TEACHING RUSSIAN IN MEDICAL EDUCATION USING AN INTEGRATIVE APPROACH AND AI-ASSISTED LEARNING

Kamolova Gulchiroy Otabek qizi

Doctoral student (PhD), Pedagogy and Psychology, Tashkent State Medical University, Tashkent,

Republic of Uzbekistan; ORID 0009-0009-5489-1463, E-mail: guli28021997@mail.ru

Abstract:

In the context of modern medical education, the development of effective communication skills in a foreign language is of particular importance. Teaching Russian to medical students requires not only linguistic knowledge but also the ability to use the language in professional activities. Therefore, innovative approaches are necessary to improve the quality of education.

Keywords:

Integrative approach; Russian language teaching; medical education; communicative competence; artificial intelligence; AI-assisted learning; ChatGPT; role-playing method; case-based learning; "doctor–patient" communication; personalized learning; digital technologies; language education innovation; professional communication skills.

In recent years, the demand for teaching foreign languages, especially Russian, in the medical education system has significantly increased. This is explained by the need for global medical cooperation, international scientific information exchange, and effective communication with patients of different nationalities. A doctor must not only be a highly qualified specialist in their field but also be able to establish accurate and clear communication with patients. From this perspective, the development of

communicative competence in medical students is considered one of the key tasks of language teaching.

Traditional language teaching methods are often focused on theoretical knowledge and do not sufficiently develop students' practical speaking skills. In particular, the ability to use language in professional situations remains underdeveloped. Therefore, there is a growing need for an integrative approach in modern education. This approach connects language learning with professional medical disciplines, enabling students to be better prepared for real-life professional communication.

In addition, the rapid development of digital technologies is bringing new opportunities into the educational process. In particular, artificial intelligence-based tools provide personalized learning, instant feedback, and effective organization of independent study. This makes the language learning process more interactive and engaging.

The aim of this study is to develop and implement a methodology for teaching Russian based on an integrative approach and artificial intelligence technologies. The integrative approach ensures the integration of language learning with professional medical training, while artificial intelligence expands interactive learning opportunities.

The methodology includes role-playing, case-based learning, and dialogue exercises that simulate "doctor–patient" communication. These methods not only limit students to theoretical knowledge but also teach them to think independently, make correct decisions, and communicate in conditions close to real clinical situations.

During role-playing activities, students simulate various communicative situations by acting as doctors and patients. This helps develop skills such as speech culture, questioning, explaining, diagnosing, and giving recommendations. The case-based method, in turn, improves students' critical thinking skills through the analysis of real clinical situations and helps them correctly use professional terminology.

Dialogue-based exercises are aimed at the step-by-step formation of “doctor–patient” communication and cover essential speech acts such as greeting, identifying complaints, collecting anamnesis, explaining examination results, and providing treatment recommendations. In this process, students pay special attention to the clarity, logical structure, and professional appropriateness of their speech.

The use of ChatGPT is considered an important innovative component of the methodology. It enables the automatic generation of dialogues at different levels of complexity, allowing students to check and analyze their own responses. In addition, ChatGPT supports the learning process by providing instant feedback, identifying mistakes, and offering recommendations for their correction, thereby contributing to a more effective organization of the educational process.

Furthermore, this artificial intelligence-based tool supports individualized learning by adapting tasks to each student’s level of knowledge, needs, and learning pace. This, in turn, contributes to the personalization of the learning process, increases students’ engagement, and fosters the development of independent learning skills.

The analysis of experimental results showed that the learning process organized through an integrative approach combined with artificial intelligence technologies is significantly more effective compared to traditional teaching methods. During the experiment, students’ skills in professional communication in Russian developed progressively, and a noticeable improvement was observed in their speech activity and ability to use language appropriately in different situational contexts.

The growth of communicative competence was primarily reflected in students’ ability to communicate freely and logically in “doctor–patient” dialogue situations. They learned to correctly use medical terminology, identify patient complaints, ask questions, and provide explanations effectively. Role-playing activities and case-based learning sessions helped students become closer to real clinical situations and develop the ability to use professional speech in a natural and appropriate manner.

Motivation indicators also demonstrated positive dynamics. Interactive exercises based on artificial intelligence, especially dialogues generated through ChatGPT and instant feedback mechanisms, significantly increased students' interest in the learning process. Having the opportunity to practice independently, identify errors, and correct them strengthened their sense of responsibility and intrinsic motivation. This was also confirmed by a higher level of active participation in classroom activities.

