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THE IMPACT OF VIRTUAL EDUCATIONAL ENVIRONMENT ON ENHANCING FOREIGN LANGUAGE LEARNING

This article examines the impact of virtual educational environments on the quality of foreign language acquisition among students in higher education institutions. A virtual educational environment is an open system that facilitates effective interactive learning through the integration of virtual reality technology into the educational process. It refers to software or platforms designed to deliver educational services. Such an environment is established by the participants involved in the learning process rather than by technical tools, visual aids, or physical classrooms.

In today's rapidly changing world, the incorporation of virtual reality plays a crucial role in enhancing foreign language learning by ensuring comprehensive student engagement in the educational process, thereby optimizing learning outcomes. This article explores the concept of a virtual educational environment, outlines its key characteristics, and discusses its formation and implementation through intensive learning techniques, particularly the immersive method and the suggestive approach.

The article describes various effective strategies for developing students' foreign language vocabulary, especially at the stage of lexical unitsemantization, which is achieved through the "immersion effect." The suggestive method is applied in virtual educational environments by integrating audio and visual suggestion techniques to eliminate psychological barriers in language acquisition and production, thereby significantly enhancing the learning experience. This approach is facilitated through computer programs, particularly interactive suggestion-based applications like "Quick Teacher." The article provides an analysis of this program in the context of accelerating foreign language learning.

Thus, the virtualization of the educational process opens new possibilities for addressing one of the most pressing contemporary challenges: enhancing the efficiency of educationand continuously improving it through the advancement of interactive technologies. Ultimately, the use of virtual educational environments offers undeniable benefits, enabling students to expedite foreign language acquisition, master new vocabulary more effectively, and boost motivation through the incorporation of game-based computer technologies grounded in immersive and suggestive intensive learning methodologies.

Key words: *enhancement of the educational process, immersive method, suggestive method, virtualization of education, computer technologies.*

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ВПЛИВ ВІРТУАЛЬНОГО ОСВІТНЬОГО СЕРЕДОВИЩА НА ОПТИМІЗАЦІЮ ПРОЦЕСУ ВИВЧЕННЯ ІНОЗЕМНИХ МОВ

У статті розглядається роль віртуального освітнього середовища у процесі підвищення якості засвоєння іноземної мови студентами закладів вищої освіти. Віртуальне освітнє середовище являє собою відкриту систему, що сприяє ефективному інтерактивному навчанню завдяки застосуванню технологій віртуальної реальності в навчальному процесі. Це програмне забезпечення або платформа призначена для надання освітніх послуг. Ключову роль у створенні такого середовища відіграють учасниками освітнього роцесу, а не технічні засоби, наочні матеріали чи традиційні навчальні аудиторії.

У сучасних умовах динамічних змін застосування віртуальної реальності є важливим чинником в удосконаленні вивчення іноземних мов, оскільки забезпечує глибоке залучення студентів у навчальний процес, що сприяє його оптимізації. У статті висвітлюється поняття віртуального освітнього середовища, визначаються його основні характеристики та розглядаються шляхи його створення і використання за допомогою інтенсивних методик навчання, зокрема іммерсивного підходу та сугестивного методу.

У дослідженні подано ефективні стратегії формування словникового запасу студентів, особливо на етапі засвоєння значень лексичних одиниць, що забезпечується через «ефект занурення». У віртуальному освітньому середовищі сугестивний метод реалізується шляхом комплексного використання аудіо- та відео-сугестивних засобів, що сприяє усуненню психологічних бар'єрів у процесі оволодіння мовою і значно покращує результати

навчання. Цей підхід реалізується за допомогою комп'ютерних програм, зокрема інтерактивних сугестивних застосунків, таких як «Quick Teacher». У статті здійснено аналіз цієї програми з точки зору прискорення процесу вивчення іноземних мов.

Таким чином, віртуалізація освітнього процесу відкриває нові перспективи для вирішення одного з ключових завдань сучасності: підвищення ефективності освіти та її постійного удосконалення завдяки розвитку інтерактивних технологій. Отже, використання віртуального освітнього середовища має беззаперечні переваги, оскільки сприяє пришвидшеному засвоєнню іноземної мови, ефективному опануванню нової лексики та підвищенню мотивації завдяки інтеграції ігрових комп'ютерних технологій, заснованих на іммерсивних та сугестивних методах інтенсивного навчання.

Ключові слова: оптимізація освітнього процесу, іммерсивний підхід, сугестивний метод, віртуалізація освіти, цифрові технології.

