

Virtual Environments as a Means of Enhancing the Efficiency of English Language Teaching for Learners

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Abstract. The relevance of using virtual environments in English language teaching is confirmed by the need to adapt educational processes to the conditions of digital transformation. Virtual environments enable the creation of innovative approaches to learning that foster the development of language competencies, increase motivation, and enhance learner engagement. The study identifies the problem as being driven by the increasing demands for English proficiency as a tool for intercultural communication in a globalized world, which is particularly important in the context of remote and blended learning.

The research aims to evaluate the effectiveness of virtual environments in improving the quality of English language teaching, analyze their advantages, challenges, and key issues, and develop practical recommendations for integrating these technologies into the educational process. It employs methods such as analyzing scientific sources, systematizing the experience of using virtual environments, and conducting a comparative analysis of approaches to their integration.

The study's results confirm the effectiveness of virtual environments in education. These technologies contribute to developing language competencies, including listening, reading, writing, and speaking skills. They ensure interactive learning, adaptability to individual learners' needs, and a reduction of language barriers. At the same time, several challenges were identified, including technical limitations, unequal access to resources, insufficient digital literacy among teachers and students, and difficulties in adapting traditional teaching methods to digital formats.

The conclusions emphasize the importance of a comprehensive approach to integrating virtual environments, which includes investing in digital infrastructure, training teachers, developing adaptive materials, and providing psychological support to learners.

The prospects for further research involve exploring the impact of emerging technologies, such as virtual and augmented reality, on developing critical thinking, motivation, and creativity among learners. Additionally, creating integrative models for the optimal combination of virtual and traditional teaching approaches will enhance the effectiveness of

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language training and facilitate the adaptation of higher education learners to the challenges of a globalized world.

Keywords: virtual environments, English language teaching, language competencies, digital transformation, interactive learning, adaptive systems

Introduction

The use of virtual environments in English language teaching is becoming increasingly relevant in the context of digital transformation in education. This approach opens up new opportunities for organizing the educational process, providing interactivity, adaptability, and personalization of learning. The issue of improving the effectiveness of English language teaching for learners has become particularly urgent due to the growing demand for English proficiency as a key tool for communication in a globalized world. Learners utilizing virtual technologies benefit from an immersive language environment, which fosters the development of language skills, critical thinking, and creativity.

The scientific significance of this issue lies in the need to explore methodologies for implementing virtual reality technologies and evaluate their impact on the quality of the educational process. The practical challenge involves creating effective platforms that can address the individual needs of learners while supporting the development of their language competencies. At the same time, using these technologies helps address critical tasks, such as reducing language barriers, providing access to modern educational resources, and increasing motivation for language learning. Integrating virtual environments into the educational process requires adapting teaching methodologies to consider not only technical capabilities but also the psychological characteristics of learners.

Overall, the issue requires a comprehensive approach that combines pedagogical, psychological, and technological research. Its resolution will improve the quality of language training and prepare competitive professionals capable of thriving in intercultural environments.

Virtual environments in English language teaching offer new opportunities for improving the educational process, which is actively discussed in contemporary research. Y. Boiko emphasizes integrating information and communication technologies into teaching practices. Specifically, the author analyzes international experiences, highlighting that implementing innovative assessment systems increases motivation among higher education learners. However, despite these advantages, the technical unpreparedness of many educational institutions worldwide remains a significant obstacle [1].

The research of A. Trotsko and Yu. Korotkova provides a deeper understanding of the intercultural aspects of using digital tools. Their study offers a comparative analysis of Ukraine and Greece, demonstrating the need to adapt educational technologies to each country's conditions. The focus is placed on the frequent lack of digital literacy among educators, which accompanies the introduction of these technologies [2].

L. Denysiuk and N. Danilova analyze the use of the Moodle platform in distance learning. The platform has proven highly effective in creating an interactive environment that adapts to learners' needs. However, the authors stress that the successful functioning of Moodle requires advanced technical support [3].

The analysis of digital educational environments for teaching English for professional purposes was conducted by H. Serhieieva, who notes that combining online and offline methods

ensures the flexibility of the educational process and promotes the development of communication skills. Nonetheless, the need to adapt digital platforms to the specific features of educational programs remains pressing [4].

O. Romashko examines the impact of the pandemic on the organization of virtual language environments, noting that the rapid digitalization of the educational process ensured continuity of education. At the same time, the researcher emphasizes that insufficient teacher preparedness for working in digital conditions limits the potential of such environments [5; 6].

Yu. Herasymenko explores the advantages of interactive methods and multimedia materials in teaching English. The author highlights their positive impact on material retention but stresses the importance of improving teachers' qualifications for working with advanced technologies [7].