An increase in students' activity level was also observed through their greater involvement in group and individual tasks, active participation in discussions, and their tendency to independently construct dialogues. Artificial intelligence technologies provided them with model-based and sample dialogues, which later supported the development of independent and creative approaches to communication tasks.

Furthermore, the use of artificial intelligence technologies has created opportunities for the personalization of education. In other words, tasks and exercises were adapted to each student's level of knowledge, language proficiency, and learning pace. This made it possible to move away from a uniform standard approach and instead organize instruction based on individual learning trajectories.

Overall, the experimental results confirm that the application of an integrative approach combined with artificial intelligence technologies significantly develops medical students' communicative competence, motivation, and learning activity in a comprehensive manner, while also considerably increasing the overall effectiveness of the educational process.

In conclusion, in the modern medical education system, the integration of innovative teaching methods and artificial intelligence technologies is not only considered a methodological innovation but also an important pedagogical factor that enhances educational effectiveness. The conducted theoretical analysis and experimental results demonstrate that the Russian language teaching process organized

on the basis of an integrative approach ensures a high level of effectiveness in developing students' professional communication skills.

From a scientific perspective, the integrative approach is based on the principle of interdisciplinary integration. This approach allows the language to be studied not as an isolated linguistic system but as a communication tool closely connected with professional medical practice. As a result, students develop not only grammatical knowledge but also the ability to select appropriate speech strategies in clinical situations, correctly use professional terminology, and effectively organize communication with patients.

The integration of artificial intelligence technologies into the educational process is also significant from the perspective of constructivist learning theory. It enables treating the learner as an active subject, creating a personalized learning environment that takes into account individual needs and learning pace. AI tools such as ChatGPT facilitate dialogue modeling, instant feedback, and error analysis, thereby strengthening students' independent learning processes and developing their reflective thinking skills.

The analysis of experimental results confirms that when such an approach is applied, students' communicative competence, motivation, and learning activity increase in a complex and interrelated manner. This indicates that the educational process is focused not only on knowledge acquisition but also on the formation of practical professional skills.

Furthermore, artificial intelligence technologies serve as an important tool for implementing the principles of differentiation and individualization in the educational process. Through this approach, each student completes tasks and exercises that correspond to their abilities and level of knowledge. As a result, inequality in learning outcomes is reduced, and the overall developmental dynamics of all students is improved.

As a general conclusion, it can be stated that the integration of innovative pedagogical technologies and artificial intelligence enhances the effectiveness of Russian language teaching in medical education, prepares students for real professional communication, and creates a scientifically grounded, stable, and result-oriented pedagogical system for developing the communicative competence required of a modern physician.

References

1. Passov, E. I. *Communicative Method of Teaching Foreign Language Speaking*. Moscow: Prosveshchenie, 2010.
2. Zimnyaya, I. A. *Psychology of Foreign Language Learning at School*. Moscow: Prosveshchenie, 2012.
3. Gal'skova, N. D., Gez, N. I. *Theory of Teaching Foreign Languages*. Moscow: Akademiya, 2015.
4. Solovova, E. N. *Methodology of Teaching Foreign Languages: Basic Lecture Course*. Moscow: AST, 2018.
5. Brown, H. D. *Principles of Language Learning and Teaching*. New York: Pearson Education, 2014.
6. Richards, J. C., Rodgers, T. S. *Approaches and Methods in Language Teaching*. Cambridge: Cambridge University Press, 2014.
7. Selwyn, N. *Education and Technology: Key Issues and Debates*. London: Bloomsbury, 2016.
8. Luckin, R. *Machine Learning and Human Intelligence in Education*. London: UCL Institute of Education, 2018.
9. Holmes, W., Bialik, M., Fadel, C. *Artificial Intelligence in Education: Promises and Implications for Teaching and Learning*. Boston: Center for Curriculum Redesign, 2019.

10. UNESCO. *Artificial Intelligence in Education: Challenges and Opportunities*. Paris: UNESCO Publishing, 2021.
11. Ivanova, E. V. *Integrative Approach to Teaching Foreign Languages in Medical Universities*. Moscow: Vysshaya Shkola, 2020.
12. Ahmedova, N. Sh. *Innovative Pedagogical Technologies in Medical Education*. Tashkent: Fan va Texnologiya, 2022.
13. Karimov, A. A. *Digital Technologies and Artificial Intelligence in Modern Education*. Tashkent: O‘qituvchi, 2023.
14. OpenAI. *ChatGPT: Artificial Intelligence Tools in Education and Language Learning Support*. Online resource, 2024.