

PAPER

METHODICAL PRINCIPLES AND DIDACTIC POSSIBILITIES OF TEACHING ENGLISH IN A VIRTUAL REALITY ENVIRONMENT

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Abstract

This article covers the issues of effective organization of English language education based on the use of virtual reality technologies. The study analyzes the didactic possibilities of the VR environment in increasing the student's motivation, forming speech skills and simulating real-life situations.

Key words: virtual reality, English language education, methodical principles, didactic opportunities, interactive teaching, immersive technologies, communicative approach, digital pedagogy.

LOGIN

In recent decades, the rapid development of information and communication technologies has led to the formation of new paradigms in the field of education. One of their most interesting and promising types is — virtual reality (VR) technologies, which allow the learning process to be immersive, interactive and context-oriented. The role of the VR environment in subjects that require the formation of communicative competencies, such as English, is particularly important —, because this technology connects language learning with real-life situations and allows students to develop their speech, listening comprehension and

communication skills in a practical way.

Practice and research show that activities performed in traditional audience settings often lower students' motivation, do not create enough context and a safe environment for communication, and limit individualized learning. VR overcomes these limitations and creates an opportunity for the student to freely experiment with errors, strengthen language elements based on context, and have constant access to communication. At the same time, the effectiveness of the technology is its methodologically correct integration, adaptation to the principles of teaching and the educational process it depends on the combination with didactic goals. Determining the main methodological

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principles of English language teaching in the virtual reality environment and developing practical recommendations through a systematic analysis of the didactic possibilities of this environment.

METHODOLOGY

Virtual reality is a technological system that allows a person to dive “into an artificially created environment using special technical means. Through this system, the user can directly interact with spatial objects, feel the real life state through his visual, auditory and even kinesthetic senses. Today, VR technologies are widely used in the teaching of medicine, engineering, art and foreign languages in various areas of the educational system. In particular, in the process of teaching English, VR brings students’ communicative activities closer to the real communication environment, plays an important role in the development of their skills in practical language application.

The VR-based learning process, unlike traditional learning, makes the learner an active participant rather than a passive listener. Therefore, this technology serves to develop students’ independent thinking, problem solving and teamwork skills.

In recent years, scientific research on the use of digital technologies, in particular, virtual reality (VR) and augmented reality (AR) systems, has become significantly more active in the methodology of teaching foreign languages. Research shows that VR technologies transform the educational process from a traditional model into an interactive and person-oriented system, increasing students’ motivation, increasing their level of communication and making it possible to learn the language in a natural context.

For example, R. In his research, Peterson argues that foreign language materials learned through a virtual environment are more firmly stored in long-term memory in students. According to him, learning based on immersive experience is perceived as “real experience” in the human brain, which increases the efficiency of learning. T. Lee, on the other hand, focused on the psychological benefits of using VR in English language teaching, noting that students’ feelings of fear and shyness are reduced. According to them, in a virtual environment, the student communicates freely because he feels safe, and this process serves to create a natural language

environment.

A. Ismailov and Z. In her work, Abduvaliyeva analyzed the problems of adapting VR technologies to the Uzbek education system. They note the limited technical means, the level of digital literacy of teachers and insufficient methodical training as the main obstacles. At the same time, the authors recognize the potential of VR-based teaching in the formation of communicative competence in language learning and emphasize the need to develop teacher retraining programs in this direction.

The main methodological principles used in the process of teaching English — is a set of didactic rules aimed at organizing the educational process in a meaningful, interactive and person-oriented form. In the environment of virtual reality, these principles have become more widespread and modern. Below are the main principles analyzed:

1. The principle of communicative approach. In a VR environment, the reader feels in a real English-speaking environment. For example, through simulations such as “virtual restaurant” or “airport communication”, it develops the ability to speak in a real communication situation. This approach helps to connect the student’s grammatical knowledge with practical speech.

2. The principle of interactive teaching. VR tools make the student an active participant in the learning process. In the course of the lesson, he moves objects, communicates, performs tasks independently. Such interactivity increases motivation and accelerates the student’s learning process.

3. The principle of immersive learning. Immersion — is the process of fully “immersing the reader in a virtual environment. In learning English, this principle allows to create a natural speech environment. As a result, the student remembers new words based on context rather than artificial memorization.

4. The principle of visualization and contextual learning. In English classes, learning words and phrases not only in text form, but also through sight, hearing and movement increases efficiency. For example, when “supermarket” or “travel” scenes are created through VR, students learn language units in a direct context.

5. The principle of reflection and self-evaluation.

The virtual environment allows the student to review his activities, analyze his mistakes and correct them. This is important in forming a culture of self-study. Below we can see the content, practical expression and didactic importance of the principles based on the table.

