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FORMATION OF COMPETENCES OF THE FUTURE TEACHER IN THE INFORMATION AND EDUCATIONAL PROCESS

FORMACIÓN DE COMPETENCIAS DEL FUTURO DOCENTE EN LA INFORMACIÓN Y PROCESO EDUCATIVO

Sevinj Tahmaz Hajiyeva¹*

E-mail: h.sevinj_88@yahoo.com

ORCID: <https://orcid.org/0000-0002-6656-9983>

¹Azerbaijan State Pedagogy University

*Corresponding autor

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ABSTRACT

This article explores the formation of pedagogical competencies among future teachers in the information and education process, with a particular focus on Azerbaijan. The article discusses the essential competencies of modern teachers, including pedagogical knowledge, technological competence, adaptability, effective communication, ethical conduct, collaboration skills, and continuous learning. Within the context of the Azerbaijani education system, the importance of pedagogical competence in improving the quality of education and improving the effectiveness of teaching is highlighted. The study also underscores the critical role of critical thinking skills, cultural competence, and classroom management in promoting student engagement, inclusive education, and effective learning environments. The findings emphasize the need for continuing professional development opportunities, support systems, and collaboration among educational stakeholders to foster the formation of pedagogical competency. In this regard, the integration of technology, innovative pedagogical practices, and the provision of the necessary resources and training are crucial to empowering teachers to adapt to the evolving educational landscape.

Keywords:

Pedagogical competence, future teachers, Azerbaijan, education system, pedagogical knowledge, effective communication

RESUMEN

Este artículo explora la formación de competencias pedagógicas entre los futuros docentes en el proceso de información y educación, con un enfoque particular en Azerbaiyán. El artículo analiza las competencias esenciales de los docentes modernos, incluidos el conocimiento pedagógico, la competencia tecnológica, la adaptabilidad, la comunicación efectiva, la conducta ética, las habilidades de colaboración y el aprendizaje continuo. En el contexto del sistema educativo de Azerbaiyán, se destaca la importancia de la competencia pedagógica para mejorar la calidad de la educación y mejorar la eficacia de la enseñanza. El estudio también subraya el papel fundamental de las habilidades de pensamiento crítico, la competencia cultural y la gestión del aula para promover la participación de los estudiantes, la educación inclusiva y los entornos de aprendizaje efectivos. Los hallazgos enfatizan la necesidad de oportunidades de desarrollo profesional continuo, sistemas de apoyo y colaboración entre las partes interesadas educativas para fomentar la formación de competencias pedagógicas. En este sentido, la integración de la tecnología, las prácticas pedagógicas innovadoras y la provisión de los recursos y la capacitación necesarios son cruciales para empoderar a los docentes para que se adapten al panorama educativo en evolución.

Palabras clave:

Competencia pedagógica, futuros maestros, Azerbaiyán, sistema educativo, conocimiento pedagógico, comunicación efectiva

INTRODUCTION

The formation of pedagogical competence plays an undeniable role in preparing future teachers to effectively navigate the complexities of the information and educational process. As education continues to evolve in response to technological advancements and changing societal needs, it becomes crucial to equip aspiring educators with the necessary knowledge, skills, and attitudes to excel in their profession (Darling-Hammond, 2017).

Pedagogical competence encompasses the integration of theoretical knowledge, practical skills, and a reflective mindset that empowers teachers to facilitate effective teaching and learning experiences (Shulman, 1987). Teachers who possess pedagogical competence are not just experts in their subject matter; they also possess the ability to engage and inspire learners, adapt to diverse learning needs, employ effective instructional strategies, and create supportive learning environments (Koehler & Mishra, 2009). In today's rapidly evolving digital age, where information is easily accessible and learning opportunities are no longer confined to the traditional classroom setting, the role of pedagogical competence becomes even more critical.

Technological advancements have reshaped the educational landscape, demanding that teachers develop digital competencies alongside their pedagogical expertise. The integration of information and communication technologies (ICTs) into the educational process has transformed the way teachers teach and students learn. Consequently, the formation of pedagogical competence must also address the digital skills and competencies required for effective technology integration in the classroom. This includes digital literacy, information literacy, media literacy, and the ability to critically evaluate and ethically use digital resources (Fraillon et al., 2019). Teachers need to understand how to leverage technology to enhance learning experiences, foster collaboration, and promote innovative approaches to education.

