

PAPER

THEORETICAL FOUNDATIONS FOR DEVELOPING METHODOLOGIES OF INTEGRATING GENERATIVE ARTIFICIAL INTELLIGENCE TECHNOLOGIES INTO ENGLISH LANGUAGE TEACHING IN HIGHER EDUCATION

Nigmatova Nozimaxon Ulug'bek qizi^{1,*}

¹Farg'ona davlat universiteti mustaqil tadqiqotchisi

*comrehensible@gmail.com

Abstract

This article examines the theoretical foundations for developing methodologies to integrate generative artificial intelligence technologies into English language teaching in higher education. The study substantiates the pedagogical potential of generative AI, its impact on the linguodidactic process, and its role in developing students' communicative, linguistic, and cognitive competencies. The significance of competency-based, learner-centered, constructivist, and digital pedagogy approaches in implementing generative AI technologies is highlighted. The article identifies key principles, pedagogical conditions, and didactic opportunities of methodological integration and proposes a theoretical model for their implementation.

Key words: generative artificial intelligence, English language teaching, higher education, methodological integration, digital pedagogy, linguodidactics, competency-based approach.

INTRODUCTION

In the context of contemporary globalization and digitalization, the higher education system is undergoing an intensive process of transformation. This process necessitates the renewal of educational content, the improvement

of teaching methodologies, and the integration of modern pedagogical technologies into educational practice. In particular, the growing demand for the use of innovative digital tools in foreign language instruction, especially in English language education, has become increasingly

Compiled on: January 4, 2026.

Copyright: ©2025 by the authors. Submitted to *Advances in Science and Education* for possible open access publication under the terms and conditions of the [Creative Commons Attribution \(CC BY\) 4.0 license](#).

evident. From this perspective, the introduction of generative artificial intelligence technologies into the educational process is advancing English language teaching methodology to a new stage of development.

These technologies serve as a significant pedagogical factor in individualizing the learning process, enhancing students' autonomous learning activities, and developing their communicative competence. The digital learning environment created through generative artificial intelligence supports the formation of personalized learning trajectories and elevates the quality of interaction between instructors and students to a qualitatively new level.

LITERATURE REVIEW

In contemporary pedagogical research, the integration of intelligent technologies into the educational process is closely associated with enhancing educational effectiveness, individualizing learning activities, and developing students' autonomous learning skills. In particular, the use of generative artificial intelligence technologies in foreign language instruction especially in English language teaching is increasingly regarded as a significant pedagogical factor that enables the orientation of language learning toward communicative and reflective activities. Therefore, the integration of these technologies into teaching methodology requires a solid theoretical and methodological foundation.

According to the sociocultural approach proposed by Lev Vygotsky, which emphasizes the decisive role of social interaction and communication in the educational process, knowledge is constructed through interpersonal interaction, and a learning environment adapted to learners' developmental needs is of critical importance. These theoretical assumptions provide a basis for understanding the pedagogical effectiveness of dialogic and interactive learning environments organized through generative artificial intelligence. Flexible learning environments created with the support of artificial intelligence tools promote students' active engagement in communication and contribute to the development of their communicative competence.

Within the framework of constructivist learning

theory, priority is given to the independent construction of knowledge through learners' active participation rather than the passive reception of ready-made information. According to the views of Jerome Bruner, learning becomes effective only when it is based on inquiry, analysis, and the resolution of problem situations. Generative artificial intelligence technologies support this type of constructive activity by enabling students to generate texts, model dialogues, and express independent ideas.

In his extensive analysis of factors influencing educational effectiveness, John Hattie emphasizes that continuous and high-quality feedback plays a crucial role in improving learning outcomes. The capabilities of generative artificial intelligence technologies to perform automated analysis, identify errors, and provide individualized recommendations create favorable conditions for the practical implementation of this theoretical perspective in English language teaching.

Within the competency-based approach, educational outcomes are assessed not only in terms of the volume of acquired knowledge but also according to the degree to which this knowledge can be applied in real-life contexts. The scholarly works of Robert Marzano substantiate the necessity of ensuring the integrated development of knowledge, skills, and attitudes in the educational process. English language instruction organized on the basis of generative artificial intelligence contributes to the comprehensive development of students' linguistic, communicative, and cognitive competencies.

Albert Bandura's social learning theory, which explains learning as a process of development through observation and reflection, also constitutes an important theoretical foundation for the present study. The modeling, example-based learning, and self-analysis features inherent in generative artificial intelligence technologies foster the development of students' reflective thinking.

