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Digitalization of English Language Learning

This article investigates the growing role of information and communication technologies (ICT) in contemporary English language learning and highlights the increasing relevance of digital transformation in education. The study emphasizes that the rapid development of online platforms, interactive tools, and mobile applications has significantly changed approaches to teaching and learning, making the integration of ICT not only desirable but essential for ensuring high learning outcomes and sustained student engagement. The aim of the article is to analyze the pedagogical potential of ICT, determine their influence on the effectiveness of language acquisition, and identify conditions that support their successful implementation. The research methodology includes comparative analysis of scholarly publications, synthesis of empirical findings, and evaluation of technological tools used in modern language classrooms. The article examines the functional characteristics of digital resources such as learning management systems, virtual classrooms, automated feedback tools, and gamified language platforms. Special attention is given to their impact on learner motivation, autonomy, cognitive engagement, and the personalization of learning trajectories. The results demonstrate that ICT expand opportunities for meaningful interaction, facilitate multimodal input processing, support differentiated instruction, and enhance both formative and summative assessment. The study concludes that the effective use of ICT contributes to higher learning efficiency, stronger communicative competence, and the creation of dynamic, student-centered learning environments. Recommendations are proposed for optimizing ICT integration, improving digital literacy among teachers and learners, and designing balanced instructional models that combine traditional pedagogical practices with innovative technological solutions.

Keywords: *technology in education, English language learning, digital literacy, teaching methods.*

Introduction. Modern education is increasingly integrating digital technologies, which have become an essential component of the learning process. Instead of simply using digital tools, emphasis is placed on embedding them into teaching practices so that technology functions as a natural part of the educational environment (Eady & Lockyer, 2013). In the context of teaching English, technology significantly transforms traditional methods, increases learning efficiency, and provides access to a wide range of resources.

This global shift towards digital education is also emphasized in international policy documents, which underline the importance of integrating digital technologies as a core component of modern learning environments. In particular, UNESCO highlights digital transformation as a key driver of educational accessibility, quality, and innovation, stressing the need for pedagogically grounded and inclusive technology use in language education (UNESCO, n.d.).

Today, English is the international language of communication, science, business, culture, and digital media. The demand for learning it continues to grow, and technology greatly facilitates this process. It not only provides access to learning materials but also facilitates interaction with native speakers, the use of multimedia resources, the viewing of films and the listening to music in English, participation in online courses, and the use of AI-based tools that support the learning process.

Thus, technology serves as a strategic instrument that enhances teaching quality and creates a dynamic, interactive, and individualized learning environment.

The aims of this study are to analyze the role of digital technologies in English language learning, to identify their impact on learning effectiveness, motivation, and skill development, and to formulate recommendations for their effective implementation in teaching practice.

The purpose of this research is to determine the role of technology in English language learning, analyze the effects of digital tools on students' language competencies, and develop recommendations to support their meaningful and efficient integration into teaching practice.

The study employs a qualitative research design, combining systematic literature review with practical evaluation of digital tools used in English language teaching. The research methodology includes the following components:

1. Analysis and synthesis of literature – a systematic review of recent academic publications (2018–2025), peer-reviewed articles, and previous empirical studies on the integration of digital technologies in English language teaching.

2. Comparative analysis – a comparison of traditional (face-to-face) and technology-enhanced approaches to English language instruction, with a focus on learning outcomes, student engagement, and pedagogical efficiency.

3. Systematization and classification – a detailed description and categorization of digital tools, platforms, and applications according to their functional purpose (e.g., vocabulary acquisition, grammar practice, listening comprehension, collaborative learning).

4. Practical evaluation of digital resources – hands-on testing and assessment of selected educational platforms (e.g., Duolingo, Quizlet, BBC Learning English, Grammarly, Coursera) to determine their usability, pedagogical effectiveness, and alignment with language learning objectives.

These methods allow for a comprehensive, evidence-based assessment of the role of technology in English language learning and enable the formulation of practical, pedagogically grounded recommendations for the effective integration of digital resources into teaching practice.

