



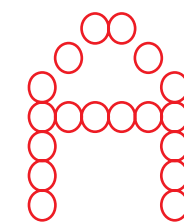
VIRTUAL WORLDS?

“Outlook Good”

AJ Kelton



“AJ Brooks”



year ago, I picked up the Magic 8-Ball sitting on my desk and asked: “Are virtual worlds a viable teaching and learning environment?” Turning the ball over, I received my answer: “Reply hazy, try again.” Even six months ago, the outlook for virtual worlds was uncertain. Many people believed that virtual worlds would end up like the eight-track audiotape: a fond memory of something no longer used (or useful). Yet today there are hundreds of higher education institutions represented in three-dimensional (3D) virtual worlds such as Active Worlds and Second Life. Indeed, the movement toward the virtual realm as a viable teaching and learning environment seems unstoppable.

AJ Kelton (“AJ Brooks”) is Director of Emerging Instructional Technology in the College of Humanities and Social Sciences at Montclair State University.

The idea of synchronous interactive spaces is not new, of course. Chat rooms, MOOs, MUDs, and other multi-user online experiences have been on the periphery of education for decades. The 3D interactive environment Active Worlds has been around since 1997. Yet more recently, the mass cultural appeal of Second Life has caused a tectonic shift. An aftershock to the initial boom was the late 2007 introduction of virtual worlds into mainstream popular culture via nighttime television.¹ Add the fact that more virtual worlds today are for the under-eighteen crowd than for the over-eighteen users, and we begin to hear what could be the rumblings of a massive shift in the educational paradigm.

Second Life? “Cannot Predict Now”

It is nearly impossible to have a discussion of virtual worlds today without focusing on Second Life (SL). Second Life has accomplished what no other 3D virtual environment has done: bring the words “3D virtual environment” a bit closer to the mainstream. In June 2007, Second Life had nearly eight million residents. One year later, it had more than fourteen million.²

But Second Life is not the only virtual world—and not the only one involved in education. The Active Worlds program Active Worlds Educational Universe (AWEDU) includes over eighty educational worlds (<http://www.activeworlds.com/edu/>). Educators are also working (individually) in There. Other virtual worlds efforts include Central Grid, Kaneva, Twinity, CyberNet Worlds, The Palace, Furcadia, and Project DarkStar. Others spring up daily, it seems. Over time, we may see a shift toward open source opportunities like Croquet and toward work-oriented virtual collaboration spaces like Sun Technology’s Project Wonderland.

In addition, many virtual worlds are tied to product lines: Webkinz, Home (Sony), BarbieGirls (Mattel), and Club Penguin (Disney). Add the many additional efforts that Disney is putting forward in this field, along with other younger-market companies like MTV, and it is crystal-clear that virtual worlds are here to stay. If the number of virtual worlds is not an indication, certainly the amount of money being invested should be. According to Virtual Worlds Management, over \$1 billion (U.S.)

was invested in virtual companies in 2007 (<http://www.virtualworldsmanagement.com/2007/index.html>), and over \$184 million was invested in the first quarter of 2008 (<http://www.virtualworldsmanagement.com/2008/q1.html>).

Although the king of the virtual hill at the moment is Second Life, this may not always be the case. Still, it’s not likely that Second Life and its founding company, Linden Lab, will fade quietly into the sunset. Given the profound impact that Second Life has had on the virtual worlds market, and the existing community that is already in place, Second Life is likely to be a major player for some time. Whether it is *the* major player depends on any number of things, not the least of which is who the other players are.

For quite some time, for example, there had been speculation that Google had

Given the profound impact that Second Life has had on the virtual worlds market, and the existing community that is already in place, Second Life is likely to be a major player for some time.

something up its virtual sleeve. In July 2008, Google announced Lively, “a free, browser-based virtual environment with tight integration to MySpace, Facebook, OpenSocial, and Google gadgets like Picasa and Youtube.”³ What impact this browser-based virtual tie-in to the social Web 2.0 will have on the industry remains to be seen.