1. Introduction

Formulation of the problem. In today's world, where computer technologies dominate all spheres of public life, the issue of improving virtual pedagogy remains highly important. At the same time, the limited number of hours allocated for foreign language study in higher educational institutions, the challenges of creating a language-rich environment, and the varying levels of students' prior knowledge necessitate the intensification of the language learning process and the enhancement of its communicative orientation. The virtualization of education plays a crucial role in addressing these issues, as it serves as an effective tool for presenting educational material, particularly in English, facilitating its rapid perception, deep comprehension, and practical application.

Thus, the need to equip students of non-linguistic specialties with knowledge of English lexical units and the ability to apply them in professional contexts serves as a key driver in the development of an appropriate virtual educational environment. Therefore, analyzing teaching methods and technologies that are effectively used within the virtual educational environment is essential for scientifically substantiating the selection of methods that can ensure the intensification of the learning process (Sal′nyk, Siryk, 2008: 158–160).

Immersive virtual reality aims to create a complete 360-degree experience, transporting students into a digital three-dimensional environment. Through virtual tools, such as virtual reality headsets, students can interact with the virtual learning space, fully immersing themselves in it. As a result, the virtual educational environment facilitates the implementation of immersive learning.

Immersive learning is an intensive learning method in which students engage in virtual dialogue. The sense of presence serves as proof of immersion. The immersive method has undeniable advantages, as it enables students to acquire and develop new linguistic knowledge while enhancing their motivation through full engagement in learning via realistic simulations. Students can recreate complex language environments without risks, in situations close to real-life contexts. Consequently, the student becomes a co-creator of the educational process, an equal participant who actively interacts with the virtual learning space, ultimately accelerating foreign language acquisition (Zhuravel′, Khaydari, 2017: 208–112).

It is important to note that the virtual educational environment also creates conditions for another intensive learning method–the suggestive method. Suggestology is a field of study that explores the mechanisms behind unlocking and mobilizing an individual's hidden potential for memorization, comprehension, and communication .The suggestive reinforcement of mental self-regulation techniques, facilitated through virtual reality, can have an even greater emotional and psychological impact than that of a traditional suggestive psychotherapist.

The effectiveness of influence significantly increases when various types of suggestion are combined. One of the most well-known and straightforward examples of such integration is the simultaneous use of audio and visual suggestion. The successful combination of different types of suggestion in virtual lessons allows for the assimilation of large volumes of linguistic information in a relaxed and comfortable atmosphere. Additionally, it contributes to improved well-being, reducing headaches, irritability, and insomnia while enhancing overall productivity (Chernova, 2010).

Thus, the visualization of learning materials facilitates deeper comprehension. Multimedia programs stimulate multiple perception channels in students simultaneously. The combination of visual imagery, text, and audio provides extensive opportunities for the comprehensive development of students' language skills.

The purpose of the article is to present the analytical review of the role of the virtual educational environment in the intensification of the learning process. Additionally, the article examines specific intensive learning methods, particularly the immersive and suggestive methods, in terms of their impact on the intensification of foreign language learning.

State of research. The rapid development of computer technologies and their widespread application in the educational process have led to the emergence of numerous philosophical works on virtual reality. The term "virtual reality" was first used by the American scientist in the field of data visualization and biometric technologies, Jaron Lanier, in 1987. Lanier defines virtual reality as an illusory world that simulates reality through computer technologies and interacts with human sensory organs in real time. In other words, virtual reality is a technology based on feedback between humans and a synthesized computer-generated world, enabling the visualization, manipulation, and interaction with the digital environment. For example, A. Buhl considers virtualization as a form of replacing real space with a virtual one, where certain social processes are reproduced.

Karl Machover, former president of the Computer Graphics Association, identifies several important functions of virtual reality that provide significant advantages in learning foreign languages, namely:

• The ability to provoke lively discussions in a virtual educational environment;

• The capacity to foster deep engagement in the learning process due to a strong connection with human sensory perception;

• A focus on the learner's personal experience, among others.

Japanese methodology expert Mehrasa Alizadeh highlights various appealing features of the virtual educational environment, including:

• A focus on knowledge construction through direct interaction with other learners;

• The presentation of knowledge by virtually placing students in different learning contexts;

• Enabling individualized learning through varied pacing, styles, and approaches.

The immersive nature of virtual learning environments has been studied by numerous domestic and international researchers, including Loader D., Paliy O.A., and Tereshchuk V.S.

Ukrainian researcher O.A. Paliy argues that the "psychological atmosphere of involvement in what is happening on the screen" is due to the fact that students perceive screen-based information as a direct reflection of reality rather than secondary evidence of it. This explains the growing use of automated classrooms with large projection screens for collaborative learning and creative activities, where information can be displayed from computers connected to local (corporate) or global (worldwide) networks and their respective information sources. The screen's demonstrative properties enable students to immerse themselves in the virtual space, identifying artificially created life models with real-life situations (Paliy, 2002: 219).

D. Loader notes that for an "immersion effect" to occur in a virtual environment, users must be able to perform self-initiated, personalized actions. Tereshchuk V.S. emphasizes that from a psychological perspective, a virtual educational environment is a space generated by human cognition and has a sensory-imaginative nature.

Based on these statements, it can be concluded that student immersion in a virtual educational environment occurs when their activity potential is activated while completing learning tasks and when objects of reality are realistically represented. Effective immersion is achieved through the application of the immersive method in foreign language learning.

The immersive method is an intensive learning approach that transforms the communicative goal of education into a reality where foreign language interaction takes place. The key features of the immersive technology include:

• The use of techniques that activate both conscious and subconscious cognitive processes to create a diverse and strong linguistic foundation;

• The development of tasks that stimulate communication;

• Optimal interaction between learners.

Thus, the immersive method comprises a set of techniques and means for interactive, productive engagement of educational participants to foster students' personal and professional development, particularly within a virtual learning environment. This method is highly effective for acquiring foreign language vocabulary, especially during its semantic assimilation.

According to G. Lozanov, external information can penetrate the human mind through two channels–conscious and unconscious. The unconscious sphere can be viewed as a source of "reserve mental capabilities" (potential, unused cognitive abilities), which must be unlocked during learning. The suggestopedic method involves introducing and reinforcing language material by mobilizing a learner's latent cognitive potential. These hidden capabilities can be activated through virtual reality applications using audio and video suggestion techniques.

Virtual reality-based suggestive programs transport students into an imaginary world, allowing them to acquire and practice language skills in an engaging and enjoyable way. Interactive suggestopedic programs such as Quick Teacher, Mondly VR, and Virtual Speech maximize immersion by creating high-quality visual effects similar to video games. These programs offer simple avatar controls, carefully selected materials, and content that matches students' learning levels.

Overall, virtual reality programs transport students into an immersive learning space to achieve communicative goals. This methodological approach serves as an effective means of intensifying foreign language acquisition through immersive and suggestopedic methods. Therefore, the virtual educational environment is an exceptionally effective medium for enhancing communicative competence, which requires continuous improvement through the intensification of its acquisition process.

2. Results of the research

The rapid growth of education's role among the factors influencing societal development compels scholars worldwide to seek not only new forms and methods of teaching but also a new educational paradigm by creating a novel educational environment.

One such approach is the creation of a virtual educational environment–an open system that ensures effective interactive learning in the educational process through the application of virtual reality technology. This learning environment cannot be characterized by the traditional model of teacher-student or teacher-group of students, as the number of participants in an individual learning process becomes potentially unlimited.

At the same time, it should be noted that a virtual system cannot be considered a full-fledged replacement for education, as it fundamentally cannot fully substitute the personal contact between student and teacher or their direct communication processes.

The concept of a Virtual Educational Environment can have different meanings. The first interpretation of this term refers to software or platforms used to provide educational services. However, another interpretation suggests that merely having information and telecommunication networks and software is not sufficient. A virtual educational environment is created only by the objects and subjects participating in the educational process, rather than by technical means, visual aids, or classrooms.

In psychology, the term "virtual object" is used. For example, a virtual object is considered to be the combination of a human and a machine. The functions of this virtual object are not limited to either the human's or the machine's functions alone; rather, such a virtual object exists only through the interaction of real entities–the human and the machine. Therefore, virtual educational processes should be considered a result of the interaction of real objects. If one or more of these interacting objects take on the role of subjects (such as students or teachers), this interaction generates a virtual state different from the state of these subjects before the interaction (Zhuravel′, Khaydari, 2017: 208–112).

Virtual learning refers to the process and outcome of interaction between subjects and objects of learning, accompanied by the creation of a virtual educational space, the specifics of which are determined by these objects and subjects. The primary goal of virtual learning, like human learning in general, is to enable individuals to identify and achieve their purpose in the real world, including its virtual components.

Virtual education is a way of organizing learners' activities in a manner that accumulates intellectual potential through telecommunications technologies. In a virtual educational environment, a personalized and activity-based learning approach dominates. A necessary condition for learning in such an environment is the implementation of a learner-centered educational paradigm (Shevchenko, 2013: 65–67).

It can be confidently stated that modern education is undergoing a convergence of educational and informational technologies, forming fundamentally new integrated teaching technologies based on personalized approaches, particularly using Internet-based methods.

Thus, an undeniable fact of contemporary education is not only its diversification and the increasing number of software tools used in the learning process but also the creation of a unique virtual educational environment that coexists with traditional learning environments while simultaneously transforming and expanding their capabilities.

The virtual educational environment enables the implementation of intensive learning methods, which significantly accelerate foreign language acquisition, optimizing the learning process. Analyzing the core principles of immersive learning suggests the effectiveness of using this methodology, as well as the phenomenon of immersion, for mastering foreign lexical material and subsequently applying it in an artificially created language environment. This method is particularly useful at the stage of semantization of new lexical units.