To grasp the essence of pedagogical competence formation, it is necessary to understand the underlying components that contribute to its development. Research suggests that pedagogical competence encompasses several key aspects, including subject matter knowledge, pedagogical content knowledge, instructional strategies, classroom management, assessment practices, and the ability to adapt teaching methods to meet diverse student needs (Darling-Hammond, 2017; Shulman, 1987). These components are interrelated and synergistic, forming a comprehensive framework that underpins effective teaching practices.

Subject matter knowledge refers to a deep understanding of the content that teachers are responsible for teaching. Pedagogical content knowledge goes beyond subject matter expertise and involves knowing how to effectively teach specific concepts and make them accessible to students (Loewenberg Ball et al., 2008). Teachers with pedagogical content knowledge can bridge the gap between abstract concepts and students' prior knowledge, using instructional strategies and resources that cater to diverse learning styles (Julie, 2015). Furthermore, effective classroom management skills enable teachers to create an environment conducive to learning, where students feel safe, engaged, and motivated to participate actively (Emmer & Evertson, 2016).

Assessment practices play a vital role in pedagogical competence as they inform teachers about students' progress, strengths, and areas that require further support (Pellegrino et al., 2001). Competent teachers can design various formative and summative assessments to gather evidence of learning and adjust their instructional approaches accordingly. Additionally, teachers should possess the ability to differentiate instruction, addressing the diverse needs, abilities, and backgrounds of their students (Tomlinson et al., 2003). By adapting teaching methods and employing appropriate instructional strategies, teachers can ensure that all students have equitable access to high-quality education.

Pedagogical competence is not solely acquired through theoretical knowledge but also through practical experiences. Numerous studies have emphasized the importance of pedagogical competence development during the pre-service teacher education phase. Teacher training programs and courses must be designed to provide aspiring educators with opportunities to acquire not only theoretical knowledge but also practical teaching skills through field experiences, internships, and supervised teaching practice (Cochran-Smith & Zeichner, 2009; Hammerness et al., 2007). These experiences allow future teachers to apply pedagogical theories in authentic classroom settings, receive constructive feedback, and reflect on their teaching practices to enhance their pedagogical competence.

The formation of pedagogical competence is an ongoing process that extends beyond initial teacher education. Professional development programs, conferences, workshops, and collaboration with experienced colleagues all contribute to the continuous growth and enhancement of pedagogical competence throughout a teacher's career (Darling-Hammond, 2017; Guskey & Yoon, 2009). Engaging in reflective practices, exploring new teaching methodologies, and staying abreast of current research

and best practices are essential for teachers to remain effective and relevant in an ever-changing educational landscape.

The formation of the pedagogical competence of future teachers in the information and educational process is a multifaceted and dynamic undertaking. It requires a comprehensive understanding of various components, including subject matter knowledge, pedagogical content knowledge, instructional strategies, classroom management, assessment practices, and digital competencies. Through pre-service teacher education and ongoing professional development, aspiring educators can acquire and enhance their pedagogical competence, preparing them to navigate the complexities of the modern educational landscape and meet the diverse needs of their students.

Considering the above, this study employs a descriptive analysis approach to examine the formation of the pedagogical competence of future teachers in the information and educational process in Azerbaijan. The descriptive analysis involves the systematic collection and analysis of existing data and literature to gain insights into the research topic. The primary method of data collection for this study was a comprehensive review of existing literature from reputable sources, including academic journals, books, reports, and educational databases. The literature review was focus on studies, theories, and frameworks related to the formation of pedagogical competence in the context of teacher education and the use of information and communication technologies (ICT) in education. By synthesizing and analyzing the findings from various sources, this study aims to provide an overview of the key factors, models, and strategies that contribute to the development of pedagogical competence.

To ensure the validity and reliability of the study, a systematic and rigorous approach was followed during the literature review. Relevant keywords and search terms were used to identify the most pertinent and up-to-date literature in the field. The inclusion and exclusion criteria were established to ensure the selection of high-quality and relevant sources.

METHODOLOGY

The education system of Azerbaijan plays a crucial role in shaping the formation of pedagogical competence among future teachers in the information and educational process. To understand the dynamics of pedagogical competence development in Azerbaijan, this section presents the results of the study and discusses their implications within the specific context of Azerbaijan's education

system. The study findings reveal that pedagogical competence development in Azerbaijan is influenced by several key factors, including teacher education programs, curriculum frameworks, and the integration of information and communication technologies (ICT) in education. These factors interact to shape the pedagogical knowledge, skills, and dispositions of future teachers, preparing them for the challenges and opportunities of modern educational practices.

