-5 hours and CDS 25 hours are allocated. The entire lesson was conducted in accordance with the requirements of credit technology and interactive teaching methods were used.

The formation of an educational and research culture among students is also possible in the process of organizing the work of research circles. In particular, in accordance with the main purpose and objectives of the study, we carried out a number of activities to organize the student education system for students who are part of the "Kibrat" student club, formed on the basis of the Department of Pedagogy and Psychology.

For experimental substantiation of the effectiveness of the indicated conditions in the formation of the culture of educational and research activities of students, we created a control and experimental group.

The experimental work on the formation of a culture of educational and research activities of future specialists was carried out in three stages. The experiment was attended by 80 students and 10 teachers.

At the stage of the ascertaining experiment, the relevance of the research problem was substantiated and ways to solve it were outlined. A survey of teachers showed that they understand the term “culture of educational research activity” ambiguously, sometimes very broadly. For example, as the ability to independently carry out work with research elements or as the ability to carry out a creative approach when completing tasks. Sometimes they are considered the skills to analyze, compare, put forward hypotheses, describe observed processes and phenomena, etc. Failed to answer the question 11.10% of the teachers surveyed. Most teachers consider it necessary to create a culture of educational and research activities of students. However, 13.8% of respondents do not set the task of its formation in the university; set, but do not solve 44.6%. It should be noted that 41.6% of teachers did not at all decide on the answer to this question.

Subsequently, according to the research plan, a training pedagogical experiment was organized and conducted.

I period of the formative (training) experiment. At this stage of the study, we developed and offered students a methodology for the process of forming an educational research culture. This technique consists in developing a system of creative tasks, in conducting lectures with a problem element and using a system of practical tasks with research situations and tasks in the classroom.

The second period of the formative experiment was accompanied by the organization and conduct of elective course classes on the topic: “Planning and organization of scientific research work” (1 credit). Developed a training complex of the elective course. The program contains thematic plans for a lecture, practical lesson. During the reading of the elective course, the needs and motives of the students' educational and research work were clarified. For this purpose, a questionnaire was conducted with students to determine their readiness for educational research and the motive for research. In the course of experimental work after studying the course "Planning and organization of scientific research work", students were questioned.

Thus, the results of the experimental verification fully confirmed the hypothesis of the study and showed the effectiveness of the developed methodology for the formation of the UID culture of the future teacher. As a result of the educational pedagogical experiment, it was found that the application of the developed methodology allows the effective formation of the UID culture. A quantitative assessment of the results of a pedagogical experiment was carried out according to the percentage of students who are at one or another level of formation of the culture of educational and research activity at the beginning of the experiment and during the experimental work. To assess the dynamics of the investigated process during the experimental work, we used the following indicators of time series:

- the average indicator (SP), reflecting a quantitative assessment of the growth level of the culture of educational research activities, which was calculated by the formula: the average indicator (SP), reflecting a quantitative assessment of the growth of the culture level of educational research activities, which was calculated by the formula:

where a, b, c — percentage of students at low, medium, and high levels;

- growth rate indicator (Y), which reflects the qualitative growth of the studied indicator and is calculated by the formula [11]:

where  $y_1$ ;  $y_2$ ;  $y_3$  — percentage of respondents with a correspondingly low, medium, and high level of culture formation at the end of the experiment,  $x_1$ ;  $x_2$ ;  $x_3$  — percentage of respondents with a correspondingly low, medium, and high level of culture formation at the beginning of the experiment;

- absolute growth indicator (G), which reflects the difference between the initial and final values of the level of development of the studied indicator. The absolute growth rate is calculated by the formula [12]:

$G = P(\text{con}) - P(\text{beg})$ ,

where P (beginning) is the initial value of the indicator, P (con) is the final value of the indicator;

- the coefficient of efficiency of the experimental methodology, which is calculated by the formula:

$$KEff = SP(e) / SP(k),$$

where SP (e) is the average value of the experimental group, SP (k) is the average value of the control group.

