

## **Working to Achieve First-Rate Training Using Second Life**

**David M. Savino**  
**Ohio Northern University**

*Achieving complete transfer of learning when involved with training and development is usually more of a hope than a reality. Recently Virtual Human Resource Development has shown great value as a supplement to traditional employee training methods that support understanding and learning. Among the techniques being employed in VHRD, a three dimensional virtual web platform known as Second Life has achieved significant positive results in a relatively short period of time. This paper is an attempt to determine the extent of the positive results that Second Life has reportedly achieved in various professions such as business, education and health care.*

### **INTRODUCTION**

Training programs utilizing techniques such as role playing and simulation have long been considered effective methods in enhancing the transfer of learning between the organization and newly hired employees. It is generally believed that active methods of training consistently help to achieve an efficient and effective transition of a new employee in becoming a productive and fully functioning member of the company. Over the last several decades experimentation has taken place to test the viability of using methods involving virtual reality as platforms for training and development. Efforts in the emerging field of Virtual Human Resource Development (VHRD) to combine traditional didactic training processes with virtual interactive role playing methods have shown promising results in terms of the perceived value of the training experience as expressed by the participants (Broadribb and Carter, 2009). Imagine then how much more effective training through role playing could become if the trainee not only would be able to act out a training scenario but also could live it before his or her own eyes while fulfilling the dual role of participant and observer at the same time.

The consistent support and increased call for the use of virtually created worlds to enhance learning and employee training and development have been well documented with one of the most highly regarded methods being a virtual reality tool known as Second Life (SL) (Fortney, 2007; Jones, 2007). While SL is the best known and most subscribed of the three dimensional multi-user virtual environments (MUVes), others such as Utopia Universe, Active Worlds, World of Warcraft, Disney's Club Penguin and THERE.com have also been used in ushering in the next frontier in communication, social networking, electronic commerce and education (Lee, 2008; Little, 2011). While virtual reality has been a well known concept since the early 1980s, innovative, creative and rapid advances such as SL have created MUVes that have taken us from wearing bulky headsets to easily generated, perceptually rich and personalized environments around ourselves that allow us to experience a full range of stimuli that supports human asset development (Schroeder, 1997; Salmon, 2009).

## WHAT IS SECOND LIFE?

Second Life (originally known as Linden World) traces its beginnings back to 1991 with a concept developed by Philip Rosedale who worked to create the world in a microcosm (Rymaszewski, 2007). SL is a computer based representation of a virtual world where “inhabitants” interact with each other in a multidimensional world through graphically created human images known as avatars (Boulos et. al., 2007). After several years of refinements and enhancements the initial testing of the Beta version of SL took place in 2002 and it was made available for public use in 2003 (Little, 2011). Besides the real world quality of the 3-D multidimensional interactions of the avatars in a wide variety of situations and scenarios created by the users, the current global economic conditions, the time and cost of required for travel and the increased awareness and the understanding of virtual worlds have made the exploration of Second Life a practical matter to be pursued in a variety of contexts, especially in areas such as training and development (Broadribb and Carter, 2009). In addition, the true nature and potential of SL became more universally known as a result the release of the James Cameron film, *Avatar* in early 2010.

As a three dimensional web system, SL is transforming training and education through its innovative blending of graphics, gaming elements, chat rooms and online commerce into a single platform and is described by some as being all the rage in the training sector (Gronstedt, 2007). Organizations such as IBM, Sun, Dell, British Petroleum, Intel, NASA and National Public Radio are investing millions of dollars in transferring their training programs to the metaverse of SL’s virtual training platform, along with museums, educational groups and a number of government agencies who regularly stage events, seminars and workshops in SL (Wiecha et. al., 2010). In addition, over 300 colleges and universities have already embraced SL in the further development and refinement of their instructional pedagogy (Jarmon et. al., 2008; Wiecha et. al., 2010). SL boasts about 15 million residents and is predicted to attract an estimated 80 percent of active internet users by late 2011 (Varvello and Voelker, 2010; Gronstedt, 2007). Therefore, the potential for supplementing current training techniques along with the creation of new development methods in the area of VHRD seems limitless.

