

Chapter 14

Teaching and Learning in Second Life: A Case Study

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ABSTRACT

Various advantages of Multi User Virtual Environment (MUVE) have been identified in literature. However, MUVEs have not been widely adopted in educational settings due to technical and pedagogical challenges. This chapter discusses a qualitative case study that examines how Second Life, as a MUVE, was diffused on a university campus. Both instructors and students' perspectives were examined using interviews, observations, and survey data collection methods. The theory of diffusion of innovation was used as a theoretical framework in both the design of the study and the analysis of the data. The findings from the study indicate that although the future application of MUVE can be promising, various challenges exist for instructors to adopt Second Life in their instruction.

INTRODUCTION

The Multi- User Virtual Environment (MUVE) is not a new concept and it has been discussed in literature for almost two decades (Cobb & Frazer, 2005). However, its application has only started gaining popularity over the last 5 years,

with around 180 virtual worlds at present available or under development (de Freitas, 2008). The emergence of virtual learning environments have led to many social, pedagogical, institutional, and technological challenges and opportunities for the learning and teaching community (de Freitas, 2008). The unique nature and characteristics of MUVEs and its application, introduce further complexities regarding the impact and implica-

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tions of virtual worlds for teaching and learning. The advantages of MUVES seem to be obvious. However challenges remain in widely implementing MUVES in education. Some of the challenges are technological and others are more conceptual.

It is important to highlight that the nature of technology has an impact on how a technology is used in educational spheres. However, the actual use of technology is not completely determined by the technology itself, but rather shaped by sociocultural forces (Veletsianos, 2009). Although empirical results from the most of the studies are promising that the use of MUVES would bring a powerful pedagogical change towards constructivist learning, the adoption of technology innovation has been slow. Further exploration on how a technological innovation is adopted or diffused in education is needed. The purpose of this chapter is to discuss the diffusion of MUVES in education. Specifically, we investigated how Second Life, as a technological innovation, was diffused on a university campus in our case study. We first review the literature on the various advantages of MUVES and introduce the diffusion of innovation theory as well as classifying a MUVES as an innovation. Next, we present the case study with findings and discussions. Finally, we conclude the chapter with implications on future research.

ADVANTAGES OF MUVES

MUVES can support students' constructivist learning (Bronnack, Riedl, & Tashner, 2006; Dede, Whitehouse, & Brown L'Bahy, 2003; Dickey, 2005), and help build a community of learners (de Freitas, 2010). Research projects have taken a social constructivist approach to learning in virtual worlds (Dede, et al., 2003; Dickey, 2005; Bronnack, et al., 2006). Specifically, MUVES can support experiential learning, collaboration, and inquiry-based learning.

MUVES support experiential learning. Educational MUVES are synthetic worlds that

have the capability of providing learners with experiential learning. For example, in Braman, Vincenti, Arboleda, and Jinman's research (2009), the instructors used SL in an introductory computer science course where students learned to build objects and practiced repeatedly. Their findings suggested that the expressive power and creative nature of SL enabled students to extend conceptualized versions of themselves and their work into creative virtual spaces. The interactive and expressive nature of MUVES can also help support students to learn foreign languages. For example, in Wang, Song, Stone, and Yan's research (2009), students in China met with students in the United States in SL where they exchanged ideas through both oral and written communication. The authentic communication between them helped improve their foreign language skills.

MUVES support online collaboration. In Childress and Braswell's (2006) study, SL was integrated into an online graduate level course to strengthen students' sense of community and to provide better communication between instructors and students. A three-story office building was built as the study space for the class where students could come for academic reading and social interactive. They could also leave messages for the instructors. Students had come to this environment to work on their group projects because the interactivity and immersion of SL would make it a rich environment for cooperative learning activities (Childress & Braswell, 2006). It was further stated that the applications of MUVES could help increase realism and interactivity, thus blurring the line between the face-to-face learning environment and the online virtual learning environment (Childress & Braswell, 2006).

MUVES support inquiry-based learning. It is hard to design and implement scientific inquiry due to limited resources (National Research Council, 2005). The emergence of MUVES presents an opportunity for educators to conduct inquiry-based learning in virtual environments. One example of simulated, inquiry-based learning

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