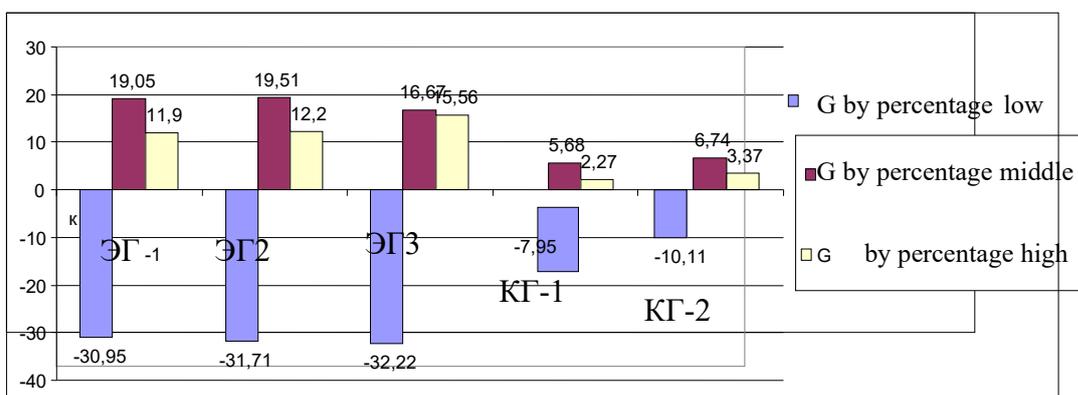
Assessment of the qualitative growth in the level of formation of the culture of educational research activity was carried out using the nonparametric Pearson criterion. His choice is explained by the fact that this method of evaluating the results allows us not to consider the analyzed statistical distribution as a function and does not imply a preliminary calculation of the distribution parameters. The accepted statistical hypothesis was based on the thesis that the formation of a culture of educational and research activity among future specialists will take on the character of an effectively operating system when implementing a dedicated set of pedagogical conditions. Hypothesis testing was carried out in two stages. At the first stage, three groups of students were identified: two experimental and one control. The continuity of the formation of a culture of educational research activity was supported in both groups. In addition, in the first (EG-1) group, the formation of the internal image "I am a researcher" was carried out, and in the second (EG-2), the university was included in the information and research space of the university. In the control group (KG-1), work was carried out as part of traditional training. At the second stage, two groups of students were distinguished: experimental (EG-3) and control (KG-2). In the experimental group, a dedicated set of pedagogical conditions was implemented. In the control group (KG-2), work was carried out as part of traditional training. The results of determining the level of formation of the culture of educational research activities, as well as the values of statistical indicators are presented in tables 4 and 5.

**Table 5 - The results of the verification of the impact of pedagogical conditions on the formation of a culture of educational research**

Group	Stage	Level of Formation of NID Experience						CII	K <sub>эфф</sub>
		Low		Middle		High			
		quantity	%	quantity	%	quantity	%		
ЭГ-1	Start	24	57,14	16	38,1	2	4,76	1,48	0,96
ЭГ-1	end	11	26,19	24	57,1	7	16,67	1,90	1,16
ЭГ-2	Start	23	56,10	16	39,0	2	4,88	1,49	0,96
ЭГ-2	end	10	24,39	24	58,5	7	17,07	1,93	1,17
ЭГ-3	Start	51	56,67	34	37,8	5	5,56	1,49	0,98
ЭГ-3	end	22	24,44	49	54,4	19	21,11	1,97	1,19
КГ-1	Start	45	51,14	38	43,2	5	5,68	1,55	-
КГ-1	end	38	43,18	43	48,9	7	7,95	1,65	-
КГ-2	Start	48	53,93	36	40,4	5	5,6	1,52	-
КГ-2	end	39	43,82	42	47,2	8	8,99	1,65	-

**Table 6 - the Dynamics of changes in the level of formation of the culture of educational research activities**

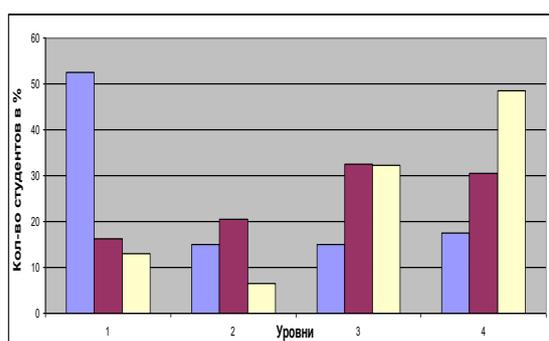
Group	G by percentage			G по CII	G by kaff	Y
	low	middle	high			
ЭГ-1	-30,95	19,05	11,90	0,43	0,20	1,29
ЭГ-2	-31,71	19,51	12,20	0,44	0,21	1,30
ЭГ-3	-32,22	16,67	15,56	0,48	0,21	1,32
КГ-1	-7,95	5,68	2,27	0,10		1,07
КГ-2	-10,11	6,74	3,37	0,13		1,09