If virtual worlds continue to be as profitable as they have been, it seems certain that Microsoft also will find its way into the ring. Microsoft has already done a great deal with Virtual Earth. Like Google

Earth, Virtual Earth is still a picture-based, interactive-mapping system. However, as the market moves forward, migrating to a fully-functioning virtual world in which users can interact, build, sell, buy, share, and also develop a sense of community is something that could be accomplished.

For today, Second Life wears the crown and appears to be poised to do what it can to remain at the top of the pack. Linden Lab has made exceptional efforts to reach out to the educational community and to provide the resources that will allow teaching and learning to be an important part of its business plan. Educational institutions receive discounts to encourage investment in “land,” which must be used for educational purposes. Linden Lab does not release individual client data, so the number of educational institutions and the amount of virtual land specified for education can only be speculated. However, hundreds of educational institutions are represented on a wiki set up to allow self-identification by users of Second Life, and the New Media Consortium estimates that more than 1,200 educational islands were created in 2007.⁴ A listserv for the Second Life educational community, started by Linden Lab, currently has close to 5,000 members. This listserv provides a level of collegial support that has rarely been seen elsewhere (<https://lists.secondlife.com/cgi-bin/mailman/listinfo/educators>).

Significant User Base? “Signs Point to Yes”

One of the most important aspects of this discussion is that virtual worlds are not restricted to a single institution or country. Again using Second Life as an example (since it is collecting this type of data), the United States accounts for 37 percent of the total number of Second Life users, and Germany, the United Kingdom, Japan, France, Brazil, Italy, Canada, Spain, and the Netherlands account for over 44 percent of the world’s users, giving these ten countries more than 80 percent of the global user base.⁵

In addition, the user base seems quite well aligned with the expanding target audience of many of higher education’s institutional efforts. According to the May 2008 metrics of Second Life, the traditional student base (ages 18–24) makes up 22.71

Perhaps another reason virtual worlds are associated with games is that those who are working and teaching in virtual worlds seem to be having fun.

percent of those using Second Life. Those in the nontraditional student brackets of ages 25–34 and ages 35–44 make up 35.14 percent and 24.18 percent, respectively, for a total of 59.32 percent—a very nice pool of potential students.⁶

Several organizations working within various virtual worlds have dedicated their efforts toward education. The New Media Consortium (NMC), a known commodity in higher education, is one of those organizations. *The Horizon Report*, a highly regarded annual report co-published by NMC and the EDUCAUSE Learning Initiative (ELI), focuses on technologies aligned along several different time horizons. NMC has a strong presence in Second Life and has recently begun work with Sun's Project Wonderland. After listening to the needs of the educational user and consulting with many in the higher education field, NMC created an education-oriented Second Life account sign-up form and a dedicated NMC Orientation Island.

Other efforts are starting to move to the forefront and should certainly be watched in the coming months. Many, especially those working on an open source platform, would like to see standards that tie other platforms together. Efforts such as the Immersive Education Initiative (<http://immersiveeducation.org/>), by Media Grid (<http://mediagrid.org/>), are looking to bring standards to, and develop best practices for, the mildly wild frontier that is currently virtual worlds.

A major goal was realized in January 2008 when Media Grid announced a “cross-platform, immersive world for education for academics, students, and trainers everywhere.”⁷ Promising interoperability in a three-to-five-year time frame (an eternity in the technology world), this effort at least tackles head-on the important issues of portability and of bringing virtual worlds together. In July 2008, IBM and Linden Lab announced an interoperability agreement following successful tests in which avatars were teleported “from the Second Life Preview Grid into a virtual world running on an OpenSim server, marking the first time an avatar has moved from one virtual world to another.”⁸

Challenges? “Without a Doubt”

The idea of operating within virtual worlds is not without its drawbacks, especially for higher education. The challenges fall into four major categories: perceptual, technical, operational, and pedagogical.

Perceptual

Most people understand that the mainstream media focuses, in general, on whatever sells their newspapers, magazines, television shows, ads, and so forth. We are much more likely to hear or read about something bad that happened at a college or university than about the wonderful work that educators all over the world are doing every day. Along those same lines, the mainstream media is likely to focus on those aspects of virtual worlds that are controversial rather than on the large, and growing, number of success stories.