No	Methodological principle name	Content	Practical expression	Didactic significance
1	The principle of communicativeness	Involve students in real communication during the educational process, direct them to active use of the English language.	Preparing students for real communicative situations through virtual conversations, videos, interactive dialogues.	Develops the student's speech activity, strengthens communicative competence.
2	The principle of interactivity	Ensuring active communication between the student and the teacher, strengthening cooperation in the lesson.	group completion of tasks on VR platforms, participation in a role in a virtual environment.	Forms students' skills of cooperation, teamwork, free expression of their opinion.
3	The principle of immersiveness	The reader is fully immersed in the virtual environment " , naturally using the language he is learning.	Feeling the real environment in English through VR glasses or simulations.	Increases the student's attention, strengthens his emotional and psychological preparation for language learning.
4	The principle of visualization	Description of educational material through visual and multimedia tools.	Show virtual objects, 3D scenes, English recordings, characters in VR	It helps to absorb information quickly and efficiently, strengthens the process of remembering.
5	The principle of individual approach	Taking into account the level of knowledge, interest and learning rate of each student.	Personal assignments on VR platforms, application of customized learning scenarios.	Ensures personal orientation of education, encourages independent learning.

The didactic advantages of VR technologies are multifaceted, the main of which are: Increase motivation. The VR environment increases students' interest and desire to participate. Because every student feels in a real language environment, he feels a natural need to learn. Providing practical experience. The learner safely tests the communication situations they encounter in real life through VR. Individual teaching opportunity.

VR platforms are personal depending on the level of preparation of each student assignments and offers exercises. Comprehensive development of language competencies. VR not only expands vocabulary, but also forms a culture of pronunciation, listening comprehension, grammatical correctness and communication at the same time. Modeling problem situations. In English, problems that arise in communication are processed through VR scenes, which increases the student's communicative flexibility.

VR technologies also create new opportunities for teachers. They will have the opportunity to manage the educational process, monitor student activities, make individual recommendations and analyze the effectiveness of the lesson. At the same time, there are some limitations of the VR environment:

the cost of technical equipment, dependence on the speed of the Internet, some students may experience orientation or fatigue. Therefore, it is necessary to take into account pedagogical goals and psychological factors when using this technology.

In the near future, as a result of further improvement of VR technologies, English language education is expected to reach a completely new level. Integration of AI-powered voice assistants, automatic analysis systems, and adaptive learning models with VR creates an individualized, flexible learning environment for students. This process not only increases the effectiveness of language teaching, but also serves to develop students' critical thinking, creativity and global competitiveness skills.

Introduction of virtual reality technologies into the English language teaching process effectively develops students' communicative competence. VR-based teaching methodology increases students' motivation based on the principles of immersive learning, interactivity and visual approach. Teachers should have methodical training in the use of VR technologies, technical he should be able to direct the tools to a didactic goal. Curriculum should be developed in accordance with VR platforms, in which the content should be of high quality, pedagogically and psychologically correctly designed. In the future, it is desirable to test VR-based lesson models, measure their effectiveness and improve them based on the concept of digital pedagogy. In general, virtual reality technologies are of great scientific and practical importance as a modern innovative tool in English language education. It develops students' communication culture, helps to effectively organize the teacher's pedagogical activities, and finds its place as an integral part of the digital age education system.

CONCLUSION

Analysis conducted during the study showed that the use of virtual reality technologies will bring modern English language education to a new level of quality. These technologies not only make the learning process interesting and interactive, but also bring students closer to the real communicative environment and develop their skills in practical language application, expression of thought and communication. Methodological principles of

English language teaching in a virtual reality environment, unlike traditional approaches, form an educational model based on active participation and immersive learning that puts the student in the center. The combination of communicative, interactive and visual approaches actively involves students in the learning process and develops their independent reading and self-evaluation competencies.

From a didactic point of view, VR technologies create new opportunities for both the teacher and the student: individual teaching, contextual learning, modeling of real situations and interaction in a natural form organization is provided. At the same time, technical, methodical and it is necessary to take into account psychological limitations. Technology should serve the purpose of teaching, but should be used as a tool that complements the educational process.

References

1. Mirziyoyev Sh.M. Development strategy of new Uzbekistan. – Tashkent: Uzbekistan, 2022. – 356 p.
2. Kholmatova N. Digital pedagogy: theory and practice. – Tashkent: Science and technology, 2021. – 228 p.
3. Ismailov A. Possibilities of virtual reality technologies in the educational process. – “Educational technologies” magazine, №4, 2021. – B. 44–49.
4. Abduvaliyeva Z. Effectiveness of using innovative methods in teaching foreign languages. – “Philological issues” scientific journal, №2, 2022. – B. 98–104.
5. Rasulov B., Karimova D. Prospects for the use of artificial intelligence and VR technologies in education. – Tashkent: TDPU publishing house, 2023. – 176 p.
6. Karimov BA. “Digital technologies in education and their psychological impact”. — Tashkent: Science, 2021.
7. Hasanov NM. “Innovative methods in primary education”. — Tashkent: TDPU publishing house, 2022.