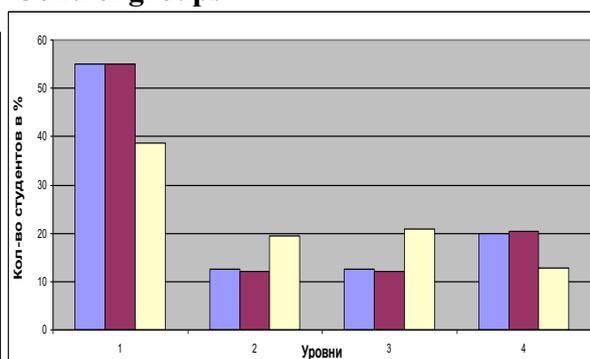
**Figure 4 – Dynamics of changes in the level of formation of the culture of educational research**

To assess its results in determining the impact of the formation of educational and research activities of students on the effectiveness of their education and, first of all, its components such as cognitive, communicative and creative, the corresponding levels of success were identified, which we determined on the basis of expert evaluations. (1st level - reproductive-adaptive, 2-communicative-organizational, 3-intellectual-heuristic, 4-creative-creative), the results are shown in Fig-15

**Figure - 5 Experiment Results**  
**Experimental groups**



**Control groups**



■ before the experiment

■ at the end of the experiment

■ at the end of the experiment, bachelors

Evaluation of the results showed that the level of formation of the culture of educational and research activities among students in the experimental groups is higher than that of students in the control. In addition, a general trend can be identified: the formation of a culture of educational and research activity among future specialists is more successful in a group where a set of pedagogical conditions is implemented.

**Conclusion.** Thus, students of the experimental according to all the methods performed show stable high data. For them, a compromise is acceptable between the uncertain attitude to the profession of a teacher and the continuation of studies at a university, and the probable prospect of further work in this specialty. Students are aware of the need to master pedagogical knowledge, and have a steady interest in research. Students of the control group note the need for reflection for successful professional activities. However, the formation of reflexive actions is shown only in specially created situations. Future teachers of this group are characterized by the absence of an established system of self-development, and the orientation toward development is highly dependent on conditions. Own more general pedagogical knowledge. They are able to operate with basic terms, laws, and phenomena; they are able to verify the objectivity of accumulated facts in "standard" conditions. Carry out activities on the model. In the training sessions, students "situationally" participate in professionally-oriented types of educational activities. Students of the

experimental group are characterized by creativity, a desire to develop themselves, preservation of their own individuality, desire for spiritual satisfaction, they are characterized by a steady interest in the profession. Many of them independently plan professional prospects taking into account the majority of agreed factors, have adequate self-esteem, purposefully operate pedagogical activities and personal qualities as a means of self-improvement. Future teachers constantly demonstrate the formation of reflexive actions, are characterized by active self-development, have a wide range of clearly differentiated psychological and pedagogical knowledge, are able to highlight the main thing, open connections, conduct analogs, are able to transfer acquired knowledge to new situations, take an active part in classes in the learning process at the university professionally oriented types of educational activities [13,14,15].

Based on a theoretical analysis and experimental verification of the effectiveness of the proposed technology and methodology for the formation of educational and research activities among students - future teachers-psychologists, the following conclusions and conclusions can be made:

1. Current trends in the development of higher education dictate the need to develop, implement and take into account the educational process of higher education of the individuality of each student, the features of their preparation at various levels and along different paths in the context of the transition to a multi-level education system for students in universities, which meets the requirements of reforming the education system and allows you to most fully reveal the potential of students. Orientation to an active approach allows students to form: mobility and critical thinking; systematic knowledge and methods of mastering them in the process of activity; regulation of thought processes; ability to navigate in an ever-increasing stream of scientific and special information; the ability to individual creative approach in the independent solution of problems of a scientific and professional nature, the position of the true subject of the future profession.

2. The study made it possible to justify a holistic concept and system for the development of an individual style of educational and research activities of students at a university. It is based on pedagogical and psychological laws, determined by the content, methods, organization of the educational process and the individual characteristics of university students, representing: a set of techniques, methods for implementing the individual style of students' educational activities, carried out at the stages of goal setting, motivation, determination content, nature, degree of difficulty of educational tasks, methods of action, control and self-control, i.e. represents a holistic mechanism with its technology, organization and management .. As a result of the study, approaches to updating the education model were developed and justified, methodological foundations of pedagogical research, problems of the formation of the culture of students' educational and research activities were determined, a categorical analysis of the problems of implementing this education model was carried out. The work outlines a psychological and pedagogical analysis of modern approaches to the implementation of the culture of educational and research activities and its teaching model.