Research Results. A review of the literature and modern digital tools made it possible to identify the following key outcomes of technology use in English language learning:

1. Improved learning efficiency. The use of ICT and multimedia enhances the acquisition of vocabulary, grammar, and language structures (Arifah, 2014; Patel, 2013).

2. Development of learner autonomy and responsibility. Technology enables learners to manage their own learning, complete tasks in online environments, and interact with resources, which increases responsibility and motivation (Dawson et al., 2008; Drayton et al., 2010; Gilakjani, 2014).

3. Support for different learning styles. Multimedia resources (videos, audio, interactive platforms) support visual and auditory learning channels, improving comprehension and listening/pronunciation skills (Lee, 2001; Keser et al., 2011).

4. Enhanced collaboration and communication. Online platforms (Quipper, Google Classroom, YouTube, podcasts) encourage collaboration, allow project creation, and foster knowledge exchange, which develops communicative competence (Gillespie, 2006).

5. Expanded access to learning materials. Digital resources provide access to authentic materials, online courses, and media with diverse accents (Lam & Lawrence, 2002; Pourhosein Gilakjani, 2017).

6. Increased motivation and engagement. Combining multimedia with traditional methods makes learning more interesting and interactive, increasing intrinsic motivation and engagement.

Main Content. The concepts of "educational technology" and "instructional technology" developed in the 1980s–1990s. First used in the 1930s in the USA within audiovisual and programmed learning, the idea evolved from using technical devices to a systematic approach that integrates resources, methods, time, and learning environments.

Table 1

Evolution of the Concept of "Educational Technology" in Foreign Education

Technologies in Education (1940–50s)	Technology of Education (1950–60s)	Educational Technologies (1970s–present)
Use of technical teaching aids	Description of methods and tools for achieving predefined results	A system for designing, implementing, and evaluating education

From the 1980s to the early 21st century, computer labs and interactive classrooms emerged, while programmed and interactive learning tools improved. Research shows no single agreed definition of instructional technology abroad. However, Ukrainian scholars (Bespalko, Dychkivska, Yevdokymov, Pekhota,

Pidlasiy, Prokopenko, Selevko, et al.) developed a theoretical foundation for educational technologies as a holistic system.

Educational technology is defined as a systematic process involving people, ideas, means, and methods for planning, managing, and evaluating learning. UNESCO describes it as a systematic method for creating, applying, and evaluating teaching and learning using human and technical resources.

According to İşman (2012), technology is the practical application of knowledge, including methods, processes, and tools, involving interactions between people, devices, and environments.

Technology integration refers to the way teachers use digital tools to enhance traditional tasks and transform learning (Hennessy, Ruthven & Brindley, 2005; Gilakjani, 2017). Using digital tools instead of "pencil-and-paper" methods improves the educational environment (Dockstader, 2008).

Many researchers (Solanki & Shyamlee1, 2012; Pourhosein Gilakjani, 2017) note that the integration of technologies transforms learning from a teacher-centred to a student-centred environment. Technologies accommodate different learning styles (visual and auditory), provide access to materials beyond the traditional classroom, and make the educational process more flexible (Lam & Lawrence, 2002). According to Pourhosein Gilakjani (2013, 2014), digital tools allow learners to exercise partial control over their own learning, while enabling teachers to adopt new pedagogical strategies. At the same time, by avoiding technology, educators risk falling behind contemporary requirements; therefore, they must possess sufficient digital competencies.

Although students grow up in a digital environment, this does not guarantee their competence in using technologies for learning (Bennett, Maton & Kervin, 2008). Access to devices alone does not ensure high-quality learning; what truly matters is the conscious and pedagogically grounded use of technologies (OECD, 2010). Thus, it is the teacher who should guide, support, and direct students in using various technologies for more effective language learning.

According to the European Commission's Digital Competence Framework (DigComp), effective participation in digital learning requires not only technical skills but also critical thinking, information evaluation, communication, and responsible digital behavior (European Commission, n.d.). Therefore, the development of digital competence among both teachers and learners is essential for meaningful and effective English language learning in technology-rich environments.

