

Multi-User Virtual Environments for Education and Training?

A Critical Review of *Second Life*

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Second Life is a popular example of an immersive, three-dimensional, virtual world. Inhabitants of *Second Life* often describe their experiences in-world as having great social presence. Certainly there is a good deal of potential for education and training to occur in multi-user virtual environments (MUVes), if designed properly, especially when the goals involve role playing, simulation, and peer interaction. On the other hand, the author notes, the state-of-the-art of these virtual worlds is such that instructors should use caution, if for no other reason than the steep learning curve for students and teachers alike, in using MUVes for education and training, when an easier to use alternative delivery system can be effective.

*I get frustrated hearing people talk about how **Second Life** isn't entertaining, or it's only useful for advertising to "freaks, furries, ageplay perverts and prank-loving adolescents."*

(Wagner, 2007)

Introduction

Networked, three-dimensional (3D), virtual worlds, such as *Second Life* (SL), are quickly emerging as a favorite venue for social networking, collaboration, and even online learning. Is it all hype? Used for entertainment, professional, and educational purposes, millions of people live their fantasies and a "second

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life" in a metaverse where imagination is thought by some people to be the only limitation. In general, these worlds offer at least three things: (1) a 3D space or environment; (2) avatars that represent the individual user; and (3) interactive chat, either using text or voice or both (Dickey, 2005).

Approximately 200 colleges in the United States and a dozen other countries have a presence in SL (Kelton, 2007) and it is catching on in business as well, with companies such as Sun, Dell, British Petroleum, IBM, and Intel developing training in-world (Gronstedt, 2007). Since the inception of modern, multi-user virtual environments (MUVes) less than a decade ago, why have people flocked to virtual worlds? There are 10 million residents (a uniquely named avatar with the right to log into SL) having signed on at least once to SL (*Second Life*, 2007), with 30,000 to 40,000 residents active at any one time. This article offers some thoughts on the advantages and barriers to learning and teaching in 3D, virtual worlds, and more specifically, in *Second Life*.

The Nature of *Second Life*

A user-created character, or avatar, is the user's in-world persona. One creates an identity to reflect an individual personality and interests (or several alternative avatars to capture several personalities and sets of interests that may be wanted). Creating such an identity is one of the important aspects that engage users, especially younger users, who find it similar to customizable social networking sites like *Facebook*.

Remember that everything found in SL's landscape, including stores, businesses, houses, office buildings, campuses, island villas, night clubs, and jewelry, are all constructed by residents themselves—planners and artists who use great skills when designing and building (Cross, O'Driscoll, & Tronsden, 2007). Turn off the computer and the virtual world continues—it persists and endures.

Education is important in real life, so it ought to be supported and respected in-world as well. On the other hand, SL is probably more about *escaping* real life for most people than mimicking it. How realistic should a virtual world be? Dave Taylor (2007) asked, "...do people want to go through the same hassles in a virtual world that we do in the real world?" Still, in July, 2007, 26.74% of those active in SL were between 18 and 24 years of age, and 37.52% were between 25 and 34 years of age (Linden, 2007). With nearly 2/3 of the SL active users in the 18–34 age group, higher education should probably be interested.

Large, popular virtual worlds are immersive and quite engaging to most of the people involved in such environments. Through willing suspension of disbelief, immersion leads to the impression that one is participating in a realistic experience (Dede, 2005;

Basics of *Second Life*

Second Life (SL) is a platform that extends the Internet into a 3D world. Philip Rosedale is the founder, master builder, and CEO of San Francisco-based Linden Lab. Launched in 2003, *SL* is a shared, virtual space, with users worldwide. Growing greatly in popularity, there are over 10 million *SL* residents at last official count, with 30,000 to 40,000 residents active in-world at any one time. A resident means that a person somewhere in the world has at least created an avatar and gone in-world. Of course, one user could, and often does, create more than one avatar.

Residents come together to interact, play, learn, conduct business, and communicate in a rich, authentic, immersive environment which is totally user owned and created. *SL* provides built-in scripting and building tools that allow residents to develop their own contexts, create customizable and individualized avatars, clothing, and pretty much any other objects or any experience that they can imagine (Kay & FitzGerald, 2007). The designers and builders also own the intellectual property for their creations.