## PRACTICAL LEARNING AND TRAINING APPLICATIONS

The role of technology as a major force impacting the area of learning in the 21<sup>st</sup> century has long been acknowledged and anticipated (Knowles, 1989). While trainers in a variety of professional fields realize the great potential of using new virtual technology formats and platforms such as SL as effective training enablers, they also are weary of its barriers and potential problems (Mancuso et. al., 2010). While great expectations abound as far as the value of virtual collaborations to achieve significant levels of learning, potential barriers such as technological glitches, steep trainee learning curves and initial development costs which can be prohibitive for smaller organizations need to be acknowledged and dealt with. Nonetheless, the use of MUVES in all types of learning and training environments is nothing less than a technology phenomenon. Several studies have already been conducted to show how the use of SL has provided significant benefits as an innovative teaching tool in the instruction of courses such as art history, museum studies, business and psychology at the undergraduate and graduate levels at several universities (Stevens et. al., 2010). A recent study conducted concerning the use of SL in a project-based graduate communications course found that it was effective in integrating project-based pedagogy, technical training and outcomes assessment (Jarmon et. al., 2008). In anticipation of the further and extensive use of SL in educational instruction at the college level another study looked at the results achieved by students who attended classes as part of a virtual campus which provided four types of virtual space including a virtual campus, collaborative zones, lecture rooms and recreational areas (DeLucia et. al., 2009). In this case, SL was used as a tool to facilitate both synchronous learning and collaboration. The results achieved by the students indicated positive learning experiences brought about by the perception of belonging to a learning community, the perception of awareness, presence and communication. In addition, technological educational communities for several years now have seen the continued advantage of gaining access to geographically dispersed students using distance learning which

can be greatly enhanced through the use of SL (Boulos et. al., 2007). Outside of formal educational settings, students and teachers across the world have already been taking advantage of MUVes to meet on virtual islands for intellectual discussions, 3-D webinars and other learning experiences using digital materials that they create, use and store (Lagorio, 2007). Not to be left behind their teaching colleagues, the Alliance Library System (now known as Community Virtual Library) established a series of virtual library spaces in SL in 2006 which are staffed by librarians throughout the world as a way to make information available and to better reach professors, researchers and students (Little, 2011).

Another field which has widely embraced SL has been the in the areas of medical and health care education and training. SL is currently being utilized in a variety of medical and health care educational applications. The most prominent at this point deal with good nutrition and healthy food choices, cardiac and heart murmur simulations, genetics, educating people about schizophrenic hallucinations and using the media to promote public health (Boulos et. al., 2007). In addition, numerous studies over the last few years have reported on the positive results achieved in medical training using SL. Nursing and medical students are now regularly trained using virtual equipment, procedures and simulations to interact with patients dealing with conditions such as type 2 diabetes or respiratory illness to build skills and confidence (Mesko, 2009). In training sessions where SL was the primary training method for medical professionals the participants all reported that SL was superior to other online methods and most went so far as to express the idea that SL was as good as, or better than, face-to-face training sessions and would agree to train using SL in future medical educational opportunities (Wiecha et. al., 2010).

The use of games and simulations in military training has a long history. The more recent addition of technology has further enhanced military training where scenarios can be played out in remote locations that give an armed force a marked advantage over the other. In this area SL has not only been used in military training in the use of attack drones it has actually become the actual method of weapon deployment and mission execution (Smith, 2010).

## **SECOND LIFE AND VIRTUAL HUMAN RESOURCE DEVELOPMENT**

In considering the impact that contemporary technology has had on both our personal as well as professional lives, the use of virtual activities to expand and enhance training effectiveness seems to be an obvious and natural progression in establishing VHRD as a new construct (McWhorter, 2010). In fact, VHRM has already been considered by some as the next generation of knowledge management that is encouraging a paradigm shift that will take some time to achieve a harmonious blend of present practices and systems with new advances in human resource development (Bennett, 2010). Many organizations have already experienced positive outcomes from the shift to VHRD and SL. Promising results have been reported in terms of time savings, the efficient creation and delivery of training, the increased impact of training events, an improved organizational ecology and the optimal utilization of human capital in the workplace (Short, 2010; Bennett and Bierema, 2010; Nafukho et. al., 2010). The advanced sophistication of SL has provided training and development professionals in the human resource field an amazing opportunity to build upon effective traditional training and development methods using technology tools and applications unimagined only several years ago.