We identified several modern information and communication technologies that are successfully implemented in the educational process of higher education.

Interactive multimedia. The combination of text, images, audio, video, and animation in digital resources makes learning more dynamic. Multimedia tools are widely used in online platforms and blended learning environments. Television and video resources. Video materials contribute to the development of listening skills, speech comprehension, and pronunciation. Using videos from YouTube or films provides an authentic linguistic context.

Audio resources. Podcasts, audiobooks, and digital recordings improve listening and pronunciation skills, allowing learners to work with different accents and speech styles.

Computer and internet resources. They provide access to electronic dictionaries, online courses, interactive exercises, and network platforms for collaboration.

Educators actively implement the following educational applications for learning English:

Quipper School. An online platform that allows teachers to create multimedia lessons, track student progress, and organize distance learning.

Acapela Group. A program for developing listening skills that generates pronunciation with different accents.

E-books. Platforms such as Booktrack combine text with background music, increasing concentration and engagement. E-books also enhance reading and writing skills.

Google Classroom. A tool for organizing the learning process, creating and checking assignments, which reduces the teacher's administrative workload.

Online materials today are among the most important tools in learning English. The Internet provides an unlimited number of resources, including video lessons, electronic textbooks, interactive exercises, audio materials, tests, forums, educational websites, and digital libraries. Learners can review lessons at any time, read explanations, practice grammar, expand vocabulary, and consolidate what they have learned. Video platforms such as YouTube are especially useful, offering channels with English lessons for every level – from beginners to native-like proficiency. Online courses on platforms such as Coursera provide opportunities to study with instructors from leading universities, complete assignments, and receive certificates. These courses not only explain grammar and vocabulary but also immerse learners in real communicative situations, offer practice, and simulate professional dialogues, which is particularly useful for those learning English for work.

Using original online English-language resources created by native speakers for real-life purposes is extremely effective. These may include news, articles, blogs, social media posts, videos, interviews, and

documentaries. Such materials help learners become accustomed to the natural rhythm of the language, different accents, and authentic situations. For example, resources such as BBC Learning English, National Geographic, and TED Talks allow learners to listen to English in real contexts while acquiring new knowledge about the world.

Online materials also play an important role in developing reading and writing skills. E-books, articles, blogs, and forums help train reading comprehension, while writing platforms can check grammar, providing explanations and examples of correct word usage. This helps learners understand English sentence structure more deeply, develop creativity, and improve their ability to formulate thoughts in the foreign language.

Online resources make learning more engaging thanks to their interactivity. Many websites include exercises in the form of games, simulations, dialogues, quests, or quizzes, which significantly increase motivation. Learners can choose their own pace, select topics of interest, and track their progress at any time. Gamification – the use of game-like elements – makes the learning process not only educational but also enjoyable.

Social media and video platforms also play a significant role, offering short lessons, tips, pronunciation examples, and exercises in vocabulary and grammar. On Instagram, TikTok, Facebook, and other platforms, teachers share creative content, explain complex topics in simple terms, and answer questions from followers. This makes learning more accessible and appealing to modern learners.

Although today's students belong to a generation that has grown up in a digital environment, this does not guarantee their ability to use digital technologies effectively for learning. They know how to use social networks and multimedia, but often do not have the necessary skills in information security, critical analysis of online data, and responsible digital behavior.

It is important to develop skills in determining the reliability of sources, verifying facts, comparing information, and understanding the difference between scientific materials, blogs, and advertising resources. This contributes to the formation of information literacy – a key competency of the 21st century.

Students should be able to analyze the data they receive, formulate conclusions, and evaluate content for bias or manipulation. Using authentic materials in English is an effective tool for developing this competency.

The development of digital literacy and critical thinking enhances student autonomy, makes them more responsible users of digital tools, and increases the effectiveness of English language learning.

