Chapter 8
Evaluating the Long-Term Impact of VR in Education

Sreelekha Paul
https://orcid.org/0009-0007-5524-1919
Brainware University, India

Sanchita Ghosh
Brainware University, India

Bitan Roy
Brainware University, India

Saptarshi Kumar Sarkar
Brainware University, India

ABSTRACT

Virtual reality (VR) can completely transform traditional teaching techniques, as this chapter explores its long-term effects in education. It draws attention to the short-term advantages, such as increased engagement and better retention of knowledge, but it also draws attention to the knowledge vacuum about its long-term effects. Pedagogical alignment, curricular integration, professional development, access and equity, and assessment and evaluation are important components that lead to effective integration. The study provides evidence-based suggestions on how to maximize virtual reality's potential to improve learning outcomes for educators, legislators, and stakeholders. Investing in professional development, encouraging teamwork, putting fairness and access first, coordinating VR experiences with curricular standards, carrying out continuous assessment and research, and promoting

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interdisciplinary and project-based learning are some of the main suggestions.

1. INTRODUCTION

Education is undergoing a change because of virtual reality (VR) technology, which offers engaging and dynamic learning opportunities. It goes beyond conventional classroom settings by creating virtual worlds that let users explore and engage in three dimensions. Students can interact with instructional materials in VR in ways that are memorable and significant. It is necessary to assess its long-term effects on student learning outcomes, nevertheless. Even while virtual reality (VR) offers instant advantages including increased engagement and better information retention, it is unclear how these effects will manifest over time. Therefore, to support evidence-based decision-making and guarantee the successful integration of VR into educational contexts, a thorough assessment of VR's long-term effects is essential. Understanding Virtual Reality's (VR) long-term effects in education is essential to comprehending its ongoing efficacy as a teaching tool. VR can increase student engagement and improve learning outcomes, according to preliminary research. However, to make well-informed decisions on how best to allocate resources, build curricula, and implement instructional strategies, it is crucial to comprehend how these impacts hold up over time. An assessment of VR's long-term effects can also reveal possible difficulties and impediments to its successful use, such as price, accessibility, and technological complexity. Stakeholders may create plans to guarantee that all students have fair access to VR technology by tackling these issues. Additionally, the results of this evaluation can help shape the creation of best practices and evidence-based recommendations for educators and legislators.

2. VR'S ADVANTAGES FOR EDUCATION

Virtual reality (VR) is an effective technology in the educational process that develops students' interest due to the virtual worlds. The use of several modes of communication makes real and meaningful student's interaction with educational content that, in turn, has a positive impact on knowledge retention. This way, VR also enables students to learn through experience, as well as to apply the obtained knowledge to practical exercises. It includes such possibilities as the modification