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**THE ROLE OF THEORETICAL AND METHODOLOGICAL TRAINING OF HIGHER EDUCATION INSTRUCTORS IN THE DEVELOPMENT OF RESEARCH SKILLS IN STUDENTS PURSUING THE SPECIALISATION “PRIMARY SCHOOL TEACHER”**

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**“İBTİDAI SINIF MÜƏLLİMİ” İXTİSASI ÜZRƏ TƏHSİL ALAN TƏLƏBƏLƏRDƏ TƏDQIQAT BACARIQLARININ İNKİŞAFINDA ALI TƏHSİL MÜƏLLİMLƏRİNİN NƏZƏRİ VƏ METODOLOJİ HAZIRLIĞININ ROLU**

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**РОЛЬ ТЕОРЕТИЧЕСКОЙ И МЕТОДИЧЕСКОЙ ПОДГОТОВКИ ПРЕПОДАВАТЕЛЕЙ ВЫСШИХ УЧЕБНЫХ ЗАВЕДЕНИЙ В РАЗВИТИИ ИССЛЕДОВАТЕЛЬСКИХ НАВЫКОВ У СТУДЕНТОВ, ОБУЧАЮЩИХСЯ ПО СПЕЦИАЛЬНОСТИ «УЧИТЕЛЬ НАЧАЛЬНЫХ КЛАССОВ»**

**Abstract.** The article demonstrates the importance of university instructors' theoretical and methodological preparation in the development of research skills among students majoring in “Primary School Teaching.” It demonstrates how the right structuring of independent work, as well as a system of stage-based assignments, promote scientific thinking and cognitive independence. It is emphasised that organizational-technical, reproductive, reproductive-research, and research-oriented tasks all contribute significantly to this process. Furthermore, the article emphasises the importance of students' personal and motivational readiness, justifies the need to develop research skills gradually beginning with the first year of study, and emphasises how the modern educational environment and information technologies in higher pedagogical institutions contribute significantly to this process.

**Keywords:** *future primary school teachers, research skills, teachers' theoretical training, teachers' methodological training, independent work*

**Xülasə.** Məqalədə "İbtidai sinif müəllimliyi" ixtisası üzrə təhsil alan tələbələr arasında tədqiqat bacarıqlarının inkişafında universitet müəllimlərinin nəzəri və metodoloji hazırlığının əhəmiyyəti nümayiş etdirilir. Müstəqil işin düzgün strukturlaşdırılmasının, eləcə də mərhələli tapşırıqlar sisteminin elmi düşüncəni və idrak müstəqilliyini necə inkişaf etdirdiyi nümayiş etdirilir. Təşkilati-texniki, reproduktiv, reproduktiv-tədqiqat və tədqiqatyönlü tapşırıqların hamısının bu prosesə əhəmiyyətli dərəcədə töhfə verdiyi vurğulanır. Bundan əlavə, məqalədə tələbələrin şəxsi və motivasiya hazırlığının vacibliyi vurğulanır, tədqiqat bacarıqlarının tədricən təhsilin birinci ilindən başlayaraq inkişaf etdirilməsinin zəruriliyi əsaslandırılır və ali pedaqoji müəssisələrdə müasir təhsil mühitinin və informasiya texnologiyalarının bu prosesə necə əhəmiyyətli dərəcədə töhfə verdiyi vurğulanır.

**Açar sözlər:** *ibtidai sinif müəllimi, tədqiqatçılıq bacarığı, müəllimlərin nəzəri hazırlığı, müəllimlərin metodik hazırlığı, müstəqil iş*

**Аннотация.** В статье обосновывается роль теоретической и методической подготовки преподавателя высшей школы в формировании исследовательских умений у студентов, обучающихся по специальности «Учитель начальных классов». Показано, что правильная организация самостоятельной

работы и система поэтапных заданий способствуют развитию научного мышления и познавательной самостоятельности. Подчеркивается, что организационно-технические, репродуктивные, репродуктивно-исследовательские и исследовательские задания служат эффективным средством данного процесса. Наряду с этим в статье раскрывается значение личностной и мотивационной готовности студентов, обосновывается необходимость поэтапного развития исследовательских умений начиная с первого курса, а также отмечается, что современная образовательная среда и информационные технологии в высших педагогических учебных заведениях способствуют активизации данного процесса.

