

## Chapter 12

# Educational Services in Second Life: A Study Based on Flow Theory

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### ABSTRACT

*Among many changes influenced by the Internet, interactivity in spaces that promote relationships, entertainment, and businesses can be highlighted. Considering this, Second Life stands out because it is a tridimensional online environment which imitates human real social life. Despite social and commercial influences, Second Life suggests a new format for e-learning. Then, the question of how to explore the facets of an online learning environment may be answered by Flow Theory. Hence, the main objective of this paper is to analyze the most significant antecedent and subsequent relations of the Flow Experience in the Second Life's educational environment, based on Novak, Hoffman, and Yung (2000). This research used tools from multivariate statistical analysis such as confirmatory factor analysis and structural equation modeling. The results confirmed the hypotheses, indicating that there is flow in Second Life's e-learning environment, with interactive speed, exploratory behavior and telepresence as the most significant constructs detected.*

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## INTRODUCTION

The web was born under a unidirectional concept, the download. Through this concept, which is still rooted in the virtual culture, websites have certain contents that can be accessed by their visitors. When transported to education, this concept inspired the emergence of numerous portals, through which students can access their study materials, their performances, their tuition payment slips etc. There are actually several possible uses, but in a unidirectional perspective.

When weblogs became available, Internet users started to play a more active role. Publishing content was no longer the privilege of web designers, programmers and other skilled professionals. The Web became more democratic, but now in a bidirectional perspective. Hence, the upload became as important as the download, starting a movement that was called Web 2.0 (Valente & Mattar, 2007). In this context, interactivity was intensified in spaces that promote relationships, entertainment and businesses such as Orkut, My Space, Facebook, and Second Life. More specifically, Second Life is standing out in relation to the others because it is a three-dimensional online environment, which simulates, despite some differences, the human being social life. It is a platform for a wide range of activities, and there has been a growing interest on applications in education as many institutions seek to increase their competitive advantage. Despite social and commercial influences, Second Life also suggests a new format for e-learning and this is supported by several educational institutions members of the platform, such as Harvard University, Hong Kong Polytechnic, Pontifical Catholic University of Rio de Janeiro (PUC-Rio), and others.

In distance education interactivity between teachers and students is essential because despite learning is still possible without this interaction, its quality and value may be compromised. These advantages are relevant in education since they

provide higher productivity, speed and instant feedback with a favorable cost benefit for students, teachers and teaching institutions.

The development of these flexible spaces for teaching and learning in virtual environments is the greatest challenge of education. This work sought to focus on these aspects, emphasizing the importance and innovative nature of this educational modality as an alternative to a high quality education. Questioning how to explore the facets of an online learning environment has led to the Flow Theory (Pearce, Ainley, & Howard, 2004).

Flow is called a positive cognitive state that is a consequence of the individual's sense of full control of his own actions (Csikszentmihalyi & Lefevre, 2000). According to renowned authors in the area, the concept of flow is essential for understanding the involvement behavior in online environments (Hoffman & Novak, 1996, 2008; Novak, Hoffman, & Duhachek, 2003; Novak, Hoffman, & Yung, 2000). Such statement is supported by several previous studies (Ghani & Deshpande, 1994; Ghani, Supnick, & Rooney, 1991; Webster, Trevino, & Ryan, 1993) which detected flow as a more appropriate concept in order to describe interactions between individuals and the computer.

Flow occurs when a person faces a set of goals that demand appropriate responses, particularly when his skills are fully involved in overcoming a challenge located on the boundaries of his control ability. It usually involves a fine balance between an individual's ability to act and available opportunities of action. At the end of the experiment the individual has a deep sense of joy and satisfaction (Csikszentmihalyi, 1999).

Also known as maximum experience, or autotelic experience, flow was pioneered researched by Csikszentmihalyi in the early 1970s.

As the predecessors of flow studies on the Web, Hoffman & Novak (1996) proposed conceptual frameworks to implement the construct in this environment, considering that flow is the central

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