Perspectives to use virtual reality technology while teaching foreign languages at the university

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Abstract

Relevance of the theme can be traced from the constant changing educational process, that nowadays demands new approaches and methods, the most innovative of which is using virtual reality. Scientific novelty is based on the idea that in addition to didactic games, problem solving, brainstorming, widely implemented in the educational process at the present moment, virtual reality (VR) technology is used in training as the basis for conducting training sessions. The aim of the research is to show that traditional teaching methods should increasingly be replaced by forms of modern educational technologies with the active participation of students in the educational process. The authors tried to solve the following tasks: first, to prove the necessity of individualization and activization of education by means of interactive methods; second, to show that it is important to strengthen emotional component in the educational process; third, to study possibilities and probable consequences of VR technology while teaching especially foreign languages. The problem of personal activity in learning is one of the most relevant in psychological, pedagogical science, as well as in educational practice. This problem is solved most effectively using interactive methods, i.e. a kind of active learning focused on broader interaction of students not only with the teacher, but also with each other and on the dominance of students' activity in the learning process. Virtual reality (VR) technology is especially valuable in the case of studying and teaching foreign languages.

Introduction

Relevance of the theme can be traced from the constant changing educational process, that nowadays demands new approaches and methods, the most innovative of which is using virtual reality.

The question of the development of cognitive abilities has been dealt with by many scientists-psychologists, linguists [Almazova, 2003; Dyukina, 2021; Rozin, 1997; Tiv'yaeva, 2018; Mazuryk, 1996]. However, in a new context, it has yet to be understood how VR will affect students, their cognitive abilities, and the emotional sphere.

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Main Part

The development of a post-industrial society in the conditions of an information explosion by a turnout order required a radical change in the educational process. The most obvious manifestation of this process is the transition from "conveyor" learning to individual, with the necessity to consider the characteristics of the student's personality. Obviously, this approach allows to speed up the assimilation of educational material and significantly increase its volume. The identification of personal characteristics and psychological traits on which it is necessary to base in the teaching process is greatly facilitated by active teaching methods. Such methods imply the widespread use of interactive communication of students with each other or with a teacher in the learning process, and most importantly, the continuous application of knowledge and skills acquired during training in situations as close as possible to real life. The fact that learning any skill, be it some medical procedures or foreign language proficiency, occurs to a large extent with the active personal processing of the acquired knowledge and it is not a novelty today. For a long time, the craft was taught not in a classroom or library, but as an apprentice in a working workshop or workshop. Until recently, at the end of the academic period, there was a stage of practical training, during which it was assumed that the theoretical knowledge gained would be used to solve specific problems in real life. And during the classes themselves, a lot of time was devoted to practical and laboratory work within the walls of the educational institution. With the advent of the era of the scientific and technological revolution, high-tech social production has received significant development and, as a result, the process of training personnel at all levels has become more complicated. To involve students in the creative process of mastering knowledge, there emerged various models of industrial or social processes, business games, field seminars, etc.

Considering teaching and training even in the recent past, we see that it was of a 'conveyor' nature in accordance with the level of the production process, but today it requires a more thorough, scrupulous identification of the individual characteristics of the student for the fastest and most complete assimilation of the material. Accordingly, the teaching method is becoming more and more important, considering the psychological characteristics of the individual, the different degree of perception of the information provided. Audio and video materials, independent learning, and active use of the learned, a unified learning plan and individual interests – a combination of these methodological techniques corresponding to the student's personality, all that is necessary for successful education in the modern world.

Another factor in the intensification of learning in comparison with the 'classical academic' is the fastest and most complete involvement of students in an active form of assimilation and creative

rethinking of the information received. Clear understanding of goals and plans for using the acquired knowledge contributes to building an adequate teaching methodology. This is especially evident in case of teaching and studying foreign languages, when the student is faced with the task of not just getting a diploma or a certificate of education but getting the necessary level of language proficiency for a specific purpose, whether it is an intermediate level for communicating abroad, or an advanced level for working in a foreign company or representative office, or a proficiency level for working as a translator or interpreter. The question is whether it is realistic to implement because the possibilities of students are physiologically limited, and the learning time will not be possible to increase.

We also should pay much more attention to the emotional component of the learning process. Professor, PhD of Economics Melnichuk M.V. indicates: "The way a student emotionally perceives information largely shapes their cognitive process, since emotions contribute to the learning process due to the fact that they strengthen internal mental consolidation through metaphorization and the construction of associative series" [Mel'nichuk, Belogash, 2021, 92].

Playing a high-quality game, "overcoming unnecessary obstacles, we are actively moving towards the positive pole on the scale of emotions. Deep involvement in the game puts our body in a state that allows us to generate any positive emotions and experiences. The game fully activates all neurological and psychological systems underlying the formation of a sense of happiness: attention, reward center, motivation systems, emotion and memory centers. Full activation of emotions is precisely the reason for a strong passion for computer and video games. Focused, optimistic engagement magically improves the ability to think positively, establish social connections and develop your strengths. We actively bring the mind and body into a state in which we feel happier" [McGonigal, www].

Both teachers and students would like to teach and study in the same way in the real world to have the same effect. However, in ordinary life, it often represents something that we do solely because we are forced to do in order to earn a living in the future, achieve success or meet someone's expectations. Students are afraid of failure and often do not see the result of their efforts, which is why they rarely experience satisfaction from the educational process.