Another perceptual challenge for virtual worlds is the idea that they are all games. Although it is certainly possible to have games, or play games, within a virtual world, virtual worlds themselves are not games.⁹ Games have a clearly defined set of rules and some kind of goal, such as stopping the ball from going past a paddle in Pong or “leveling up” through adventures in World of Warcraft. Virtual worlds, on the other hand, do not prescribe rules to “residents” (those who exist within the world); there is also no inherent goal and/or nothing preset to accomplish.¹⁰ In addition, users of Second Life, Active Worlds, and There have something that players of the highly polished, graphics-heavy,

multi-user role-playing games like World of Warcraft and Lord of the Rings do not have: the ability to create, change, and control the environment.

Perhaps another reason virtual worlds are associated with games is that those who are working and teaching in virtual worlds seem to be having fun. At some point in the educational process, learning stopped being seen as fun and started being looked at as work. Education in virtual worlds has started to substantiate the idea that the process of learning, the work of learning, can also be enjoyable and that, in fact, having fun creates a greater desire to learn and also a significant depth in the learning process.

Technical

The technical challenges, like the perceptual issues, will almost certainly be overcome with time. Bandwidth will increase, processors will get faster, memory will continue to grow, and today's challenges will become yesterday's problems. The two major technical hurdles that need to be addressed are (1) the tools that are available for collaboration and (2) interoperability from world to world.

Efforts focused more on business environments, such as Sun's Project Wonderland, are putting into place the ability to work collaboratively. Project Wonderland's promotional machinima¹¹ demonstrates how one avatar is able to share and collaborate on a Microsoft Word document and a PowerPoint presentation with another avatar. Currently, in most of the more popular virtual worlds, this is not possible. A user can open and edit a “note card,” which is the virtual world equivalent of a text document, but it is not possible to work collaboratively and synchronously on that document. For higher education to truly embrace this medium as an option for a learning environment, this type of collaboration is essential.

The second technical hurdle is that, today, most virtual worlds are islands unto themselves. Although there has been a recent introduction of a tool that can take “inventory” out of one virtual world and potentially upload it into another, there is still a predominant understanding, as the “in-world” joke goes,¹² that “what happens in Second Life

stays in Second Life.” In the meantime, open source projects like the Open-Simulator Project (http://opensimulator.org/wiki/Main_Page) and Media Grid are working toward coding that will allow locally run grids, on distributed servers, to connect to a “central grid.” Sound familiar?

Operational

From an operational perspective, a number of issues will have an impact on the use of virtual worlds in the educational environment. Three of the issues an institution or organization has little control over at this point are (1) the fairly steep, but short, learning curve for use of the tool, (2) server downtime, and (3) the legal age restrictions in virtual worlds.

Second Life is like any other tool: the more comprehensive the tool, the steeper is the learning curve to use it. Understanding the basics of virtual worlds is indeed a bit challenging, but fortunately for most people, with proper support, this does not take very long. After grasping standard skills such as getting around and communicating, users generally experience a plateau period of being comfortable in the environment. This is followed by another fairly steep climb for learning to perform some of the more complex functions such as building and scripting. Since community is an essential aspect of educational involvement in Second Life, many people have designed, developed, and made freely available a vast number of resources, including buildings, scripts, clothing, tools, and more. Therefore, mastery of these advanced skills is not essential for an instructor to hold a class.

Another factor that is currently beyond the control of most institutions is the amount of uptime the virtual world experiences. The more experimental, or new, the virtual world is, the more likely is the chance that there will be a large amount of downtime. As we have come to find out in the progress of websites and the Internet, there is going to be downtime, especially at the beginning.

Tied to this downtime issue will be, in the not-too-distant future, the viable option to run one’s own virtual world using open source options. As described above, there are those who are hot on the heels of the major players in the effort to roll

out a stable and competitive open source option. The problems with open source virtual worlds are similar to those for an open source learning management system. If an institution has the right resources in place and available to take on the project, open source will certainly be the way to go in order to have greater control. But until an institution is ready to take on that additional burden, using a third-party vendor seems to be the only option. Of course, this begs the question: has the higher education industry learned its lesson about heavy reliance on any one third-party vendor?