Today, artificial intelligence is increasingly integrated into the process of learning English, making online materials even more effective and accessible. AI-based tools help analyze texts, train pronunciation, explain grammar, and create personalized learning pathways, significantly strengthening the individual approach. In the articles “Heuristic learning and artificial intelligence: Current trends in higher education in learning foreign languages” and “AI: Transforming the Foreign Language Learning Process in Higher Education Institutions of Ukraine” the authors Nefedchenko O., Aleksakhina T., and Plokhuta T. provide a detailed description and analysis of the use of artificial intelligence in the educational environment.

Contemporary research in the field of language learning technologies also confirms the growing impact of artificial intelligence on foreign language education. Studies presented in the LLT Journal emphasize that AI-based tools enhance adaptive learning, automate feedback, and support individualized instruction, thereby increasing learner engagement and efficiency (AI у мовній освіті, n.d.).

Technology creates conditions for an active and interactive learning environment that promotes increased responsibility and autonomy among learners (Dawson et al., 2008; Drayton et al., 2010).

We analyzed and tested various websites and applications for learning English: Duolingo, BBC Learning English, Cambridge English, Grammarly, Cake, Quizlet, Busuu, Coursera, test-english.com, TED-Ed, islcollective, Lingua, Wordwall, Langeek, Cambridge Dictionary, and Road to Grammar.

To study grammar, Road to Grammar and test-english.com can be used, as they offer a large number of structured exercises and tests organized by topic and level, which helps reinforce grammatical rules.

To expand vocabulary, Quizlet and Langeek are ideal, as they allow users to create their own flashcards (Quizlet) or learn new words directly in the context of sentences from movies and series (Langeek).

Listening skills are best practiced with BBC Learning English, TED-Ed, and Cake, since they offer numerous videos, podcasts, and materials featuring authentic spoken English.

Vocabulary can also be developed using Quizlet, Wordwall, and Cambridge Dictionary, which provide effective tools for memorizing words, checking pronunciation, and studying usage examples.

Platforms such as Coursera offer structured English courses from leading universities, while islcollective serves as a valuable repository of free worksheets for learners and teachers. Cambridge Dictionary and Road to Grammar remain indispensable resources for checking word meanings and practicing complex grammatical structures.

The integration of digital technologies into English language teaching was significantly accelerated by the COVID-19 crisis. The global transition to remote learning led to the widespread adoption of online

platforms (such as Zoom, Google Meet, Padlet, and others) to support both synchronous and asynchronous educational processes. This shift transformed the teacher's role, positioning educators as key facilitators of online interaction and guides in navigating contemporary digital tools. At the same time, the pandemic exposed systemic challenges, including unequal access to reliable internet and the risk of digital overload. Nonetheless, the experience of remote learning continues to shape modern pedagogical practice, establishing technology as an indispensable component of the educational process.

Recent educational trends indicate that digital technologies are reshaping the concept of the classroom itself. According to Google for Education, future learning environments are expected to be flexible, student-centred, and technology-enhanced, combining online and face-to-face interaction while supporting collaboration, creativity, and personalized learning trajectories (Google for Education, n.d.).

Despite its significant advantages, the integration of digital technologies into English language learning presents several limitations that must be considered to ensure optimal effectiveness.

– **Technical difficulties and unequal access to resources.** Not all students and educational institutions have access to reliable internet connections, modern computers, or mobile devices. This creates a digital divide and reduces the overall effectiveness of learning. Technical malfunctions during lessons can disrupt the educational process and negatively impact student motivation.

– **Information overload and decreased concentration.** The abundance of online resources can distract students or lead to fatigue from digital materials. Learners often find it challenging to filter essential information and establish a coherent learning trajectory.

– **Dependence on technology.** Excessive use of digital devices may foster dependency, diminish skills in working with traditional information sources, and limit the development of critical thinking if the learning process is not properly balanced.

Conclusions. Technology plays a crucial role in contemporary English language education by providing greater access to information, enhancing flexibility, and supporting a diverse range of teaching methods. Its application contributes to: **increasing student motivation** by making learning more engaging and relevant; **fostering learner autonomy**, encouraging students to take responsibility for their own learning and develop self-directed study habits; **improving language skills**, including reading, writing, listening, and speaking, through interactive and adaptive digital tools; **developing digital literacy**, a vital competence for success in the twenty-first century.

