

# Abstract

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## **Virtual Reality as an Urban Design E-Learning Technology: Potentials and Challenges in Developing Countries**

E-Learning refers to the use of Information &#97;&#110;&#100; Communications technology (ICT) to enhance and/or support learning. It covers a wide range of tools &#97;&#110;&#100; technologies including e-mail, the internet, video streaming, virtual classrooms, etc. One of the most important e-learning technologies is the Virtual Reality (VR) system, especially in the field of urban design. The essential idea behind this system is to simulate the real urban space in 3D manner using specific digital tools &#97;&#110;&#100; software. It aims to improve the function &#97;&#110;&#100; characteristics of urban space. Thus, VR contributes in preparing a generation of designers capable of imagination, innovation &#97;&#110;&#100; compete globally. However, e-learning is facing a lot of obstacles &#97;&#110;&#100; challenges in developing countries. This paper presents the unique characteristics of emerging VR technology &#97;&#110;&#100; the potential of virtual worlds as a learning environment in the field of urban design. Moreover, it discusses the difficulties facing the use of these technologies on a large scale. To accomplish the aim of this paper, an extensive literature study on VR technologies &#97;&#110;&#100; inhibiting factors for that type of e-learning is used. Moreover, a quantitative approach is used to identify the most important challenges followed by a qualitative analysis to explain why &#97;&#110;&#100; how they are important. The study identified three major challenges in the following areas: cost, Usability &#97;&#110;&#100; technophobia. Finally, this paper provides a general conclusion in the form of recommendations to increase the use of VR technologies in urban design education. Keywords: Virtual Urban Spaces, virtual reality, e-Learning, developing countries.