Affective Load and Engagement in Second Life: Experiencing Urgent, Persistent, and Long-Term Information Needs

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ABSTRACT

New users of virtual environments face a steep learning curve, requiring persistence and determination to overcome challenges experienced while acclimatizing to the demands of avatar-mediated behavior. Concurrent structured self-reports can be used to monitor the personal affective and cognitive struggles involved in virtual world adaptation to specific affordances while performing particular tasks and activities with avatars. Examination of user discourse in self-reports reveals that participants focus on micro-management concerns about how to proceed in an activity, replete with intense emotions and uncertainty over how to operate affordances. Concurrent structured self-reports engage users in meta-affective and meta-cognitive reflection and facilitate coping with confusion and negative emotions. As Second Life is a complex virtual world with hundreds of affordances, people experience a continuous stream of information needs. Urgent, persistent, and long-term information needs are associated with differing qualities and intensities of affective load, such as impatience, irritation, anxiety, and frustration. When a particular information need is met, affective engagement results in intensity proportional to the affective load. Constructing user discourse during virtual activities serves as a coping mechanism that facilitates adaptation by raising meta-cognitive and meta-affective awareness.

Keywords: Affective Load, Avatar-Mediated, Engagement, Information Behavior, Learning Environment, User Behavior, User Needs

INTRODUCTION

This article reports an exploratory study that examines information behavior practices of university students new to Second Life (SL), and introduces a framework for studying information needs of students in virtual environments that highlights personal aspects in learning. Today nearly every discipline teaches college and university courses in virtual worlds, a figure predicted to increase rapidly as millions of virtualized tweens enter college (KZERO, 2008, 2009). Librarians represent one of the earliest academic and cultural groups to build a presence, create information collections, and deliver services in Second Life (Bell & Trueman, 2008). The present study contributes to the emerging area of virtual world information behavior (Mon, 2009).

The virtual world Second Life is a collaborative effort of millions of ‘residents’ to...
recreate physical and social elements of real life (RL) (Boellstorff, 2008; Castronova, 2005; Castronova, 2007; Grassian & Trueman, 2007; Luo & Kemp, 2008; Ostrander, 2008; Sanchez, 2009). Second Life is a real time telecommunications system constructed collaboratively to facilitate social networking of participants in distributed locations. In this ultra constructivist 3-D immersive environment, participants custom-create buildings, shopping malls, clothes, animations, scripts, creatures, plants, activities, events, etc.

Virtual places are accessible via SLURL coordinates and teleport links from the Web, inworld map, and search engine. Second Life is noted for excellent reproductions of cities, rooms, gardens, and objects. Inworld objects are solid so avatars must go around them to continue walking or flying, permitting collaborative viewing, inspection, manipulation, and navigation. With the exception of flying, such interactive functions are familiar in physical learning environments and facilitate collaborative learning (Dwyer, 2007).

The present study examines streams of discourse generated by people as they moved through the SL environment alone and in company, interacting with objects that provide information. The purpose was to determine whether virtual world user discourse would demonstrate a pattern similar to discourse generated while using Web and application technologies, with particular focus on the affective dimensions of technology use (Nahl, 2007a, 2007b). SL assignments included concurrent self-reports with prompts to be completed at intervals during activities and tasks.

The prompts were designed to generate a form of verbalization known as user discourse (Nahl, 2007a; Rimmer, 2001). Three personal learning aspects were elicited that focus on user feelings, thoughts, and noticing while performing SL activities. Here a framework applied to analyze user discourse in prior studies of information systems was applied to the virtual world (Nahl, 2005, 2007a, 2007b). Analysis of SL user discourse confirmed the applicability of the Information Reception and Engagement model (see Figure 1), and revealed gradations of feelings in relation to three types of information needs experienced while performing SL tasks.

Prior research has demonstrated the presence, varieties, and influence of affect in information behavior (IB), and has examined the relationship between affect and cognition in reading, information seeking, information retrieval, decision-making, and task performance (Nahl & Bilal, 2007). These studies have shown that while affect accompanies every activity and its qualities are manifold, it frequently fluctuates and seldom remains steady. How a student feels while doing a task can determine the quality of work and whether it is completed, e.g., high frustration leads to ending a task early.

**METHODOLOGY**

The participants in the study were 11 undergraduate and graduate students in psychology and library and information science who were taking one of three elective disciplinary courses with virtual world components in 2009. Students examined Second Life from the perspective of their disciplines and course focus. The four male and seven female students were new to Second Life: two had explored other virtual worlds, and two had some gaming background. During a 16 week term they spent a minimum of eight hours inworld weekly, and generated user discourse by constructing concurrent structured self-reports of their SL experiences while doing their assignments and projects.

All classes met face-to-face in labs and worked collaboratively inworld during the sessions. In addition, students did virtual world assignments and research individually and in teams. All participants used structured self-report forms tailored to specific course assignments. Students followed instructions to perform inworld tasks, recorded their experience in narrative form, and gave periodic ratings for optimism, self-efficacy, and uncertainty. Averages of formative ratings were not analyzed in this study, but ratings were employed to raise
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