An economy and currency (Linden Dollars or L\$) is one thing that separates *SL* from other virtual worlds. L\$ trade against US dollars through currency exchanges with the exchange rate fluctuating. This in-world economy allows residents to create goods and services, and buy and sell them to other residents. Premium members (paying customers) can also own land if they pay the Land Use Fee each month, in addition to the initial price of the land. There is an active second market in real estate in-world.

Several small and large businesses have a presence in *SL*. Large companies include: BP, IBM, Sun, MTV, BBC, Toyota, Dell, General Motors, Cisco, and Coca Cola. For multi-national retailers, direct sales to residents in-world is

not the goal, since that doesn't make much sense except for a few products and services that residents buy, such as clothing usually handled by small, boutique enterprises. So, retailing in *SL* mainly takes on forms such as product placement, advertising, store layout design, and product testing. Additionally, *SL* could be used for market research, transporting, and feedback (SusiSpicoli, 2006).

Individual sign-up for *SL* is fairly straightforward and easy. Go to the *SL* homepage at <http://secondlife.com/> and find the "Sign Up Now" button. That will take you to a form to fill out and submit. There is a required orientation that takes place on Orientation Island, which covers navigation of your avatar, communication, and other aspects of the interface. The orientation must be completed before you can go to the mainland. *SL* requires a fairly powerful computer, and you should know that not all graphic cards are supported. Furthermore, to date there is not any technology to allow vision-impaired people to come in-world. So, before signing on, check the technical requirements at <https://secure-web2.secondlife.com/corporate/sysreqs.php>. If you don't, you may not be able to run the software effectively in-world.

In summary, *Second Life* simulates real life. It is a peer-to-peer, 3D, immersive, virtual world, where residents build relationships, design and build their own environment and objects, transact business, learn, and live. As is often the case in-world or in real life, you'll find most of *SL*'s hardships are in its possibilities. □

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MaryAnnCLT, 2007a). Virtual worlds can have elements of simulation and gaming (Ferdig, 2007), therefore if done well, they can be motivating to a lot of people. (*SL* is not a game, however, as it has no intrinsic goal-driven rules or intent to playing like a game does, but there are games within *SL*.)

Creating something using technology can be quite engaging. Add to this an economic infrastructure in *SL*, heretofore absent in virtual worlds, that can exchange real money to Linden Dollars and vice versa, which is often quite captivating to entrepreneurial interests (AlanInmc, 2006; Alvarez, 2006; Hof, 2006). Residents can buy and own land (with a paid account) and other objects they make, including the copyright, which permits them to sell their objects to other residents. It also allows *SL* to be used as a testing ground for business classes, albeit not without controversy (Au, 2006; *The Economist*, 2006). At this time, some people, dozens probably but not yet hundreds, earn full-time wages selling virtual clothing, jewelry, land, and various services in *Second Life (Current Events, 2007)*.

Learning in *SL*

Virtual worlds are manifestations of the latest instructional technology tools, where a user's skin color, appearance, and beliefs do not matter very much. As importantly, persons with significant physical handicaps can often appear as capable, handsome, or beautiful as anyone else (Good, 2004). Conceptually, metaverses used for educational purposes are not new, dating back several millennia.

From Plato's cave in *The Republic* (c. 360BC) to Ray Bradbury's gripping "The Veldt" (1951) to Vernor Vinge's *True Names* (1981) to Neal Stephenson's 1992 *Snow Crash* (where the term "metaverse" was reputedly coined), textual articulations of virtual worlds are numerous and varied, frequently expressing the desire to be free of a troublesome physical body that hinders unfettered, bodiless intelligence. (Willis, 2007)

Even the notion of virtual worlds is not new. A number of projects over the past decade, such as *The*

Sims, brought character-driven virtual environments out of the realms of fantasy, medicine, or the military into the more conventional educational and training environment (Kelton, 2007). While constructivist-, experiential-, exploratory-learning, gaming (Bartle, 2003, MaryAnnCLT, 2007b), social learning (Hayes, 2006), and role-playing (Bender, 2005) are used to explain much of the learning that takes place in SL (Dickey, 2005; LaChapelle, 2007), it suffers from the same barriers that teaching higher-order thinking involves in any environment—metaverse strategies, collaboration, and innovation by learners “does not target the core curriculum schools must spend most of their time focusing on” (Oishi, 2007). This is especially true for learners in high school.

