

Chapter 14

Virtual Reality Empowers New Learning Exploration

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ABSTRACT

VR learning in education is favoured by many academics, and they believe that this approach can accelerate, amplify, and expand the impact of effective teaching and learning experiences. The adoption of virtual reality in higher education is to make the learning process exciting and more effective. It is aligned with the target TLLM (teach less, learn more) initiative in Taylor's University to provide students with the characteristics and skills that will help them survive in an ever-changing technological world. As a 21st century educator, it is essential to be able to implement technology, think forward, embrace change, and have the ability to allow students to learn best when they are taught with their own unique styles and abilities. The principles behind this pedagogy comprise a mix of technology, space, and learning in innovative ways that support a variety of "e-learning" modes to facilitate knowledge transfer—immersive lesson, interaction, and collaboration—and independent self-paced learning that enables learning anytime and anywhere.

INTRODUCTION

Learning is about to become more interactive, more fun, and more social (Fernández, 2018). A Virtual reality learning environment (VRLE) refers to how learners actively engage with what is going on rather than being a passive recipient in an immersive, realistic, three-dimensional environment that involves visual feedback from body movement (Aarseth, 2001) to reinforce their understanding (Vander Ark, & Scheneider, 2012). This approach imparted a great deal of "Experience Age" to more productive ways of acquiring knowledge (Au & Lee, 2017) that align with the target TLLM (Teach Less, Learn More) initiative at Taylor's University.

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Smith and Hu (2013) suggest that skills such as empathy, systems thinking, creativity, computational literacy, and abstract reasoning are needed in the 21st-century as a central concern to enhance the learners' technology-mediated experiences. The proliferation of the VRLE together with a vast range of tools that comprising of a mixture of Technology, Space & Learning have taken place to deliver knowledge in a brand new way such like Immersive lessons, Interaction collaboration, and Independent self-paced learning.

According to Cetin-Dindar (2016), by allowing learners to own the control, this helps them to cultivate their engagement and motivation throughout the learning process. Hence, the idea of creating a great learning environment in an Innovative Module with the effective integration of the VRLE pedagogies helps to provide a meaningful "technology-mediated learning experience" for the future. A virtual place that enables learning anytime, anywhere and being able to stay connected 24/7 without boundaries by bridging the divide between technology and the learners with the VRLE.

BACKGROUND

The main goal of this article is to emphasize how VR as a medium for making discoveries for TLLM. In the first place, VR has been widespread in the early 1990's until the success of being a trillion-dollar industry today (Boyle, 2016). The term Virtual Reality (VR) is used for different purposes, with the concept "*immersive virtual reality*" (Nooriafsha & Maraseni, 2014), which re-duplicates real world that is accustomed to actual human size allowing participants to interact with a unique and thoughtful world via virtual setting. This is done with the emergence of items that popularize a series of the mainstream consumer products that support a virtual environment such as the Google Cardboard, Daydream View, Oculus Rift, HTC Vive, Samsung Gear VR, Playstation VR, and Microsoft HoloLens. The expansion and success of VR had a total of over \$2.3 billion in 2016 alone (Digi-Capital, 2017). According to Leong & Latif (2016), it predisposes how technology assists us to offer educators to cultivate innovative ways of teaching. Current trends in virtual reality (VR) technology allows for meaningful and active learning (Allcoat & Mühlénen, 2018) and the growth of cognitive prospects of learners, to accelerate, amplify, and expand the impact of effective teaching & learning experience among learners.

The aim of the research was to attain discoveries in how VR as a medium can fulfil TLLM by evaluating the learner feedback on how the virtual reality experience allows for meaningful and effective learning. With the explanation of its conception and required skills that are required by learners in one erudite environment (VRLE that comprises a mixture of Technology, Space & Learning) that encompasses multiple learning styles to motivate learners to learn more. According to Allcoat & Mühlénen (2018), a variety of learning approaches cultivate ways of learning such as discovery, inquiry, experiential, and a constructivist way of learning styles, and expect learners to discover all the concepts and skills that they are required to learn. In addition to that, the VRLE synthesizes visual, auditory and kinesthetic learning styles, and enables the lessons to be changed based on the learners' needs (S. Kavanagh, A. Luxton-Reilly, B. Wuensche, B. Plimmer. 2017). This underlines how VR is devising TLLM, where learners are engaged in agile learning by actively associating with the bcourse materials, not just to access the knowledge from the World Wide Web, but to engage with the content as opposed to just static reading text and visuals (Siegle, 2019). The VRLE combines various learning tools and methods that allows learners to associate with the newly discovered course materials that interest the learners who prefer a

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