CONFERENCE ARTICLE

A PEDAGOGICAL SYSTEM FOR DEVELOPING THE METHODOLOGY OF INTEGRATING GENERATIVE ARTIFICIAL INTELLIGENCE TECHNOLOGIES INTO ENGLISH LANGUAGE TEACHING IN HIGHER EDUCATION

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ABSTRACT

This article provides a scientific and theoretical justification of a pedagogical system for improving the methodology of integrating generative artificial intelligence technologies into the process of teaching English in higher education institutions. The study analyzes the possibilities of developing students' language competencies through the use of generative AI tools, the mechanisms for increasing the effectiveness of instruction, and the structural components of the methodological system. In addition, the target, content-related, technological, and outcome components of the pedagogical system are presented in their interrelationship.

KEYWORDS

Generative artificial intelligence, English language teaching methodology, higher education, pedagogical system, digital education, competency-based approach.

INTRODUCTION

In recent years, the rapid penetration of artificial intelligence technologies into the education system has been exerting a significant influence on the content, forms, and methods of instruction. AI-based technologies make it possible to individualize the learning process, adapt educational content, and enhance instructional effectiveness. In particular, the capacities of generative artificial intelligence technologies to automatically produce learning materials, conduct contextual analysis of language units, model dialogic speech, and optimize assessment processes have become an important scientific and pedagogical resource for advancing English language teaching methodology.

The processes of globalization and digital transformation are assigning new tasks to contemporary higher education. Specifically, foreign language teaching—especially English—must no longer be confined to traditional approaches, but should be organized in an integrated manner with digital technologies. Today, English is viewed not only as a means of international communication, but also as a crucial instrument for acquiring knowledge in science, technology, and innovation. Therefore, updating English language teaching methodology in higher education institutions in line with current demands constitutes an important pedagogical task. From this standpoint, integrating generative AI technologies into English language teaching in higher education is not merely a technical innovation; rather, it emerges as a complex scientific problem that requires the systematic redesign of the pedagogical process. In this process, developing methodological approaches on a scientific basis, identifying the structural elements of the pedagogical system, and ensuring their coherence and alignment are of particular importance.

The main purpose of this study is to provide a scientific and theoretical justification of a pedagogical system aimed at developing a methodology for integrating generative AI technologies into the process of teaching English at higher education institutions. This purpose necessitates the design of a methodological model oriented toward the effective use of innovative technologies in English language instruction.

To achieve the stated goal, the following objectives were accomplished:

• to identify, from both theoretical and practical perspectives, the didactic potential of generative AI technologies in English language teaching;

• to describe the content of methodological activity organized on the basis of generative AI in accordance with a competency-based approach;

• to substantiate the structural components of a pedagogical system that supports the development of English language teaching methodology;

• to conduct a scholarly analysis of the impact of generative AI technologies on learning outcomes.

In modern educational practice, the issue of examining the pedagogical potential of AI technologies has been systematically studied by many international researchers. In particular, the theoretical foundations of using AI in education, its didactic effectiveness, and mechanisms for methodological integration have been widely discussed in the scholarly literature.

The conceptual foundations of artificial intelligence technologies in education have been thoroughly analyzed in the studies of Wayne Holmes, Maya Bialik, and Charles Fadel. In their view, artificial intelligence—including generative technologies—enables the individualization of the learning process, the creation of adaptive learning environments, and the analysis of students' learning activities. The scholars interpret the use of AI technologies in education not as a tool that fully replaces traditional methods, but rather as a system that supports and optimizes pedagogical practice.

Within the context of English language teaching methodology, the role of digital and intelligent technologies has been substantiated in the works of Philip Hubbard and Mark Levy. According to their academic perspectives, computer- and AI-based technologies facilitate the development of communicative competence in language learning, activate learners' independent work, and support reflective learning. The researchers evaluate generative AI technologies as effective tools for acquiring language units in context.

