

PHILOLOGY

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DIGITAL TECHNOLOGIES AND ARTIFICIAL INTELLIGENCE IN ENGLISH LANGUAGE EDUCATION: AN INTERDISCIPLINARY PERSPECTIVE

Abstract. The rapid development of digital technologies and artificial intelligence is significantly transforming contemporary education and creating new opportunities for teaching and learning foreign languages. English language education is particularly affected by digital transformation because English is widely used as a means of international academic, scientific, professional, and intercultural communication. This article examines the role of digital technologies and artificial intelligence in English language education from an interdisciplinary perspective. Particular attention is given to the relationship between foreign-language communicative competence and digital competence, as well as to the potential of digital platforms, multimedia resources, online communication tools, and artificial intelligence for supporting students' learning. The article considers the benefits and challenges associated with the integration of digital technologies into language education. It is argued that effective digital language education requires the combination of linguistic, pedagogical, technological, psychological, and ethical approaches. The interdisciplinary integration of these areas can contribute to the development of students' ability to communicate effectively in English, work with digital information, learn independently, and use modern technologies responsibly in their future professional activities.

Keywords: digital technologies, artificial intelligence, English language education, interdisciplinary research, digital competence, foreign-language communicative competence, higher education, digital transformation.

The rapid development of information and communication technologies has become one of the most significant factors influencing contemporary education. Digital platforms, electronic resources, multimedia technologies, online communication tools, cloud services, and artificial intelligence are increasingly integrated into educational processes. These technologies are changing not only the methods of teaching and learning but also the roles of teachers and students, the organization of educational activities, and access to information.

Foreign language education is particularly suitable for the integration of digital technologies because language learning is closely connected with communication, access to authentic information, interaction, and continuous practice. Modern students can communicate with speakers of other languages, watch authentic video materials, listen to podcasts, read international publications, participate in online courses, and use digital applications to practice vocabulary and grammar. Consequently, the educational environment is no longer restricted to the physical classroom.

English occupies a particularly important position in this process. It is widely used in international science, education, tourism, business, information technology, environmental studies, law, economics, and other professional fields. For students of professional and higher education institutions, knowledge of English can provide access to international professional information and facilitate participation in academic and professional communication.

At the same time, digital transformation requires students to develop competences that go beyond traditional language knowledge. A modern learner should be able to search for information, evaluate digital sources, communicate online, collaborate through digital platforms, create digital content, and use artificial intelligence responsibly. Therefore, foreign-language communicative competence and digital competence increasingly become interconnected.

The purpose of this article is to examine the role of digital technologies and artificial intelligence in English language education and to demonstrate the importance of an interdisciplinary approach to the development of students' linguistic, digital, and professional competences.

Digital transformation has substantially changed the organization of English language teaching. Traditional language education was primarily based on textbooks, classroom communication, teacher explanations, and written exercises. These methods remain important, but they can now be complemented by a wide range of digital resources. One of the main advantages of digital technologies is access to authentic English-language materials. Students can use international news websites, electronic books, professional publications, podcasts, video lectures, educational platforms, online dictionaries, and other resources. Such materials expose learners to different forms of authentic communication and enable them to develop their language skills in meaningful contexts.

Digital tools can support the development of all major language skills. Listening comprehension can be improved through podcasts, video lectures, interviews, and online audio materials. Speaking skills can be developed through video conferences, online discussions, language-exchange platforms, and simulated communication. Reading activities can involve electronic books, academic articles, professional websites, and digital libraries. Writing skills can be practiced through collaborative documents, blogs, forums, presentations, and other forms of digital communication.

Another important advantage is the possibility of supporting individual learning needs. Students have different levels of language proficiency, learning styles, interests, and educational goals. Digital resources can provide additional materials and allow learners to repeat or extend particular activities according to their individual needs. This contributes to learner autonomy and encourages students to take greater responsibility for their educational progress. Digital technologies also facilitate cooperation between teachers and students. Educational platforms can be used to distribute materials, submit assignments, provide feedback, organize discussions, and monitor learning activities. Consequently, digital environments can complement classroom teaching and create a more flexible educational process.

Artificial intelligence has become an increasingly visible component of digital education. AI-based technologies can support language learning by providing opportunities for personalized practice, text analysis, vocabulary development, automated feedback, translation, and simulated communication. One of the potential advantages of AI is its ability to provide students with additional opportunities for language practice. For example, AI-based conversational systems can simulate professional or everyday communication situations. Students can practice asking and answering questions, describing situations, discussing professional topics, or preparing for interviews.

AI tools can also be used to support writing activities. Students may receive suggestions concerning grammar, vocabulary, sentence structure, and organization of ideas. However, such suggestions should be critically evaluated by learners rather than accepted automatically. The educational value of AI depends largely on students' ability to understand why a particular correction or recommendation is appropriate. Artificial intelligence is also relevant to English for Specific Purposes (ESP). Students studying law, finance, tourism, environmental sciences, information technology, or other professional disciplines require specialized vocabulary and communication skills. AI can help create professional scenarios, generate terminology exercises, simulate professional dialogues, and provide additional language practice related to students' fields of study.

