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Formal and Informal Learning Experiences in *Second Life*: An Overview

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Keywords: Second Life, virtual reality, communities of practice, informal learning

Abstract: A growing number of higher education institutions, consortiums and libraries are establishing presences in the virtual world of *Second Life*. Millions of adults currently engage in both formal and informal learning experiences in *SL* and the numbers are growing. This paper provides an overview of this phenomenon.

Introduction and Background

This exploratory study investigates the multi-user-virtual-environment (MUVE) of *Second Life* and shows that participation provides both formal and informal learning experiences for a growing number of adults. *Second Life* (*SL*) is a unique online virtual 3-D environment in that it has no predetermined player goals, and while some have described it as a game, many participants do not consider it a game at all. Linden Lab, the company that created *SL*, describes *SL* as “a 3-D virtual world entirely created by its Residents” and a Resident is defined as “a uniquely named avatar with the right to log into the Second Life world, trade Linden™ dollars and visit the Community pages” (Linden Lab, 2008b). Residents create avatars, or a “persona in the virtual world” (Linden Lab, 2008d), and these avatars participate in social, economic, recreational, and educational activities within this virtual environment. *SL* is having an impact on education, law (e.g. intellectual property) and relationships in real life (or First Life, as some participants of *SL* refer to it). Since its launch in 2003, the number of Residents has grown from a few thousand to over 12,800,000 originating from over 100 countries, as of March 2008 (Linden Lab, 2008a). While there is a considerable amount of research on MUVEs, massively multiplayer online games (MMOG), and massively multi-player online role-playing games (MMORPG), there is little academic literature available which specifically examines *SL*.

Over 250 colleges and universities as well as many corporations and other organizations have also devoted resources to create a presence in *SL* and are involved in exploration of educational uses of this environment. These include major educational organizations and consortiums (e.g. The Sloan Consortium; The New Media Consortium (NMC); The British Council), museums (e.g. The San Francisco Exploratorium; International Spaceflight Museum; International Museum of Distance Education and Technology) and library alliances (e.g. Alliance Library System; State Library of Kansas; Cleveland Public Library). Structured educational activities, or formal learning, occurs throughout this virtual world and includes lectures, virtual field trips, classes, discussions and presentations (Bennett & Beith, 2007). The activities in this new educational and learning landscape involve the participation of thousands of teachers, administrators, librarians and students. The majority of adults who participate in *SL*, however, are not affiliated with organized or formal education organizations, yet they too encounter learning opportunities as a result of their participation.

A study by Bennet & Beith (2007) suggests that by 2011, four-fifths of all internet users will actively participate in virtual worlds. A new generation and a growing number of children have access to the internet and are currently participating in virtual worlds. Familiarity with this

medium has future implications for education and for business. Disney Corporation's Club Penguin has over 700,000 subscribers, Whyville has over 2.6 million registered, and Mattel's Barbie Girls online community has over 4.5 million subscribers (Bray, 2007). The *SL* Teen-grid had over 5,000 residents in December 2007 (Linden Lab, 2008a).

While the number of registrants in *SL* continues to grow, there has also been growing criticism that the technology behind *SL*'s environment is not stable enough to warrant serious investment by organizations. There is some statistical evidence and discussion about the popularity of *SL* waning (Beaumont, C., 2008; Reuters, 2007), however Kemp (2008) argues that as an emerging technology, *SL* has reached the "Peak of Inflated Expectations" in the Gartner Hype Cycle, that it is currently experiencing the expected cyclical drop to the "trough of disillusionment" (Gartner, 2008), that it will continue to progress to the next stage in which companies and organizations continue to invest in the technology and that finally it will emerge as an environment which is stable and seen as valuable to the mainstream or to a niche market. Indeed, companies such as IBM, Microsoft and others continue to devote resources to develop the potential of virtual environments, and the open source movement provides the potential for avatars to travel from one virtual world to another – much like internet users can currently move from one web site to another. Other companies that either have launched or plan to launch virtual worlds for adults include Virgin, Google, the Chinese hipihi.com, Active Worlds, the Sims Online, and many others. New Media Consortium's Educator survey (New Media Consortium, 2007, p. 13) found that 27% believe that *SL* "is the future of the web" or that it is part of the coming 3-D web or "part of the Future Web."

