

LEARNING THROUGH THE WORLD OF SECOND LIFE – A HOSPITALITY AND TOURISM EXPERIENCE

Abstract

Virtual worlds are a phenomenon raising interest among educators around the globe, with more than 500 educational institutions experimenting with, or offering classes in the virtual world of Second Life. While many educators are excited about the potential of virtual worlds, others are wary or skeptical. Some consider them as up-market games, while others are afraid they will degrade student learning. Virtual worlds are certainly not a panacea for higher education, and present many challenges for students, teachers, and administrators. This paper describes how Second Life has been used for teaching and learning in a hospitality and tourism School in Hong Kong. It discusses some of the opportunities, challenges and problems of using this virtual environment, and analyzes data collected from students and teachers who used Second Life for learning and teaching in four diverse courses. The paper concludes by suggesting strategies and techniques for using virtual worlds effectively in hospitality and tourism education.

KEY WORDS: tourism education, virtual worlds, Second Life, simulations

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BACKGROUND TO VIRTUAL WORLDS

Virtual worlds originated in 1978 with the creation of MUD – the first online text-based Multi-User Dungeon game (Virtual Worlds, 2008). Broadband internet and fast 3D rendering have enabled virtual worlds to move into the mainstream with the proliferation of popular worlds such as Gaia, Active Worlds, Everquest, Second Life and World of Warcraft for adults, as well as Habbo Hotel, Club Penquin, Neopets and other worlds for children and teens.

In a recent survey, Mitham (2008), found that 238 million people have registered accounts in fully immersive worlds. However, active users – those who are regularly (3-4 times at least a month) using virtual worlds is unclear. Gartner Inc. estimates that eighty percent of active internet users will be using virtual worlds by 2011 (Gartner, 2007) and Gartner Chief of Research Steve Prentice (from Au, 2007) estimates that 50-60 million Internet users will participate in a virtual world by 2011. However, Au (2007) believes this figure is too conservative, as the three largest existing worlds already number 35 million active users (Cyworld – 20 million, World of Warcraft – 8 million and Habbo Hotel – 7 million) and Hanson (2007) estimates 26 million virtual world users by 2011 in China alone.

Virtual worlds are described as persistent virtual environments, open 24/7, and enabling people represented by avatars (a personal representation in 3D form) to create, play and interact in real time. Virtual worlds are online simulated environments where individuals assume avatar identity, and interact, communicate and engage in various activities within their world. The most popular virtual worlds such as ‘World of Warcraft’ and ‘Everquest’ are games or simulations, although some, like ‘There,’ are just virtual spaces in which users or residents create their own virtual life and activity. Another term used for virtual worlds is Synthetic Worlds (Castronova, 2005) sometimes called the Metaverse – from the science fiction novel, Snow Crash – the meta-universe of avatars interacting in a 3D world.

Virtual worlds are growing dramatically, and Castronova (2001) claimed that tens of thousands of adults spend more time in their virtual world than in paid employment. These 3D worlds are rapidly developing and becoming more sophisticated, with over 200 multi-user online role-playing games listed on Wikipedia (April, 2008) alone, and where millions of real dollars are spent in virtual worlds every year on artifacts, virtual clothing and real world goods. Virtual worlds are rapidly emerging as an alternative way of communicating, collaborating, and organizing, and many leading companies, including IBM, Sun, Mazda, Adidas and Coca-Cola, among others, have a presence in a virtual world.

This study focuses on the use of one such world – Second Life – a virtual landscape that allows residents (people) to create their own world and activities, interact, play, do business, and communicate. Second Life was launched in 2003 by Linden Research (Linden Labs), and the number of users has grown over the past twelve months to around 13 million registered accounts; though many of these are not active. In March 2008, residents spent 28 million hours online with about 40,000 residents logged on any moment in time (Linden Labs, April 2008). Despite its popularity, Second Life has strong competitors, including IMVU, Gaia, There, Active Worlds and Kaneva (Wikipedia, 2008)

MEETING THE CHALLENGE OF THE NET GENERATION

Today's educators are facing new challenges not experienced by teachers in the past. They are dealing with students who are part of a 'Net Generation' (Oblinger, 2003), brought up in a 3-D world of virtual communication, visual complexity and online identities. They want and expect more engaging, empowering and interactive learning experiences in their student life than universities are normally able to give them. They are daily in touch with technology and innovation in their lives through digital media, PDA phones and their online networks. Prensky (2002) estimates that by the time someone reaches the age of 21 they will have spent 5,000 hours reading and 10,000 hours playing video games!

