Chapter 14
A Case Study of Designing Experiential Learning Activities in Virtual Worlds

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ABSTRACT

This chapter aims at examining, through a case study, student perceptions of interactive learning activities based on the experiential learning model in Second Life (SL). Undergraduate students in an Honors Program reflected on their learning experiences in a blended learning course that took place both in person and in SL for four weeks. Student reflections on two main learning tasks: discussion about assigned readings and SL field trips which include simulating and gaming, were recorded in weekly journals. Sixty journal entries were the data source for coding. Student experiences of the learning tasks are predominately positive with some challenges. Positive views include: excitement, enhanced confidence, motivation for learning, and increased knowledge. Challenges were mostly due to technical issues. Instructor interventions, including ground rules for online conversation and tech support, were important in minimizing barriers to student learning in virtual worlds.

INTRODUCTION

The affordances of the 3D virtual worlds have attracted an increasing number of higher education institutions to establish presences in Second Life (SL), the most popular virtual world for training and learning activities (Michels, 2008). Virtual worlds refer to three-dimensional learning environments that allow participants to represent themselves with an avatar, interact with other avatars, and offer opportunities to create authentic learning contexts (Chou & Hart, 2012). An

avatar is a persona representing a user that can walk, move, gesture, and communicate with other avatars. SL is a virtual world that was developed by Linden Labs and launched in 2003. SL is accessible from the Internet through a free SL client or other compatible client. The affordances refer to the capabilities that allow participants to communicate through voice and text chat, to embody social presence through 3D avatars, to engage in simulation and immersive learning through virtual campuses, and to establish learning communities from anywhere and anytime (Jarmon, 2007). The typical learning activities in virtual worlds, also known as 3D immersive learning, include: 3D demonstrations; simulations; virtual meetings. In addition there are communities of practice in a wide range of disciplines, including: science; medicine; education; arts; literature; business; music; humanities; and engineering (Chou & Hart, 2012). Studies in virtual worlds have shown that students appreciate the opportunities to learn in virtual worlds but are also frustrated with the technical difficulties and learning functionalities of SL (Leong, Joseph, & Boulay, 2010; Sanchez, 2009).

Most studies have focused on the general perceptions of student adaptation to activities in SL. What is little known are the specific student learning experiences associated with various learning activities. Student learning in virtual worlds can take many forms, which can include but are not limited to: scavenger hunts, project galleries, role playing, language learning, field trips, dialogues, public speaking; lectures; presentations; art design; science experiments; leadership training; team-building; game-based learning; project-based learning; and manipulation and creation of objects. This chapter explores student perceptions of different types of learning tasks by describing the results of a case study and highlighting interventions employed to minimize the barriers to learning.

LITERATURE REVIEW

Experiential Learning in Virtual Worlds

Kolb (1984) defines experiential learning theory (ELT) as "the process whereby knowledge is created through the transformation of experience. Knowledge results from the combination of grasping and transforming experience" (p. 41). The ELT model captures two modes of acquiring experience, through concrete experience (CE) and abstract conceptualization (AC). The ELT model also describes two ways of transforming experience, through reflective observation (RO) and active experimentation (AE). As shown in Figure 1, the four-stage learning cycle depicts how people learn through various ways of transforming experiences into knowledge. The emphasis on 'experiences' differentiates ELT from cognitive learning theories, which place more emphasis on cognition over affect, and behavioral learning theories, that pay little attention to experience in the learning process. According to Kolb, Boyatzis, and Mainemelis (2009), concrete experience serves as the base of observations and reflections, which are incorporated into abstract concepts. Abstract conceptualization provides the ideas for action.

Figure 1. Kolb's experiential learning cycle (adapted from Kolb, 2009)
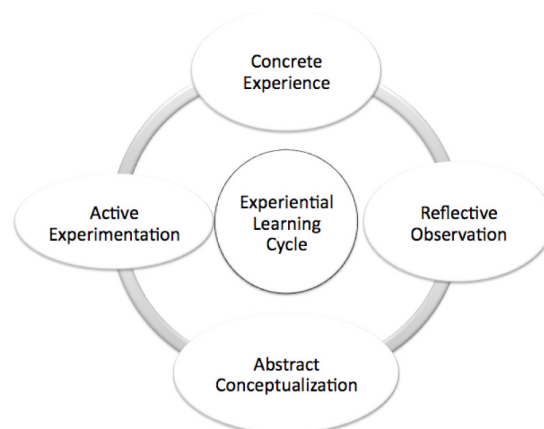
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