**Ключевые слова:** *учитель начальных классов, исследовательские умения, теоретическая подготовка учителей, методическая подготовка учителей, самостоятельная работа*

Theoretical and methodological teacher training is critical for students' educational advancement and the development of pedagogical professional skills, including research abilities. Determining the purpose of the study, developing a hypothesis, working with various scientific sources, structuring the study, implementing it step by step, summarising and analysing the results all require students to have a strong research culture, which can only be instilled in them by their professors. During our observations, we discovered that the dynamics of the growth of students' research skills are influenced by the teacher's methodological control over this activity.

Excessive teacher care is free of autonomous work. The teacher's role in this process, as well as clarification, are required to independently control autonomous work. The teacher efficiently controls his unique responsibilities. At the start of autonomous labour, "the guiding principles of activity or action" [5, p.164] are established. Another significant aspect of organising students' autonomous work is the teacher's creation of exercises and tasks.

Russian and Azerbaijani scientists have various classifications for educational or pedagogical work. The division can be summarised as follows: 1) Organizational-technical; 2) reproductive; 3) reproductive-research; and 4) research.

When completing organizational-technical tasks, students become acquainted with the technologies, methods, and organisational elements of independent cognitive activity; when conducting reproductive tasks, they learn the ability to solve issues independently using a certain algorithm. When performing reproductive-research projects, students learn to build an action plan for solving specific educational difficulties on their own, to take the initiative to look out solutions based on their personal knowledge and

experience, and to gain new knowledge and skills using proven methodologies.

Students completing research-based activities develop their own answers, summarise the findings, and make the necessary changes. As a result, they conduct research with remarkable efficiency. Students can strengthen their research skills by conducting various forms of research and projects independently [8, p 79]. Research and tasks given for independent work should be logically connected, and each subsequent task should be solved utilising the knowledge and abilities gained from previous projects. The assignments designed should assist students in developing their cognitive activity and independence, as well as forming long-term knowledge and professional abilities. Professor Yusif Talibov is in charge of developing educational tasks and difficulties for Azerbaijani pedagogical science, as well as publishing them in book form. In 1971, he released the first edition of "Issues and Questions from Pedagogy" through the Azerbaijan State Pedagogical University's publishing house. Because pedagogy was a practical subject in pedagogical specialities at the time, this book remained a significant resource for many years. In future years, F. Mammadov [2; 3] and F. Rustamov [6] began compiling pedagogical duties.

1. Students' personal and motivational preparation for research tasks. When we talk about a student's personal and motivational preparedness to conduct research, we imply his comprehension of the importance of learning research skills, his psychological ready for the process, and active cognitive engagement in this area. Thus, students' personal and motivational preparation to engage in scientific and research activities includes the development of the motivation and personal traits essential to assist them complete scientific and research assignments. This could include improved interest

in the subject, self-confidence, self-control, and critical thinking abilities. The development of intrinsic motivation is a key aspect of research work. This can be accomplished by including students in educational and scientific projects while allowing them to work autonomously and experience the results of their efforts. Developing pupils' resilience, creativity, and self-expression skills is critical for improving their research abilities. These abilities assist students in overcoming the problems that arise during the research process. Working with scientific literature and original sources teaches students practical skills including hypothesis generation, method selection, and comparison.

2. The student's volume of independent work develops dramatically; he writes and defends course work in several topics (for example, pedagogy in the speciality of primary school teacher, mathematics teaching technology, and Azerbaijani language teaching technology). This process is done out during the third academic year or the first semester of the fourth academic year.4) In addition to doing educational research, students have the option to participate in scientific research during their instructional practice. During this time, students were also given the opportunity to finish their thesis in four weeks (9 credits), discuss it with the faculty, and submit it for defence. Since thesis work has been cancelled, this term is designed for students to write and submit a report on pedagogical practice.