Azerbaijan has made significant efforts to enhance the quality of teacher education programs. The results of this study indicate that the pre-service teacher education programs in Azerbaijan provide a solid foundation for developing pedagogical competence. These programs incorporate a balanced blend of theoretical knowledge and practical experiences, enabling future teachers to acquire pedagogical theories and apply them in real classroom settings. Exposure to diverse teaching methods and instructional strategies equips future teachers with the necessary skills to address the diverse needs of students and engage them in effective learning experiences.

The curriculum frameworks in Azerbaijan emphasize the integration of ICT in education, aligning with global trends and recognizing the transformative potential of technology in teaching and learning. The study findings demonstrate that the integration of ICT not only enhances students' digital competencies but also influences the formation of pedagogical competence among future teachers. The use of digital tools and resources in teacher education programs enables pre-service teachers to develop their technological pedagogical knowledge and skills, fostering their ability to create engaging and interactive learning environments.

While the efforts to promote pedagogical competence development in Azerbaijan are commendable, certain challenges and areas for improvement exist. It was found that there is a need to further strengthen the practical experiences provided to pre-service teachers. Although teacher education programs offer opportunities for field experiences and teaching practice, additional support and mentoring could enhance the effectiveness of these experiences. Collaborative partnerships with experienced teachers and educational institutions can facilitate a more comprehensive development of pedagogical competence by providing pre-service teachers with guidance, feedback, and opportunities for reflection.

It is important a continuous professional development for practicing teachers in Azerbaijan. While pre-service education lays the foundation for pedagogical competence, ongoing professional development is essential to keep up

with evolving educational practices and technological advancements. Providing teachers with access to relevant and high-quality professional development programs, workshops, and collaborative networks will contribute to the continuous growth and enhancement of their pedagogical competence.

In 2009, the implementation of the Law of the Republic of Azerbaijan “On Education” took effect. The law outlines the fundamental principles of state policy in ensuring citizens’ right to education, as established in the Constitution of the Republic of Azerbaijan and sets general regulations for educational activities. Additionally, the Ministry of Education of the Republic of Azerbaijan approved the “Rules of Ethical Behavior for Teachers” on May 16, 2014. These “Rules” establish a framework of norms governing the conduct of educators and their interactions with participants in the educational process. Adherence to ethical rules is of utmost importance for every teacher.

In addition to ethical considerations, a teacher’s professional competence encompasses their pedagogical activity, effective communication, and relationships with students, colleagues, and parents. These aspects, in turn, have a positive impact on the overall quality and effectiveness of education. Enhancing pedagogical competence entails developing individual pedagogical creativity, self-improvement, adopting pedagogical innovations, refining professional skills, adhering to professional wisdom, employing effective communication strategies, fostering positive relationships with fellow educators, and adapting to the dynamic, evolving, and increasingly complex educational landscape. The elevation of a teacher’s professional level is directly influenced by the socio-economic and moral development of society.

After analyzing academic literature, it was identified five types of activities that distinguish a competent teacher:

1. **Professional competence:** A competent teacher possesses in-depth knowledge of their subject area and the ability to apply it effectively in practical settings.
2. **Reflexive competence:** Reflective competence is a vital condition for raising teachers’ professionalism. It serves as an indicator of their professional quality, facilitating creative work, competent activity, efficiency, and productivity. Reflection, derived from the Latin word “*reflexio*” meaning “to look back” or “to reflect,” involves perceiving, evaluating, and appraising the outcomes of one’s work. Reflection is a self-directed cognitive process encompassing the analysis of work, self-observation, exploration of mental and inner states, and a research-oriented endeavor based on personal existence. Reflection serves functions such as designing, organizing, communicating, creating, and correcting.
3. **Social professional competence:** This pertains to a teacher’s solidarity with their colleagues, “pedagogical cooperation” with students, effective communication, appropriate relationships, conflict resolution skills, and possessing respect and authority among peers, as well as pedagogical culture and knowledge.
4. **Personal professional competence:** It refers to a teacher’s ability to express themselves, develop personally, and strive for continuous improvement. Personal professional competence includes skills in planning, organizing, and making independent decisions.
5. **Individual professional competence:** This encompasses a teacher’s capability for self-management and self-control.

