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VIEWS OF UZBEK SCHOLARS ON DEVELOPING RESEARCH SKILLS IN PRE-SERVICE TEACHERS

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Abstract: The present study analyzes the scientific views of Uzbek pedagogical scholars regarding the development of research skills among pre-service teachers. The research examines the works of N.A. Muslimov, B.X. Khodjayev, R.H. Djurayev, Sh.S. Sharipov, S. Nishonova, R. Mavlonova, and other prominent scholars whose contributions have significantly influenced the modernization of teacher education in Uzbekistan. The study explores the pedagogical essence, structural components, and professional significance of research skills in teacher preparation. Furthermore, similarities between national pedagogical approaches and international educational theories are identified. Based on the analysis, a three-stage model for developing research competence among future teachers is proposed. The findings indicate that research skills constitute an essential component of professional competence and serve as a foundation for reflective practice, innovative activity, and continuous professional development. The results may contribute to the improvement of research-oriented teacher education programs in higher pedagogical institutions.

Keywords: research skills, pre-service teacher, professional competence, research activity, teacher education, reflection, innovation, research competence.

1. Introduction

The demands placed on teachers in the twenty-first century have undergone substantial transformation. Contemporary educators are expected not only to transmit knowledge but also to analyze educational processes, identify pedagogical problems, generate innovative solutions, and continuously improve their professional practice through research-based inquiry. Consequently, the development of research skills among pre-service teachers has become one of the strategic priorities of modern teacher education.

In Uzbekistan, large-scale reforms aimed at modernizing the education system, enhancing teachers' professional capacities, and strengthening research activities have further increased the relevance of this issue. The national strategy for educational development emphasizes the preparation of highly qualified specialists capable of conducting independent research and implementing innovative pedagogical approaches in educational practice (Mirziyoyev, 2022).

Within this context, examining the scientific perspectives of Uzbek scholars concerning the formation of research skills among future teachers possesses both theoretical and practical significance. Understanding these perspectives provides valuable insights into the evolution of national pedagogical thought and its contribution to contemporary teacher education.

2. Literature Review

Since the independence of Uzbekistan, considerable attention has been devoted to the modernization of teacher education and the enhancement of professional competencies among

future educators. Numerous studies have focused on improving scientific literacy, independent learning, professional competence, and research-based educational practices.

Particularly significant contributions have been made by N.A. Muslimov, B.X. Khodjayev, R.H. Djurayev, Sh.S. Sharipov, O.A. Quysinov, Q.T. Olimov, M. Ochilov, U. Nishonaliyev, S. Nishonova, and R. Mavlonova. Their studies address issues related to professional teacher preparation, independent learning, innovative pedagogical technologies, and scientific research activities.

Research skills are generally defined as an integrated set of abilities enabling individuals to identify scientific problems, formulate research objectives, develop hypotheses, collect and analyze data, interpret findings, and draw evidence-based conclusions (Usmonova, 2024). These competencies allow teachers to address complex educational challenges through systematic inquiry and critical analysis.

Contemporary educational theory increasingly considers research competence as a core component of pedagogical professionalism. Consequently, teacher education institutions are expected to provide opportunities for students to engage actively in research-oriented learning environments (Maxmudov, 2026).

3. Research Methodology

The study employed a qualitative research design based on theoretical analysis of pedagogical literature.

The following methods were utilized:

- analysis of scientific and pedagogical literature;
- comparative analysis;
- systematization of theoretical concepts;
- generalization of scientific findings;
- interpretation of pedagogical theories and approaches.

Primary sources included monographs, textbooks, and scholarly publications produced by leading Uzbek pedagogical researchers, as well as internationally recognized studies on teacher research competence.

4. Results and Discussion

4.1. Research Skills as a Component of Professional Competence

Pedagogical literature characterizes research skills as a complex system of abilities related to problem identification, goal setting, hypothesis development, data collection, analysis, interpretation, and practical implementation of findings. Such skills enable teachers to solve educational problems using scientific approaches and evidence-based decision-making.

Consequently, research competence has become an indispensable component of contemporary teacher professionalism.

4.2. N.A. Muslimov's Perspective

N.A. Muslimov considers professional competence a central concept in modern teacher education. According to his theoretical framework, research competence occupies a special place within the overall structure of pedagogical professionalism.

Muslimov associates research activity with the following qualities:

- scientific thinking;
- analytical reasoning;
- innovative activity;
- professional self-development.

He argues that systematic involvement of students in scientific inquiry contributes to the formation of independent thinking and a scientific worldview. Importantly, research competence extends beyond writing academic papers; it also includes the ability to identify educational

problems and develop scientifically grounded solutions during pedagogical practice (Muslimov, 2007).

4.3. B.X. Khodjayev's Perspective

Khodjayev emphasizes the importance of reflective and research-oriented activities in teachers' professional development. In his view, modern educators should be capable of:

- observing pedagogical situations;
- analyzing educational processes;
- comparing alternative approaches;
- generalizing findings;
- drawing scientific conclusions.

Khodjayev regards pedagogical practice as a continuous process of inquiry. Since every classroom and educational context possesses unique characteristics, teachers must rely on scientific analysis rather than standardized instructional patterns (Khodjayev, 2017).

4.4. R.H. Djurayev's Perspective

Djurayev highlights the role of scientific and creative activity in higher education. According to his approach, participation in research contributes to:

- intellectual development;
- independent thinking;
- creativity enhancement;
- professional adaptability.

He considers research activity an essential indicator of educational quality and an important factor in preparing competitive specialists capable of responding effectively to changing professional demands (Djurayev, 2013).

4.5. Sh.S. Sharipov's Perspective

Sharipov extensively investigated the potential of innovative pedagogical technologies in teacher education. He identifies several instructional approaches that effectively foster research skills:

- problem-based learning;
- project-based learning;
- case-study methods;
- research assignments;
- creative projects.

These methods transform students from passive recipients of knowledge into active creators of new knowledge. According to Sharipov, innovative educational technologies play a crucial role in cultivating inquiry-based learning environments (Sharipov, 2012).

4.6. Perspectives of S. Nishonova and R. Mavlonova

Nishonova and Mavlonova emphasize the importance of independent learning and active cognitive engagement. Their research suggests that students should not merely receive ready-made knowledge but should actively search for, analyze, and construct knowledge independently.

This approach corresponds closely with contemporary research-based learning theories and supports the development of lifelong learning competencies essential for modern educators (Nishonova, 2003; Mavlonova & Rahmonqulova, 2013).

4.7. Structural Components of Research Skills

Based on the analysis of Uzbek pedagogical scholarship, research skills can be categorized into five interconnected components.

Component	Description	Expected Outcome
Motivational	Interest in scientific inquiry	Research engagement

Cognitive	Methodological and theoretical knowledge	Research literacy
Operational	Application of research methods	Problem-solving ability
Communicative	Scientific communication skills	Effective dissemination of findings
Reflective	Self-evaluation and self-analysis	Professional growth

The findings indicate that research competence possesses an integrative structure in which all components interact and mutually reinforce one another.

5. Discussion

The analysis demonstrates a strong correspondence between the views of Uzbek scholars and internationally recognized educational theories.

John Dewey (1938) emphasized learning through inquiry and reflective experience. Donald Schön (1983) developed the concept of the reflective practitioner, arguing that professionals continuously learn through reflection on action. Ernest Boyer (1990) highlighted the importance of scholarship and research engagement in professional practice.

Similarly, Uzbek scholars advocate research-oriented teacher preparation. Muslimov emphasizes competence development, Khodjayev highlights reflective practice, Sharipov focuses on innovation, and Djurayev stresses scientific creativity. Together, these perspectives support the concept of the teacher as a researcher capable of generating new pedagogical knowledge.

Based on the synthesis of national and international approaches, a three-stage model for developing research competence among pre-service teachers is proposed:

Stage 1. Motivational Preparation

- Developing interest in research;
- Identifying educational problems;
- Forming research motivation.

Stage 2. Research Training

- Acquiring methodological knowledge;
- Mastering research methods;
- Designing research projects.

Stage 3. Independent Research Activity

- Conducting empirical studies;
- Analyzing research findings;
- Preparing articles and conference papers;
- Implementing research outcomes in educational practice.

6. Conclusion

The study demonstrates that the development of research skills among pre-service teachers has become an independent and increasingly significant area of pedagogical research in Uzbekistan. The scientific ideas proposed by N.A. Muslimov, B.X. Khodjayev, R.H. Djurayev, Sh.S. Sharipov, S. Nishonova, and R. Mavlonova collectively emphasize the crucial role of research activity in enhancing teachers' professional competence.

Research skills contribute substantially to professional adaptability, innovative activity, reflective thinking, and continuous professional development. Therefore, higher pedagogical education institutions should expand the implementation of research-oriented educational technologies, increase student participation in scientific projects and grant programs, and strengthen methodological training related to research activities.

Future studies may focus on empirical validation of the proposed three-stage model and the development of assessment tools for measuring research competence among pre-service teachers.

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