Cultural Diversity

Certainly in-world is very *culturally diverse*, with people found from around the world, and avatars that expand culture to other levels (for instance, you may be seated in class next to a dragon or a furry). With such cultural diversity in an environment where anything is possible, the impossible sometimes happens. Discovery and exploration are encouraged. Experiential learning is encouraged. Persons may be exploring different genres, including gamers who are exploring shooting and destruction, or persons investigating altered identities, and various other alternative lifestyles that may seem quite strange, countercultural, or perverted to a particular student or instructor. It is important to remember that many people *live* in-world. While some are friendly, others are not; and while some avatars are predictable, others are unpredictable.

In such an immersive and flexible environment, a lot of time is needed to become oriented. The first place newbie residents (new members) go in *SL* is Orientation Island, where one must learn some basic skills before being allowed onto the “mainland” (Oishi, 2007). Still, it is safe to say that at least a dozen hours in-world is needed to feel at all comfortable for a newbie, and dozens of hours are needed by students and faculty members alike just to be able to navigate and communicate effectively.

Potential of Virtual Worlds for Education

While many higher education administrators and instructors are familiar with course management systems, fewer have experience with virtual worlds and may be resistant to them or doubt that they have any academic relevance (Graetz, 2006). Certainly, without a compelling reason to improve learning in ways that are not possible or easily done otherwise, it would be too much to ask each student and faculty member to spend such a large amount of time when it could be accomplished more efficiently some other way.

On the other hand, there are imaginative possibilities in-world. Peter Yellowlees, a professor of psychiatry at the University of California, Davis, has been teaching about schizophrenia for 20 years, but says that he was never really able to explain to his students just how their patients suffer. So he went online...and entered *Second Life*.... Mr. Yellowlees created hallucinations. A resident might walk through a virtual hospital ward, and a picture on the wall would suddenly flash the word “shitface.” The floor might fall away, leaving the person to walk on stepping stones above the clouds. An in-world television set would change from showing an actual speech by Bob Hawke, Australia’s former prime minister, into Mr. Hawke shouting, “Go and kill yourself, you wretch!” A reflection in a mirror might have bleeding eyes and die. (*The Economist*, 2006)

Similarly, architects bring their students in-world where they can build things that would be too expensive or physically impossible to create in the real world (Lamb, 2006). In other words, simulations can be used as they have been for decades by professionals such as those in the military or surgeons, to practice in an environment that is less costly in terms of safety, money, and loss of life.

Not Utopia

One of the weakest aspects of *SL* is that after orientation, it is hard to know where to go or what to do. Once overcoming this, there are worthwhile areas to visit and more are being developed daily, even some educational sites. Yet it may take many dozens or hundreds of hours within the environment to gain the skills in scripting and the time for creating or building anything that is substantial, creative, or innovative.

A Darker Side

While the adult version of *SL* receives the most attention, there is a teens-only version, called *Teen Second Life* that requires residents to maintain a “PG” standard with “no strong vulgar language or expletives, no nudity or sexual content, and no depictions of sex or strong violence” (Oishi, 2007). Even in the adult version of *SL*, I think the media criticism of there being an overtly sexual nature in-world (Fass, 2007; Foster, 2007) is misguided or at least overblown unless one goes looking for such activity. Still, the issue deserves some thought, discussion, and reflection before encouraging students to go in-world. “The newbie is confronted with an array of cybersex areas, online casinos, and sleazy make-money-fast schemes” (Wagner, 2007).

Some people indicate a darker side to virtual worlds. Most of this falls in the categories of grieving, pranks, and spam. People engaged in these activities are usually those with too much time of their hands and too little brain power. It can go farther than this, however:

Second Life relationships can be very intense. There are needy, vulnerable people online here who can be exploited easily, and there is no doubt that there is spillover from *SL* into their real lives as well. So, while coercion isn't the same as it is on the street, it can certainly happen here. Emotional abuse is just as effective as physical abuse, and there are people here who are experts at inflicting it. (Welles, 2007)

After 10 Hours In-World...

"How do I get there?" I asked. "You can tp, but it is easy just to fly, or you can walk down the beach." I thanked the young lady and she walked away. I was left thinking, I guess "tp" means teleport, but I don't know how. I had tried to fly only once before. Walking seemed simple enough.

It wasn't. Navigation is pretty hard at first in *SL*. In fact, *everything* is hard in *SL* the first time or two...or twelve.