Competence should be continually nurtured throughout one’s lifetime, with professional honor upheld and the teaching profession held in high regard. Active administration is one of the essential qualities of a competent teacher. Their involvement extends beyond the classroom, as they actively contribute to school and community management. A teacher’s active administration serves as an indicator of their professional mastery and competence. In this sense, Table 1 shows key competencies for a modern teacher in Azerbaijan.

Table 1: Key Competencies of a Modern Teacher in Azerbaijan

Competency	Description
Pedagogical Knowledge	Possess in-depth knowledge of subject matter and pedagogical theories.
Technological Proficiency	Demonstrate competence in utilizing information and communication technologies (ICT) in teaching.
Adaptability	Adapt teaching methods and approaches to cater to diverse student needs and changing educational environments.
Effective Communication	Communicate clearly and effectively with students, colleagues, and parents.
Ethical Conduct	Uphold ethical standards and adhere to professional codes of conduct.
Collaborative Skills	Collaborate effectively with fellow teachers, administrators, and stakeholders in the educational community.
Continuous Learning	Engage in ongoing professional development to stay updated with new teaching methodologies and research.

Source: owner elaboration

A competent teacher is not solely focused on delivering subject matter effectively but also excels as a class and team manager. They organize the classroom diligently, appropriately assign tasks based on individual student abilities, demonstrate organizational skills, and act as an exemplary model.

The formation of a teacher's professional competence involves the following stages:

1. Regularly analyzing their own activities, monitoring behavior and actions, and distinguishing between successful and unsuccessful factors.
2. Planning personal development and self-improvement, setting goals, determining tasks, and devising solutions.
3. Developing self-control, self-analysis, and self-correction skills.
4. Engaging in self-directed work, fostering creative activity, and honing research skills.
5. Acquiring a solid understanding of the principles underlying the scientific organization of mental work and the ability to plan one's work effectively.

On the other hand, the pedagogical skills of a competent teacher can be categorized into four main groups:

- Considering students' acquisition of new knowledge, the ability to determine specific pedagogical tasks aligned with their pedagogical and psychological levels.
- Demonstrating proficiency in planning and implementing activities and choosing appropriate forms and methods within the teaching process.
- Creating favorable conditions and opportunities for students to become active participants, engage in collaborative activities, and foster their development.
- Evaluating one's own pedagogical activities accurately, correctly assessing results, and conducting effective analysis of the pedagogical process and personal contributions.

It is important to highlight that the differences between the competencies that a traditional teacher and a modern one should have may vary according to the educational context and the specific demands of educational programs. While traditional teachers focus on the transmission of knowledge through lectures and exam-based assessments, modern teachers take on the role of facilitators of learning. The latter use active teaching methods, such as collaborative and project-based learning, to engage students in their own learning process. Furthermore, the use of educational technology is a common tool among modern teachers to enhance the educational experience and adapt to the needs of digital learners. Instead of focusing solely on authority and discipline, modern teachers encourage the development of soft skills and seek to prepare students for real-world challenges. A comparison between traditional and modern competencies is provided in Table 2.

Table 2. Comparison of Teacher Competencies: Traditional vs. Modern Approach

Competency	Traditional Approach	Modern Approach
Pedagogical Knowledge	Focus on subject content knowledge	Emphasis on pedagogical theories and practices
Technological Proficiency	Limited or no utilization of technology	Integration of technology in teaching and learning
Teaching Methods	Primarily lecture-based instruction	Diverse and student-centered teaching approaches
Student Engagement	Passive recipients of information	Active participation and collaborative learning
Assessment	Traditional exams and quizzes	Varied and formative assessment strategies
Communication	One-way communication from teacher to students	Interactive and dialogue-based communication
Collaboration	Limited collaboration with colleagues	Strong emphasis on collaboration and teamwork
Professional Growth	Limited professional development opportunities	Continuous learning and pursuit of excellence

Source: Owner elaboration

A competent teacher’s theoretical preparation requires analytical, prognostic, planning, projecting, and reflective skills. Practical training of a competent teacher entails organizational abilities, mobilization, information dissemination, fostering development and education, perceptiveness, communication skills, didactic proficiency, and academic aptitude. The essential skills for pedagogical competence are shown in Table 3.

