



The Use Of Immersive Technologies In The Study Of Graphic Discipline In Universities

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ABSTRACT

The thesis examines the actual application of immersive technologies in the study of graphic discipline in universities. The use of immersive augmented reality technologies in educational activities is analyzed in detail, with the help of which students can observe a three-dimensional figure on a plane from a smartphone and represent a three-dimensional image from a flat image, which contributes to the formation of spatial imagination in them. It is concluded that the use of immersive technologies in education makes it possible to replace traditional teaching methods with more interactive and effective ones.

KEYWORDS: Digital education, immersive technologies, augmented reality (AR), graphic discipline, projection drawing.

INTRODUCTION

Today, more than 60% of the world's inhabitants' own smartphones, and this figure continues to grow every year. Over the past ten years, the number of smartphones in the world has increased fourfold. By 2024, mobile devices accounted for more than half of all Internet traffic. To increase the effectiveness of the educational process, it is recommended to use mobile applications and QR codes.

With the growth of the world's population and the mobilization of resources, the digital economy is not limited to e-commerce, but affects every aspect of life: healthcare, education, Internet banking, etc., therefore, a teacher must possess modern information technologies in order to effectively use them in the educational process, increasing its quality and effectiveness. Similarly, the use of immersive technologies in education makes it possible to replace traditional teaching methods with more interactive and effective ones. However, introducing digital tools into the learning process can be challenging for teachers who may lack the necessary training or resources. In addition, teachers must constantly adapt to rapid technological progress so that their teaching methods remain relevant and effective.

Immersive digital technologies such as virtual (VR), augmented (XR), augmented (AR), and mixed (MR) reality allow for the creation of a special educational virtual environment for teacher-student interaction. The involvement of immersive technologies in the educational process can improve the quality of education, increase students' interest in studying scientific disciplines, and help graduates develop the necessary competencies, acquire the necessary knowledge and skills for further professional activity. The use of these technologies in teaching graphic disciplines contributes to the formation of students' skills and abilities to create and read drawings that develop spatial thinking and imagination, and, therefore, is relevant.

Recently, teachers of graphic disciplines at technical universities have been thinking about how to use immersive augmented reality technologies in educational activities, with which students can watch a three-dimensional figure on a plane from a smartphone and represent a three-dimensional image from a flat image, which contributes to the formation of their spatial imagination.

The use of immersive technologies in the educational process in the study of graphic disciplines, the use of augmented reality in the work of a teacher can be aimed both at learning new material and at generalizing and systematizing knowledge. Augmented reality on a smartphone can be used for face-to-face classes, extracurricular project activities, as well as for distance and distance learning.

One of the most important advantages of AR is the ability to demonstrate high results in a short period of time without expending unnecessary mental and physical energy of users. In a short period of time, students gain certain theoretical knowledge and develop skills, as well as monitor students' activities and evaluate their knowledge, and develop interest in performing practical tasks. Through the use of AR, teachers form new pedagogical skills and a new approach to the educational process.

Students can use AR in their independent activities, for example, when solving metric and positional tasks, performing individual creative tasks, writing tests and term papers, essays, summaries, writing theses, planning processed material, conducting trainings, etc.

Examples of practical work on creating augmented reality using the AR technology constructor contain instructions on how to work with the program's tools and can be offered to students in the classroom as part of the study of graphic disciplines.

References

1. Балабуткина, Е. Л. Учебно-методическое пособие «применение иммерсивных технологий в профессиональном образовании» / Е. Л. Балабуткина // Инфоурок. — URL: <https://infourok.ru/uchebno-metodicheskoe-posobie-primenenie-immersivnyh-tehnologij-v-professionalnom-obrazovanii-7589344.html>
2. Терехова, Н. В. Применение иммерсивных технологий при изучении высшей математики в вузах / Н. В. Терехова, С. В. Овчинникова, А. С. Пашкевич // Современное педагогическое образование. — 2025. — № 7. — С. 218–222.
3. Содержание и методика темы «Проекционное черчение» в курсе «Инженерная графика» МГТУ им. Н. Э. Баумана / Н. А. Добровольская, Л. В. Новоселова, Н. Г. Суркова, Н. Е. Золотаревская // Международный научно-исследовательский журнал. — 2018. — № 8 (74). — С. 109–115.