Hagel and Armstrong (1997) believe that students belong to virtual communities to discuss shared interests (communities of interest), to develop social relations (community of relationships), and to explore new identities (communities of fantasy). According to Zemsky and Massey (2004), students want to use technology in order to be entertained through music, games and movies, to be connected to one another and to present themselves and their work. A 'Teaching with Games' study in the UK revealed that 59 percent of teachers want to use educational games for teaching purposes and 53 percent say they would do so because they are an interactive way of motivating and engaging students (Sandford, Ulicsak, Facer & Rudd, 2006). The challenge is how to do it, and how to make it work in the higher education context.

Simulations, games and role-play in a virtual world can engage students in their own learning (Armstrong, 2003) and encourage learning by doing, (Schank, 1997). Students engaged in Virtual Worlds can be interpreting, analyzing, discovering, evaluating, acting, and problem-solving – often learning without knowing they are learning! Armstrong (2003) and Brown (1994) demonstrated how role-playing in teaching tourism and hospitality developed interest in the topic and retention of knowledge and skills, captured students' imagination, stimulated involvement and helped build the confidence of students in a non-threatening environment.

THE GROWTH OF VIRTUAL WORLDS IN HIGHER EDUCATION

Over 500 educational institutions, museums and libraries are actively using or experimenting with virtual worlds, with more than 4,000 teachers on the Second Life Education mailing list, according to the founder of Linden Labs (Spiegel, 2008). A study by Jennings and Collins (2007) of 170 universities indicated there are two primary models in Second Life – the 'working campus' and the 'reflective campus'. The working campus is where learning, teaching, research and communication take place in the virtual environment in ways it could not in the real world. The working campus is unlike the real campus, but provides functional spaces for events and activities using open air auditoriums and buildings without walls (Jennings and Collins, 2007). The reflective campus is one that reproduces its physical campus, buildings and identity in the virtual world in a realistic way to reflect the actual 'bricks and mortar' university campus. Virtual campuses or educational islands give educators an opportunity to explore the potential of offering learning opportunities for students using virtual reality, simulations and 3D environments in a creative learning space. Avatars can explore a visually rich environment and interact with others in ways that stimulate innovation and encourage collaboration. Virtual worlds offer a new dimension to 'distance learning' with a more personal and enjoyable experience to meet the needs of 21st Century learners – the digital natives inhabiting our campuses today.

Universities are using Second Life in a variety of ways. Some are conducting formal teaching by giving lectures, tutorials, training, presentations or demonstrations. Informal education offers more exploration and creativity and can include student exhibitions, role play, games and virtual quests (see Figure 1) (Bleacher & Stockman, 2008). According to Livingstone and Kemp (2007) the most common uses of Second Life seem to be in computer studies, science subjects and humanities, architectural studies, urban planning, graphic design, anatomy, natural sciences, law, languages, programming, literature, art and tourism. Dickey (2005) reviewed two distance learning projects using virtual worlds and concluded that virtual worlds offered “collaboration, community and experiential learning” and allowed learners to become “situated and embodied” within the learning environment (p. 449).

According to one study of the use of virtual worlds for scientific study, Bainbridge (2007, p. 475) concluded that virtual worlds may “foster scientific habits of mind better than traditional schools can.” He found that virtual worlds enable students to develop critical thinking skills and to understand their environment and that “graduates” of virtual worlds may include “many future engineers, natural scientists, and social scientists ready to remake the real world in the image of the virtual worlds” (Bainbridge, 2007 p 475).

Figure 1: Students from School of Hotel & Tourism Management on Virtual Hotel Field Trip



USING SECOND LIFE FOR TEACHING HOTEL & TOURISM MANAGEMENT STUDENTS

In 2007, the School of Hotel and Tourism Management (SHTM) at The Hong Kong Polytechnic University (PolyU), created a virtual campus in Second Life called Polyusotel (<http://virtel.shtm.polyu.edu.hk/sotel/>) with the following aims;

- To provide a cost-effective platform to explore teaching and learning in a virtual world;
- To provide a flexible environment for the freshman student orientation program;

- To provide an virtual campus (Figure 2) for other departments to test the use of virtual worlds;
- To encourage innovation and research in educational technology;
- To support the University's outcome-based education initiative by offering 'real-world' scenarios for teaching and learning in hospitality and tourism subjects.

