

Chapter 14

Virtual Reality in the Education System

Satyabrata Pandit

Brainware University, India

Saptarshi Kumar Sarkar

Brainware University, India

Sreya Barik

Brainware University, India

Sutapa Shau

Brainware University, India

ABSTRACT

The learning technique that involves the learners in facilitating training in a virtual environment hence extends traditional mode of training that was considered new, is known as virtual reality learning. In this chapter, the author examines experiences of technology use in schools specifically in the classroom and then evaluates implications of the use of virtual reality. This study endeavours to expose the specified literature review approach, the definition and guidelines of the integration of VR in education, a systematic approach and case studies in an endeavour of analysing how this technological innovation could contribute to the students' interest, understanding, and recall of issues, matters, and concepts, regardless of discipline and academic year. Therefore, considering the standpoint of the virtual reality integration as one of the effective learning strategies in education, the issues, including high costs, the technical issue, and the lack of professional development concerning VR for educators, must be addressed for this technology to meet its potential. Besides, the guidelines are given for obtaining the optimal results from VR in context of

DOI: 10.4018/979-8-3693-6407-9.ch014

Copyright © 2025, IGI Global. Copying or distributing in print or electronic forms without written permission of IGI Global is prohibited.

education and for making sure that the opportunities which are derived out from it are reasonable, reachable, and sustainable in nature, which have also been enclosed in the conclusion part of the chapter.

1. INTRODUCTION

1.1 Background

Traditional techniques of learning, which are based on various cultures and approaches, provided direct teachings, books, and other non-communication devices. These approaches have been used as a model of how learning can be done but in the process may compromise on efficiency. A few shortcomings of effective teaching-learning processes are explained, and one of them is the use of modern technologies like VR. With these technologies in placed, teachers may wish to improve on the efficiency of their teaching strategies (Mantovani, F. (2001), C. (2008) & Johnson,2018).

1.2 Textbooks

Textbooks are considered sources of information since they provide structural knowledge on different topics in school. However, since they are formulaic, unitary, and sequential, they prevent students' interest and may not be suitable for learning styles. This constraint, through written explanation and non-moving graphics, may in fact be inconvenient for students who have dynamic and graphic interactions as their primary priorities, which is what, indeed, these textbooks are majoritarian for (Trowler,2010).

1.3 Lectures

Oral techniques, including teach using a power point display, are approved teaching techniques that entails a teacher presenting content before a class or some learners. These methods provide efficiency when addressing much content within a short period; however, they encourage learning by absorption among students. That leads to a form of learning where the learner is passive and only listens to the teacher without participating. The process above can lead to poor outcome and particularly in the case of a complex piece of knowledge. Therefore, one must ensure the students participate in learning activities as required in the course (Bray, M., Shafique, R., Aljedaani, W.,

60 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/chapter/virtual-reality-in-the-education-system/356913

Related Content

Implicit Virtual Communities in Social Networks

Shyam Sundar Meena and Vrinda Tokekar (2025). *Building Power, Safety, and Trust in Virtual Communities* (pp. 145-172).

www.irma-international.org/chapter/implicit-virtual-communities-in-social-networks/357767

The Role of Mechanics in Gamification: An Interdisciplinary Perspective

Miralem Helme Falk, Siw Lundqvist and Leif Marcusson (2019). *International Journal of Virtual and Augmented Reality* (pp. 18-41).

www.irma-international.org/article/the-role-of-mechanics-in-gamification/228944

Knowledge Creation and Student Engagement Within 3D Virtual Worlds

Brian G. Burton and Barbara Martin (2017). *International Journal of Virtual and Augmented Reality* (pp. 43-59).

www.irma-international.org/article/knowledge-creation-and-student-engagement-within-3d-virtual-worlds/169934

On Being Lost: Evaluating Spatial Recognition in a Virtual Environment

Tomohiro Sasaki and Michael Vallance (2018). *International Journal of Virtual and Augmented Reality* (pp. 38-58).

www.irma-international.org/article/on-being-lost/214988

Enterprise Cost/Benefit Risk Analysis Using FMEA

Maria Manuela Cunha and Goran D. Putnik (2008). *Encyclopedia of Networked and Virtual Organizations* (pp. 484-491).

www.irma-international.org/chapter/enterprise-cost-benefit-risk-analysis/17650