Like almost everyone who signs on to *Second Life*, I spent hours creating and editing the appearance of my avatar. I really didn't have many preconceptions of what I should look like in *SL*, mainly because I didn't know what could be changed. It is safe to say that almost anything that can be imagined *can* be created. I simply ended up with a rather younger, thinner, taller, more muscular version of my rl (real life) self—in other words, not a very creative effort. But I did become attached to my in-world persona...er...me.

The shop-owner was completely in character. Dressed in renaissance clothing, she told me I could find the proper attire in the common area by looking for some crates so labeled. I found the area and the boxes, and selected the one that was labeled appropriately by gender. After figuring out how to take off my clothing, I then had to figure out how to get the new wardrobe on. Several times I ended up wearing the crate, rather than the clothing inside the crate. I thought of all those cartoons I watched as a kid with the man losing his money, usually gambling or in some other vice, and ended up wearing a barrel home. Sometimes and with some objects, you select "wear" to put them on your avatar, some things you have to uncrate first and then attach them to yourself, and some things...well...some things I haven't figured out how to wear. Nothing seems very intuitive in-world.

I am not a techie or programmer. I am not a gamer. If I had a background and familiarity with either or both of these skill sets, I could probably manage to get by in *SL* with a couple dozen hours of practice and play.

People told me..."once you search and find what interests you, a place or an event, just go to the tp button." "There is *no* teleport button," I retorted, as if it were their fault. After several hours of searching and being frustrated over the next couple days, I just gave up in exasperation.

Then my son came home from college and borrowed my laptop. I sat down after he was finished and *voilà!*—there was the teleport button at the bottom of the search box, just like everyone told me. Mark had changed the resolution on the screen, and solved the "problem."

And so it is with almost everything in *SL*.

Still even when I found some educational locations, they were essentially empty of content and people. I went to many and found myself isolated, frustrated, and disappointed—another couple of hours down the drain. □

The point here is that security on many levels is an issue and there is an "anything goes" mentality that is pervasive and in some ways encouraged in-world. How much of these behaviors is too much to submit students or employees to? Some critics find a seedy underbelly to virtual worlds and question whether they offer a safe learning environment for students (Bugeja, 2007; Grundy, 2007). As in real life, most of that which is harmful and hurtful in-world can be traced to deceit and dishonesty between people who seek to grow a relationship of some type with one another.

Work in Progress

In general, education is not known for innovation. (If you do not believe this, simply look at classrooms throughout the United States, which look pretty much as they did 125 years ago.)

Surprisingly, though, the place where "anything is possible" bears a striking resemblance to the physical world where what is possible is determined by cultural, legal, temporal, and physical constraints, among others. *Second Life* visitors will find recognizable replicas of Yankee Stadium, Capitol Hill, and many college and university campuses, which often dutifully recreate classrooms and dorms, making virtual copies of their real-world counterparts. There are also virtual stores such as Sears, Circuit City, American Apparel, and Adidas. (Willis, 2007)

Before visionaries begin to use that emerging medium for something new and different, a new medium is often used first to replicate or improve that which already exists. For instance, much of what was first shot with motion picture cameras were plays, magic shows, and vaudeville performances (Dirks, 2007). So, it may simply be too early in the development of 3D virtual worlds to see what eventually will happen in this medium.

Conclusion

Generally, teachers and students in *SL* cannot accomplish anything that they could not accomplish in regular Websites. Plus, the 3D environment is much more difficult to use. The virtual world can be very frustrating when faced with the steep learning curve leading to effective navigation, communication, and collaboration (Foster, 2007). While there are no classes called off for inclement weather, there are a significant number of frustrating technical glitches, rendering issues, system sluggishness, and crashes (Evert, 2007).

It is entirely possible, perhaps probable, that as *SL* evolves and matures, the current drawbacks will become less pervasive and less important, or that the current version of *SL* is a stepping-stone to something else that will be less cumbersome. Regardless, until educators figure out what to do in 3D virtual environments that cannot be more easily done in real

life, such as what Yellowlees did with hallucinations, educators in these virtual metaverses are relying on novelty and social presence to carry the day. I doubt it is enough after the initial experimentation for either students or faculty. Still, it is too early to dismiss the potential, and worth seeking to understand education, teaching, and learning in emerging virtual worlds. □

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