Figure 2: HK Polytechnic University campus in Second Life



The project team originally planned to create their own virtual world using one of the open source platforms available such as OpenSim or Croquet. However, the attraction of using an established world with an existing infrastructure and many existing users far outweighed the early plan. It was therefore decided to test one of the platforms available, Second Life, and to explore the educational possibilities of trialing the platform to support the School's student orientation program held in September and October 2007. It was envisioned that this first foray into the educational possibilities of Virtual Worlds would provide a valuable learning experience and lead to areas of further exploration. This 'virtual' orientation program aimed to cultivate new learning experiences for the students in preparation for their first year of university life. Students created their own avatars and took part in various 'missions' and teamed up with fellow students in a series of structured and open activities. Opportunities were also provided for them to interact with, and learn from, senior students and teachers through in-world consultations. The orientation program provided many lessons on what to do and what not to do, with sufficient encouragement to continue the development of facilities and learning activities in Second Life.

Following the student orientation, the project team opened a second island in Second Life and over a 6-month period built four hotels, a conference centre with a corporate yacht for use with hospitality and tourism subjects. Four academics from SHTM chose to use this medium for some of their classes in the Spring semester 2008. These teachers could be classified under Rogers (1995) 'Diffusion of Innovation Model' as 'early adopters' – those who are more open to adaptation than others, and who are willing to try new ideas in order to engage students in their courses. After analysis of

their courses, the objectives, learning methods and learning activities for their Second Life classes were determined and are set out in Table 1 below.

The virtual classes were held towards the end of the semester, some during lectures and others in tutorials. Before the classes, students attended one or two workshops in a computer laboratory to familiarize themselves with using Second Life. Here they learned how to create their avatar, change their avatar appearance, navigate, search and communicate with chat, IM and voice. Students planning guest room design also learned how to manage their inventory of artifacts, and how to modify the design, colors and textures of the furnishings and equipment for their hotel rooms.

Challenges of using Second Life

Teachers were asked about the main challenges they faced in using Second Life. Time limitations and technical issues – lack of facilities and technical or other support were the two major challenges faced by the teachers in using Second Life. This is confirmed in other studies from Antonacci and Modares (2005) and Sanchez (2007). Although the teacher’s experience in setting up the software is less important, there is an essential need to provide teachers with more time for learning and using Second Life as well as technical support and resources.

Table 1: Objectives, learning methods and learning activities of Second Life Classes

Subject	Resort & Spa Hotel Management	Customer Relationship Management	Meeting Management	Hospitality Facilities Management & Design
Class size	140	35	135	75
Objectives	Evaluate and review the basic elements of a resort and spa complex.	Deal with customer problems and complaints.	Review promotional strategies and the effectiveness of virtual conference facilities.	Apply principles of facilities design to a simulated guest room.
Learning method	Virtual field trips	Role play exercises	Lecture and demonstration	Guest room design
Activity	Visit to Rixos Virtual Hotel with introduction by Marketing Manager & tour hotel/Turkish spa	Students take role of guest or hotel staff and deal with specified customer problem	Lecture from overseas professor, plus demonstration of virtual conference facilities	Teams plan and design virtual hotel guest rooms and evaluate design plan.

Benefits of Using Second Life

Teachers saw the most important benefits of Second Life as those related to their ability to provide students with more interactivity and enjoyment of their learning experience (see Figure 3) as well as adding variety to the teaching. Comments from teachers included, “Students enjoyed using it...it was an interactive experience for students...it was a good learning experience for students...it provided a new dimension for my subject and it added some variety to the subject.”

Continued use of Second Life for Teaching

Teachers were asked if they would use Second Life again for their teaching. All four teachers said they would, and this suggests that despite the challenges, they saw the value and found it a new and interesting tool for teaching and learning.

Figure 3: Interior of one of the PolyU Virtual Hotels



Things to do differently

In light of their experience of using Second Life, teachers were asked what they would do differently if they used Second Life again. Their responses indicate that teachers need more time to get familiar with using Second Life. They also suggest that students should be given more time to learn about the system and students and teachers should have tutorials in Second Life before starting classes. One teacher suggested that the computers used should be ready with the software and hardware required (such as headsets) before class began, and another said he would use Second Life only in a more 'operations-based' subject such as Lodging Management.

How to improve the use of Second Life?

Teachers were then asked to suggest what could be done to improve the use of Second Life in the classroom. It is clear that most teachers would like to have more training and promotion about Second Life for the entire faculty and students to make them aware of how the medium could be used for teaching and learning. "We should continue to let faculty know how it can be used as a teaching tool (see example in Figure 4). