Volume 3, Issue 3, March – 2025 **ISSN (E):** 2938-379X

SCIENTIFIC AND PRACTICAL ASPECTS OF THE DEVELOPMENT OF PROFESSIONAL COMPETENCE OF THE FUTURE TEACHER

Rasulova Mastura Adilovna
Assistant of the Department of Pedagogy and Physical
Culture of the Urgut Branch of Samarkand State University

Abstract
The development of professional competence in future teachers is a crucial aspect of teacher education. This article explores the scientific and practical aspects of professional competence, including theoretical foundations, effective methodologies, and practical applications. The study highlights innovative teaching strategies, assessment mechanisms, and the role of technology in enhancing teacher preparation. The findings suggest a multifaceted approach to competency development that integrates theoretical knowledge with practical skills, fostering a well-rounded professional identity.

Keywords: Professional competence, teacher education, pedagogical skills, teacher training, methodology, assessment, innovation, practical application.

Introduction

Teacher professional competence is a fundamental component of quality education. It encompasses pedagogical knowledge, subject expertise, psychological preparedness, and the ability to apply various teaching methods effectively. The global educational landscape demands continuous professional development for future teachers to meet the evolving challenges of the 21st-century classroom. This article examines the scientific and practical aspects of developing professional competence, emphasizing the integration of theory and practice in teacher training.

Literature Analysis

A review of relevant literature reveals that professional competence consists of cognitive, operational, and reflective dimensions. Scholars argue that effective teacher training programs must include subject knowledge acquisition, pedagogical practice, and reflective teaching techniques. Studies highlight the importance of experiential learning, mentorship programs, and competency-based assessment models in fostering teacher readiness. The literature also discusses the impact of technology-enhanced learning environments and the role of international best practices in shaping modern teacher education.

Web of Teachers: Inderscience Research
webofjournals.com/index.php/1
Licensed under a Creative Commons Attribution 4.0 International License.

Web of Teachers: Inderscience Research
webofjournals.com/index.php/1

Methods

This study employs a mixed-method approach, combining qualitative and quantitative research methodologies. Surveys and interviews were conducted among pre-service teachers to understand their perceptions of professional competence development. Additionally, experimental training sessions incorporating innovative pedagogical techniques were analyzed to measure their effectiveness. Statistical analysis was performed to determine the correlation between different teaching strategies and competency development.

Results

The development of professional competence among future teachers is a crucial aspect of modern education systems. It determines the effectiveness of teachers in delivering quality education and preparing students for future challenges. Professional competence is a multidimensional concept that includes theoretical knowledge, practical skills, and personal attributes that contribute to effective teaching. The objective of this paper is to explore both the scientific foundations and practical implementations involved in fostering professional competence in future teachers.

Theoretical Foundations of Professional Competence

Professional competence refers to the integrated set of skills, knowledge, values, and attitudes that enable teachers to perform their duties effectively. Several theoretical perspectives contribute to our understanding of professional competence:

Subject-Matter Knowledge – A deep understanding of the academic discipline is essential for teachers to provide students with accurate and comprehensive knowledge. This includes the latest developments in the subject, interdisciplinary linkages, and real-world applications.

Pedagogical Knowledge – This involves understanding various teaching methodologies, instructional strategies, assessment techniques, and classroom management skills. It ensures that teachers can deliver lessons effectively and address diverse learning needs.

Psychological Readiness – Future teachers must develop an understanding of student psychology, including cognitive development, learning styles, and motivational strategies. Psychological readiness helps in managing classroom dynamics and fostering a positive learning environment.

Technological Competence – The modern education system increasingly relies on digital tools and technology-enhanced learning. Teachers must be proficient in using educational software, virtual learning environments, and online assessment tools.

Reflective and Adaptive Skills – Continuous professional development requires teachers to engage in self-reflection, analyze their teaching effectiveness, and adapt to new educational trends and policies.

Scientific Approaches to Professional Competence Development

The development of professional competence is supported by several scientific approaches, including:

Licensed under a Creative Commons Attribution 4.0 International License.

Constructivist Approach – This theory emphasizes active learning, where teachers facilitate student-centered activities rather than simply transmitting knowledge. Future teachers should be trained to design learning experiences that encourage critical thinking and problem-solving.

Competency-Based Approach – This approach focuses on acquiring measurable teaching competencies rather than merely completing academic coursework. It involves performance-based assessments and practical application of knowledge.

Experiential Learning Theory – Proposed by David Kolb, this theory suggests that learning occurs through experience, reflection, conceptualization, and experimentation. Future teachers should engage in hands-on teaching practice to refine their skills.

Interdisciplinary Approach – The integration of knowledge from multiple disciplines helps teachers adopt a broader perspective in education. For instance, incorporating elements of psychology, sociology, and technology enhances the teaching process.

