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13.00.00 Pedagogika fanlari
13.00.01 Pedagogika nazariyasi. Pedagogik ta'limotlar tarixi
13.00.02 Ta'lim va tarbiya nazariyasi va metodikasi (sohalar bo'yicha)
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MUNDARIJA СОДЕРЖАНИЕ CONTENTS

MUNDARIJA

THE ROLE OF DIGITAL TECHNOLOGIES AND VIRTUAL REALITY IN MODERN ENGLISH TEACHING METHODOLOGIES

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Abstract: The article analyzes the role of digital technologies and virtual reality (VR) in modern English language teaching. It traces the evolution from CALL to immersive VR, highlighting its impact on communicative competence and motivation. The study concludes that technology serves as a powerful pedagogical tool that enhances learning efficiency without replacing the teacher.

Key words: digital technologies; CALL; MALL; virtual reality (VR); augmented reality (AR).

Annotatsiya: Maqolada zamonaviy ingliz tili o'qitish metodikasida raqamli texnologiyalar va virtual reallikning (VR) roli tahlil qilinadi. Unda CALL dan MALL va immersiv VR gacha bo'lgan evolyutsiya yoritiladi hamda uning kommunikativ kompetensiya va motivatsiyaga ta'siri ko'rsatib beriladi. Texnologiyalar o'qituvchi o'rnini bosmasdan, ta'lim samaradorligini oshiruvchi kuchli pedagogik vosita ekanligi asoslab beriladi.

Kalit so'zlar: raqamli texnologiyalar; CALL; MALL; virtual reallik (VR); kengaytirilgan reallik (AR).

Аннотация: В статье анализируется роль цифровых технологий и виртуальной реальности (VR) в преподавании современного английского языка. В работе прослеживается эволюция от CALL до иммерсивной виртуальной реальности, подчеркивается ее влияние на коммуникативную компетентность и мотивацию. Делается вывод о том, что технология служит мощным педагогическим инструментом, повышающим эффективность обучения без замены учителя.

Ключевые слова: цифровые технологии; CALL; MALL; виртуальная реальность (VR); дополненная реальность (AR).

INTRODUCTION

The earliest stage of this development can be traced to the rise of Computer-Assisted Language Learning (CALL) in the 1960s-1970s. During this period, computers were mainly used for repetitive drills, grammar exercises, and controlled practice tasks. These early programs reflected behaviorist learning principles, in which language learning was viewed as habit formation. Although limited in interactivity, early CALL introduced the idea that technology could support language practice beyond the teacher-led classroom. In the 1980s and early 1990s, the role of technology in ELT expanded as personal computers became more accessible and multimedia tools emerged. Language learning software began to incorporate audio, images, and video, enabling learners to practice listening and pronunciation more effectively. This stage is often associated with the shift from behaviorist CALL to communicative CALL, as teachers started using technology to support meaning-focused communication rather than solely form-based drilling.

At the same time, word processors and digital dictionaries became common in writing instruction, enabling students to draft, edit, and revise texts more independently. The rapid growth of the Internet in the mid-1990s-2000s marked a major turning point in contemporary English teaching methods. Web-based learning introduced new opportunities for authentic input and real communication. Learners could access real-world texts, news articles, and videos, and communicate with English speakers through email, forums, and later social networks. This period strengthened the role of task-based learning and project-based learning, as technology facilitated the creation of collaborative tasks, research projects, and presentations. Teachers increasingly used online resources to develop learners' communicative competence, intercultural awareness, and digital literacy.

LITERATURE REVIEW

In the 2010s, mobile technologies and social media further expanded digital language learning. Mobile-Assisted Language Learning (MALL) became an important trend, as smartphones allowed learners to practice vocabulary, listening, and speaking through apps anytime and anywhere. Platforms such as YouTube, Instagram, and later TikTok began to influence language learning through micro-content, authentic speech, and informal interaction. At the same time, learning management systems (LMS), such as Moodle and Google Classroom, supported blended learning approaches by combining face-to-face instruction with online tasks. This stage increased the focus on learner autonomy, personalized learning, and continuous formative assessment.

Virtual reality (VR) emerged as a more specialized and advanced branch of digital technology in ELT. Early forms of VR-related language learning appeared through virtual worlds and 3D environments, such as Second Life in the mid-2000s. These platforms allowed learners to create avatars and interact in simulated spaces, providing opportunities for role-play, social interaction, and contextual language use. Although such environments were not fully immersive, they introduced the key idea that language learning could take place in a simulated world resembling real-life communication contexts.

RESEARCH METHODOLOGY

From the mid-2010s onward, the development of VR headsets and immersive applications brought VR closer to mainstream education. Unlike earlier virtual worlds, modern VR systems offered stronger sensory immersion, spatial presence, and interactive experiences. In ELT, VR began to be used for situational speaking practice, such as ordering food in a restaurant, navigating an airport, attending job interviews, or participating in classroom discussions. These simulated experiences aligned well with communicative language teaching and task-based instruction because learners could practice language functions in meaningful contexts.

