Chapter 27
Using Second Life® for Situated and Active Learning in Teacher Education

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ABSTRACT

Preservice and inservice special education teachers used Second Life® as the educational platform in online courses in a graduate level distance education program. Faculty designed the virtual learning experiences to facilitate situated and active learning through the creation of a virtual campus and course-specific learning activities. The purpose of this chapter is to describe how instructors designed environments and activities to optimize learning in a three-dimensional virtual immersive environment, to report students' responses to learning in the virtual world, and to discuss the implications of virtual simulations for teacher education.

INTRODUCTION

Virtual reality applications represent a new technology for use in teacher education programs to assist prospective teachers in acquiring knowledge and skills. Constructivist theories of situated learning and active learning underlie the long-standing and widespread use of educational simulations in teacher education (Richardson, 1997) to help preservice students acquire knowledge and skills in college courses to become effective practicing teachers in their own classrooms in future years. Virtual environments offer new opportunities for creating educational simulations for these teachers-in-training (Calandra & Puvirajah, 2014) to help them acquire and practice skills through project-based activities or roleplaying exercises. The purpose of this chapter is to share how Second Life®(SL), an online virtual world, has been used to support situated and active learning in an online graduate program to prepare special education personnel.

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BACKGROUND

Constructivist Theories of Learning

Constructivist theories of human learning have emphasized two key principles: learning must be situated and learners must be active. These principles have been widely applied in teacher education for many years and are equally applicable to face-to-face and online program models. Technology-based learning environments such as games and virtual worlds give educators new tools to promote situated and active learning, especially in online courses and programs.

Situated Learning

Situated learning refers to opportunities for the learner to acquire knowledge and skills in meaningful, often natural contexts. Constructivist learning theorists (Brown, Collins, & Duguid, 1989; Lave & Wenger, 1991) have asserted that meaningful learning does not occur through the simple transmission of information from expert to novice but rather results from a learner's co-construction of knowledge through shared experiences and interactions with others in realistic contexts. Situated learning implies that learners need opportunities to learn through being 1) "located" in a real or simulated context through a learning activity such as a project, simulation, laboratory session, or field experience, and 2) provided with opportunities to "be active" as they learn by engaging and collaborating with other learners (Cognition & Technology Group at Vanderbilt, 1993). Teacher education programs have long made extensive use of situated learning through field experiences in schools, problem-based learning activities, and educational simulations that support preservice students in learning concepts and skills related to educational practice (Korthagen, 2010).

Active Learning

Active learning refers to materials and instructions that allow the learner to manipulate objects and interact with others to acquire both physical and social information necessary to develop conceptual understanding and practical skills. Proponents of instructional practices based upon active learning recommended learning activities such as discussion, role playing exercises, case studies, and games (Bonwell & Eison, 1991). Principles of active learning have long been recommended for use at the college level to motivate and engage learners (Meyers & Jones, 1993). More recently, educators have explored how computer- and Web-based applications can be used to design technology-enabled active learning activities (Dorf et al., 2010).

Use of Virtual Environments for Active and Situated Learning

Virtual reality offers new opportunities for instructional design through the creation of learning environments (contextual settings and physical objects) and learning activities (manipulation of objects and interaction with others) that can be accessed on campus or online. Virtual reality applications can be