Effective integration of technology can make the learning process more productive, interactive, and stimulating. It is essential for educators to carefully select reliable digital tools and integrate them purposefully in alignment with specific learning objectives, ensuring that technology complements rather than replaces pedagogical strategies.

Thus, international research and policy documents confirm that the effectiveness of digital technologies in English language learning depends not on their mere availability, but on their pedagogically informed integration, the development of digital competence, and the responsible use of innovative tools, including artificial intelligence (UNESCO, n.d.; European Commission, n.d.).

Prospects for Further Research. In the coming years, the role of innovative technologies in language education is expected to grow rapidly. In particular, the use of generative artificial intelligence will become increasingly widespread, as it can create personalized learning materials, simulate dialogues with native speakers, and provide immediate feedback.

Virtual reality (VR) and augmented reality (AR) will offer an immersive language environment, enabling students to practice English in simulated real-life situations – such as in a store, at an airport, in an educational institution, or during a job interview.

AI-based adaptive learning systems will automatically assess learners' proficiency levels, identify knowledge gaps, and generate individualized learning pathways.

At the same time, issues related to ethics, data privacy, and the responsible use of artificial intelligence will remain highly relevant, requiring the development of advanced digital literacy among both learners and educators.

Overall, the future of digital language learning is closely associated with personalization, intelligent automation, and immersive experiences, all of which will significantly expand the possibilities for studying English.

References

AI in language education (n.d.). LLT Journal. Retrieved from https://www.lltjournal.org/item/10125-73475/.

Arifah, A. (2014). Study on the use of technology in ELT classroom: Teachers' perspective (Master's thesis). Department of English and Humanities, BRAC University, Dhaka, Bangladesh.

Bennett, S., Maton, K., & Kervin, L. (2008). The 'digital natives' debate: A critical review of the evidence. British Journal of Educational Technology, 39 (5), 775–786. https://doi.org/10.1111/j.1467-8535.2007.00793.x.

Dawson, K., Cavanaugh, C., & Ritzhaupt, A. (2008). Florida's EETT Leveraging Laptops Initiative and its impact on teaching practices. Journal of Research on Technology in Education, 41 (2), 143–159. https://doi.org/10.1080/15391523.2008.10782526.

Drayton, B., Falk, J. K., Stroud, R., Hobbs, K., & Hammerman, J. (2010). After installation: Ubiquitous computing and high school science in three experienced, high-technology schools. Journal of Technology, Learning, and Assessment, 9 (3), 1–57. Retrieved from https://eric.ed.gov/?id=EJ873677.

Eady, M. J., & Lockyer, L. (2013). Tools for learning: Technology and teaching strategies. In Learning to teach in the primary school (pp. 71–89). Queensland University of Technology, Australia. Retrieved from https://scholars.uow.edu.au/display/publication76376.

European Commission, Joint Research Centre (n.d.). The Digital Competence Framework (DigComp). Retrieved from https://joint-research-centre.ec.europa.eu/oldpage-digcomp/digcomp-framework_en.

Google for Education (n.d.). Trends in education: The future of the classroom. Retrieved from https://edu.google.com/future-of-the-classroom/.

Hennessy, S., Ruthven, K., & Brindley, S. (2005). Teacher perspectives on integrating ICT into subject teaching: Commitment, constraints, caution, and change. Journal of Curriculum Studies, 37 (2), 155–192.

İşman, A. (2012). Technology and technique: An educational perspective. TOJET: The Turkish Online Journal of Educational Technology, 11 (2), 207–213. Retrieved from https://tojet.net/articles/v11i2/11222.pdf.

Keser, H., Uzunboylu, H., & Ozdamli, F. (2012). The trends in technology supported collaborative learning studies in 21st century. World Journal on Educational Technology, 3 (2), 103–119.

