



Avatars in the Workforce

All Work and No Play, but Not for Long

By Courtney Bromwich

Until recently, the word “avatar” was virtually unknown to most people...computer savvy or not. Though the term had been floating around for quite awhile, avatar awareness remained pretty dormant until the recent revolution of Second Life. Finding its roots in Hindu mythology, the modern day avatar definition, “a graphical image created to depict the user,” was first used in 1985. However, according to one of the pioneers of the virtual world, the first avatar appearance took place literally over a decade before in 1974. During this year, players of the virtual game *Maze War* were represented to one another as 3D eyeballs. But according to Tom Atkins’ 2006 article “Bringing Training to Life with Avatars,” the average person had not experienced an avatar prior to the introduction of “Clippy,” the animated paperclip of Microsoft Office. Most everyone is familiar with this annoying little office assistant known to appear off to the right to help the user construct letters, but was he really that helpful? Unbeknownst to most, these virtual icons serve many other purposes than just for gaming and enhancing brand recognition. For instance, avatar technology has embedded itself in the training world. From businesses and major corporations to learning institutions around the world, avatars are appearing in Power Point presentations, sales demonstrations, and educational seminars - just to name a few. They introduce presenters, demonstrate products or methods, and even “interact” with the viewing audience. However they are being used, research is proving that these graphic icons are extremely effective, not only from a learning perspective but from a cost standpoint as well.

According to columnist Jeanette Borzo of the Wall Street Journal, the use of avatars in training “combine[s] the best parts of both face-to-face training and computer-based learning.” Designed for pedagogical effectiveness, avatar training programs are a collaborative effort. The knowledge and expertise of numerous trainers are wrapped into a comprehensive message delivered the same way every time. Face-to-face learning, however, does not offer this same degree of consistency. Even the most experienced and effective trainers are not able to provide information in an identical manner from session to session.

And while computers are a great asset to the learning environment, a training program based solely on CBT (computer-based training) has its limitations for a number of reasons. For one, trainees are required to spend a majority of their time simply reading a screen and answering questions. No doubt a daunting task. In many cases, the fatigue after hours on a keyboard, the effort needed to succeed is considered near impossible. As a result, many give up without ever completing the course. For those who do finish, one has to wonder how much information is actually absorbed and/or retained? And what happens if a trainee has questions? The opportunity to discuss thoughts and findings with the trainer or others is limited. Also, the reinforcement element of a human trainer is

lacking. By simply incorporating avatars into the learning process, the possibility of overcoming these obstacles increases.

In Jenna Sweeney's blog, "Avatars in Learning," she states that avatar-based training produces an "enhanced learner attention and increased learning retention." Several theories support this statement, with the first being that people easily remember an avatar's face. Why does this matter? Well, when an employee is reminiscing about a past presentation or training session, the ability to associate the avatar's face with the event allows he/she to more easily recall the information learned...with good accuracy and in an abundant volume. Very similar to the workings of a photographic memory. Secondly, the use of audio and visual clues incorporates different learning styles and is more engaging for the audience. Visual learners need to see the presenter's body language and facial expressions to fully understand the content of a lesson, and avatars can do just that by using a series of gestures and expressions to convey emotion. On the other hand, auditory learners best absorb information through verbal lectures, discussions, talking things through, and listening to what others have to say. By presenting material, interacting with the audience, or engaging with a human presenter (if applicable), avatars are able to exude a "personality." This can be supplemented with the use of such interactive tools as voice-over-the-internet (VOIP), text messaging, or video conferencing, which allows for an additional way to draw the viewers in.

From a cost standpoint, implementing this immersive learning technology into the work place is a no-brainer. While the traditional classroom approach to training may require flying employees or instructors to various locations, avatar-based simulations allow people to train at their convenience...around the clock and around the globe. What a great way to reduce expenses and the loss in productivity incurred while traveling to offsite training facilities. And there is less hassle when it comes to scheduling! Now once a program has been developed, it can be easily modified to suit the needs of the company or to reflect the demographics of the learning audience. In general, a training program will achieve better results when the trainer more closely relates to the age and/or race of the trainees.