VR also became valuable for reducing speaking anxiety, since students could practice in a safe environment without fear of immediate judgment from peers. The COVID-19 pandemic accelerated the use of digital technology in English teaching globally. During periods of quarantine and isolation, online learning platforms such as Zoom, Microsoft Teams, and Google Meet became essential for maintaining instruction. However, many educators recognized that video-based platforms often created a limited and passive learning experience. As a result, interest in more interactive and immersive technologies–including VR, AR (augmented reality), and 360-degree video–grew significantly. These tools offered new possibilities for creating "presence" and authentic communication during remote learning, helping to overcome the limitations of textbooks and traditional online instruction [1; 173].

ANALYSIS AND RESULTS

Today, digital technology and VR are increasingly viewed as tools that support contemporary teaching approaches rather than replace teachers. In modern ELT methodology, technology is integrated through frameworks such as blended learning, flipped classrooms, gamification, and digital task-based learning. VR is particularly associated with experiential and situated learning, as it provides learners with realistic contexts for language use. Additionally, VR supports intercultural competence by allowing students to explore cultural settings, interact with realistic scenarios, and practice language in contextually meaningful ways. As research continues to develop, VR is becoming more widely discussed as a promising method for enhancing speaking fluency, vocabulary acquisition, motivation, and learner engagement. Overall, the history of digital technology and VR in English teaching reflects a gradual shift from controlled, form-focused practice toward interactive, learner-centered, and context-rich learning experiences.

From early CALL programs to modern immersive VR environments, technology has increasingly supported authentic communication, autonomy, and practical language use, making it a central component of contemporary English language teaching methodology. Virtual Reality (VR) is a technology that allows students to practice using language in different life-like situations. Language learning through augmented reality experiences adds variety to online language learning and is currently regarded as a promising and researchable element in the field of education, particularly as an emerging technology in language teaching and learning [8;208]. Although the quality and pedagogical design of available tools differ–for example, some applications place learners in fully computer-generated environments, while others provide reality-based interactions with real people through pre-recorded responses–the underlying purpose remains consistent. Specifically, these technologies aim to address the limitations of traditional classrooms and textbooks. This became particularly important during the COVID-19 period, when isolation and quarantine restricted face-to-face communication. As a result, language learners were able to engage in more authentic and practical uses of the target language.

According to Schwienhorst, simulated environments allow EFL and ESL learners to practice language in authentic situations and enable the practical adaptation of collaborative learning theories, particularly the concept of constructivism, through the integration of virtual reality as a language learning tool [3;2412]. Current educational practices are no longer limited by geographical or disciplinary boundaries. As education continues to evolve, educators encounter an increasing diversity of paradigms, methodologies, and technologies that require informed, flexible, and adaptive approaches [1;173].

The advances in technology that allow VR to function as a practical tool for language learning have the potential to transform pedagogy, teaching, and research on technology-supported language learning. In this context, the present section has examined widely used online language teaching tools and practices in EFL and ESL settings, including blogs, group work, online chats, and discussion forums, emphasizing how these approaches enhance interaction, motivation, and engagement through constructivist and sociocultural learning principles. In general, virtual reality (VR) refers to a technology that produces immersive and realistic experiences by simulating events and visual scenes, often enhanced through special effects to create credible representations of real environments. This technology is primarily grounded in interactive simulations that reconstruct real-life situations for users.

In addition to the evolving technology of VR, it is worth highlighting augmented reality (AR), which allows the overlapping of virtual objects within the real world or with real objects [8;189]. Studies on the use of VR in education demonstrate several benefits. Among its impacts on learning is the creation of highly interactive environments in which students can manipulate objects and experience authentic scenarios while remaining focused on their tasks [6;214]. In situations where real-world travel or participation is too complex or impractical, learners can safely use VR to immerse themselves in alternative realities at relatively low cost and with high safety standards, as they remain in secure locations [2;16]. The implementation of VR has made its broad educational benefits increasingly apparent. Learning can become more engaging in virtual environments because they enable learners to interact with content in personalized and experiential ways.

As a result, simulated concepts and scenarios promote deeper involvement and sustained engagement in learning activities. Moreover, varying levels of immersion support multi-sensory and complex perceptions, thereby enhancing educational value and contributing to richer outcomes. In this sense, VR provides a more interactive and authentic alternative to the relatively flat and one-directional nature of traditional digital platforms such as YouTube or Zoom meetings, as students can participate in and interact with the environment in more realistic ways [5;7]. A metaverse refers to a virtual realm in which learners can interact, communicate, and collaborate online, facilitating social interaction through avatars or digital characters. This environment enables active communication with individuals from different regions while maintaining meaningful social connections. During periods of physical separation and COVID-19 restrictions, such environments became particularly relevant, as students were able to explore new locations, adjust perspectives, and immerse themselves in virtual worlds without losing the social dimension of learning [12;892]. The use of VR enables learners to practice speaking in a wide range of realistic communicative situations.

