

**DEVELOPMENT OF RESEARCH COMPETENCIES IN UNIVERSITY STUDENTS****Saidakbarova Nigora**

Abstract: This paper examines the development of research skills in students at a pedagogical university in the modern educational environment. It substantiates the need to develop research skills in future teachers as an important component of professional training. The psychological structure of research abilities is identified, including motivational, content-based, operational-executive, and intellectual-creative components. A research-based learning system has been developed, aimed at developing and nurturing students' research competencies through training, research practice, and performance monitoring. Criteria for assessing the level of development of research abilities and a set of diagnostic methods for determining them are presented. The study results confirm the effectiveness of the implemented research-based learning system and demonstrate positive dynamics in the development of research abilities in students at a pedagogical university.

Keywords: research skills, pedagogical university, professional training, research activities, research-based learning, motivational component, intellectual and creative component

The current situation in a rapidly changing and developing world leads to a sharp increase in the role of free, independent individuals, capable of instantly navigating the vast flow of information. This creates a growing societal need for highly qualified teachers capable of educating and training the future generation. However, before undertaking educational and upbringing work, teachers must be thoroughly prepared. The modern education system places special demands on teacher training.

Currently, a qualitatively new type is gaining particular importance: the teacher-author, the teacher-creator, the teacher-researcher. A teacher-researcher is someone with innovative thinking, developed research potential, the ability to make responsible decisions, and the ability not only to set but also to solve new problems related to the future. The further development of scientific and technological progress, civilization, and society as a whole depends on this training. All of this, in turn, dictates that students at pedagogical universities must develop research abilities that are professionally significant and considered an integral part of their professional activities.

Professional psychological and pedagogical work, regardless of specialization and area of interest (work in a preschool, school, industry, etc.), presupposes research, the success of which depends on the level of development of research abilities. Therefore, it is important that, during higher professional education at pedagogical universities, targeted work is organized to ensure the development of students' research abilities, which enable them to quickly adapt to new and changing social conditions and foster the manifestation of their intellectual and creative potential in various fields of knowledge. The development of students' research abilities at pedagogical universities is one of the most important issues, both from a theoretical perspective and from a psychological and pedagogical practice perspective, and is considered a particularly significant educational task. Students' developed research skills are the key to their successful fulfillment in their chosen profession and in today's society.

Status and level of development of the problem. The scientific prerequisites for analyzing the problem we identified were drawn from philosophical, psychological, and pedagogical literature and the discovery of ideas, approaches, and approaches that could help develop a coherent concept for the research being conducted.



The study of exploratory abilities began with I. P. Pavlov's work on exploratory reactions. His research revealed the essence and significance of the exploratory reflex in humans and animals.

These studies provide insight into the psychological nature of exploratory abilities, their structural components, and their role in the professional training of future teacher-researchers.

Despite numerous serious studies on this topic, the problem of diagnosing and developing exploratory abilities in students at a pedagogical university remains unresolved and incompletely addressed. This led to the choice of the dissertation topic: "Developing the Research Abilities of Students at a Pedagogical University."

The research objective is to identify the psychological structure of students' exploratory abilities and to create a system of exploratory learning that ensures their development within the educational process at a pedagogical university. Addressing this issue will be the goal of the study.

The object of the study is the exploratory abilities of students at a pedagogical university.

The subject is the development of students' exploratory abilities within the educational process at a pedagogical university. The research hypotheses are based on the assumption that: students' research abilities can be viewed as an integrative personal development, including motivational, substantive, operational-executive, and intellectual-creative components; the development of students' research abilities is ensured by the creation of a research-based learning system, including training, research practice, and monitoring of research activities.

Research Objectives:

1. To expand and analyze the theoretical foundations of the problem of developing research abilities.

2. To develop a model of the structure of research abilities of students at a pedagogical university.

3. To identify criteria for assessing the development of students' research abilities and select a set of diagnostic methods for determining their level.