Whether VHRD is regarded as an environment, process or a construct, it provides a creative way to enhance the power of the combination of people and technology (Bennett, 2010). VHRD is one of the best ways to develop knowledge workers who support the organic nature of organizations and to leverage what some call the ineffable human element that leads to organizational success (Nafukho et. al., 2010). The use of VHRD methods such as SL provides a number of benefits to the efforts devoted to the areas of workplace training and education such as first-person experience, engaged participation, the use of several senses to absorb the training and the ease of interaction due to reduced anxieties associated with potential social barriers (Garcia-Ruiz et. al., 2010).

Due to the many perceived benefits of SL, many businesses are well beyond the point of considering its use as a viable training tool. Organizations such as IBM have wholly embraced and employed the concept of SL for years as evidenced by the fact that they developed virtual world usage guidelines in

2007 for their “Netizens” to follow when engaged in SL experiences in both training and in the conducting of business (Konrad, 2007). As a result of wide scale adoption organizations have regularly begun to incorporate SL as a key part of training their employees in areas relating to virtual team building, mentoring, workplace and job safety procedures, mock interviewing, effective leadership development and disaster preparedness (McWhorter, 2010). Through SL’s simulation experience, companies have been able to get new executives up to speed and helping them gain a deeper understanding of the complexities of the organization’s global business (Regan and Delaney, 2010). In certain business training contexts the use of SL as a training platform has provided learning opportunities that other methods have not been able to duplicate or achieve an environment conducive to enlightened understanding. According to those in training and development at IBM and Intel, SL offers the advantages to manipulate scale and perspective by allowing trainees to virtually explore the physical layout of a big oil rig, fly around a network diagram or examine a molecule to see the three dimensional placement of atoms (Gronstedt, 2007). It is now a common occurrence for many organizations to direct their employees to receive training through a SL virtual campus with avatars interacting with each other as instructors and students in environments now routinely accepted as learning sites (Reeves and Reed, 2010).

## **OTHER BUSINESS RELATED APPLICATIONS**

Due to the media rich context of SL, other business applications include real-time decision making and interaction, customer relations, virtual meetings, corporate recruiting, the facilitation of outsourcing, off shoring arrangements and understanding diversity and inclusion (Ahmad and Barkhi, 2011; Krell, 2007). Executives have come to realize that the availability of SL provides a vast number of business related opportunities for employees to learn about issues and situations that are involved in their day-to-day professional activities. For example, in the area of international business, it can help potential expatriates meet their hosts at less cost and with fewer family disruptions. In the area of diversity training SL allows employees to become someone of a different race, religion or gender promoting more workplace harmony and helping to minimize fair employment litigation (Hastings, 2009). In addition, in an era of global business and decentralized business organization design strategies, SL promotes collaboration and creativity among multi-cultural, geographically dispersed work groups and can help “shrink the world” by making it easier to get thousands of employees from five continents to attend a virtual corporate conference (Regan and Delaney, 2010).

## **IMPLICATIONS AND CONCLUSIONS**

As far as the continued development and use of 3-D MUVES and tools such as SL as training methods are concerned, a very basic standard may be most appropriately applied. If it can be shown with confidence that this area of VHRD can offer assured opportunities for low-cost and high value learning it should merit the investment in time and energy needed for it to be more fully be utilized (Salmon, 2009). A recent survey of training practitioners and early adopters concluded that SL, or some similar platform, would more than likely see large scale adoption within the next few years in all types of applications and contexts (Kirriemuir, 2008). Therefore, work needs to continue to insure that what is done in this area achieves the criteria of reasonable cost balanced with strategy, significant levels of learning transfer and an appreciation of the process by both the trainer and the student (Bennett and Bierema, 2010).

