Another Life -Virtual Worlds as Tools for Learning (Mar 07)
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Are virtual worlds a breakthrough technology that will forever reshape learning and business? Or are they this season’s over-hyped fad?

You’d have to try very hard to avoid exposure to the virtual world phenomenon in America these days. From "South Park's" hilarious episode on "World of Warcraft" (the world’s largest MMORG, or Massively Multiplayer Online Role-Playing Game) to Business Week’s cover article in April, and with coverage on "Good Morning America," "CBS Sunday Morning" and countless other shows, virtual worlds appear to be the new-new thing.

**Second Life** (SL) is the poster child for virtual worlds (VWs), those computer-generated mass hallucinations where people fly and perform magic, companies build artificial buildings and islands, and public relations firms spend boatloads of money making virtual splashes on behalf of clients with deep pockets. Tens of thousands of people are "in" Second Life at any given time. More than three million people have registered, and SL reports 1.6 million residents have checked in during the last 30 days.

VW enthusiasts may spend twelve hours a day surrounded by bits, not atoms. Mitch Kapor, founder of Lotus and author of the Second Life Insider blog, considers VWs a disruptive and transformative technology on the level of the personal computer or the Internet.

It's not out of bounds to ask how much of this virtual stuff is real. After all, we don't want to find ourselves in the position of the chairman of Western Union telegraph, who passed up the option to buy Alexander Graham Bell's telephone, saying, "Who wants to hear people talk?"

VWs have too much potential for learning professionals to ignore. But Virtual Worlds should not be used to automate existing learning approaches and models: A virtual classroom with virtual students and a virtual PowerPoint deck is not the end-game for learning in VWs. To avoid these pitfalls, let's explore how VWs work, how they are being used in learning, who the major players are, and what the future may hold.

**What do people do in VWs?**
First, let's go on record by stating the obvious: VWs will not replace other forms of learning. Instead, we believe the thoughtful application of VW technology will significantly enhance the experience and transfer of learning. We encourage you to examine this technology with fresh eyes and begin by asking what sensibilities it can
bring to the learner that aren't found in traditional learning technology. So instead of asking "How do I build a virtual classroom?" we might ask, "What can this technology do that will enhance the learner's experience that my current learning technology portfolio cannot?"

Here are the VW sensibilities we have identified so far:

- **The Sense of Self.** First, a bit of terminology. Your virtual self is called an avatar. Your avatar is your persona, totally under your control. As opposed to games or simulations where people have limited freedom to set their own course, your avatar can walk (or fly) wherever he or she chooses. This occurs in real time: Click to fly and your avatar is aloft. More importantly, the more you hang out in VWs the more you and your avatar become one. In short, you are your avatar when in a VW, and your emotional attachment to that avatar will surprise you!

- **The Death of Distance.** Avatars reside in a boundless virtual landscape in which they can teleport through cyberspace from one place to another at the speed of light. There is no distance in VWs. Think of yourself as Einstein did when he formulated the theory of relativity. You are sitting on a beam of light, and you can go from one place to the next in an instant. SL's landscape is home to stores, businesses, shops, houses, office buildings, campuses, and playing fields, all constructed by residents themselves, thousands of entrepreneurs who design and build with great skills, or by the more than 60 firms offering a range of professional services. The landscape in a VW is persistent; cut off your computer and the VW will be there when you return. It's like SimCity except that it's SimContinent or SimPlanet. Other VWs come with more structure: ProtoSphere (ProtonMedia's virtual environment) comes with pre-built classrooms, lecture halls, and meeting spaces.

- **The Power of Presence, Sense of Space, and Capacity to Co-Create.** Avatars interact with one another through the actions of their real-life puppet-masters. Avatars converse, collaborate, attend book signings, concerts and meetings, listen to presentations, explore, co-construct virtual buildings or sculptures, write in wikis, and play baseball or tringo (a popular in-world game that will be soon available on cell-phones and launched as a TV game show by the BBC). VWs encourage social groups to form. Unimaginable? Stanford researcher Clifford Nass has discovered that people often treat computers as they would other people. They like a computer that praises them. If humans treat beige boxes as kin, surely they can identify with animated humanoids in a VW.

