

Stages of Development of Professional Competence of Future English Teachers With the Help of Artificial Intelligence Tools

Botirova Zebo Xakimjon Kizi

PhD, Docent

Namangan State University

ziziko_90@mail.ru

Tel: +998907507557

Abstract

This article explores the stages of professional competence development among future English teachers, emphasizing the integration of artificial intelligence (AI) tools. It analyzes various types of teacher competence, including pedagogical, linguistic, and technological skills, highlighting how AI can enhance these competencies. The study employs a mixed-methods approach to assess the effectiveness of AI tools in teacher education programs. Results indicate that AI significantly contributes to the development of essential teaching skills, fostering a more effective learning environment. The findings underline the necessity of incorporating AI tools into teacher training curricula to prepare educators for modern classroom challenges.

Keywords: Professional competence, future English teachers, artificial intelligence, teacher education, pedagogical skills, linguistic competence, technological skills, AI integration, teaching effectiveness, educational innovation.

Introduction

The rapid evolution of technology has transformed various sectors, including education. In particular, the advent of artificial intelligence (AI) has opened new avenues for enhancing the professional competence of future English teachers. Professional competence encompasses a broad range of skills and knowledge essential for effective teaching, including pedagogical strategies, language proficiency, and the ability to leverage technological tools in the classroom. This article seeks to delineate the stages of development of professional competence among future English teachers, emphasizing the pivotal role of AI tools in this process.

Professional competence can be classified into several types: pedagogical competence, which refers to the ability to plan, implement, and assess teaching and learning processes; linguistic competence, encompassing mastery of the English language; and technological competence, which involves the

effective use of digital tools in teaching. As English language teaching becomes increasingly integrated with technology, the need for future educators to develop these competencies is paramount. The integration of AI tools into teacher education programs presents unique opportunities for enhancing these competencies. For instance, AI-driven platforms can provide personalized learning experiences, allowing future teachers to engage with diverse pedagogical methods and linguistic contexts. Moreover, AI can facilitate the assessment of teaching practices, offering valuable feedback that can guide professional growth.

This article will outline the stages of professional competence development for future English teachers, analyzing how AI tools can support each stage. We will employ a mixed-methods research approach, combining qualitative and quantitative data to assess the effectiveness of AI in teacher training. A comprehensive literature review will highlight existing research on teacher competence and AI integration, while the results and discussion sections will provide insights from our research findings. Finally, we will conclude by emphasizing the importance of incorporating AI tools in teacher education to prepare future educators for the challenges of contemporary classrooms.

METHODS

This study utilized a mixed-methods approach to explore the development of professional competence among future English teachers. Participants included undergraduate students enrolled in English teacher education programs at various universities. The research involved both quantitative surveys and qualitative interviews to gather comprehensive data.

Quantitative data were collected through structured questionnaires designed to assess participants' perceptions of their competencies before and after using AI tools in their coursework. The surveys included Likert-scale items measuring pedagogical, linguistic, and technological competencies.[8]

Qualitative data were obtained through semi-structured interviews with a subset of participants. These interviews aimed to gain deeper insights into the participants' experiences with AI tools and their perceived impact on their professional competence development.[9]

Data analysis involved statistical methods for the quantitative data, using descriptive statistics to summarize responses and inferential statistics to assess changes in competence levels. Qualitative data were analyzed thematically, identifying key themes related to the integration of AI tools in teacher education.

LITERATURE REVIEW

The literature on professional competence in teaching emphasizes the importance of developing a well-rounded skill set for educators. According to Kunter et al. (2013), pedagogical competence encompasses knowledge of subject matter, understanding student learning processes, and the ability to create effective learning environments. Linguistic competence, as discussed by Hinkel (2005), is crucial for English teachers, as it directly influences their ability to teach language skills effectively. In recent years, research has increasingly focused on the integration of technology in teacher education. Ertmer and Ottenbreit-Leftwich (2010) highlight the necessity of developing technological competencies among future educators to meet the demands of contemporary classrooms. AI tools, in particular, have gained attention for their potential to enhance educational practices. Luckin et al. (2016) argue that AI can support personalized learning, enabling educators to tailor their instruction to meet individual student needs.

Several studies have explored the specific impact of AI on teacher training. For instance, a study by Chen et al. (2020) found that AI-driven simulations improved pedagogical skills among pre-service teachers, fostering greater confidence in their teaching abilities. Similarly, a meta-analysis by

Zawacki-Richter et al. (2019) concluded that the integration of AI in education leads to significant improvements in student learning outcomes.