Lam, Y., & Lawrence, G. (2002). Teacher–student role redefinition during a computer-based second language project: Are computers catalysts for empowering change? Computer Assisted Language Learning, 15 (3), 295–315. https://doi.org/10.1076/call.15.3.295.8185.

Nefedchenko, O., Aleksakhina, T., & Plokhuta, T. (2025). Heuristic learning and artificial intelligence: Current trends in higher education in learning foreign languages. Naukovyi visnyk Vinnytskoi akademii bezperervnoi osvity. Seriia "Pedahohika. Psykholohiia", (7), 164–169.

Organization for Economic Co-operation and Development (2010). Are the new millennium learners making the grade? Technology use and educational performance in PISA. Centre for Educational Research and Innovation, OECD.

Patel, C. (2013). Use of multimedia technology in teaching and learning communication skill: An analysis. International Journal of Advancements in Research & Technology, 2 (7), 116–123.

Plokhuta, T. M., Nefedchenko, O. I., & Aleksakhina, T. O. (2025). ShI: transformatsiia protsesu navchannia inozemnykh mov u ZVO Ukrainy [AI: transforming the process of teaching foreign languages in Ukrainian higher education institutions]. Bulletin of Academician Stepan Demyanchuk International University of Economics and Humanities. Series: Pedagogy and Psychology, 1, 119–125. https://doi.org/10.32782/3041-2021/2025-1-18 [in Ukrainian].

Pourhossein Gilakjani, A. (2017). A review of the literature on the integration of technology into the learning and teaching of English language skills. International Journal of English Linguistics, 7 (5), 95–106. https://doi.org/10.5539/ijel.v7n5p95.

Solanki, D., & Shyamlee, M. P. (2012). Use of technology in English language teaching and learning: An analysis. In 2012 International Conference on Language, Medias and Culture (IPEDR Vol. 33, pp. 150–156). IACSIT Press.

UNESCO (n.d.). Global trends in digital education. Retrieved from https://www.unesco.org/en/digital-education

Цифровізація вивчення англійської мови

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Ця стаття присвячена аналізу зростаючої ролі інформаційно-комунікаційних технологій (ІКТ) у сучасному процесі вивчення англійської мови й акцентує увагу на посиленні значущості цифрової трансформації в освітній сфері. Підкреслюється, що стрімкий розвиток онлайн-платформ, інтерактивних ресурсів і мобільних застосунків істотно трансформував підходи до навчання й викладання, унаслідок чого інтеграція ІКТ стає не лише бажаною, а й критично необхідною для забезпечення високих навчальних результатів і стійкої залученості здобувачів освіти. Метою статті є визначення педагогічного потенціалу ІКТ, оцінювання їх впливу на ефективність оволодіння мовою та встановлення умов, що сприяють їх успішній імплементації. Методологічну основу становлять порівняльний аналіз наукових джерел, узагальнення емпіричних даних та оцінювання технологічних інструментів, що застосовуються в сучасних аудиторіях для вивчення мов. Розглядаються функціональні характеристики цифрових ресурсів, зокрема систем управління навчанням, віртуальних класів, засобів автоматизованого зворотного зв'язку та гейміфікованих мовних платформ. Особлива увага приділяється їх впливу на мотивацію, автономію, когнітивну активність та персоналізацію індивідуальних освітніх траєкторій. Отримані результати свідчать, що ІКТ розширюють можливості для змістовної взаємодії, спрощують опрацювання мультимодального навчального матеріалу, підтримують диференційоване навчання й підсилюють як формувальне, так і підсумкове оцінювання. У підсумку доведено, що ефективне застосування ІКТ підвищує результативність навчання, сприяє розвитку комунікативної компетентності та створенню динамічного, орієнтованого на здобувача освітнього середовища. У статті також сформульовано рекомендації щодо оптимізації інтеграції ІКТ, підвищення цифрової компетентності педагогів і здобувачів освіти та розроблення збалансованих навчальних моделей, що поєднують традиційні педагогічні підходи з інноваційними технологічними рішеннями.

Ключові слова: *технології в освіті, вивчення англійської мови, цифрова грамотність, методи навчання.*

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