The analysis of the aforementioned theoretical perspectives indicates that methodologies for integrating generative artificial intelligence technologies into English language teaching in higher education are formed on the basis of sociocultural, constructivist, competency-based, and digital pedagogy approaches. These technologies enable the individualization of the

educational process, active student engagement in communication, and the development of reflective and autonomous learning skills. Consequently, the methodologically grounded implementation of generative artificial intelligence technologies in English language teaching plays a significant role in achieving qualitatively new pedagogical outcomes and ensuring the innovative development of the higher education system.

ANALYSIS AND RESULTS

Generative artificial intelligence technologies represent one of the most advanced domains of artificial intelligence, with their primary function being the creation of new content tailored to users' needs. In the educational process, these technologies enable the automatic generation of texts, dialogues, test tasks, linguistic exercises, and multimodal learning materials. From a pedagogical perspective, the advantages of generative artificial intelligence are manifested in its adaptability, interactivity, and reflective capabilities. Specifically, these technologies design educational content in accordance with students' levels of knowledge, language competence, and individual learning pace. As a result, the educational process shifts from a standardized approach to an individualized and learner-centered model. Furthermore, generative artificial intelligence serves as an effective tool for developing students' metacognitive activity, fostering self-assessment skills, and enhancing analytical abilities. This, in turn, ensures that education is oriented not only toward knowledge transmission but also toward comprehensive personal development.

In the context of English language teaching, generative artificial intelligence technologies offer a wide range of didactic opportunities. In particular, these technologies make it possible to model communicative situations closely resembling real-life contexts, actively engage students in interaction, and develop their speaking competencies. Moreover, by automatically generating academic and professionally oriented texts, generative artificial intelligence facilitates the integration of English language learning with professional activities. This contributes to students' acquisition of language skills based on practical needs. Through the automatic analysis of written

and spoken language, identification of errors, and provision of corrective feedback, generative artificial intelligence promotes the development of reflective thinking. Consequently, students acquire the ability to independently analyze and improve their own language performance, which ensures sustainable and high-quality outcomes in the process of learning English.

The methodology for integrating generative artificial intelligence technologies into English language teaching is grounded in several contemporary pedagogical approaches. In particular, the competency-based approach aims to align language learning outcomes with real communicative activities and focuses on developing students' functional language competence. The learner-centered approach emphasizes consideration of individual differences and the creation of a learning environment tailored to students' personal needs and interests. The constructivist approach, in turn, prioritizes the active involvement of learners in constructing knowledge independently rather than receiving it in a ready-made form. The digital pedagogy approach views generative artificial intelligence technologies as an integral component of the modern digital learning environment and emphasizes their alignment with didactic objectives.

In conclusion, the development of methodologies for integrating generative artificial intelligence technologies into English language teaching in higher education requires a theoretically grounded, systematic, and comprehensive approach. These technologies function as an important pedagogical resource for updating the content and structure of the educational process, as well as for individualizing and enhancing its interactivity. Educational processes organized on the basis of generative artificial intelligence contribute to the development of students' communicative, linguistic, and cognitive competencies, thereby enabling qualitatively new outcomes in English language teaching. Therefore, the methodologically sound implementation of these technologies plays a significant role in the innovative development of the higher education system.

REFERENCES

1. Guilford, J. P. (1967). *The Nature of Human Intelligence*. New York: McGraw-Hill, pp. 138–167.
2. Torrance, E. P. (1974). *Torrance Tests of Creative Thinking: Norms and Technical Manual*. Lexington, MA: Ginn Press, pp. 23–45.
3. Vygotsky, L. S. (1978). *Mind in Society: The Development of Higher Psychological Processes*. Cambridge, MA: Harvard University Press, pp. 79–91.
4. Bruner, J. S. (1961). The Act of Discovery. *Harvard Educational Review*, 31(1), 21–32, pp. 24–30.
5. Sternberg, R. J. (2006). The Nature of Creativity. *Creativity Research Journal*, 18(1), 87–98, pp. 90–95.
6. UNESCO. (2015). *Rethinking Education: Towards a Global Common Good?* Paris: UNESCO Publishing, pp. 47–58.
7. Zaripova, D., & Abdullaeva, M. (2021). Innovative Educational Technologies in Teacher Training. Tashkent: Fan va texnologiya, pp. 112–128.