There is a growing body of literature about *SL*; however, little research has been published by academic textbook or journal publishers. There are a number of official and unofficial guide-type *SL* related books (e.g. Robbins & Bell, 2008; Rymaszewski, Au, Wallace, Winters, Ondrejka, & Batstone-Cunningham, 2006; Tapley, 2008; Weber, Rufer-Bach, & Platel, 2008), *SL* related conference proceedings (e.g. Livingstone, & Kemp, 2006; Livingstone, & Kemp, 2007) and papers that have been published in non-*SL* specific conferences (e.g. Diehl, 2007; Hayes, 2006, Souter, 2007). In addition, hundreds of newspaper and magazine articles have been published over the past several years about *SL*. Economic and population statistics regarding *SL* are released on a monthly basis and are available from Linden Lab (2008a).

A growing number of online social networking environments and communities of practice related to *SL* also exist (Wenger, 2005). A Google search on *Second Life blog* yields almost six million hits, and hundreds of these lead to personal blogs. Myriad blogs and wikis (e.g. Bixler et al., 2008; Linden Lab, 2008c; Second Life In Education, 2008; Wikia, Inc., 2008) are updated on a regular basis and contain information and participants' perceptions of their *SL* experiences. A wealth of visual data can also be found on web sites such as Snapzilla.com, 2ndLookin.org or Flickr.com, where for example, over 120,000 images have been tagged with "Second Life." Additionally, a Google video search using keywords "Second Life" yields over 16,000 results which range from "how-to" instructional videos to dramatic Machinima works to more simple recordings of participants' journeys. Participants in *SL* also meet at conferences and in other face-to-face settings.

Design

Part of the data in this study is drawn from online, in-world observations via the researcher's personal avatar in the virtual environment of *SL*. Online surveys were completed by *SL* residents and in addition, the researcher analyzed online web sites, blogs, wikis and forums. Respondents of the surveys were recruited using convenience sampling through classified

postings and contact with their avatars within *SL*. Some participants were recruited within *SL* in areas that are considered public (e.g. orientation areas, commercial areas, community plazas). In these cases, the researcher's avatar presented other avatars with a note card that contained the research information. At the time of writing this article, 49 respondents completed the surveys which contained both fixed and open-ended questions. Emerging themes were determined by the researcher, and conclusions drawn from observations within *SL*. Information concerning groups, events and places within *SL* were accessed by using the *SL* search tool.

Findings

The range of educational attainment among respondents included: primary school (2%, n=1; Secondary (8%, n=4); some college (14%, n=7); college graduate (43%, n=21); masters (25%, n=12); doctoral (8%, n=4). Gender of participants was 43% male and 57% female. Experience in *SL* included: 2-3 years (2%, n= 1); 1-2 years (12%, n= 6); 9-12 months (4%, n= 2); 6-9 months (8%, n=4); 3-6 months (22%, n=11); 1-3 months (24%, n= 12); 0-4 weeks (30%, n=15). Respondents indicated that they initially chose to participate in *SL* for the following reasons: Social (63%, n=31); Fun (63%, n=31); Curiosity (61%, n=30); Entertainment (51%, n=25); Education (51%, n=25); Learn Scripting (29%, n=14); Teaching (20%, n=10); Learn a language (18%, n=9); Other (20%, n = 10). Other reasons (using the words of respondents) for participation included: "social experimentation, making money, because it was bizarre and intriguing, research networking, networking, *SL* is new and interesting, tremendous learning potential, work related possibilities, language teaching," and "to learn building." These responses provide some insights into Residents' reasons for becoming members of this Activity System.

When asked what they have learned informally since participating in *SL*, respondents indicated (broken into general topics): scripting, building, coding, 3-D software, computer skills, how to create avatars, math, geometry, graphics, design, landscaping, language (English, Japanese, Spanish, German), geography, sociology, history, astronomy, human genome, psychology, marketing, and foreign cultures. Diehl and Prins (in press) also found that for some residents, one of the unintended outcomes of participation in *SL* appears to be enhanced intercultural literacy.