Despite the promising findings, there remains a gap in the literature regarding the systematic integration of AI tools in the development of professional competence among future English teachers. This article aims to address this gap by providing a comprehensive analysis of the stages of competence development and the role of AI tools in this process.

RESULTS AND DISCUSSION

The findings of this study indicate a significant improvement in the professional competence of future English teachers following the integration of AI tools into their training programs. Quantitative data revealed an increase in self-reported competencies in pedagogical, linguistic, and technological skills. Notably, participants reported heightened confidence in their ability to utilize AI tools effectively in their future classrooms.[10]

Qualitative interviews provided further insights into the experiences of participants. Many expressed that AI tools facilitated a deeper understanding of pedagogical concepts by allowing them to experiment with different teaching methods in a simulated environment. Participants noted that AI-driven feedback mechanisms helped them refine their instructional strategies, ultimately leading to more effective teaching practices.[11]

Moreover, the study highlighted the importance of continuous support and training in the use of AI tools. Participants emphasized the need for ongoing professional development to keep pace with technological advancements. This finding aligns with the literature, which underscores the necessity of fostering a culture of lifelong learning among educators (Ertmer & Ottenbreit-Leftwich, 2010).

In addition to enhancing individual competencies, the integration of AI tools has the potential to foster collaboration among future teachers. Many participants reported engaging in collaborative projects that utilized AI technologies, thereby enhancing their teamwork and communication skills. This collaborative aspect of learning is vital in preparing educators for the realities of modern classrooms, where teamwork and collaboration are increasingly emphasized.

CONCLUSION

The integration of artificial intelligence tools in teacher education programs plays a crucial role in the development of professional competence among future English teachers. This study has demonstrated that AI can enhance pedagogical, linguistic, and technological competencies, thereby preparing educators for the demands of contemporary classrooms.

As the field of education continues to evolve, it is imperative that teacher training programs embrace innovative technologies. By incorporating AI tools into their curricula, institutions can provide future educators with the necessary skills and knowledge to thrive in an increasingly digital world. The findings of this study underscore the importance of ongoing research and development in this area, as well as the need for comprehensive professional development programs to support educators in their use of AI.

In conclusion, the stages of professional competence development outlined in this article reflect the dynamic nature of teacher education. As AI technologies continue to advance, it is essential for future English teachers to engage with these tools to enhance their teaching practices and foster effective learning environments.

References

1. Chen, X., & Zhang, Y. (2020). The impact of AI-driven simulations on pre-service teacher education: A mixed-methods study. *Journal of Educational Technology*, 45(3), 215-230.
2. Ertmer, P. A., & Ottenbreit-Leftwich, A. T. (2010). Teacher technology change: How knowledge, confidence, beliefs, and culture intersect. *Journal of Research on Technology in Education*, 42(3), 255-284.
3. Hinkel, E. (2005). Handbook of research in second language teaching and learning. New York: Routledge.
4. Kunter, M., Klusmann, U., & Baumert, J. (2013). Professional competence of teachers: Concepts, assessment, and development. *Educational Psychologist*, 48(3), 210-226.
5. Luckin, R., Holmes, W., & Griffiths, M. (2016). Intelligence unleashed: An argument for AI in education. London: Pearson Education.
6. Zawacki-Richter, O., Marín, V. I., Bond, M., & Gouverneur, F. (2019). Systematic review of research on artificial intelligence in higher education: Current trends and future directions. *Educational Technology Research and Development*, 67(4), 1035-1069.
7. Kizi, B. Z. X. (2023). Role of digital technologies in education. *Строительство и образование*, 3(5), 28-34.
8. Botirova, Z. (2023). Bo 'lajak chet til o 'qituvchilarining kasbiy kompetensiyasini raqamli ta'lim texnologiyalari asosida rivojlantirish. *Namangan davlat universiteti Ilmiy axborotnomasi*, (11), 597-606.
9. BOTIROVA, Z. (2024). PROFESSIONAL COMPETENCE OF ENGLISH TEACHERS: AN IN-DEPTH ANALYSIS. *News of the NUUz*, 1(1.10. 1), 68-69.
10. Ботирова, З. (2024). Study of the structure, principles, and foreign experiences of professional competence in the professional training of future English teachers. *Зарубежная лингвистика и лингводидактика*, 2(3/S), 365-368.
11. Botirova, Z. (2023). BO'LAJAKĤCHETĤTILĤO'QITUVCHILARININGĤKASBIYĤKOMPETENSIYASINIĤRAQAML IĤ TA'LIMĤTEXNOLOGIYALARIĤASOSIDAĤRIVOJLANTIRISHĤ. *Namangan davlat universiteti Ilmiy axborotnomasi*, (11), 597-606.