The last operational challenge is currently as much technical as operational. The major players in virtual worlds have defined the legal age of eighteen as the line of demarcation for access to adult virtual world grids. This is, of course, due to legal reasons, but for education, it does create a problem that needs to be addressed. Though there is a Teen Second Life,¹³ students who turn eighteen while in high school are required to leave the “Teen Grid,” thus leaving their fellow classmates behind. Since there is no interaction between the Teen Grid and the main Second Life Grid, this is a permanent disconnect and a project killer for some classes. Likewise, incoming first-year college/university students who are not yet eighteen are restricted from participating with their college or university class on whatever projects are assigned. If existing grids don’t solve this problem, an open-grid solution certainly will.

Pedagogical

The final set of challenges concerns the pedagogical aspect of education, including the educational value and assessment of the tool and the intellectual property rights. Both categories are subject to some debate, and as with most pedagogical tools, how virtual worlds follow a path of enculturation into academics will, in large part, depend on the individual institution.

Any tool to be used in teaching and learning should be vetted for its value. There will always be someone who believes that a specific tool has value, but if something is to be integrated across an institution, it needs to be used by more than just one or two people. Certainly some

Understanding
the basics of
virtual worlds
is indeed a bit
challenging, but
fortunately for
most people,
with proper
support, this
does not take
very long.

tools—virtual worlds, in this instance—will have a place at one institution but will not find a place at another. Does this mean the tool has no value? Of course not. Someone living in an apartment has no use for a lawnmower, but that does not invalidate the lawnmower as a valuable tool. Any institution or individual considering the use of virtual worlds as a pedagogical tool should perform due diligence, should research the impact of this burgeoning tool, and should be sure there are methods for assessment in place.

At least for Second Life, the issue of “ownership” seems to be addressed in its marketing. But is it really? Today the tagline on the Second Life web page reads: “Second Life® is an online, 3D virtual world imagined and created by its Residents.” Not that long ago, though, this tagline read: “. . . created and owned by its Residents.” Clearly, the question of ownership has come up. The issue of intellectual property rights is addressed, to some degree, in the Linden Lab “Terms of Service” document, which states: “You retain copyright and other intellectual property rights with respect to Content you create in Second Life, to the extent that you have such rights under applicable law.”¹⁴ Intellectual property is not a new issue. Institutions will deal with this question for virtual worlds in the same way that they have dealt with this slippery issue regarding other media: it will get figured out as we go along.

Most of those educators using virtual worlds today realize that it is a means to an end, a tool available for teaching and learning.

A Future? “Yes, Definitely”

Clearly there is a large and growing group of educators who believe that many good things, many very good things, are connected with virtual worlds. There are also still staunch critics, yelling about what is wrong with virtual worlds. With many people engaging in this robust conversation today, it would be a great disservice to



both the local and the global community not to have more institutions participating in the discussion. Does this mean that everyone sitting around the table must buy into this new “thing”—hook, line, and sinker? No, of course not. The whole is best served by divergent viewpoints, as long as consensus and forward motion are possible.

Most of those educators using virtual worlds today realize that it is a means to an end, a tool available for teaching and learning. However, this particular tool has shown the same growth pattern and potential as the Internet. Just as once many in higher education loudly proclaimed that the Internet was of no practical use and was filled with questionable material and marketing, so too do critics today have their doubts about virtual worlds. But the web grew into a vital part of our lives, and a growing number of people believe that virtual worlds will do so the same.

Whether it is Second Life or another virtual world, this foundational movement is not going away. It is improving. It is moving forward. The educational aspect of virtual worlds has attracted a diversity of people and organizations. Government agencies (such as NOAA) and programs offering hazmat or other simulated training, students taking both credit and noncredit classes, and people from all around the world coming together in the same place, at the same time, to work on a shared idea or project—many of these efforts are simply not feasible in the non-digital world. But this is just the beginning. The real question to be addressed in the coming months and years is how higher education and, subsequently, individual institutions will determine the best way to continue to move forward.

