DEVELOPMENT OF STUDENTS' LINGUISTIC COMPETENCE BASED ON THE INTEGRATION OF VR AND AR TECHNOLOGIES

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Abstract: *aimed at developing students' linguistic competence using virtual reality (VR) and augmented reality (AR) technologies. An immersive learning environment created through VR and AR capabilities allows students to learn the language through live and interactive interactions. The results of the study show that the integration of VR and AR technologies into the educational process has a positive effect on increasing the effectiveness of language learning, improving students' vocabulary, grammatical knowledge and speaking skills. In addition, these technologies help to increase students' motivation and interest in learning. Keywords: virtual reality, augmented reality, linguistic competence, language learning, immersive teaching, educational technologies.*

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The acquisition of linguistic competence is a multifaceted process requiring significant time and effort. Traditional methods, while effective, often lack the immersive and interactive elements crucial for deep engagement and rapid progress. Virtual Reality (VR) and Augmented Reality (AR) technologies offer a transformative approach, providing opportunities for realistic and engaging language learning experiences. This article investigates the efficacy of integrating VR and AR technologies into language education, analyzing their impact on various aspects of students' linguistic development. Innovative technologies that help to improve and enrich teaching methods are increasingly playing a role in modern education. Two technologies that are gaining particular attention are virtual reality (VR) and augmented reality (AR). VR allows users to fully immerse themselves in a virtual environment, while AR allows virtual objects and information to be placed in the real world. Both of these technologies offer unique opportunities for innovative learning. Using VR and AR in education opens the door to a world of more interactive and hands-on learning. They allow students to experience unique and immersive learning scenarios that have never existed before. With VR and AR, students can visualize complex concepts, experiment with different scenarios, and develop hands-on skills. One of the main advantages of VR and AR is the ability to create interactive simulations. Students can simulate real situations such as surgical operations, aircraft control or building design and practice in these fields. It helps improve understanding and mastery of complex skills by minimizing risk and errors. AR is also great for populating the real world with information and visual objects. Students can use AR to expand their experiences and

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knowledge by adding additional explanations, illustrations, and context to learning materials. For example, when studying art, students can post their work in virtual galleries where they can receive feedback and share their creations with the world. Virtual reality (VR) and augmented reality (AR) are important educational innovations that provide new opportunities to improve the quality and accessibility of education. Some examples of using VR and AR in education include:

Virtual Reality (VR)

Virtual field trips: students can take virtual trips to museums, historical sites, and other locations around the world without leaving their classrooms. Immersive learning: VR allows students to fully immerse themselves in the learning environment, which is especially useful for learning complex or dangerous processes such as surgery or working with chemicals. Skill development: using VR, students can practice a variety of skills, such as public speaking, driving or operating equipment, in a controlled and safe environment. Collaboration: virtual reality allows students to work together on projects in real-time, regardless of geographic location.

Augmented Reality (AR)

Interactive textbooks: with the help of AR, textbooks can be enriched with interactive 3D models, animations and videos, which make learning the material more interesting and understandable. Hands-on learning: AR provides students with direct access to instruction and information as they complete the task, speeding up the learning process and helps to consolidate knowledge. On-the-job training: augmented reality can be used to train employees in real-world work situations, where they are given instructions and additional information on the device's screen. Game techniques: AR can be used to create game scenarios that motivate students and make learning more fun and engaging. Overall, VR and AR have the potential to transform the learning process by making it more interactive, engaging, and effective. However, in order to successfully integrate these technologies into education, it is necessary to take into account various factors, such as the development of quality content, the availability of VR and AR equipment, and the preparation of teachers to work with new technologies. The process of organizing education with the help of virtual technologies has many advantages. However, at the same time, the student's mastery of knowledge using this method also depends on the practice used in the presentation of the educational material and the received information. The process of organizing education with the help of virtual technologies can be cited as an example of the following online trainings, which are made convenient for students:

1. A friendly, positive, creative, scientific environment is created between teachers and students in the process of organizing education using virtual technologies. In this process, the student feels free and has the opportunity to think independently.

2. In this process, students will be informed about the information they will receive, including the curriculum of the subject, the sequence of topics they need to study, the literature related to mastering the subject by the teacher, the technology of

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monitoring the delivery and execution of assignments by the teacher and students by e-mail, for example, the method of delivery using e-learning is chosen instead of the site.