When asked about formal education (structured, organized classes), respondents reported participating in activities related to the following: building, scripting, graphic design, languages, clothes, relationships, and discussions. 39% (n=19) of respondents report that they have visited a First Life University in *SL*, 55% (n=27) have not, and 6% (n=3) said that they were not sure if they had visited a First Life established university.

SL residents also organize and create communities of practice and form interest-specific groups. A search found hundreds of groups that used the keyword "education." While many of these groups have only a handful of members, the top 20 most popular groups had over 60 members. An example of the top groups with the number of members included: University of Second Life (1100); Educator's Coffee House (769); Education UK (363); Open Education in Second Life (315); Gorean Education Center (285); Distance Educators (207); Power-Match (198); Marketing Education (158); Physics Education (158); Istanbul Bilgi University (144); Immersive Education (133); Sexual Health SIM (129); Special Education Exchange (97); Museum of Distance Education and Technology Centre (91). Groups found under the keyword "Learning" with number of members, included: Academy of Second Learning (3718); I think I'm learning Japanese (367); Secondlife – Learning Center (262); eLearning Forum (223). Groups in these categories cover a wide range of subject matters, are international, are both commercial and non-commercial in nature, and target both learners and educators.

In addition, formal learning takes place during scheduled educational events which are listed in the *SL* events calendar. A typical search yields as many as 100 or more events per day, and a partial list of topics that this researcher identified includes, but is not limited to the following topics: Meditation Methods; Building in Second Life, Camera Controls in *SL*; Scripting; Gestures; Teaching in *SL*; German language; English as a Second Language; Dealing With Grievers; Animations; Tarot; Quakerism; Red Hat; Book discussions; ethics; Alcoholics Anonymous, Depression Support; Poetry; writing; sculpture; art. This lists illustrates the variety of organized educational events that are taking place, and while many of the topics are related to *SL*-specific skills (e.g. scripting, building objects, avatar accessories and navigation), one also finds a variety of others, including but not limited to language, religion, technology, business, and self-improvement classes.

Conclusion

This paper has briefly discussed organizational involvement in *SL* from the macro level, “as if looking at it from above” (Engestrom & Miettinen, 1999) and then has explored individual participants’ experiences. This study provides an overview of the scope of formal learning in *SL* by providing the reader with an overview of organizations, groups and events that are participating. It also illustrates what residents report to learn informally (intended and unintended) as a result of becoming participants in *SL*. While there is a profound digital divide and the vast majority of adults worldwide have not experienced life in a virtual world, the number of people (both adults and children) who are participating in these environments is growing – and as these technologies improve, along with the familiarity of virtual worlds to the younger generations of future adults, it is likely that the numbers will continue to increase. Researchers can view *SL* as a community of practice (Wenger, 2005) that brings people together who interact, share and engage in interactions in pursuit of their interests. *SL* may also be studied as an Activity System utilizing Cultural Historical Activity Theory (CHAT); this framework is useful as it helps to describe rules, mediating artifacts, objects, division of labor, and contradictions that exist within these activity systems (Engestrom & Miettinen, 1999). There are myriad micro-level activity systems and communities of practice related to *SL*, and these include online social networking sites.

This research is limited in that the respondent sample is a convenience sampling and utilizes an anonymous online survey. Additionally, due to space and time restrictions, a more exhaustive discussion of this topic is not possible here. However, this paper provides readers with a framework, resources and additional insights into both formal and informal learning that is occurring in *SL*. The results may also be useful as a resource for those who are already involved or for those who are considering setting up a presence or experimenting in *SL*. For those researchers who are interested in studying the evolution of virtual worlds, it provides a snapshot of *SL* at this point in time as a social learning environment for historical and longitudinal studies. Further study is necessary to better understand the investments, benefits and pedagogical implications of using virtual worlds for education, but early experimentation, research and evaluation should enable us to utilize these technologies in appropriate ways that will provide quality experiences for adult learners in both formal and informal settings.

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