Yu-Ju Lan's research highlights the role of virtual reality (VR) technologies in developing learners' language competencies. VR facilitates language immersion, significantly enhancing learning outcomes, particularly speaking and listening skills. However, the lack of transparent methodologies for integrating VR into educational curricula underscores the need for further research [10].

F. Amin and H. Sundari analyze higher education learners' perceptions of various digital platforms, such as LMS, video conferencing tools, and messaging apps. The authors emphasize the interactivity of these tools as a key advantage but note that their long-term impact on learners' motivation requires deeper analysis [11].

In his study on learners' experiences with distance learning during the pandemic, W. Hazaymeh observes that the format improved language skills but also led to psychological challenges, particularly feelings of isolation, which affect motivation for learning [12].

A. Prabawati and co-authors explore the contemporary use of online media in English language teaching. They find that these tools increase learner engagement and promote interactivity, but their adaptation to educational programs remains a critical need [14].

G. Kessler's work focuses on the transformative role of technology in language teaching. The author stresses that innovations demand a systematic approach to implementation and the development of new methodological models that address the specifics of modern educational processes [13].

N. Tkachuk and N. Hryshko examine the effectiveness of distance learning tools like Zoom and Google Meet. They highlight these platforms' ability to facilitate group activities and enhance communicative skills among higher education learners. However, technical limitations remain a pressing issue [8].

O. Boiko analyzes virtual communication as an emerging linguistic skill, emphasizing its importance in modern education. He notes that its overall impact on the quality of the educational process warrants further exploration [1].

Thus, the literature review indicates the widespread use of virtual environments in English language teaching. Despite significant progress in studying this topic, several aspects remain unresolved. The integration of these environments into innovative educational practices for developing critical thinking, creativity, and intercultural communication skills among learners has not been sufficiently explored. A comprehensive analysis of the effectiveness of virtual environments in fostering language competencies is needed, as most studies focus on individual skills without examining the interconnections between them.

The psychological and pedagogical aspects of learners' adaptation to virtual learning remain only partially addressed. In particular, there is a lack of research on the influence of motivation, resilience, and digital literacy on successful adaptation to virtual learning. While the advantages and challenges of such environments are primarily analyzed from a technical perspective, social, cultural, and economic factors are often underestimated.

This proposed research aims to fill these gaps by developing new methodological approaches, expanding the empirical base, and creating adaptive models for integrating virtual environments into English language teaching. Such efforts will enhance educational practices and align them more closely with contemporary demands.

The purpose of the article is to analyze the impact of virtual environments on the effectiveness of English language teaching and examine their potential for improving the motivation and engagement of higher education learners and the overall quality of the educational process.

Objectives of the article:

- 1) to investigate modern approaches to integrating virtual environments into English language teaching, focusing on their effectiveness in developing language competencies such as listening, reading, writing, and speaking and their application within innovative educational practices;
- 2) to identify the psychological and pedagogical features of learners' adaptation to working in virtual environments and analyze the impact of these technologies on the learning process and social interaction;
- 3) to develop practical recommendations for integrating virtual environments into the English language teaching process, taking into account their key advantages, challenges, and the need for adaptation to the modern educational landscape.

Results

Modern approaches to integrating virtual environments into English language teaching focus on technologies that make the educational process more accessible, interactive, and tailored to the individual needs of learners. These approaches aim to address challenges of motivation, engagement, and learning effectiveness by utilizing digital tools that simulate real-life language scenarios. Particularly relevant are online learning platforms, virtual and augmented reality technologies, and adaptive learning systems leveraging artificial intelligence to analyze learners' progress (Table 1).

Table 1

Key Approaches to Integrating Virtual Environments into English Language Teaching

Approach	Key Tools	Expected Outcomes
Using Online Learning Platforms	Moodle, Google Classroom, Microsoft Teams	Interactivity, automated assessment, flexibility in accessing materials
Augmented (AR) and Virtual Reality (VR) Technologies	Virtual tours, language situation simulations	Deeper immersion in the language environment, development of communication skills
Adaptive Learning Systems	AI progress analysis systems (e.g., Duolingo, Grammarly)	Personalized learning, adaptation to learners' levels

Communicative Methodology in Online Format	Video conferences, forums, group discussions	Increased motivation, practical language use, and development of critical thinking in language situations
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Source: compiled by the author based on [9; 13]

Implementing these approaches under modern conditions, even remotely, ensures a high-quality educational process. For instance, using online learning platforms such as Moodle or Microsoft Teams enables the creation of interactive learning materials, organizing group projects, and automating assessment processes [2]. In contemporary world settings, these tools are widely used in educational institutions operating in blended or distance learning formats [3].

AR and VR technologies, such as virtual tours of London, allow learners to immerse themselves in an authentic language environment, which is particularly effective for developing speaking and listening skills. In some schools, especially in major cities, these technologies are introduced through grant programs or partnership projects with international educational organizations.

Adaptive systems like Duolingo are utilized for individualized learning and progress tracking. Learners receive tasks tailored to their level, enhancing the educational process's efficiency. Meanwhile, the communicative methodology, implemented via video conferences or online forums, fosters the development of interpersonal communication skills in English. For example, English-language debate clubs are created and functioning online within school programs or university courses.

Virtual environments open new opportunities for developing learners' language competencies, ensuring an interactive and adaptive educational process. The language acquisition process becomes more efficient and flexible using modern technologies, such as online learning platforms, virtual reality, and adaptive learning systems. Listening, reading, writing, and speaking, as key components of language competencies, are addressed at a new level through interactive materials, personalized tasks, and simulations of real-life language situations. This approach helps reduce the stress of using a foreign language, increases learners' motivation, and enhances their ability to actively apply acquired knowledge in practical contexts (Table 2).

Table 2

Effectiveness of Using Virtual Environments
for Developing Language Competencies

Language Competency	Virtual Environment Tools	Effectiveness and Expected Outcomes
Listening	Virtual simulations, interactive video lessons	Improved listening comprehension, expanded vocabulary
Reading	E-books, interactive text exercises	Enhanced analytical reading skills, understanding texts of various genres
Writing	Automated text-checking systems (Grammarly, Google Docs)	Improved grammatical and stylistic accuracy, development of writing proficiency
Speaking	Virtual conversations, automated dialogues	Improved pronunciation, development of communication skills, overcoming language barriers

Source: compiled by the author based on [1; 6; 8; 9; 13]

For example, interactive video lessons on platforms like Coursera or Khan Academy enable learners to listen to authentic materials, creating an immersive language environment. Adaptive features such as adjustable speech speed or subtitles play a significant role in this process, making learning comfortable for all proficiency levels.

In reading, interactive platforms such as Google Books allow learners to interact with the text through glossaries, automatic translations, or the ability to save key excerpts for later review. This is particularly useful for analyzing texts of various genres, including news articles, scientific papers, or literature.

Writing skills are significantly boosted through automated proofreading systems like Grammarly or Google Docs, which identify grammatical errors and suggest stylistic improvements. For instance, a learner writing an essay can receive recommendations on improving text structure or using more precise expressions, significantly enhancing the quality of their work.

Speaking is improved through interactive simulations of real-life dialogues. Platforms like Mondly, for example, allow learners to practice speech, refine pronunciation and intonation, and automatically analyze the quality of their spoken language. Additionally, virtual environments can simulate real-world situations, such as airport or restaurant conversations, preparing learners for practical language use.

These approaches are becoming increasingly relevant, particularly in implementing remote or blended learning formats. Universities are actively integrating such technologies into their programs, and educational initiatives supported by international grants are promoting the use of these tools even in underprivileged regions. This experience demonstrates that virtual environments are becoming an essential component of language education, creating conditions for the comprehensive development of learners.

Adapting learners to work in virtual environments is a complex process influenced by numerous psychological and pedagogical factors. Among the psychological features, key aspects include self-regulation, learning motivation, stress resilience, and communication skills. Learners working in virtual environments often face challenges such as difficulties with self-organization, reduced attention span, and feelings of isolation, which must be considered when developing teaching methodologies. From a pedagogical perspective, it is crucial to create a supportive educational environment that ensures an individualized approach, access to interactive resources, and continuous support from instructors (Figure 1).

Working in virtual environments depends on learners' ability to adapt to new learning conditions, which involves developing key skills [4]. For instance, self-organization becomes critical, as virtual platforms require independent planning and task execution. Tools like Moodle automatically send deadline reminders and track progress, encouraging learners to take greater responsibility for their education. Implementing such features significantly increases the timely completion of tasks among participants in the educational process.

Platforms' interactive features actively support motivation for learning. For instance, the ability to discuss tasks in real time on Microsoft Teams creates a sense of the teacher's presence, helping higher education learners overcome feelings of isolation [10]. In practice, such discussions boost motivation and foster team spirit.

The simplicity of the interface is a crucial pedagogical aspect that reduces stress associated with using new technologies. For example, for learners with little prior experience

using digital tools, intuitive platforms like Zoom help avoid technical difficulties and allow them to focus on learning. Additionally, user-friendly platforms significantly lower stress levels among first-year students.