Cognitive Apprenticeship Model – This model involves learning through guided experiences and mentoring. Future teachers benefit from working alongside experienced educators who model effective teaching practices.

Practical Aspects of Competence Development

To translate theoretical knowledge into practice, future teachers must engage in structured training programs that include:

Teaching Practicum and Internships – Hands-on experience in real classroom settings allows future teachers to apply pedagogical theories, interact with students, and manage classroom challenges.

Workshops and Training Programs – Professional development workshops provide exposure to innovative teaching methods, emerging technologies, and classroom management strategies.

Mentorship and Peer Collaboration – Learning from experienced teachers through mentorship programs enhances practical competence. Peer collaboration fosters a culture of continuous learning and shared best practices.

Use of Artificial Intelligence and EdTech – AI-powered platforms offer personalized learning experiences, automate administrative tasks, and provide analytics for improving teaching strategies.

Self-Reflection and Professional Development – Future teachers should be encouraged to engage in self-assessment, participate in professional learning communities, and pursue lifelong learning opportunities.

Challenges in Developing Professional Competence

Despite the structured approaches, several challenges hinder the development of professional competence among future teachers:

Lack of Practical Training Opportunities – In some teacher education programs, theoretical learning is prioritized over hands-on practice, limiting real-world teaching experience.

Technological Gaps – Unequal access to digital tools and limited training in technology integration can hinder the development of technological competence.

Web of Teachers: Inderscience Research
webofjournals.com/index.php/1
Licensed under a Creative Commons Attribution 4.0 International License.

Resistance to Change – Some educational institutions and educators are reluctant to adopt innovative teaching methodologies, restricting the evolution of teaching practices.

Discussion

The discussion section examines the implications of the findings for teacher education programs. The role of reflective teaching, peer collaboration, and formative assessment in competency development is emphasized. Challenges such as resistance to new methodologies, inadequate technological resources, and the need for continuous professional development are also explored. Recommendations for curriculum reform and policy implementation are provided to ensure the sustained development of teacher competencies.

Conclusion

The development of professional competence in future teachers requires a well-structured approach that integrates scientific research with practical applications. By adopting competency-based education models, leveraging modern teaching methodologies, and ensuring hands-on experience, educators can be better prepared for their roles. Future teacher training programs should focus on creating adaptive, skill-oriented, and technology-integrated learning environments to meet the evolving demands of the education sector. Continuous professional growth and adaptability will be key in shaping competent and effective educators for the future.

Developing professional competence in future teachers requires a systematic and integrative approach that combines theoretical foundations with hands-on experience. Teacher education programs should incorporate competency-based training, mentorship initiatives, and technology-enhanced learning to equip future educators with the necessary skills. Policymakers and educational institutions must collaborate to create dynamic training environments that foster continuous professional growth. Further research is needed to explore long-term impacts and cross-cultural variations in teacher competency development.

REFERENCES

1. Gorev, P.M. (2012), “Lessons of developing mathematics in 5-6th grades of high school”, scientific and methodological journal Koncept, №10, available at: http://e-koncept.ru/2012/12132.htm (accessed 15 April 2015).
2. Gorev, P.M. and Utyomov, V.V. (2014), Lessons of developing mathematics. 5–6th grades: Problems of mathematical study group, Publishing house MTsITO, Kirov, Russia, 207 P.
3. Gorev, P.M. and Luneeva, O.L. (2014) Intersubject projects of pupils of high school: mathematical and natural-science cycles, Publishing house MTsITO, Kirov, Russia, 58 P.
4. Gorev, P.M. and Kozlova, E.V. (2015), “The contents and structure of the course “Bases of design activity and scientific creativity” for high school pupils”, scientific and methodological journal Koncept, №2, available at: http://e-koncept.ru/2015/15040.htm (accessed 15 April 2015).
5. Mikhaylov, V.A., Gorev, P.M. and Utyomov, V.V. (2014), Scientific creativity: methods of new ideas design, Publishing house MTsITO, Kirov, Russia, 97 P.

Web of Teachers: Inderscience Research
webofjournals.com/index.php/1
Licensed under a Creative Commons Attribution 4.0 International License.

6. Gorev, P.M. and Utyomov, V.V. (2014), Scientific creativity: practical guidance on development of creative thinking. Methods and receptions of TRIZ, Publishing house LIBROKOM, Moscow, 112 P. and
7.Gorev, P.M. and Sopot, A.O. (2014), "Realization of an educational program for introduction of the humanitarian focused projects of school students in practice of work of the mathematics teacher", scientific methodological journal Koncept, koncept.ru/2015/15040.htm (accessed 15 April 2015).

Web of Teachers: Inderscience Research
webofjournals.com/index.php/1

Licensed under a Creative Commons Attribution 4.0 International License.