Semantization methods are divided into translational and non-translational approaches. Since "immersion" occurs when students are maximally engaged in reality, translational methods that involve using the native language hinder the creation of a psychologically authentic linguistic environment. Translating foreign words into the native language makes students aware that they are being taught, whereas explaining lexical meanings using other English words, illustrations, or video clips allows for the subconscious acquisition of vocabulary in a "real" learning environment.

In this context, non-translational methods of semantization are analyzed, including:

• Visual semanticization, which presents lexical units using demonstrative tools such as pictures, objects, paintings, and video clips.

• Linguistic semanticization, which involves presenting lexical units in a specific context or in comparison with familiar words.

• Definition-based explanation of lexical units.

• Paraphrasing and explanation of lexical units in a foreign language.

• Immersive semantization (personalization), where students associate themselves with a digital persona, such as in a role-playing game or video scenario (Tereshchuk, 2013: 65–67).

Both visual and linguistic semantization engage visual and auditory receptors, which enhances immersion. For example, the English lexical unit "cable car" (a funicular) can be explained through a video clip showing how cable cars move through San Francisco, along with an accompanying sentence on the screen: *"San Francisco needs cable cars because it's extremely hilly and has some steep roads."*

One form of immersive semantization is personalization, where a student identifies with a specific digital character (e.g., in a role-playing game or video clip) while learning a foreign word. One variant of this is allowing students to create their own avatar (a digital self). For instance, in learning vocabulary related to "Tourist Equipment," a student can design a personal avatar of a tourist, selecting visually represented equipment labeled with corresponding English words and receiving an audio pronunciation when clicking on each word. This process familiarizes students with new vocabulary while they construct their virtual environment.

This way, effective methods for semanticizing foreign lexical units are those that engage both auditory and visual perception channels. According to T.O. Yakhnuk, visual imagery possesses a "residual effect," meaning that the image of a perceived object remains in the learner's mind even after it disappears. This property helps build strong associative connections that facilitate rapid recall of learned words. Additionally, active engagement during cognitive activity distracts students from consciously perceiving the learning process, fostering involuntary memorization of foreign words.

Immersion is a defining characteristic of the virtual educational environment. Accordingly, at the stage of introducing students to new foreign lexical material, the organization of a virtual educational environment is possible under the following pedagogical conditions:

• Personalized presentation of foreign lexical units.

• Multimedia support (video clips, audio recordings, etc.).

• Explanation of lexical meanings within a context, with maximum simulation of real-world situations.

• Encouraging students' creative potential.

• Influencing cognitive needs and emotional engagement.

Since immersion involves fully engaging students in the learning environment through active participation, applying immersion techniques for semanticizing foreign lexical units intensifies perception and retention.

Another effective intensive learning method widely used in virtual educational environments is the suggestive method, which involves the combined use of audio and video suggestions.

Today, computer programs for learning foreign languages, developed with input from educators and psychologists, incorporate best teaching practices and simulate language environments. Unlike human teachers, computers are always patient, never discourage students, and repeat learning material as many times as needed. Game-based learning methods allow students to study a foreign language without prolonged, tedious memorization (Kotsyuba).

An example of such a program is "QuickTeacher", an interactive suggestive computer program that integrates intensive and traditional foreign language learning methodologies. The program has two main modes:

1. Memorization Mode – a subconscious (subliminal) perception mode used for vocabulary learning.

2. Control Mode – a conscious perception mode for active practice and assessment.

The program's unique features include customized vocabulary creation, a virtual teacher function, a grammar guide, phonetics training with audio pronunciation, an irregular verb dictionary, dialogue practice, and immersive exercises. "QuickTeacher" allows users to learn 12 foreign languages, making it a valuable tool for accelerating language acquisition.

All in all, the integration of immersive and suggestive methodologies within a virtual educational environment represents a significant advancement in optimizing foreign language learning.

3. Conclusions and prospects of further research

To conclude**, t**he review of the mentioned above intensive learning methods, namely immersive and suggestive methods, provides an opportunity for all educators to enhance their teaching skills and adapt them to the demands of the modern world. The proposed approaches for intensifying the process of foreign language learning in a virtual educational envi-

ronment can be seamlessly integrated with traditional teaching methods and successfully utilized by foreign language instructors. Furthermore, the implementation of virtual tools, particularly suggestopedic computer programs, in the educational process enables a transition to a qualitatively new level of pedagogical activity, significantly enhancing its didactic, informational, methodological, and technological capabilities and contributes to improving the quality of student training.

Therefore, the use of a virtual educational environment in higher education undoubtedly increases the intensity and effectiveness of learning.

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