4. To create and test a research-based learning system in the form of an elective course aimed at developing the research abilities of students at a pedagogical university.

5. To identify the dynamics of the development of research abilities of students at a pedagogical university. To address the objectives and test the hypotheses, the study utilized a combination of complementary research methods:

- General scientific methods: theoretical study and analysis of philosophical, psychological, pedagogical, and educational and methodological literature, conceptual analysis of previously completed dissertations on the topic, generalization, and comparison;

- Empirical methods: diagnostic (questionnaires, observations, surveys), experimental (ascertaining, exploratory, and control experiments), productive (study and analysis of students' work products), and statistical (methods for measuring and mathematically processing experimental data obtained during the study, their systematic and qualitative analysis, and interpretation).

Stage One: Exploratory and Analytical. A general research concept was developed based on the study and analysis of philosophical, psychological, pedagogical, and methodological literature on the research problem. The topic, object, subject, goal, hypotheses, primary research objectives, methodology, and research methods, as well as the initial categorical apparatus, were defined. An empirical research plan was drawn up, and the research framework was determined. The second stage was the Experimental Stage. During this stage, a set of diagnostic research methods was developed and selected, experimental work was organized and conducted to study and develop the research abilities of students at the pedagogical university, the research hypotheses were tested, and quantitative and qualitative analysis of the results was conducted and interpreted.

The third stage is the final and summarizing phase. The study results were analyzed and summarized, theoretical propositions were clarified, experimental data were systematized, key



theoretical conclusions and generalizations were formulated, and the dissertation's literary presentation was completed.

The reliability of the results and the validity of the conclusions are ensured by the validity of the initial methodological positions; consideration of modern developments in psychology and pedagogy; the use of a range of research methods appropriate to the object, subject, goal, and objectives; and the statistical significance of the results obtained, determined using mathematical processing methods.

The scientific novelty of the study consists of the following:

- the psychological structure of the research abilities of students at a pedagogical university was identified, represented by motivational, substantive, operational-executive, and intellectual-creative components;
- a set of diagnostic methods was developed and selected to determine the level of development of the research abilities of students at a pedagogical university;
- A research-based learning system, including training, research practice, and monitoring of research activities, was created and tested as an elective course aimed at developing students' research abilities in the educational process at a higher education institution.
- The dynamics of the development of students' research abilities at a pedagogical university, resulting from the created and implemented research-based learning system as an elective course, were identified.

Theoretical Significance of the Study. The study clarified, supplemented, expanded, and analyzed scientific understanding of the nature of students' research abilities at a pedagogical university and their structural components. The results demonstrate the dependence of the successful development of research abilities on the creation of a research-based learning system in the educational process at a higher education institution.

The practical significance of the study lies in the selection and creation of diagnostic tools for assessing the development of research abilities, and the creation and implementation of a research-based learning system as an elective course, which included theoretical questions for discussion and a set of practical educational and research assignments and exercises for independent work. The developed materials can be used in the training of future educational psychologists at higher education institutions.

Key points to be defended:

1. Students' research abilities are a multi-component personality trait consisting of motivational, substantive, operational-executive, and intellectual-creative components, ensuring the successful completion of research activities.
2. The model for the structure of students' research abilities at a pedagogical university includes motivational, substantive, operational-executive, and intellectual-creative components.
3. The criteria for assessing the development of students' research abilities at a pedagogical university are:
 - cognitive motive, represented by cognitive interest and cognitive activity (curiosity);
 - specialized knowledge of the theory and methodology of research;
 - the ability and skills of research;
 - developed divergent and convergent thinking.
4. The created system of research-based learning in the form of an elective course "Development of Research Abilities in Students" includes:
 5. Developed lessons aimed at acquiring students' specialized knowledge of research;
 - Developing research skills in the educational process at a pedagogical university;
 - Organizing independent research practice for students at a pedagogical university;
 - Organizing monitoring of research activities.