3. The use of asynchronous and synchronous activity interactive teaching method, in which the students' brainstorming method and knowledge of the topic will be expanded. Students will have the opportunity to view virtual video courses using the Internet, as well as complete courses in autonomous mode, which will allow them to understand a specific topic or acquire skills. According to Jaron Lanier, "the virtual world is a unique form of human existence and a special cultural expression of the spiritual connection of people. Therefore, the source of everything that exists in the virtual entity is the human mind. The virtual entity exists objectively, that is, not in the human brain, but in the computer. At the same time, it is a product of the human mind. Virtual existence is used in all stages of human cultural life." Virtual existence is widely used as an educational tool in various fields, especially in the organization of education. Virtual living environment and virtual objects interact in real time through an augmented reality device. For example, when taking a real-life photo using a smartphone camera, AR can attach virtual objects to the photo. It has been found that the virtual presence helps students visualize abstract concepts and allows them to observe phenomena that would otherwise be impossible. The computer "allows for the personalization of formal thinking." From this point of view, digital technologies are not only a means of learning, but also the computer is distinguished by its capabilities, as it is used to concretize the acquired knowledge by mastering formal operations. Such concretized knowledge includes all the elements necessary for mastering the tools of formal thinking. The integration of virtual technologies into the educational process, first of all, helps the development of the student's ability to think, at the same time, the student becomes a creator; secondly, the use of computers in the educational process forms both algorithmic and figurative thinking in students, and the importance of this component of thinking skills is very high, because "human mental activity should not copy the computer's thinking system under any circumstances." Virtual technology is created with the help of information technologies, transmitted to a person through his senses: sight, hearing, touch, etc. Virtual technology simulates both impact and reaction. The acmeological approach to modeling the psychological and pedagogical foundations of the educational process with the help of digital technologies includes the following features:priority of technological approach; expediency of using digital technologies in education;   they ensure the acquisition of knowledge and skills in the use of traditional methods and technologies.Currently, there are three main theories developed in psychology to the problem of the computer's influence on human mental activity: replacement theory, combination theory and transformation theory. Based on the mentioned theories, studies were conducted to study the psychological consequences of informatization in educational and professional activities, in particular, certain skills related to processing and perception of computer information, specific actions, individual mental processes. For example, printed text as a source of information is built on the principles of separation of content from reality, it is characterized by features

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such as linearity, consistency, objectivity, rationality. In addition, the higher the problem nature of visual information, the higher the intensity of the student's mental activity. Thus, visualization of educational activities with the help of digital technologies helps to master the material more intensively.

In the modern education system, it is important to develop linguistic competence for students. Linguistic competence, that is, the ability to understand and use language, is essential for students not only for academic success, but also for their future professional activities. Today, virtual reality (VR) and augmented reality (AR) technologies are being integrated into the educational process, which creates new opportunities for students. Linguistic competence is the ability to learn and use language. It includes grammatical, lexical and phonetic aspects of language. For students, it creates an opportunity to develop competence, improve their communication skills, and use the language in practice. VR and AR technologies play an important role in this process. Virtual reality (VR) technology allows users to experience a fully immersive environment. Students can make the language learning process more interesting and interactive through VR. For example, in a VR environment, students have the opportunity to learn about other cultures, practice the language, and try themselves in different roles.Augmented reality (AR), on the other hand, combines digital elements with the real world. With AR, students can simulate real-life situations during language learning. For example, through AR applications, students can use interactive materials to learn new words, see them in their environment, and practice them.The integration of VR and AR technologies creates more effective teaching methods for students. For example, in a VR environment, students can simulate communication situations, which will develop their language skills. Also, through AR technologies, students can test their knowledge in practice.

The integration of VR and AR technologies in the development of students' linguistic competence helps to update the educational process. With the help of these technologies, students can be more effective not only in the language learning process, but also in communicating with other cultures. In the future, these approaches are expected to become more widespread in the education system, as they encourage students to think more innovatively and use the language in practice.

REFERENCES:

1.   Milgram, P., & Kishino, F. (1994). A taxonomy of mixed reality visual displays. IEICE Transactions on Information Systems, 77(12), 1321-1329.

2.   Dede, C. (2009). Immersive interfaces for engagement and learning. Science, 323(5910), 66-69.

3.   Johnson, L., Adams Becker, S., Estrada, V., & Freeman, A. (2015). NMC/CoSN Horizon Report: 2015 K-12 Edition. The New Media Consortium.

4.   Lee, K. M. (2004). Presence, explicated. Communication Theory, 14(1), 27-50.

5.   Dunleavy, M., Dede, C., & Mitchell, R. (2009). Affordances and limitations of immersive participatory augmented reality simulations for teaching and learning. Journal of Science Education and Technology, 18(1), 7-22.

6.   VIRTUAL REALITY (VR) IN INNOVATIVE EDUCATIONAL TECHNOLOGIES AND AUGMENTED REALITY (AR) METHODS B. E. Boymurodov.

7.   https://ilmfanvatalim.uz/index.php/ift/article/view/229