

Chapter 14

Facilitating Immersion in Virtual Worlds:

An Examination of the Physical, Virtual, Social, and Pedagogical Factors Leading to Engagement and Flow

Helen Farley

University of Southern Queensland, Australia

ABSTRACT

Virtual worlds, in particular Second Life and Open Sim, are providing welcome opportunities for the development of innovative curricula for tertiary educators, particularly those engaged with distance education. They provide a virtual meeting ground for those students and teachers who are geographically remote from one another, rendering distance irrelevant and enabling the formation of community. This chapter looks at those factors—physical, social, virtual, and those related to pedagogy—which facilitate immersion in virtual worlds; that suspension of disbelief which generates the feeling of presence or “being there,” crucial to promoting student engagement and ultimately, flow.

INTRODUCTION

As the demands on student resources increase and the cohorts of most universities grows ever more diverse, many institutions are becoming more flexible in how they deliver their courses

and programs (see Ritzema & Harris, 2008, p. 110). Many students are electing not to travel to their place of study but rather engage in distance education, where they are able to participate in learning at times convenient to them, in the comfort of their own homes or workplaces. Though this

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mode of education has the considerable benefits of convenience and accessibility, many challenges remain for students. These include altered motivation, feedback and teacher contact, student support and services, alienation and isolation, lack of experience and training (Galusha, 2001). In order to address these challenges, educators need to exploit the full range of affordances of new technologies (Garrison, 2000). At first glance, the use of virtual worlds would seem to have the potential to address many of these issues, yet spaces such as Second Life are littered with builds that are deserted; unappealing to both educators and students alike.

In order to promote student engagement with a program, course or activity in a virtual environment, it is necessary to generate immersion. Immersion has been defined as the “the subjective impression that one is participating in a comprehensive, realistic experience” (Witmer & Singer, 1998), and is seen as a necessary condition for “presence,” the psychological sense of actually being in the virtual environment (Franceschi, Lee & Hinds, 2008, p. 5). Engagement refers to the focus of a user’s attention on the task at hand, and given sufficient involvement and mental clarity can lead to the optimal learning state of “flow.” This term was first coined by Mihaly Csikszentmihalyi (1990) and refers to a mental state that athletes equate with “being in the zone” (Aldrich, 2009, p. 5). This paper will look at those characteristics of the activity and environment which facilitate immersion, presence and potentially flow, in three-dimensional virtual environments such as virtual worlds (VWs) including Second Life, OpenSim, Twinity and Active Worlds.

WHY VIRTUAL WORLDS?

A virtual world (VW) – often referred to as a Multi-user Virtual Environment (MUVE) – is a computer-, server- or internet-based virtual environment that allows participants to move around and use various forms of communica-

tion (text chat, voice chat or instant messaging). It allows participants to create a virtual identity which persists beyond the initial session (Maher, 1999, p. 322; Ritzema & Harris, 2008, p. 110). The term was coined by Chip Morningstar and F. Randall Farmer in 1990 (see Morningstar & Farmer, 1991, p. 273). Second Life is one of the most well-known VWs in part due to the intense media scrutiny it has attracted, but predominantly because the content is created almost exclusively by users. At the time of writing, it boasts nearly sixteen million user accounts; one and a quarter million residents having logged in during the previous sixty days (Linden Lab, 2010).

VWs are populated by motional “avatars”; the term is derived from Sanskrit and used in Hindu mythology to denote the earthly form adopted by a deity, commonly Visnu (Leeming, 2001). In MUVEs, this term denotes the representation of a character, controlled either by an individual or a software agent in the case of a “bot,” which acts somewhat like a virtual automaton (Duridanov & Simoff, 2007, p. 4). The choice of avatar can reflect a player’s personality, gender or ethnicity. It is also possible for a participant to assume a completely different identity which in itself may constitute a significant learning experience, particularly important in role-playing scenarios. In addition, they are able to communicate with large groups of avatars (via voice- or text-chat or asynchronously with podcasting or inworld, text-based documents called notecards) or communicate more intimately with a single avatar (using instant messaging) (Tashner, Riedl, & Bronack, 2005, p. 6). Avatars are able to interact with and modify the virtual environment and are even able to interact beyond the confines of the MUVE if objects are linked to web pages (called “web on a prim” in Second Life) (Tashner et al., 2005, p. 6).

For educators, the appeal of virtual worlds is enormous. The diversity of educational contexts afforded by the environment provides an assortment of experiences that accommodate a range of learning styles. Neil Fleming identified four types of learning styles: (a) visual; (b) auditory;

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