Chapter 13
Teaching and Learning Through Interdisciplinary Pedagogies in a Second Life Environment:
Focus on Integration and Assessment

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ABSTRACT

While virtual worlds have been available since the 1970s, opportunities for teaching and learning leading to improved pedagogical practice have increased over the past three decades (Livingstone, Kemp, & Edgar, 2008). Second Life, a highly immersive and scalable three-dimensional (3-D) multi-user social virtual environment, emphasizes the use of rich and authentic worlds for supporting an array of human activities and interactions within Web 2.0. Through synchronous communication, collaboration, and simulated experiences (Skiba, 2009), students accept the role of active creators of knowledge when faculty members adopt the Second Life platform as a learning environment. Bandura's social learning theory, Vygotsky's social development theory, and Piaget's constructivist learning theory form the conceptual framework for this chapter. This chapter describes how faculty from different disciplines in higher education adopted the interdisciplinary approach to course design, development, and delivery of a Second Life course with emphasis on authentic evaluation and assessment to improve student learning outcomes. The Second Life platform offered unique opportunities for students to become fully engaged in learning outcomes within two different courses. With learning outcomes and pedagogical needs at the forefront of instructional design decisions, instructors identified strategies for teaching, assessing, and evaluating the collaborative, immersive opportunities within Second Life as they taught two separate courses to the same group of students. This interdisciplinary approach to teaching entailed the use and integration of methods and analytical frameworks from more than one academic discipline to examine a theme, issue, question, or topic (Newell, 1994, 2001). Following both a constructivist approach and an integrated teaching model, instructors from two disciplines collaborated in the learning process with the goal of fostering inter-professional interactions. Interdisciplinary education was based on mutual understanding and respect for the concrete and unique opportunities for new contributions of each discipline.

INTRODUCTION

Institutions of higher education across the United States face budget crises and enrollment management issues, and educators are challenged at the very base of their instructional responsibilities. To address the educational challenges of 21st Century learners, leading institutions have turned to non-traditional learning environments. Faculty members are being charged to develop quality instructional strategies that encourage student engagement and maintain retention while keeping instructional costs low. Higher education experts are searching for ways to bring digitally relevant and boundary-crossing curricula to today's students (Brooks, 2016). Concurrently, demand for educational content utilizing multi-media is at an all-time high (Atkins, Bennett, Brown, Chopra, Dede, Fishman, & Williams, 2010). When integrated with cutting-edge technology, collaborative learning may improve educational quality at the same time it creates a more student-centered approach to learning.

Second Life is a 3-Dimensional (3-D) virtual word not initially intended for educational purposes. Second Life can serve as an instructional environment, encouraging instructors to rethink not only how they teach, but also how they deliver instruction (Linden Research, 2006). "The fact that virtual worlds combine technology, social learning, role playing and games make them a 'sleeping giant' in education, despite concerns of cost and widespread acceptance" (Alvarez, 2006, p. 1). Creating and using a unique and interactive environment has provided access to users through Second Life settings, using real time interactions in unique 3-D multi-user educational environments (Bignell & Parson, 2010). The emergence of 3-D virtual environments has become more commonplace in higher education, partly due to the ease of use along with increasing technological support (Bowers, Ragas, & Neely, 2009; Inman, Wright, & Hartman, 2010).

Over one hundred Second Life regions are used for educational purposes, covering a plethora of subjects, faculty and researchers who favor the system's interactive capabilities versus traditional distance learning teaching methods. Linden reports that with over 300 universities around the world currently offering courses and/or conducting research in Second Life, new educational institutions that operate exclusively within the Second Life environment are emerging and taking advantage of the platform to deliver low-cost instruction to a world-wide audience (http://wiki.secondlife.com/wiki/Second_Life_Education/Resources). The resultant modifications in the learning environment have developed largely from the emphasis upon social and experiential interactions, advances in the uses and applications of the internet, socio-technical transitions such as wider access to broadband, and the development of powerful Web 2.0 technologies, platforms and computer graphics capabilities.

Within the Second Life virtual world, residents and visitors can explore environments, meet and socialize with other residents (using voice and text chat), participate in individual and group activities, and learn from designed experiences. A 3-D modeling tool is built into the software, based on simple geometric shapes that allow anyone to build virtual objects. These items can then be used in combination with a scripting language to add functionality, allowing for a range of options in the context of education for enhancing teaching and learning (De Freitas, Rebolledo-Mendez, Liarokapis, Magoulas, & Poulovassilis, 2010). One method for communicating that is common in Second Life is the use of users receiving virtual notecards as a way to deliver detailed information that does not fit in a single Instant Message (IM). Notecards are often used as product manuals by merchants or offer users detailed instructions about navigating the environment. Instructors or students can utilize notecard kiosks within the Second Life environment for assignments, text-based lectures, references, resources, and detailed directions similar to what student may see in an email message (Sponsiello & Gallego-Arrufat, 2016).

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