- **The Pervasiveness of Practice.** Walk around Second Life for a while and you'll come to the conclusion that it's not only a virtual social world, but a world that fosters a culture of collaborative learning. Sandboxes abound where slightly more experienced Second Lifers share what they know with others. In every corner you see chat interactions that start with the wonderful learning question
"How do I...?" Stop and look around. You will come to realize that this is an emotive network where all the cultural attributes of peer-to-peer creation and learning are present, but in a way that renders it logical for us as human beings. Those who bang bits for a living may think Usenet or Linux development in 3D; those from the Web 2.0 generation may think MySpace plus eBay in 3D; and members of the wiki movement may envision Wikipedia becoming Wikitechture, with avatars co-creating things in 3D space and learning all along the way.

- **The Enrichment of Experience.** Another sensibility VWs provide is the enrichment of experience. In saying this we don't just mean that VWs are better than Centra or Interwise. We are saying that is possible to have experiences in these spaces that are not possible in the real world. VWs provide the ability to exist in an augmented reality. Maybe you are confined to a wheelchair and suddenly you can dance the night away, or perhaps you want to interact with your design colleagues around the world to check out a virtual prototype of a car, a chip layout, a battlefield situation, or a caffeine molecule. This platform enables people to experience life in new and engaging ways.

SL still exhibits some rough edges. Hackers have already shut down the world, at least temporarily (imagine that!). People have been mugged. *Business Week* reported that "when a space is swamped with visitors (more than 60 to 90), a bug in the system can make avatars' clothes disappear." It can be distracting when the guy next to you in class looks like Robert DeNiro in "Taxi Driver" and the woman on your other side has wings and glowing green skin. Note: As we write this, cyber-terrorists have just brought down a building in SL with a bomb.

Major corporations are creating a lot of buzz around VWs but most of it is promotional. It's hip, and compared to alternatives, it's cheap. But it holds few answers to our questions about how to improve learning with VWs.

**Who Provides Virtual Worlds for learning?**

Virtual worlds can be classified along a continuum from Metaverse (driven by commerce and collaboration) to Interverse (3D comes to learning) to Intraverse (intensive collaboration across firewalls). Some of the key players are mapped by how they create value. Second Life is clearly in the Metaverse/Commerce and Intraverse/Collaboration realm with the emphasis being on the former. [There.com](http://www.there.com) and [Forterra](http://www.forterra.com) are different packages of the same stuff, one for Metaverse and the other for Intra/Interverse. There.com already has VOIP on board but won't let you build stuff like SL. If you want a platform that runs on 56K, integrates with existing apps, allows you to fire up a browser in-world, and integrates with your current LMS, you may want to check out [Protosphere](http://www.protosphere.com). It is a new arrival on the scene, but it seems to fit somewhere in between. And finally for all of us who are educators and have been salivating over Second Life meets Moodle ([Sloodle](http://www.sloodle.org)), take look at [Open Croquet](http://www.open croquet.org). Some big brains are behind this software, most notably Alan Kay.
How are corporations using VWs for learning?
Corporations are actively exploring virtual worlds, drawing on VW capabilities for:

- A new level of always-on, real time connectivity for collaboration
- Empowering both customer and employee groups
- Making informal viral learning a core mechanism of transformation

A few organizations are betting VWs will evolve into engines for broad change. Among those experimenting with training and education:

**IBM** is the gorilla in the emerging market. CEO Sam Palmisano has his own avatar keeping an eye on things, and IBM will invest millions in virtual worlds over the next few years. Many IBMers have alternative lives in virtual worlds. Irving Wladawsky-Berger, IBM's soon-to-retire vice president of technology and innovation, recently said, "Virtual reality connects directly with the mind. There is something very human about visual interfaces. I almost think of text-based interfaces, including browsers, as 'narrowband' into our brains, whereas visual interfaces are 'broadband' into our brains. For sure, learning and training will be one of the major killer apps."