Another solution to cut those ever-rising costs would be to host virtual meetings. Considerably less expensive and more cohesive than videoconferencing, people from all over the world can gather in an online meeting room represented by their own computer-generated character. Downloads are generally required to be able to participate in a cyberspace gathering hosted through such mediums as Second Life or Digital Space, but they work well with intranets and are significantly less bandwidth intensive than regular internet applications. Virtual meetings are growing in popularity for reasons other than cost. This 'new' technology allows people to explore options without the limitations and common practices typically found in meetings held in the physical world. For example, what about that infamous long oval table? Its great if the person sitting at the head of the table wants to exude an aura of power and authority, but it is not necessarily conducive to a problem solving or brainstorming session. MIT researcher Drew Harry, as found in an article from the *Technology Review*, ditched the traditional conference room concept and creatively designed a virtual space more closely resembling a football field. What side of

the 50 an avatar appears on is determined by whether or not the person agrees with the topic at hand.

Though avatar technology is just now emerging as a viable form of communication or training, it has been long employed by many businesses and learning institutions. As early as 1997, companies such as Boeing and EDS began their experimentations. Bruce Damer, author of the 1997 book *Avatars! Exploring and Building Virtual Worlds on the Internet*, describes how “engineering teams move ghostlike” through the Boeing Superjumbo Plant to try resolve problems with the giant Airbus. During the process, the avatars “sprout cyborg appendages: hovering cameras give them an insect-eye’s view of the finest details.” Once the root of the problem had been discovered, the avatars disappeared, and the whole experience is then stored for future reference. EDS, again according to Damer, turned to the virtual outlet “for corporate problem solving and training.” Lisa Neal was in charge of the project and “conducted weekly classes for EDS employees worldwide.” They experimented with several systems including two, which were avatar based: Virtual Places and WorldsAway.

Other companies began setting their sites on avatar training methods that would increase productivity and reduce costs. By 2004, a technology products and services company, CDW Corp., enlisted the expertise of Bermuda based company Accenture Ltd. Together they developed a sales training course where “an avatar coach guides the trainee through a series of mock phone interactions with customers.” By gauging the customer’s tone of voice and following the avatar’s suggestions, an account manager with CDW was able to successfully complete 14 different sales calls with varying customer responses. She found the exercises to be very comprehensive and more effective than dealing with the limited reactions that evolve during the role-playing process, human to human.

Medical learning institutions have found the use of virtual 3D simulation technology quite effective in reducing medical errors in emergency settings. As part of the Emergency Medicine Crisis Resource Management (EMCRM) curriculum, senior medical students and residents were afforded the opportunity to “scrub in” as part of the trauma team, either as a physician or a nurse avatar, to handle ER, OR, or delivery room scenarios adapted from real-life clinical situations. Using *Talker* (Digital Space) to communicate vocally, participants also relied on each other’s gestures and movements to correctly read the scene and tend to the injured patient. Each of the six scenarios was completed in about 10 to 15 minutes. Afterwards, the instructor would replay audio-visual clips to point out the highlights of the exercise and the areas needing improvement. The ability to review the scenario(s) allows for repeated reinforcement, not only immediately after the exercise, but whenever and wherever the learner chooses.

According to research, “avatar-based simulations drive measurably higher rates of course completion, learning, retention, and overall job impact.” People are generally drawn in by avatars and view VTWs (Virtual Training Worlds) as a type of high-tech video game. This is extremely appealing to the Gen Yers infiltrating today’s workforce - having come from a childhood saturated with Nintendo, Playstation, and XBox. And while avatars, at the moment, account for only a small percentage of all computer-based training methods,

the market demand for them is expected to explode. By that time, who knows what other unbelievable ideas and features will be developed to compliment the vast array of options currently available. Presently, versions more advanced than what can be seen on the average desktop are being used to train military and space-exploration personnel. Bruce Damer, whose company Digital Space Inc. works on avatar programs for NASA, believes “this technology comes down to industry” and that it eventually “trickles down.”

To me, the concept of using avatars in training is very intriguing. Being more of a visual learner, I personally would get more out of an avatar-based simulation than a lecture-style training course. I was never thrilled at the prospect of having to take notes and therefore usually ended up doodling all over the margins. But in saying that, staring at a computer all day isn't my cup of tea either. Hands-on and interactive learning was what really kept me interested and was what I got the most out of. In college, I was given an assignment...not on paper, but on a floppy disk. The disk contained a management simulation concerning the production of widgets, but to me, it was like Tetris. The widgets were different colored blocks with each color being assigned a dollar value. I had to figure out the best production scenario that would ensure the most profit. Long after the assignment was finished and my findings were turned in, I continued to play that “game” to see if I could better my score. I probably got more out of that project than any reading assignment or lecture given that semester. In applying that to today's training options, I would definitely prefer a VTW, because it can be viewed as a sort of a high tech video game. What a great way to train!

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