Teachers are trying to solve this problem by introducing business, role–playing games, that is, by introducing games that perform a dual role, learning and entertainment. There are training programs that use information not in the form of a series of flat drawings, but in the form of three-dimensional models on which modern computer games are based. Back at the end of the XX century, domestic and foreign scientists were asking questions about virtual reality and the spheres of its application [Rozin, 1997; Corey, www]. In the XXI century it is used in teaching and training, for example, NFL players, MBA; BMW, Volkswagen Ford use it to predict the behavior of drivers behind the wheel; VR is used to help support elderly people with dementia and Alzheimer's disease [Castronova, 2008; Jerald, 2015; Mazuryk, 1996]. Virtual reality enters our daily life not only as entertainment, but also as a fantastic assistant for solving problems of the widest spectrum. It provides a full immersion effect, including sound environment, tactile sensations. Now specialists are working on the following: a person can have any object in your hands that they can transfer to another person, no matter how far away he/ she is, and this will happen without any delay. Soon, it will be possible to plant holograms of your friends and colleagues next to you, spread out and distribute documents, discuss and decide, while all participants will fully experience presence at all levels, that is, a person with his whole being will feel in a different environment next to living people working on a specific project, in real time. VR technology allows you to feel, more precisely, to fully feel that you are not where you are now.

Virtual reality is not just 3D, but the fundamental difference is that it differs in the behavioral aspect, that is, the user does not just look at the monitor with 3D images, but is inside in 3D, which

affects them, their feelings, emotions, behavior, cognitive abilities.

It seems that the use of virtual reality will lead to the improvement of skills such as: attention, that is, the ability to ignore external stimuli, to concentrate on an important source of information at the moment; as a consequence, gnosis is the ability to perceive information; thinking, that is, the ability to process information in a versatile way, to carry out analysis and synthesis, formal and logical actions; monitoring (self-control), that is, the skill of controlling behavior, self-checking whether specific actions are aimed at solving the task; flexibility of thinking, the ability to quickly adapt to a changing environment; speech, the ability to exchange information.

This technology offers an unforgettable educational experience. Long after the end of virtual reality, students remember this experience and strive to return to virtual reality in the next classes. In the case of studying and teaching foreign languages, this is especially valuable. It's no secret that the role-playing games currently used in classrooms are not very lively, they are artificial. Students participate, overcoming shyness, it is difficult for them to imagine how it could be in the course of real communication. We need a very charismatic teacher who would be able to influence the emotional sphere of students, who would help them turn on their imagination to liberate them, bring them to a situation of real, not artificial communication, especially in a foreign language. Using virtual reality, it will be possible to bring business games closer to real practice, to train negotiation skills between speakers of different languages and cultures. It will be possible to create a different atmosphere of a friendly attitude, or a negative reaction, or "viscous" negotiations, to launch certain response. A student can first be on the one side of the "barricades", and then be transferred to the other, they get used to a new image, begin to understand the causes of what is happening, the reactions of the interlocutors. Many students often have difficulties with speaking even in their native language, there is no practice of public speaking, in virtual reality internal fears and clamps are overcome much faster.

The main current task is to better understand the capabilities of the virtual environment and, most importantly, to fill it with content. The most interesting thing is ahead – a careful selection of everything that can later become the content of a virtual environment for learning a foreign language. It will be possible to simulate situations of professional communication, for example negotiations, or virtual travel, for example, in London or New York, or it is possible to recreate the work of the stock exchange or the delivery and acceptance of the results of a research project, feasibility study, discussion of the company's budget, etc.

Teachers often complain about the low students' motivation, we think in this case this problem will be solved, as well as the problem of distracted attention, distracted by phones, or extraneous conversations. Virtual travel is exciting, keeps students focused. Students will certainly be happy to study with the help of this technology. The evident advantages of VR are presence experience, stimulation of the senses, the emotional sphere, focusing, visual presentation of the material.

Conclusion

Thus, we have come to the following findings: we receive education adapted to the needs of the information society. This is training to work with information flows, their structuring, highlighting the main idea and purpose. This technology can be used for analyzing information, building models, comprehension. All this and a strong emotional response lead to an improvement in long-term memory. Virtual reality is a tool for activating the educational process.

Perspectives of the research are based on the necessity of further thorough investigation of advantages and possible drawbacks of VR technology which will be based on the accurate analysis of practical phyco-pedagogical data.

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Перспективы использования технологии виртуальной реальности в процессе обучения иностранным языкам в вузе

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Аннотация

Цель исследования заключается в том, чтобы показать, что традиционные методы обучения должны все чаще заменяться формами современных образовательных технологий

с активным участием учащихся в образовательном процессе. Авторы попытались решить следующие задачи: во-первых, доказать необходимость индивидуализации и активизации обучения с помощью интерактивных методов; во-вторых, показать, что важно усилить эмоциональную составляющую в образовательном процессе; в-третьих, изучить возможности и вероятные последствия технологии виртуальной реальности при обучении, особенно иностранным языкам. Проблема личностной активности в обучении является одной из наиболее актуальных в психолого-педагогической науке, а также в образовательной практике. Наиболее эффективным решением видится использование интерактивных методов, т.е. разновидности активного обучении и ориентация на преобладание активности учащихся в процессе обучения. Технология виртуальной реальности (VR) особенно ценна в случае изучения и преподавания иностранных языков.

Для цитирования в научных исследованиях

Ключевые слова

Виртуальная реальность (VR), эмоциональная составляющая, когнитивные навыки, обучение, педагогика.

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