

## SPECIFIC FEATURES AND IMPORTANCE OF DEVELOPING TEACHERS' PROFESSIONAL COMPETENCE IN THE ERA OF ARTIFICIAL INTELLIGENCE

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**Abstract:** The article focuses analytically on SI and the educational process, one of the most discussed issues of the globalization era, and specifically addresses the problems related to the role and professional competence of the teacher.

**Keywords:** artificial intelligence, competence, digital and AI literacy, critical thinking and data sorting.

At present, alongside globalization and economic development, foreign language teaching has become a highly relevant issue in our country. The growing availability of job opportunities and the need for continuous knowledge enhancement are encouraging many specialists to learn foreign languages, particularly English. ICT competence, which is considered the eighth component of professional competence, plays a significant role in education, especially in teaching English, as well as in developing the professional competencies of future foreign language teachers. It highlights the importance of using digital technologies and modern artificial intelligence tools in the classroom. In 2021, four regulatory and legal documents related to digital technologies and artificial intelligence were adopted. One of these is the Resolution of the President of the Republic of Uzbekistan No. PQ-4996, dated February 17, 2021, 'On Measures to Create Conditions for the Accelerated Implementation of Artificial Intelligence Technologies,' which aims to establish a favorable and effective ecosystem for the development of innovative business models, products, and service delivery methods based on artificial intelligence technologies. It also focuses on their rapid implementation and practical application in priority sectors and industries. Furthermore, the Resolution No. PQ-5234, dated August 26, 2021, 'On Measures to Introduce a Special Regime for the Use of Artificial Intelligence Technologies,' was adopted.

Artificial Intelligence (AI) refers to the field concerned with creating computer systems capable of performing tasks associated with human intelligence, such as understanding language, learning, reasoning, problem-solving, and translation. AI consists of algorithms and software systems designed to carry out various operations based on data stored in information databases, enabling them to perform tasks that would typically require human cognitive abilities.

Moreover, artificial intelligence includes programs capable of processing large volumes of data and conducting complex analyses. It is considered a 'smart' technology that can engage in logical reasoning and provide recommendations. Specialists regard artificial intelligence as a fundamental driver of the Fourth Industrial Revolution.

Artificial intelligence can be classified into the following four types:

1. Reactive Machines
2. Limited Memory – This type of artificial intelligence system can use past experiences to inform and shape future decisions.

3. Theory of Mind – This is a psychological concept referring to the ability to understand that others have their own beliefs, desires, and intentions that influence their decision-making.

4. Self-Awareness – This type of artificial intelligence refers to systems that possess self-consciousness. The emergence of artificial consciousness involves the development of advanced systems capable of creating, storing, and processing information at a highly sophisticated, potentially long-term (even near-permanent) level. Infographics are a graphical method of presenting information; in simple terms, they are data presented in a visual format. Infographics utilize various visual elements such as graphics, images, charts, tables, maps, and diagrams to represent information. They are designed to present information quickly, visually, and engagingly. Infographics can be an important tool in language teaching, as they effectively support the presentation and explanation of information through visual materials. They often simplify complex information into clear and understandable forms, which helps capture learners' attention and enhances their comprehension during the learning process. Furthermore, through the use of infographics, teachers can illustrate language rules, vocabulary, and cultural contexts. For example, when learning new words, presenting words along with their meanings, synonyms, and antonyms enables students to absorb new information more quickly. The use of infographics in the classroom by future foreign language teachers promotes visual learning and makes the learning process easier and more engaging. Additionally, the use of images and graphics enhances learners' ability to gain deeper insights into the target language. Infographics are an effective tool in language teaching, as they facilitate students' ability to process and retain information. They are visually engaging and help make the learning process more interesting. Research indicates that the use of visual materials can increase learning effectiveness by 40–60%. Throughout history, education has been a source of personal value and opportunity, as well as a driving force of social, economic, political, and cultural development. If we want it to maintain this role by 2030, it is essential to implement the digital transformation of education.

As noted above, artificial intelligence, as a type of digital technology, is increasingly being used in developed countries across various sectors, including public administration, governance, the economy, industry, social protection, education, healthcare, employment, agriculture, defense, security, tourism, and other fields. In the legislation of Uzbekistan, new regulatory and legal documents have also been adopted that address the implementation of artificial intelligence. Artificial intelligence is a distinct field of computer science that focuses on creating computer systems capable of performing tasks typically associated with human intelligence, such as understanding language, learning, reasoning, problem-solving, and translation.

Artificial Intelligence (AI) enables computers to learn from their own experience, adapt to given parameters, and perform tasks that were previously possible only for humans. In many applications of AI—from computer chess systems to autonomous vehicles—deep learning and natural language processing capabilities are essential. Through these technologies, computers can be 'trained' to process large amounts of data and perform specific tasks by identifying patterns within that data.

Another important advantage of artificial intelligence is the automation of assessment. Computer vision and natural language processing systems can be integrated to automatically evaluate homework, tests, and examinations. Automated grading provides significant relief for teachers, allowing them to spend more time interacting with students. In addition, artificial intelligence can also facilitate collaboration between teachers and learners.

The application of artificial intelligence in education reflects its vast potential through intelligent systems. Personalized learning and smart support systems can help improve educational outcomes, particularly among underserved populations. Its global impact and scalability enable students in both developed and developing countries to benefit from improved learning experiences.

In the era of artificial intelligence, the development of teachers' professional competence requires attention to the following key aspects:

#### 1. *Digital and AI Literacy (AI Literacy)*

Teachers should understand how artificial intelligence works and how to use it safely in the educational process. They need to develop prompt engineering skills, meaning the ability to formulate clear and effective prompts for AI models (such as ChatGPT, Gemini, etc.). In addition, teachers should be able to effectively use AI-based applications such as Canva, Gamma, and Quizizz for creating lesson plans, presentations, and tests.

#### 2. *Critical Thinking and Information Filtering*

AI can sometimes provide incorrect or inaccurate information (known as "hallucinations"). Therefore, teachers should develop fact-checking skills, meaning the ability to verify AI-generated information and teach students to do the same. Ethical standards are also important: ensuring academic integrity, promoting honesty, and fostering a culture of using AI as a supportive tool rather than for plagiarism play a crucial role in education.

#### 3. *Adaptability and Lifelong Learning*

Technologies are constantly evolving. Teachers should remain open to innovation, be willing to move beyond traditional methods, and quickly adopt new approaches. Continuous professional development through micro-learning, short training courses, and webinars is essential for maintaining and improving professional competence

#### 4. *Pedagogical Design and Learner-Centered Education*

AI enables the creation of individualized learning programs based on each learner's level of understanding. Based on the principles of adaptive learning, teachers should also be able to adjust learning materials according to students' needs. In addition, organizing lessons in an engaging and interactive way through the use of AI, including gamification approaches, is highly recommended.

#### 5. *Soft Skills*

Teachers' ability to respect human dignity, demonstrate leadership, and work effectively in teams are all part of soft skills. Understanding students' psychological states and approaching each lesson creatively are essential aspects that cannot be replaced by artificial intelligence. Therefore, it is important to recognize and strengthen the uniquely human elements of teaching that AI cannot replicate.

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