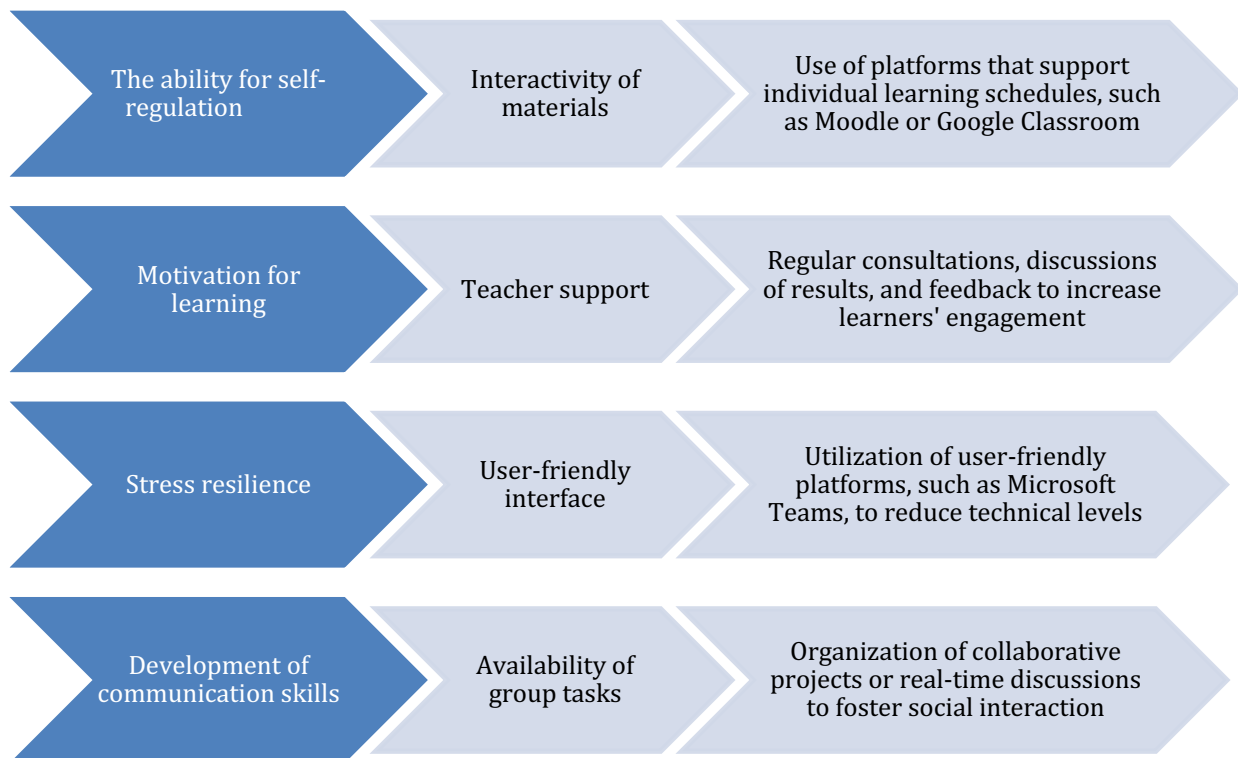


Figure 1. Psychological and pedagogical aspects of learners' adaptation to virtual environments

Source: Author's development

Group projects, such as online debates or collaborative presentations, facilitate the development of communication skills in virtual environments. For example, organizing English-language debates on Zoom allows learners to practice the language while actively collaborating and developing interaction skills.

Despite its significant potential, the application of virtual environments in education comes with challenges and risks that must be addressed to ensure its effectiveness. One important issue is the inequality in access to digital technologies among learners. Some regions have limited funding or insufficient infrastructure, and students may lack access to modern platforms, threatening the equality of educational opportunities, particularly for those in rural areas or from socially vulnerable groups.

Another critical aspect is the technical instability of virtual platforms. Issues like poor internet connectivity, low-quality connections, or software malfunctions can reduce learning effectiveness, cause learners frustration, and diminish their motivation. When participants in the educational process lack sufficient digital literacy, there is a risk of misusing technology or avoiding its use altogether. This creates additional challenges for academic institutions, which need to organize training and technical support.

The lack of physical interaction between learners and teachers in virtual environments poses social risks, such as feelings of isolation, reduced emotional engagement, and

deterioration of social skills [15]. This is particularly evident when learners lack additional support from teachers or when platforms fail to provide interactivity and opportunities for collaboration.

Pedagogical challenges include adapting traditional teaching methods to virtual environments. Teachers often struggle to create engaging and effective materials in a digital format [15]. This can lead to teacher burnout and a decline in teaching quality. Furthermore, data protection and privacy issues arise, as virtual platforms may be vulnerable to cyberattacks, putting both learners' information and the overall security of educational processes at risk.

Power outages, unstable connectivity, and the forced migration of students and teachers create additional barriers to using virtual environments. Parallels can be drawn from the COVID-19 pandemic, which also caused significant stress to the educational system [12]. During that time, the key challenges were the rapid transition to online learning formats, ensuring teachers' digital literacy, and addressing issues of access to quality internet connectivity.

In such conditions, it is critically important to ensure support from the government and international partners to address these challenges. Like the pandemic, effective measures may include expanding access to digital infrastructure, creating backup power sources, and developing specialized training programs tailored to the constraints and needs of crises. Specifically, the experience of adapting to COVID-19 conditions can be leveraged to improve approaches to organizing education during wartime.

Integrating virtual environments into teaching English requires a systematic approach that considers technological, pedagogical, and psychological aspects. The foundation of successful implementation lies in creating a technically equipped environment that ensures stable access to learning platforms and interactive materials [13]. Educational institutions must invest in modern equipment, provide reliable internet connectivity, and utilize platforms tailored to the needs of English language instruction, such as Moodle, Microsoft Teams, or Google Classroom [11]. These platforms should be configured to simplify access to learning materials as much as possible and enable synchronous and asynchronous learning modes.

From a pedagogical perspective, teaching methods must be adapted to virtual environments. Teachers should employ interactive tools such as virtual simulations, multimedia exercises, interactive video lessons, and tests with automated feedback. For instance, in teaching English, particular attention should be paid to the practical use of language through virtual conversation clubs or simulations of real-life situations. These can be implemented on Zoom or specialized language-learning apps like Mondly or ELSA Speak. These technologies enable higher education learners to practice speaking skills in an interactive environment, boosting their confidence and communicative competence.

An essential aspect is training teachers to use virtual environments effectively [15]. This includes conducting workshops on using digital platforms, developing interactive materials, and managing online classes. Integration success depends on how comfortable teachers feel in the new environment and their ability to transfer this sense of ease to their learners [5].

Psychological support for learners is also a key factor, as virtual environments can evoke feelings of isolation. It is crucial to create conditions for social interaction. Regular group discussions, collaborative projects, and interactive sessions help reduce stress levels and foster team spirit among higher education learners. Additionally, the opportunity to receive feedback at any point during the educational process helps sustain motivation and address learning challenges.

In distance learning or hybrid formats, it is essential to establish a clear schedule that allows learners to organize their time effectively. For example, implementing regular short tests to reinforce the material studied helps maintain discipline and focus on learning. Furthermore, ensuring an even workload distribution and avoiding excessive assignments is vital, which could demotivate learners.

The integration of virtual environments should be based on a comprehensive approach that combines innovative technologies, modern pedagogical practices, and attention to learners' psychological needs. This approach allows the creation of a flexible and effective educational environment that meets the challenges of contemporary times and contributes to developing a high level of language competence.

Conclusions

It has been established that using virtual environments to teach English to learners is an effective tool for improving the quality of the educational process. Integrating such technologies contributes to developing language competencies, increasing motivation, and adapting higher education learners to modern educational conditions. Key advantages identified include personalized learning, interactivity, access to resources at any time, and the ability to simulate authentic situations. At the same time, several challenges limiting the effectiveness of virtual environments were identified. These include technical instability of platforms, lack of adequate access to digital technologies in certain regions, low levels of digital literacy among teachers and learners, and feelings of isolation due to the lack of physical interaction. Significant attention is drawn to pedagogical challenges, particularly the need to adapt traditional teaching methods to digital formats, which requires additional teacher training. Risks are also associated with cybersecurity threats, the high cost of equipment, and potential physical discomfort caused by prolonged use of virtual technologies.

Recommendations for integrating virtual environments into the educational process include investing in digital infrastructure, organizing teacher training, creating interactive materials, and providing psychological support for learners. Particular emphasis is placed on developing transparent methodologies for using virtual technologies that consider learners' individual needs.

Future research prospects involve a deeper analysis of virtual environments' impact on the effectiveness of language competence acquisition, assessment of their influence on learners' psychological state, and the development of models for integrating these technologies into traditional education. Studying the impact of various virtual environments, such as VR and AR, on motivation, creativity, and cognitive development in English language education is especially relevant.

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