Many users of SL, including human resource managers, believe that specific guidelines for the proper use of MUVES and SL need to be developed similar to those developed several years ago by IBM (Konard, 2007). Krell (2007) outlines specific usage guidelines that will help shape positive VHRD experiences that include elements that relate to developing a usage policy, sensitizing new users to SL, understanding the private versus public boundaries of discretion and privacy, consulting legal counsel as to the ramifications of virtual relationships and the expectation of the deliberate and controlled use of the platform to avoid being overwhelmed.

Besides being concerned with the actual usage of SL as a means of delivering training content, the issue of assessing its effectiveness as a training tool persists. In evaluating VHRD practices the ability to determine the impact of learning, the value of virtual workers, and the degree of fair, inclusive and equitable environments remain important measurement issues (Chapman and Stone, 2010; Bennett and Bierema, 2010). The continued use of VHRD will require Human Resource managers and others of authority in organizations to develop policies unlike those previously seen. It will present interesting challenges to those in organizations charged with the responsibility to adopt and adapt standards and procedures that govern the virtual professional, legal and ethical actions of their employees. This ultimately may mean the seeking out of professional expertise and resources outside the organization in the form of experts and consultants to deal with the intended and potential unintended consequences of VHRD. As a result of the growth of MUVes and SL, many training consulting firms have emerged to help organizations more smoothly navigate the virtual world of corporate training and education. Because some companies find it difficult to bridge the gap between traditional development methods and virtual training they have turned to consulting firms such as the Future Work Institute to help them build programs that can ease the potential concerns faced by employees who are new to the virtual training world (Hastings, 2009).

The attempt to strike a comfortable balance between what we know and what is to come in the area of human resource training and development is extremely difficult. One area of concern is that in the interim period it will be quite common to have several generations of employees involved in the delivery and the learning of the information associated with the acquiring of the knowledge and skills needed to successfully perform work assignments (Noe, 2010). While Generation X and Y are very comfortable with a highly technical world of instant information access and digital communications that they have always known, Baby Boomers rely on personal interactions and group processes to share and learn information useful for acquiring knowledge (Solomon, 2010). Human resource training experts are therefore presented with the challenge of blending the various teaching and learning styles of the employees to achieve the greatest result. However, it needs to be acknowledged that the millennial generation is the fastest growing portion of the U.S. workforce and that they seek a stimulating work environment and are most comfortable with VHRD and SL (Lancaster and Stillman, 2010). Therefore, at least for the foreseeable future, a delicate balance needs to be developed and maintained that will hopefully find the various groups meeting at some agreeable medium.

Regardless of the generational group that employees find themselves in, the nature of life and work seem to be rapidly moving away from face-to-face interaction to a variety of technologies to fill the communications gap (Williams, 2009). After it is all said and done the reality of the new training paradigm is virtual reality. While the potential is great for the new and improved VHRD methods that for now supplement current tools, it seems inevitable to some that it may someday totally supplant them which may be cause for concern and alarm. Many see tools such as SL as methods that will minimize the personal value of human interaction, eliminate physical presence and totally remove the ability to perceive and interpret body language. In addition, impersonal interactions may encourage behavior that would not be undertaken in person but may be encouraged through the veil of acting through an avatar. According to Konrad (2007), it may be very important for companies to act as IBM did to set standards of conduct that their employees must adhere to while interacting in the SL Metaverse. This applies to the appearance of their avatar, its actions, behavior and gestures. The existence of rules and guidelines when involved in cyber collaborations should help to “reinject”, to some degree, the human touch and thus provide some degree of control that could minimize conflict, maximize productivity and set a reasonable standard of ethical behavior (Coleman and Levine, 2008). The further development and refinements of VHRD and SL offer promises of significant rewards and challenges to both organizations and their employees. However, the real ultimate value to be realized through the use of these virtual tools rests with each individual human resource professional along with their organizations to act responsibly in the application of human judgment, tolerance and understanding.

