

Chapter 13

Facilitating Communities of Practice in Online Immersive Learning Environments

Krista Terry

Appalachian State University, USA

Amy Cheney

Appalachian State University, USA

Les Bolt

Appalachian State University, USA

Terry McClannon

Appalachian State University, USA

Robert L. Sanders

Appalachian State University, USA

ABSTRACT

This exploratory study is based on survey research involving graduate students using this 3D immersive environment for their coursework. Investigators examined students' perceptions of community and presence via coursework offered in the immersive world. Utilizing the Sense of Community II index and the Communities of Inquiry survey, variables examined include students' time within their graduate programs, time spent in the 3D environment, and their levels of immersion, as well as the relationship between the two instruments. Analysis showed significant results for each of the research questions for both instruments, and allowed for a number of new research directions including that of the correlation of community and presence, along with the potential for design based research informed by systems thinking as a potential new area of interest.

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INTRODUCTION

More than a decade ago, faculty members in the Instructional Technology program at Appalachian State University realized that something was missing from their online courses. These faculty members subscribed to the tenets of their college's social constructivist conceptual framework, which explicitly called for the creation and facilitation of Communities of Practice, but noticed that despite their best efforts, many of these tenets were not being fully addressed in the online components of their courses; in particular, learning was not occurring through students' participation such communities, nor was knowledge being socially constructed among all community participants. At that time, the university had adopted and was promoting the use of a commonly used learning management system (LMS) to support the delivery of hybrid courses (combination of online and face-to-face), primarily as a supplement for students taking coursework at remote extension sites throughout western North Carolina. While the faculty using these tools believed that there was potential value in teaching and learning in an online environment, it was apparent to these educators that their students were not as engaged in the online component of the courses as they were when classes met face-to-face. The online learning components were passive, isolating, and utilitarian, albeit unintentionally, and lacked opportunities for social connections to be made with other students or faculty. Students had little, if any, sense that others were present when logged into the LMS. There was no sense that others were online to help, collaborate, or interact. The only opportunities for students to feel part of a learning community were during the limited time spent in class, face-to-face with their peers and instructors. The online component to the class did little to further the development of this community. Therefore, a new set of tools that afforded a new approach better aligned with a social constructivist philosophy was needed.

Following extensive research and exploration, these faculty members discovered an emerging technology that provided the type of online forum they desired; one that supported both scholarly activity and social interactions between and among students and faculty. Virtual worlds, specifically *ActiveWorlds*, offered a persistent 3D immersive learning environment that provided multiple manifestations of presence (comprised of students, faculty, spaces, tools, and artifacts) that closely aligned with the real world in which these students were accustomed to working. They believed that this virtual world might have potential for creating an online learning environment that was as engaging as the face-to-face classes they offered, if not more so. In fact, these faculty members noticed that over time, the interactions they had with their students, the interactions between students, and the students' interactions with the tools and resources in this new virtual environment began to resemble the learning communities of practice promoted by the aforementioned conceptual framework of their college.

More than ten years later, the use of similar 3D immersive learning environments has spread worldwide and expanded at Appalachian State University to be the environment of choice for nearly two dozen faculty members in the Department of Leadership and Educational Studies in the Reich College of Education. During this last decade, numerous studies have been conducted and many changes have occurred to improve on quality of the teaching and learning experiences offered. However, the fundamental questions about the role of presence and the resulting formation of community have remained and continue to guide the work done by these educators.

As such, the theoretical model which guides this research is one in which immersive virtual worlds enable a sense of presence. This feeling of 'being there' is necessary for the formation of communities of practice, which in turn leads to co-creation of knowledge (Figure 1):

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