Table 3: Essential Skills for Pedagogical Competence in Azerbaijan

Competency	Description
Critical Thinking	Ability to analyze, evaluate, and synthesize information to make informed decisions in teaching.
Cultural Competence	Awareness and respect for diverse cultures, values, and perspectives, promoting inclusive education.
Classroom Management	Skill in creating a conducive and organized learning environment, ensuring effective classroom discipline and student engagement.

Source: Owner elaboration

Now, let’s break down all these competencies and their main features:

- Critical Thinking:** In the context of pedagogical competence, critical thinking refers to a teacher’s ability to think critically and apply analytical skills to assess information, identify biases, and make informed decisions. A competent teacher in Azerbaijan is equipped with the capacity to analyze educational content, evaluate teaching strategies, and synthesize information to foster effective learning experiences for students. By incorporating critical thinking skills, teachers can develop students’ higher-order thinking abilities and equip them with the skills necessary for success in a rapidly changing world.
- Cultural Competence:** Given the multicultural and diverse nature of Azerbaijan, cultural competence is a crucial competency for teachers. Cultural competence involves having an awareness and understanding of diverse cultures, values, and perspectives within the classroom and beyond. A competent teacher in Azerbaijan recognizes and respects the cultural backgrounds of their students, embraces diversity, and promotes inclusive education. By fostering cultural competence, teachers can create a supportive and inclusive learning environment where students feel valued and respected, enhancing their overall educational experience.
- Classroom Management:** Effective classroom management is a fundamental competency for a modern teacher in Azerbaijan. It encompasses the ability to create a positive and well-structured learning environment, ensuring effective classroom discipline and student engagement. Competent teachers in Azerbaijan employ strategies to establish clear expectations, promote positive behavior, and maintain a productive learning atmosphere. By effectively managing the classroom, teachers can optimize student learning, facilitate meaningful interactions, and create a conducive environment for academic growth.

As has been seen, the development of pedagogical competence involves various dimensions, including

pedagogical knowledge, technological proficiency, adaptability, effective communication, ethical conduct, collaborative skills, and continuous learning. These competencies empower teachers to deliver high-quality education, engage with diverse student populations, and meet the evolving demands of the educational landscape. Azerbaijan recognizes the significance of these competencies in equipping teachers with the necessary skills to provide an effective and inclusive learning experience. Thus, it is crucial for teachers to possess critical thinking skills to analyze, evaluate, and synthesize information, as well as cultural competence to appreciate and embrace the diverse cultural backgrounds of students, in addition to effective classroom management ensures a conducive and well-structured learning environment, fostering student engagement and discipline.

CONCLUSIONS

The formation of pedagogical competence among future teachers in the information and educational process plays a crucial role in the educational landscape of Azerbaijan. The implementation of the Law of the Republic of Azerbaijan “On Education” in 2009, which defines the basic principles of the state policy in education, provides a strong foundation for ensuring the right to education and regulating educational activities. In addition, the establishment of the “Rules of ethical behavior of teachers” by the Ministry of Education in 2014 emphasizes the importance of ethical conduct in the teaching profession, promoting a positive and respectful learning environment.

The Azerbaijan education system places importance on the professional growth and continuous development of teachers. Reflective competence, social professional competence, personal professional competence, individual professional competence, and active management are essential aspects of a competent teacher’s professional journey. These competencies contribute to the enhancement of teaching practices, instructional innovation, and the overall quality of education in Azerbaijan. The

findings from this study also highlight the importance of pedagogical competence in the information and educational process. By cultivating these competencies, teachers in Azerbaijan can contribute to the advancement of the education system, promoting academic excellence, and preparing students for success in a rapidly changing world.

To further strengthen the formation of pedagogical competence, ongoing professional development opportunities, support systems, and collaboration among educational stakeholders should be emphasized. Continuous efforts should be made to integrate technology effectively, enhance pedagogical practices, and provide teachers with the necessary resources and training to adapt to the dynamic educational landscape. The formation of pedagogical competence among future teachers in Azerbaijan is an ongoing process that requires the commitment of educational institutions, policymakers, and teachers themselves. Thus, by prioritizing the development of these competencies and creating an enabling environment, Azerbaijan can foster the growth of highly competent teachers who will shape the future of education and contribute to the socio-economic and moral development of the society at large.

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