

Chapter 30

The Pedagogical Considerations in the Design of Virtual Worlds for Organization Learning

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ABSTRACT

An increasing number of organizations have established presences in Second Life or virtual worlds for organizational learning. The types of activities range from staff training, annual meetings, to leadership development and commercial transactions. This chapter reviews relevant literature on how virtual worlds, especially Second Life, are utilized for organizational learning. The discussions include leveraging the affordances of virtual worlds for learning, integrating design principles of 3D immersive learning, and examining examples of actual workplace learning in virtual worlds. Specific emphasis will be placed on the translation of applicable learning theories into the pedagogical design of virtual worlds. Furthermore, the chapter examines student perspectives of an actual course on immersive learning that took place in Second Life. Student perspectives are summarized in six strands: challenging and informative learning, engagement, activity structures, transformation, collaborative and democratic participation, and new opportunities. The six themes are important factors for designers of 3D learning environments to ensure quality immersive learning experiences.

INTRODUCTION

Virtual worlds, which refer to a 3D virtual learning environment that supports multiple learners, have been employed by an increasing number of corporations, universities, and education agencies for learning and training (The New Medium Consortium, 2007). Virtual worlds have a low

barrier-to-entry for content creation, can be programmable, and provide an abundant reusable instructional content (Mason, 2007). In the last few years, a rapidly growing number of business and higher education institutions have established presences in Second Life and other similar virtual worlds (Mennecke et. al, 2007). People enter the virtual worlds in Second Life via an avatar to

DOI: 10.4018/978-1-60960-762-3.ch030

represent themselves. The avatars can walk, talk, and move around the same way that they would in the real world. Most of the current discussions have focused on the pedagogical applications of virtual worlds for learners in higher education. 3D virtual worlds are sometimes used interchangeably with metaverses or 3D Multi-User Virtual Environment (MUVE). Although some of the theoretical principles can be applied to learners in both education and business, domain-specific examples based on the shared theoretical principles can provide practitioners in organizations a better framework in adopting virtual worlds for training and development. This chapter aims to provide an overview of the theoretical framework of immersive learning, practical examples of workplace learning in virtual worlds, and student perspectives based on a case study in a 3D virtual learning environment. The literature review, practical examples, and the case study offer complimentary evidence in the design, development, and evaluation of virtual world learning. The findings could provide evidence-based guidelines for researchers and designers of virtual worlds.

LITERATURE REVIEW

To be able to fully utilize the features of 3D virtual worlds, it is important to understand the functionalities of virtual worlds and their unique capabilities that are not present in other media. Since the participants in workplace learning are adults, the pedagogical considerations of 3D learning environments based on adult learning theory could lay the foundation for activity design. In the actual implementation, design strategies that are student-centered and instructionally sound should provide the context for 3D immersive learning. The literature review starts with a general discussion on the affordances of virtual worlds and the capabilities of virtual worlds to support learning. Next, the discussions focus on the pedagogical considerations such as building teams and es-

tablishing communities of practice in 3D virtual world learning. Last, the design principles for 3D virtual worlds and actual corporate examples are reviewed.

Affordances of Virtual Worlds

As technology evolves, new technological capabilities can infuse innovative approaches into teaching and learning activities in education and the workplace. In Second Life's virtual world, learners can utilize many of its features to form learning networks, create new identities, and construct new worlds with flexible building tools. Ondrejka (2005) has put it well: "As a result of transferring power to change their worlds from developers to residents, digital worlds take radically different approaches to world building, gameplay and design. They leverage powerful economic and social forces and enjoy significant advantages relative to the real world" (p. 22). In Table 1, Jarmon (2008) summarized how these new technological features can afford users the ability to transform their experiences in the 3D virtual worlds.

The integrated functions in virtual worlds have presented new opportunities for learning. We are seeing a convergence of social networking, 3D, multimedia, voice, chat, videos, and search capabilities in Second Life. The extended capabilities are especially appealing to learners who hope to be able to have more control of their online presence in a highly engaged and connected environment.

Pedagogical Considerations

Pedagogy refers to the science of teaching (Miriam-Webster, 2010). Pedagogical models are approaches to teaching and learning that are based on learning theories to enable the specific implementation of instructional strategies (Dabagh & Bannan-Ritland, 2005). This section first briefly reviews how 3D virtual world features

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