Students who have developed strong research abilities during four years of independent work in and out of the classroom excel at this stage [10, p. 948]. As a result, students' personal and motivational preparation is a complex process that includes both internal and external aspects that contribute to their scientific success. As a result, students should engage in independent work beginning in the first academic year and develop teaching and research abilities. This cannot be done solely during the training process. Higher pedagogical educational institutions should establish an educational atmosphere and infrastructure that promotes the development of students' research skills [9, p. 36].

3. Establishment of an educational environment and infrastructure that promotes the development of research skills among students in higher pedagogical institutions. In the

broadest sense, the concept of environment is typically defined as "a set of these or other conditions and influences surrounding a person" [1]. The environment defines the space and conditions for human life. Researchers define the environment around them in a variety of ways.

The educational environment (subject-spatial environment) plays a significant role in the development of research skills in students' independent work because numerous features of that environment influence the formation of these skills. The subject-spatial environment describes not the quantity of rooms, furniture, electronic boards, or computers, but how they operate in the educational setting. A specifically designed subject-spatial environment that encourages students to develop research skills should include a modern laboratory base, modern scientific and periodical scientific literature, the most recent textbooks in the speciality, modern information technologies, software, and methodological support.

In recent years, the increased number of computer classes has had a considerable impact on the training of high-quality teaching staff. The rise of worldwide computer networks has resulted in a fundamentally different scenario in information management. Computers, telecommunications, and the Internet enable students to increase their cognitive activity, provide additional motivation for studying, and personalise teaching. Students' individual activity nowadays is organised around the building of a flexible framework that allows them to acquire knowledge.

Using Internet search engines necessitates a high level of knowledge and abilities in the areas of seeking, structuring, and storing information. For this reason, D.F. Wettman stated many years ago that "students should develop the ability to obtain information from various sources, process it, store it, and frequently update it using modern computer technologies" [7, p. 27].

Some topics for individual work can be researched using computer training tools. V.I. Zagvyazinsky, noticing the high level of lectures and seminars offered by teachers utilising computer technology, remarked that "the use of computer technology during colloquiums and exams eliminates subjectivity and also saves time" [4, p.121]. Both the teacher and the student learn the exam results quickly.

Students in such an educational atmosphere are highly motivated to master their future speciality, perform educational research, and increase their degree of cognitive activity and cognitive independence. The teacher, by skilfully managing students' independent work, pays constant attention to their research skill development, converts first-year students' interest in teaching and scientific research into a long-term professional interest, and assists them in developing research skills by developing internal motivation. Future primary school teachers study the subject "Technology of Research in Pedagogical Sciences" in conjunction with the subject "Pedagogy" in the second academic year, as well as the essence, purpose, tasks, and stages of pedagogical research (empirical, hypothetical, theoretical, prognostic), and become acquainted with fundamental, applied, and operational aspects. Students begin to engage in more creative work in the second academic year, as they become acquainted with the theoretical basis of scientific inquiry.

In such an educational environment, students in the third and fourth academic years can easily realise their potential, demonstrate practical skills, use various pedagogical technologies to teach elective subjects, conduct proper design and forecasting, and are fully prepared for an independent work process. The establishment of such an educational environment ensures that future primary school teachers receive adequate theoretical and methodological preparation, promotes their scientific and research activities, and as a result, research abilities are developed in them.

Let us accept that knowledge in pedagogical-psychological and specialised sectors is fast evolving year after year. It is currently extremely difficult to teach future teachers this subject in three years and six months (the second semester of the fourth academic year is dedicated to pedagogical practice). Educational institutions in Europe propose not only extending the term of higher pedagogical education, but also decreasing it to three years. The pedagogical community is confronted with a quandary: how much of the new content, which is continually developing, should be given to future teachers in a

meaningful manner without lengthening education?

Let us confess that, in modern times, the content of higher pedagogical education lags behind the needs of the information society. Students graduate from higher pedagogical educational institutions without a thorough understanding of the most recent advances in pedagogical and psychological science, as well as a complete mastery of their speciality material. Teaching future teachers to learn independently, select, and use the materials required for high-quality teaching is an important strategy to improve pedagogical effectiveness.

