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APPLICATION OF IMMERSIVE TECHNOLOGIES IN HIGHER EDUCATION

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ABOUT ARTICLE

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Abstract: The article discusses the importance of studying immersive technologies at the present stage of education; an analysis of virtual reality is given. A comparison is made between traditional education and education using immersive technologies. The importance of immersive technologies in higher education is revealed, allowing to expand the possibilities of remote interaction between people.

INTRODUCTION

Currently, many information technologies used for the purpose of interpreting complex material by students demonstrate their ineffectiveness, which leads to only partial assimilation of the material by students. In such cases, the problem arises of periodically searching for different methods and forms of teaching. Based on this, a relevant and new method for teaching is the use of immersive technologies. This method allows you to use mechanisms to solve problems and build an idea of the environment in which you will operate. When considering immersion as one of the methods of perception that creates the effect of immersion in an artificially simulated environment, it allows us to find methods for such immersion. This is where this direction arises - immersive technologies. Currently, immersive technologies such as virtual, augmented and mixed reality technologies are used. The use of immersive technologies suggests that the information world around us is changing at high speed. Types of virtual learning: complete immersion in artificial reality, without immersion. Full immersion uses a technique that makes everything that happens seem real. Without immersion in virtual reality, it is suitable for project work; you can be inside the project, see all the shortcomings and correct them

With the advent of coronavirus infection, the use of distance learning has become a necessity for all universities. For students to effectively assimilate the material under these conditions, it became clear that remote transmission through text, audio and video information is catastrophically insufficient [1].

Augmented reality (AR - augmented reality - “added”) is a technology that allows you to integrate virtual objects into the real world in real time, using various technical devices such as tablets, smartphones, etc., which visually complement the physical world. In other words, the student sees something that does not exist in the real world. A virtual environment is created by introducing digitized objects onto a video signal coming from a video camera, and it becomes interactive through the use of special markers [2–3].

AR technology allows you to reproduce various processes in real sizes and capabilities, as well as make the learning process fun and understandable. With the use of immersive technologies, there are ample opportunities to control virtual objects, as well as move them, change the scale, and view them from all sides. All this allows students to develop spatial thinking and perceive the subject being studied more fully and deeply. With a high probability we can say that virtual technologies in education will only improve and expand. It is very important for a teacher to instill in the student a desire to acquire new knowledge; for this he needs to arouse interest in the subject. Advantages and disadvantages of using immersive technologies in education:

Advantages: 1. Visibility. (Allows you to consider in detail the processes

phenomena and objects) 2. Concentration. (Absence of external stimuli, which allows you to fully concentrate on the material.)

3. Engagement. (Ability to program and control the learning process scenario) 4.Safety. (No likelihood of harm to anyone by students). 5.Efficiency. (The effectiveness of training using VR is higher than with the classical format). 6. Gamification of the learning process. (The main part of the information can be presented in a playful form).

Disadvantages: 1.High cost of creating programs for VR.

2. The likelihood of difficulties in adapting to virtual reality. 3. The need to make changes to the training program.

CONCLUSION

In conclusion, immersive technologies have great potential in education as they make subjects interactive and easy to learn despite their novelty in education. These technologies produce remarkable results and also provide an ideal level of innovation in higher education institutions. Therefore, modern education systems must adapt to more complex processes and phenomena. Students must learn to use large amounts of information and new ways of presenting it. To do this, it is necessary to use immersive technologies in education.

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