A system of targeted, organized research-based learning for students promotes the development of all components of research skills. It enables the development of students' research skills in conjunction with the implementation of general educational objectives at a higher education institution.

5. The dynamics of the development of research skills among students at a pedagogical university, resulting from the implementation of the created and implemented research-based learning system as an elective course, is characterized by an increase in the number of students with a high level of development and a decrease in the number of students with a lower level of development of the components under study.

Testing and implementation of results. The results presented in this work have been reflected in scientific articles and theses. The main ideas and results were discussed and endorsed in reports and presentations at international, all-Russian, interregional, and interuniversity scientific and practical conferences, republican and departmental scientific seminars, workshops, roundtables, and readings: "Student Research Activities in the Modern Educational Environment"; "Education as an Institution of Social and Psychological Protection of Childhood"; "Eusebius Readings"; "Ogarev Readings"; "Psychological Services in Preschool Educational Institutions: Problems and Prospects"; "Current Psychological and Pedagogical Issues in Science and Practice"; "Modern School and Psychology: Prospects for Cooperation"; "Methodology of Humanitarian Knowledge."

Developed research skills among students are the key to their successful career advancement in their chosen profession and in today's society.

The status and level of development of this problem. The scientific prerequisites for analyzing the problem we identified were drawn from philosophical, psychological, and pedagogical literature, identifying ideas, approaches, and approaches that could help develop a coherent concept for the research being conducted.

The development of research abilities began with I.P. Pavlov's work on exploratory reactions. His research revealed the essence and significance of the exploratory reflex in humans and animals.

These studies provide insight into the psychological nature of research abilities, their structural components, and their role in the professional training of future teacher-researchers.

Despite the extensive research on this topic, the problem of diagnosing and developing the research abilities of students at a pedagogical university remains unresolved and incompletely developed. This led to the choice of the dissertation topic: "Development of Research Abilities in Students at a Pedagogical University."

The research objective is to identify the psychological structure of students' research abilities and to create a research-based learning system that ensures their development in the educational process at a pedagogical university. Solving this problem will be the goal of this study.

The object of this study is the research abilities of students at a pedagogical university.

The subject is the development of students' research abilities in the educational process of a pedagogical university.

The research hypotheses are based on the assumption that: students' research abilities can be considered as an integrative personal development, including motivational, substantive, operational-executive, and intellectual-creative components; the development of students' research abilities is ensured by the creation of a research-based learning system, including training, research practice, and monitoring of research activities.

Research Objectives:

1. To expand and analyze the theoretical foundations of the problem of developing research abilities.
2. To develop a model of the structure of students' research abilities at a pedagogical university.



3. To identify criteria for assessing the development of students' research abilities and select a set of diagnostic methods for determining their level.

4. To create and test a research-based learning system in the form of an elective course aimed at developing the research abilities of students at a pedagogical university.

5. To identify the dynamics of the development of students' research abilities at a pedagogical university. To address the objectives and test the hypotheses, the study utilized a combination of complementary research methods:

- General scientific methods: theoretical study and analysis of philosophical, psychological, pedagogical, and educational and methodological literature, conceptual analysis of previously completed dissertations on the topic, generalization, and comparison;

- Empirical methods: diagnostic (questionnaires, observations, surveys), experimental (ascertaining, exploratory, and control experiments), productive (study and analysis of students' work products), and statistical (methods for measuring and mathematically processing experimental data obtained during the study, their systematic and qualitative analysis, and interpretation).

Stage One: Exploratory and Analytical. A general research concept was developed based on the study and analysis of philosophical, psychological, pedagogical, and methodological literature on the research problem. The topic, object, subject, goal, hypotheses, primary research objectives, methodology, and research methods, as well as the initial categorical apparatus, were defined. An empirical research plan was drawn up, and the research framework was determined. The Second Stage: Experimental. During this stage, a set of diagnostic research methods was developed and selected, experimental work to study and develop the research abilities of students at the pedagogical university was organized and conducted, the research hypotheses were tested, and quantitative and qualitative analysis and interpretation of the results were conducted.