## REFERENCES

- Ahmad, N. & Barkhi, R. (2011). The Contextual and Collaborative Dimensions of Avatar in Real-Time Decision Making in Frada Burstein, Patrick Brézillon and Arkady Zaslavsky (eds.), *Supporting Real Time Decision-Making: The Role of Context in Decision Support on the Move* (133-150). Springer Publishing Company, New York, NY.
- Bennett, E. (2010). The Coming Paradigm Shift: Synthesis and Future Directions for Virtual HRD, *Advances in Developing Human Resources*, Sage Publications, 12 (6), 728-741.
- Bennett, E. & Bierema, L. (2010). The Ecology of Virtual Human Resource Development, *Advances in Developing Human Resources*, Sage Publications, 12 (6), 632-647.
- Boulos, M., Hetherington, L. & Wheeler, S. (2007). Second Life: an overview of the potential of 3-D virtual worlds in medical and health education, *Health Information and Libraries Journal*, Vol. 24. No. 4, 233-245.
- Broadribb, S. & Carter, C. (2009). Using Second Life in human resource development, *British Journal of Educational Technology*, Vol. 40, No. 3, 547-550.
- Chapman, D. & Stone, S. (2010). Measurement of Outcomes in virtual environments. *Advances in Developing Human Resources*, 12(6), 665-680.
- Coleman, D. & Levine, S. (2008). Collaboration 2.0: Technology and Best Practices for Successful Collaboration in a 2.0 World. *Happy About*, Cupertino, CA.
- Delucia, A., Francese, R., Passero, I. & Tortora, G. (2009). Development and evaluation of a virtual campus on Second Life: The case of SecondDMI, *Computers and Engineering*, 52, 220-233.
- Fortney, K. (2007). Using Second Life to provide corporate blended learning solutions. *SimTeach* [online]. Retrieved August 18, 2011 from: <http://www.simteach.com/slccedu07proceedings.pdf>
- Garcia-Ruiz, M. A., Edwards, A., Aquino-Santos, R., El-Seoud, S., & Vargas Martin, M. (2011). Desktop Virtual Reality Applications for Training Personnel of Small Businesses. In Management Association, USA, I. (Ed.), *Virtual Communities: Concepts, Methodologies, Tools and Applications*. 837-856.
- Gronstedt, A. (2007). Second Life Produces Real Training Results. *Training and Development*, August, 44-49.
- Hastings, R. (2009). Tackling Diversity and Inclusion Virtually, *SHRM, HR Disciplines Research*.
- Jarmon, L., Traphagan, T. & Mayrath, M. (2008). Understanding project-based learning in Second Life with a pedagogy, training, and assessment trio, *Educational Media International*, Volume 45, Number 3, September, 157-176.
- Jones, S. (2007). Adding value to online role plays: virtual situated learning environments. *Ascilite* [online]. Retrieved September 6, 2011 from <http://www.ascilite.org.au/conferences/singapore07/procs/jones-s.pdf>
- Knowles, M.S. (1989). *The making of an adult educator: An autobiographical journey*. Jossey-Bass, San Francisco, CA.

Konrad, R. (2007). IBM writes guidelines for virtual worlds, USA Today, July 26. Retrieved September 1, 2011 from [http://www.usatoday.com/tech/webguide/internetlife/2007-07-26-ibm-virtual-guidelines\\_N.htm](http://www.usatoday.com/tech/webguide/internetlife/2007-07-26-ibm-virtual-guidelines_N.htm).

Krell, E. (2007). Manage the risk when employees join virtual communities, *HR Magazine*, Vol. 52, No. 11.

Kirriemuir, J. (2008). Second Life in higher education, medicine and health. Health information on the internet, Retrieved September 2, 2011 from <http://hii.rmsjournals.com/cgi/content/abstract/64/1/6>.

Lagorio, C. (2007). *The Ultimate Distance Learning*. New York Times, January 7.