Similarly, AR contributes variety to online language learning and is increasingly regarded as a promising and emerging area within education, particularly as a developing technology in language teaching and learning. Although the pedagogical quality of available tools differs–for instance, some applications allow interaction with real individuals through authentic pre-recorded responses, whereas others immerse learners in fully computer-generated environments–the underlying aim remains consistent. These technologies provide opportunities for practical, real-world language use, thereby addressing the constraints of traditional classrooms and textbook-based instruction, especially during the COVID-19 pandemic and related isolation measures. Simulated environments support both EFL and ESL learners in practicing language in authentic contexts and facilitate the application of collaborative learning theories. In particular, they align with constructivist principles by enabling learners to construct knowledge through interaction, experience, and contextualized communication.

As technological developments continue to make VR increasingly accessible and functional, its integration into education has the potential to reshape pedagogy, classroom practice, and research on technology-enhanced language learning. Fang-Chuan notably argues that computer-generated, simulated yet authentic environments can increase engagement and provide language learners with alternative learning experiences, particularly where conventional textbooks and traditional methods have proven insufficient. Wang et al. mention that despite the integration of multimedia materials such as videos, audio files, CDs, and MP3 resources in the ongoing development of ESL and EFL textbooks, these materials remain inadequate and represent a somewhat stagnant portrayal of language in light of students' continuously evolving needs [10;49]. Chien et al. similarly point out that textbook materials offer constrained opportunities for authentic engagement, resulting in limited real-world language application. By placing students in more engaging and productive environments, VR tech-

nology can strengthen the theoretical foundations of language acquisition by immersing learners in real-life situations. Language instructors are increasingly drawn to VR because of its capacity to enhance motivation and language performance through interactive learning experiences that move beyond traditional materials (Chen, 2016). Research further suggests that learners, aware they are interacting with virtual agents or automated systems, often experience reduced anxiety and are more willing to take risks in language production, as lower affective filters encourage experimentation with language [11;38]. Emerging technologies aim to design VR systems that connect language learning to real-life applications (Fang-Chuan). Studies indicate that VR presents L2 learning through realistically simulated environments in which learners feel present and able to explore and interact meaningfully.

Research frequently addresses intrinsic motivation, purpose, and self-efficacy, as well as affective responses to VR-enhanced instruction and contextualized learning. Significant improvements in language learning experiences, particularly in L2 vocabulary acquisition, have become possible through innovative pedagogical opportunities enabled by advances in computer and instructional technology (Tzu-Yu Tai, 2020). The positive outcomes associated with the immersion and motivation of low-achieving students in communicative, student-centered learning tasks (Nouri, 2016) are further enhanced by VR-supported instructional designs. Such approaches align with Piaget's (1969) and Vygotsky's (1978) emphasis on pedagogical frameworks grounded in real-life social interaction, embedded learning, self-directed learning, and student-centered education. Constructivist designs proposed by Vygotsky suggest that learners connect prior knowledge and experience with new information, thereby constructing deeper understanding.

CONCLUSION

In conclusion, the integration of digital technologies in English language teaching has developed progressively from limited, form-focused computer drills to highly interactive, learner-centered, and context-based learning experiences. This evolution reflects a broader methodological shift in ELT–from behaviorist models emphasizing repetition and habit formation to communicative and sociocultural perspectives that value authentic interaction, meaningful tasks, and learner agency. Internet-based learning, mobile technologies, and social media have expanded access to real-world input, increased opportunities for communication, and strengthened blended learning practices. Within this trajectory, virtual reality represents a significant advancement because it enables learners to engage in realistic communicative situations that are otherwise difficult to recreate in classrooms.

By offering immersion, presence, and interactive simulation, VR supports situated and experiential learning and provides opportunities for contextualized language practice. It is particularly beneficial for developing speaking skills, increasing motivation, reducing anxiety, and promoting intercultural awareness. Additionally, VR environments align strongly with constructivist and collaborative learning theories, as learners build knowledge through interaction and meaningful experiences. Although VR and other emerging technologies continue to face challenges related to accessibility, pedagogical design, and teacher training, their educational potential is increasingly recognized. As research expands and technology becomes more widely available, VR is likely to play an important role in shaping future ELT methodologies. Ultimately, digital technologies and virtual reality should be viewed not as replacements for teachers but as supportive tools that enrich instruction, strengthen learner engagement, and enhance the effectiveness of modern English language teaching.

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