Nevertheless, artificial intelligence should be viewed as a supporting instrument rather than a substitute for the teacher. Language education involves interpersonal communication, cultural awareness, creativity, interpretation, motivation, and social interaction. These aspects require professional pedagogical guidance. The teacher remains responsible for selecting appropriate materials, establishing learning objectives, designing educational activities, evaluating student progress, and developing students' critical thinking. Thus, the most productive approach is not the replacement of human teaching by artificial intelligence but the thoughtful integration of AI into pedagogically justified learning activities.

The integration of digital technologies into English language education demonstrates the growing importance of interdisciplinary research. Contemporary language teaching is connected with several academic fields, including linguistics, pedagogy, psychology, information technology, communication studies, and ethics. Linguistics provides knowledge about language structure, vocabulary, grammar, discourse, and communication. Pedagogy determines how language can be taught effectively. Psychology contributes knowledge about motivation, attention, memory, and individual differences in learning. Information technology provides digital platforms and computational tools. Ethics helps address questions concerning responsible use of technology, academic integrity, privacy, and intellectual property.

The combination of these perspectives makes it possible to understand digital language education as a complex process. A technologically advanced tool does not automatically guarantee effective learning. Its educational value depends on how it is incorporated into the curriculum, whether it corresponds to students' needs, and whether learners understand how to use it critically and responsibly.

Interdisciplinary cooperation is also important for the development of educational research. Researchers in linguistics and language education can cooperate with specialists in computer science and artificial intelligence to develop more effective digital learning environments. At the same time, educational researchers can provide valuable insights into the pedagogical and ethical implications of technological innovations.

The development of digital competence has become an important component of contemporary professional education. Digital competence involves the ability to use digital technologies effectively, critically, safely, and responsibly for communication, learning, work, and participation in society. In English language education, digital competence can be developed through practical tasks requiring students to work with

online information and digital communication tools. For example, students can search for professional information in English, compare several digital sources, prepare multimedia presentations, participate in online discussions, create digital projects, and use AI tools to support learning.

Such activities integrate language and digital skills. Students learn English while simultaneously developing their ability to work with information and technology. This is particularly relevant for professional education because modern workplaces increasingly require employees to communicate through digital environments and work with international information. English also provides access to a significant amount of international professional knowledge. Many scientific publications, professional websites, manuals, databases, and educational resources are available in English. Therefore, foreign-language competence can directly support students' professional development and lifelong learning. The combination of English language skills and digital competence can consequently help students become more independent learners. They can continue developing their professional knowledge after graduation by accessing international resources, participating in online courses, communicating with professionals from other countries, and following developments in their fields.

Despite the considerable potential of digital technologies and artificial intelligence, their implementation in education presents a number of challenges. Firstly, students need to be aware that information generated or processed by digital systems is not always accurate. Artificial intelligence may produce incorrect information, misunderstand context, or provide inappropriate language recommendations. Therefore, students should develop critical information literacy and learn to verify important information using reliable sources. Secondly, the use of AI creates questions concerning academic integrity. If students rely excessively on automated systems to produce written assignments, their actual language skills may become difficult to assess. Educational institutions therefore need clear principles concerning the responsible use of AI in academic work. Thirdly, privacy and data protection require attention. Students and teachers should understand what information they share with digital services and be aware of potential risks associated with the processing of personal or academic data. Another important issue is the digital divide. Not all students have equal access to high-quality devices, stable Internet connections, or paid educational services. Consequently, digital transformation should take into account issues of accessibility and educational equality. These challenges demonstrate that digital competence should include not only technical skills but also critical thinking, ethical awareness, responsible behavior, and the ability to evaluate the consequences of technology use.

Digital technologies and artificial intelligence are significantly influencing contemporary English language education. They provide students with access to authentic language materials, additional opportunities for communication, personalized learning activities, and new forms of interaction. Digital tools can also support the development of students' independent learning skills and facilitate access to international professional information. The development of foreign-language communicative competence should therefore be closely connected with the development of digital competence. Students need not only to communicate effectively

in English but also to search for information, evaluate digital sources, collaborate online, create digital content, and use artificial intelligence responsibly.

For students of professional and higher education institutions, this combination of competences is particularly important. It can support their academic development, professional communication, independent learning, and participation in an increasingly international and digitally connected professional environment. Thus, digital technologies should be considered not as a replacement for traditional educational approaches or human interaction, but as additional instruments that can expand the possibilities of English language teaching. Their effective use depends on pedagogically sound implementation, critical evaluation, ethical awareness, and interdisciplinary cooperation. Such an approach can contribute to the development of modern language education and prepare students for the changing demands of contemporary professional and academic life.

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