The Third Stage: Final and Generalizing. The research results were analyzed and summarized, theoretical propositions were clarified, experimental data were systematized, key theoretical conclusions and generalizations were formulated, and the dissertation was finalized.

The reliability of the results and the validity of the findings are ensured by the validity of the initial methodological positions; consideration of modern developments in psychology and pedagogy; the use of a range of research methods appropriate to the object, subject, purpose, and objectives of the study; and the statistical significance of the results obtained, determined using mathematical processing methods. Key points to be defended:

1. Students' research abilities are a multi-component personality trait, consisting of motivational, substantive, operational-executive, and intellectual-creative components, ensuring the successful completion of research activities.

2. The model for the structure of research abilities of students at a pedagogical university includes motivational, substantive, operational-executive, and intellectual-creative components.

3. The criteria for assessing the development of research abilities of students at a pedagogical university are:

- cognitive motive, represented by cognitive interest and cognitive activity (curiosity);
- specialized knowledge of the theory and methodology of research;
- the ability and skills of research;

4. The established research-based learning system, in the form of an elective course entitled "Developing Students' Research Skills," includes:

- developed lessons aimed at acquiring students' specialized knowledge of research;
- developing research skills in the educational process at a pedagogical university;
- organizing independent research internships for students at a pedagogical university;

Organization of research activity monitoring (conferences, problem-solving clubs, coursework defenses, etc.).

A system of targeted, organized research-based learning for students promotes the development of all components of research abilities. It enables the development of students' research abilities in conjunction with the implementation of general educational objectives at a higher education institution.

5. The dynamics of the development of research abilities of students at a pedagogical university, resulting from the implementation of the created and implemented research-based learning system as an elective course, is characterized by an increase in the number of students with a high level of development and a decrease in the number of students with a lower level of development of the components under study.

Testing and implementation of results. The results presented in this work have been reflected in scientific articles and theses. The main ideas and findings have been discussed and approved in reports and presentations at international, all-Russian, interregional, and interuniversity scientific and practical conferences, republican and departmental scientific seminars, workshops, round tables, and readings: "Student Research Activities in the Modern Educational Environment"; "Education as an Institution of Social and Psychological Protection of Childhood"; "Eusebius Readings"; "Ogarev Readings"; "Psychological Service in Preschool Educational Institutions: Problems and Prospects"; "Current Psychological and Pedagogical Problems in Science and Practice"; "Modern School and Psychology: Prospects for Cooperation"; "Methodology of Humanitarian Knowledge".

References:

1. Выготский Л.С. Воображение и творчество в подростковом возрасте. М.: Просвещение, 2011. - 96 с.
2. Вяткин Б.А. Одаренность в интегральном исследовании индивидуальности человека // Психология интегральной индивидуальности: Пермская школа. – М.: Смысл, 2011. - С. 378-393.
3. Давлетшин М.Г. Психология технических способностей школьников. Ташкент: «Фан», 1971. - 176 с.
4. Дубовицкая Т.Д. Диагностика уровня профессиональной направленности студентов // Психологическая наука и образование. - 2004. - №2. - С. 82-86.
5. Ильин Е.П. Психология индивидуальных различий. - СПб.: Питер. - 2004. - 701 с.
6. Комарова А.В. Психолого-педагогическое сопровождение одарённых школьников. - Минск: Красико-Принт, 2008. - 176 с.
7. Лучинина А.О. Стимулирование развития одаренности подростков. // Эксперимент и инновации в школе. - 2009. - №6. - С. 94-100.
8. Моляко В.А. Техническая творческая одаренность // Одаренный ребенок. - 2002. - №4. - С. 27-32.