Contemporary methodological approaches to English language teaching are also reflected in Jeremy Harmer's scholarly views. He emphasizes that the use of technology in language teaching should not be limited to technical innovation alone; it must be closely connected to pedagogical goals and learning outcomes. In Harmer's approach, the teacher remains the central agent, while artificial intelligence functions as a methodological tool that contributes to the development of learners' speech and communicative activity.

Issues related to methodological systems and instructional design occupy an important place in the theoretical frameworks of Robert Gagné and Jerome Bruner. Drawing on their theories, instruction organized on the basis of generative AI should ensure logical sequencing, step-by-step structuring of learning activities, and active student participation. This, in turn, necessitates the coherent design of the target, content, and technological components of the pedagogical system. Moreover, the socio-pedagogical and ethical aspects of using AI in education have been grounded in conceptual documents developed by UNESCO experts. These approaches identify pedagogical oversight, academic integrity, and the primacy of the human factor as key principles for integrating generative AI technologies into the educational process.

The reviewed scholarly perspectives indicate that integrating generative AI technologies into English language teaching can yield effective results only when implemented within a well-structured pedagogical system. A common point across these researchers' views is that generative AI expands the didactic potential of instruction; however, its use must be tightly aligned with pedagogical objectives, methodological foundations, and competency-based learning outcomes. These theoretical approaches provide a strong conceptual basis for scientifically substantiating a pedagogical system for developing the methodology of integrating generative AI technologies into English language teaching in the context of higher education.

The study was methodologically grounded in a systems approach, since integrating generative artificial intelligence technologies into English language teaching constitutes a complex, multi-component pedagogical process. A competency-based approach made it possible to define the development of students' communicative, linguistic, and digital competencies as the key learning outcomes. A learner-centered approach, in turn, served to take into account students' individual characteristics and learning needs. In addition, on the basis of a technological approach, the mechanisms for integrating generative AI tools into the instructional process were analyzed. Throughout the research, methods such as scientific analysis, synthesis, comparison, generalization, and pedagogical modeling were employed in an integrated manner.

Generative artificial intelligence technologies are regarded as innovative tools in modern education that expand opportunities for developing, adapting, and assessing learning materials. In English language teaching, these technologies can be used to automatically generate texts, dialogues, grammar and vocabulary exercises, and communicative tasks. This not only facilitates teachers' methodological work but also contributes to organizing the learning process more effectively.

The use of generative AI technologies activates students' independent learning, enables the formation of individualized learning trajectories, and fosters reflective thinking. Moreover,

English language instruction benefits from expanded opportunities to study language units in context, integrate different types of speech activities, and model authentic communicative situations.

The development of a methodology for integrating generative AI technologies into English language teaching is implemented through a pedagogical system. This system consists of interconnected target, content, technological, and outcome components.

The target component focuses on developing competencies that enable students to communicate effectively in English, engage in autonomous learning, and use digital technologies consciously and responsibly.

The content component includes a set of interactive materials, problem-based situations, and communicative tasks developed with the support of generative AI in accordance with the English language curriculum.

The technological component encompasses teaching methods organized on the basis of generative AI, digital platforms, interactive learning sessions, and assessment mechanisms. The outcome component is defined by students' level of ability to express ideas fluently in English, learn independently, and operate effectively in a digital environment.

The research findings indicate that the systematic integration of generative AI technologies into English language teaching methodology significantly increases the effectiveness of the educational process. Students' learning motivation strengthens, their level of mastery of language material improves, and their independent learning skills develop. A methodology organized on the basis of a pedagogical system contributes to enhancing educational quality.

Conclusion

In conclusion, developing a methodology for integrating generative AI technologies into English language teaching in higher education should be carried out within a pedagogical system. The coherence of the system's target, content, technological, and outcome components supports the modernization of the educational process and improvement of educational quality. The findings of the study have scientific and practical significance for improving English language teaching methodology and advancing digital education.

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