**Apple** has long recognized the need for more innovative and engaging online learning and training environments, especially to meet the needs and preferences of younger, Net Generation sales staff in its own stores or those of its retail partners, such as Best Buy and Circuit City. Lucy Carter, Director of Apple's World Wide Sales Training and Communications, understands the potential of Second Life and other virtual worlds as environments that allow unique forms of experimentation and exploration of new and innovative learning experiences. The ease of designing anything in Second Life also appeals to Apple, though anything the company builds in any virtual world will have to align with its design principles.

**Pharmaceutical** companies. A number of pharmaceutical companies have used ProtonMedia's virtual environment for business applications, including learning and training. As a more enterprise-focused and closed environment, it can offer greater security as well as some functionality not currently available in Second Life. Sales training and onboarding are some of the specific learning operations for which ProtoSphere has been used.

**New Media Consortium (NMC)**, consisting of 200 leading universities and museums dedicated to exploring and using new media and new technologies, has been the leading early-adopter of Second Life for educational purposes. Although NMC has only been active in Second Life since last summer, it has seen great enthusiasm among its members in using Second Life to innovate and test this virtual environment for a range of educational activities. A number of art exhibits have been arranged and in-world sessions have been held to explore how virtual worlds can enable unique environments for digital storytelling as a means of learning.
As with most breakthrough technologies, VWs are somewhat a solution looking for a problem. VWs can provide a platform for collaboration, community, and commerce, but so can a sofa. Aside from entertainment appeal, what's new here?

The most powerful learning technology ever invented is conversation, but most VWs lack the horsepower to entice people to converse naturally. Time will bring voice, more expressive avatars, and higher resolution to VWs. When the virtual environment functions much like the real world, conversation will flow—making it easier to mentor, coach, teach, brainstorm, discuss and manipulate prototypes, and to collaborate on problems. This is informal learning, for learners invest the amount of time appropriate to what’s to be learned; engaging conversation personalizes learning, and often a brief chat is all it takes to seize an opportunity.

The bonanza comes when VWs support learning in ways that current methods cannot, i.e. when the horseless carriage becomes the car and the icebox becomes a refrigerator. At the end of the day, VWs afford more freedom as we think about how to apply it to make learning more engaging and memorable. Much more than training, VWs are what we like to call a Learnscape. They are learning/working ecosystems that by their very nature embrace:

- **Flow**, balancing inactivity and challenge in just the right proportions to keep people moving through the experience.
- **Repetition**, which allows learners to try-and-try again as many times as they choose.
- **Experimentation**, encouraging learners to try new things and learn in the process.
- **Experience** that is much more engaging than other digitally mediated technologies.
- **Doing**, because practice makes perfect and VWs are big practice fields.
- **Observing**, because if you're not ready to act now, you have plenty of opportunities to observe others and learn from them.
- **Motivation**, because all of these factors culminate in an environment that cultivates teachable moments at every turn. Motivation is baked into the context as people want to learn within it.

**Where are we headed?**
Humans evolved to pick berries and hunt woolly mammoths, not to strain reality through text, words, concepts, and computers. In many ways, knowledge workers already live in a fantasy world. VWs may herald a more intuitive metaphor for communication and interpretation of our real world.

The industrial-age approach to learning put a wall around schools and training departments. This "protected" the learners from outside interference and distraction. Children were kept at school rather than sent out into the community. Workers left work for training. Talk about artificial life! It's so much more effective to learn from
the real thing, and VWs are the closest we've got for practicing without customer consequences.

VWs can evolve into a common ground for bringing everyone in an organization together on the same field. Person-to-person interaction can replace rigid policies. The wonders of interoperability and Web services will pull real-world data into virtual worlds seamlessly.

Virtual worlds provide a clean slate for organizational renewal, a transition from the rigid structures and boundaries of the industrial (physical) world to the flexibility and innovation of the knowledge (intangible) world.

We'll have our avatars call your avatars to collaborate on that one.

**Next step**
Unless your organization is a true early adopter, it is premature to invest a ton of resources in VWs. Nonetheless, we encourage you to dip your toe in the virtual water. It's neither expensive nor difficult, and it will give you an appreciation for the fresh viewpoints that are rippling out of VW innovations. It might just change your perspective on what's possible today in informal and generative learning.

**About the authors**
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