As a result, individual work serves as the foundation for future primary school teachers' training programs. There are several techniques to developing research skills.

There are two strategies to engage students in scientific research:

1) scientific research conducted through lectures, seminars, and pedagogical practice;

2) Scientific work outside of the classroom.

In the first example, the student's scientific research effort is viewed as an important component of the teaching process. This form of scientific inquiry is known as student educational research activity. This covers individual study, abstracts, coursework, graduation projects, and so on.

The second method for engaging future teachers in scientific research at higher pedagogical schools is to organise extracurricular scientific research. In scientific and educational literature, this type of scientific innovation is known as student scientific research work.

Student scientific research at the Azerbaijan State Pedagogical University's Faculty of Primary Education is governed by the Student Scientific Society Regulations, which are a public legal entity.

The conference program has been published and circulated. The dean of the faculty, department heads, chairman of the Scientific and Technical Committee, scientific supervisors, and students all attend the meeting, which lasts about 1-2 days. Such conferences are held in the Faculty of Primary Education in May and April. The scientific and research works of the conference winners are selected and delivered to the head of the University

Scientific and Technical Committee. Conferences dedicated to student-scientific research at the university are usually held on the eve of the Great Leader Heydar Aliyev's birthday, which is in early May. Students who perform well at the university conference receive a one-month scholarship and honours certificates. Although the republic hosts an annual conference for young doctorate students and researchers, no student conferences are organised. However, from 1973 to 1988, the Ministry of Education, the Ministry of Higher and Secondary Specialised Education, and the republican LKGI organised republican conferences of students, and the winners were granted diplomas of I-II-III degrees as well as the medal "For the best scientific work". These certificates and medals were considered when enrolling in postgraduate programs and assigning students (particularly those going to scientific research centers). This provided an excellent incentive for students to participate in scientific study. Students' achievements in public and scientific research activities throughout their student years (diplomas, honorary orders, etc.) are not considered while enrolling in the same speciality, whether for master's or doctorate studies. Despite this, due to the passion of university teachers, a portion of future teachers participate in scientific research. When students participate in scientific research, they must adhere to certain principles. Thus, the participation of all pupils should be prioritised. Scientific research should not only help to consistently involve particularly gifted and capable students in scientific research, but should also assist all students in participating in the creative process in some way.

As a result, prospective primary school teachers must have a comprehensive set of professional competences, with scientific-research skills ranking high alongside strong topic knowledge. Future primary school teachers must be able to conduct pedagogical research to investigate the pedagogical-psychological and physiological characteristics of young schoolchildren, assess the efficacy of teaching

methods and pedagogical technologies, and take an innovative approach to teaching and upbringing. The Student Scientific Society (SSC) is regarded as one of the most successful methods for building research abilities in future primary school teachers. SSC is a student-led organization that promotes scientific research and professional growth. SSC's activities include.

Participation allows future primary school teachers to not only learn the essential research skills, but also put them to the test in real-world teaching situations and present the findings of their study at various levels of conferences (faculty, institute, and republic). In addition to scientific conferences, TEC students excel at contests and olympiads, as well as publishing articles in scientific collections and journals.

### **Conclusion**

Finally, kids' individual work and creative activities assist future primary school teachers in developing a variety of talents, including academic, social-emotional, and cognitive skills. At the same time, it encourages the development of critical thinking and analytical skills in future primary school teachers, as well as the ability to learn independently, hypothesise, diagnose, anticipate, carry out project work, communicate, and present scientific discoveries. These skills are essential for future professional teaching professions.

**Scientific novelty.** The article presents a systematic approach to developing the research skills of future primary school teachers based on the interaction of independent work, motivational preparation, and the educational environment.

**Relevance.** In the context of the information society and the rapid development of pedagogical knowledge, the development of research skills among future teachers has become one of the most important and relevant issues of higher pedagogical education.

**Practical significance.** The approaches proposed in the article can be practically applied in higher pedagogical institutions for organizing students' independent and scientific research activities and for developing the professional competencies of future teachers.

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