As I again reach for the Magic 8-Ball sitting on my desk, I ask: “Is the future of virtual worlds certain?” I give the ball a shake and receive the response: “Ask again later.” OK, well, how about: “Is there certain to be a future for virtual worlds?” This time my virtual fortune-teller vacillates between “Yes, Definitely” and “You May Rely on It.” *e*

Notes

Special thanks to Lori Bell (“Lorelei Junot”), Chris Collins (“Fleep Tuque”), “Mystical Cookie,” Alan Levine (“CDB Barkley”), Daniel Livingston (“Buddy Sprocket”),

Joaõ Mattar (“Erectus Amat”), Birdie Newcomb (“Birdie Newborn”), Jennifer Ragan-Fore (“Kittygloom Cas-sady”), and Sarah Robbins-Bell (“Intellagirl Tully”).

1. The October 2, 2007, episode of *Law & Order: SVU* featured a fictitious virtual world, and “Down the Rabbit Hole,” the October 24, 2007, episode of *CSI: NY*, showcased Second Life.
2. Linden Lab, Second Life Virtual Economy Key Metrics (BETA) through May 2008, p. 6, <http://s3.amazonaws.com/static-secondlife-com/economy/stats_200805.xls>; “Economic Statistics,” June 26, 2008, Second Life website, <http://secondlife.com/whatis/economy_stats.php>.
3. “Updated Breaking News: Google Announces Lively,” *Virtual Worlds News*, July 8, 2008, <<http://www.virtualworldsnews.com/2008/07/breaking-news-g.html>>.
4. “Institutions and Organizations in SL: Universities, Colleges, and Schools,” SimTeach wiki, <http://simteach.com/wiki/index.php?title=Institutions_and_Organizations_in_SL#UNIVERSITIES.2C_COLLEGES.26_SCHOOLS>; New Media Consortium (NMC), “NMC Virtual Worlds Announces Plans for 2008,” press release, January 16, 2008, <<http://virtualworlds.nmc.org/wp-content/uploads/2008/01/press-release-nmc-virtual-worlds-2008-plans.pdf>>.
5. Linden Lab, Second Life Virtual Economy Key Metrics (BETA) through May 2008, p. 8, <http://s3.amazonaws.com/static-secondlife-com/economy/stats_200805.xls>.
6. *Ibid.*, p. 10.
7. “Interview: Media Grid to Take Education across the Virtual World—and the XO,” *Virtual Worlds News*, January 29, 2008, <<http://www.virtualworldsnews.com/2008/01/interview-media.html>>.
8. “IBM and Linden Lab Interoperability Announcement,” Second Life blog, July 8, 2008, <<http://blog.secondlife.com/2008/07/08/ibm-linden-lab-interoperability-announcement/>>.
9. “Virtual Worlds,” New Media Consortium and EDUCAUSE Learning Initiative, *The Horizon Report: 2007 Edition* (Austin: NMC, 2007), p. 18, <<http://nct.educause.edu/ir/library/pdf/CSD4781.pdf>>.
10. This benefit—that nothing is preset—is a two-sided coin that can often work to the detriment of most virtual worlds, since many of those who sign in expect to find something to do. Quickly growing bored, some users simply sign off and never return.
11. The word *machinima*, a combination of *machine* and *cinema*, is loosely defined as video footage that is taken from within the virtual environment.
12. *Inventory* is defined as anything that an individual avatar owns and possesses (e.g., buildings, documents, clothing, scripts); *in-world* refers to being inside the virtual world.
13. Teen Second Life is open to users who are between thirteen and seventeen years old. It is open to adults only if they are affiliated with an approved project (almost always educational). In many cases, although not all, teen residents are allowed to freely roam in Teen Second Life, whereas adults are restricted to the island(s) dedicated to their specific project. Some schools have also taken the extra precaution of restricting their students to their own island. Excellent examples include the work being done by Peggy Sheehy at the Suffern Middle School in Suffern, New York, by Global Kids, and by the Eye4You Alliance.
14. “Terms of Service” (Section 3.2), Second Life website, <<http://secondlife.com/corporate/tos.php>>.