Lancaster, L.C. & Stillman, D. (2010). *The M-Factor: Why the millennial generation is rocking the workplace and how you can turn their great expectations into even greater results*. Tantor Media, Old Saybrook, CT.

Lee, P. D. (2009). Using Second Life to Teach Operations Management. *Journal of Virtual Worlds Research*, 2(1). Retrieved September 2, 2011 from <http://journals.tdl.org/jvwr/article/viewArticle/431>.

Little, G. (2011). Should I Stay or Should I Go? Academic Libraries and Second Life, *The Journal of Academic Librarianship*, Volume 37, issue 2 March, 171-173.

Mancuso, D., Chlup, D. & McWhorter, R. (2010). A Study of Adult Learning in a Virtual World, *Advances in Developing Human Resources*, Sage Publications, 12 (6), 681-699.

McWhorter, R. (2010). Exploring the Emergence of Virtual Human Resource Development, *Advances in Developing Human Resources*, Sage Publications, 12 (6), 623-631.

Mesko, B. (2009). Imperial College London in Second Life: Virtual Patients, ScienceRoll. Retrieved September 22, 2011 from <http://scienceroll.com/2009/06/11/imperial-college-london-in-second-life-virtual-patients/>.

Nafukho, F.M., Graham, C.M. & Muyia, H. A. (2010). Harnessing and optimal utilization of human capital in virtual workplace environments, *Advances in Developing Human Resources*, Sage Publications, 12 (6), 648-664.

Noe, A.R. (2010). *Employee training and development*. 5<sup>th</sup> edition, McGraw-Hill, New York, NY.

Reeves, B., & Reed, L. (2010). Avatars in the workplace. Retrieved August 26, 2011 from [http://blogs.hbr.org/cs/2010/01/avatars\\_at\\_work.html](http://blogs.hbr.org/cs/2010/01/avatars_at_work.html).

Regan, E. & Delaney, C. (2011). Brave New Workplace, The Impact of Technology on Location and Structure in Malloch, M., L. Cairns, K. Evans and B. O'Connor (eds.), *The SAGE Handbook of Workplace Learning*. London: SAGE.

Rymaszewski, M. (2007). *Second Life: the official guide*. John Wiley & Sons, Inc., Hoboken, New Jersey.

Salmon, G. (2009). The future for (second) life and learning, *British Journal of Educational Technology*, Vol. 40, No. 3, 526-538.

- Schroeder, R. (1997). Networked worlds: social aspects of multi-user virtual reality technology, *Sociological Research Online*, 2, 4. Retrieved August 30, 2011, from <http://www.socresonline.org.uk/2/4/5.html>
- Short, D. (2010). Foreword: Reflections on Virtual HRD from a Scholar-Practitioner, *Advances in Developing Human Resources*, Sage Publications, 12 (6), 619-622.
- Smith, R. (2010). The long history of gaming and simulations in military training. *Simulation and Gaming*, 1-12.
- Solomon, M. (2010). E-learning: How to do it effectively. *Human Resources*, 14(6), 16-17.
- Stevens, K., Kruck, S., Hawkins, J. & Baker, S. (2010). Second Life as a Tool for Engaging Students Across the Curriculum in Pavel Zemliansky and Diane Wilcox (eds.), *Design and Implementation of Educational Games: Theoretical and Practical Perspectives* (378-392). IGI Global Publishing, Hershey, Pennsylvania.
- Varvello, M. & Voelker, G. (2010). Second Life: A Social Network of Humans and Bots. In Nossdav 2010, Amsterdam, Netherlands, June.
- Weicha, J., Heyden, R. & Sternthal, E. (2010). Learning in a Virtual World: Experience With Using Second Life for Medical Education, *Journal of Medical Internet Research*, January-March, 12(1).
- Williams, M. (2010). Collaboration in Cyberspace: Don't Forget the Human Touch, *SHRM, HR Disciplines*. Retrieved September 7, 2011 at <http://www.shrm.org/hrdisciplines/businessleadership/Pages/default.aspx>.