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## **РАЗВИТИЕ УЧЕБНО-ИССЛЕДОВАТЕЛЬСКОЙ КУЛЬТУРЫ БУДУЩИХ УЧИТЕЛЕЙ: МОДЕЛЬ, ПЕДАГОГИЧЕСКИЕ УСЛОВИЯ И РЕЗУЛЬТАТЫ ЭКСПЕРИМЕНТА**

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**Аннотация.** В статье рассматривается формирование учебно-исследовательской культуры как важнейшего компонента профессионального становления будущих педагогов. Учебно-исследовательская культура трактуется как интегративная личностная характеристика, сочетающая в себе методологическую, интеллектуальную, информационную и творческую составляющие и определяющая качество профессиональной подготовки в высшей школе. В контексте модернизации и реформирования системы образования особое внимание уделяется развитию у студентов исследовательских навыков, рефлексивных способностей и готовности к саморазвитию. В ходе исследования обосновывается структурно-содержательная модель формирования образовательной и исследовательской культуры, включающая мотивационный, когнитивно-смысловой, деятельностно-прогностический и рефлексивный компоненты. Эффективность предложенных педагогических условий была экспериментально проверена путем внедрения системы творческих исследовательских заданий, проблемных лекций и элективного курса “Планирование и организация научных исследований”. Результаты педагогического эксперимента демонстрируют значительную положительную динамику в экспериментальных группах по сравнению с контрольными. Полученные результаты подтверждают, что целенаправленная интеграция научно-ориентированных методов в образовательный процесс способствует эффективному формированию образовательной и исследовательской культуры у будущих педагогов и повышает общее качество профессиональной подготовки на университетском уровне.

**Ключевые слова:** образование, культура, образовательная и исследовательская деятельность, культура исследований и разработок, университет, развитие.

## БОЛАШАҚ МҮҒАЛИМДЕРДҢ ОҚУ-ЗЕРТТЕУ МӘДЕНИЕТІН ДАМУ: МОДЕЛІ, ПЕДАГОГИКАЛЫҚ ШАРТТАРЫ ЖӘНЕ ЭКСПЕРИМЕНТ НӘТИЖЕЛЕРІ

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**Аңдатпа.** Мақалада болашақ мұғалімдердің біліктілігін арттырудың маңызды құрамдас бөлігі ретінде білім беру және зерттеу мәдениетін қалыптастыру қарастырылады. Оқу-зерттеу мәдениеті әдістемелік, интеллектуалдық, ақпараттық, шығармашылық компоненттерді біріктіретін және жоғары оқу орындарындағы кәсіби дайындықтың сапасын анықтайтын интегративті тұлғалық сипаттама ретінде түсіндіріледі. Білім беру жүйесін жаңғырту және реформалау жағдайында оқушылардың зерттеушілік дағдыларын, рефлексиялық қабілеттерін, өзін-өзі дамытуға дайындығын дамытуға ерекше көңіл бөлінеді. Зерттеу мотивациялық, когнитивтік-семантикалық, белсенділік-болжамдық, рефлексиялық компоненттерді қоса алғанда, оқу және зерттеу мәдениетін қалыптастырудың құрылымдық-мазмұндық моделін негіздейді. Ұсынылған педагогикалық шарттардың тиімділігі эксперименталды түрде шығармашылық зерттеу тапсырмаларының жүйесін, проблемалық дәрістерді, "Ғылыми Зерттеулерді Жоспарлау және Ұйымдастыру" атты элективті курсты енгізу арқылы тексерілді". Педагогикалық эксперименттің нәтижелері бақылау топтарымен салыстырғанда эксперименттік топтарда айтарлықтай оң динамиканы көрсетеді. Нәтижелер зерттеуге бағытталған әдістерді оқу үдерісіне мақсатты түрде біріктіру болашақ оқытушылар арасында білім беру және зерттеу мәдениетін тиімді қалыптастыруға ықпал ететінін және университет деңгейінде кәсіби дайындықтың жалпы сапасын жақсартатынын растайды.

**Тірек сөздер:** қалыптастыру, мәдениет, білім беру және ғылыми-зерттеу қызметі, ғылыми-зерттеу және тәжірибелік-конструкторлық жұмыстар мәдениеті, университет, даму.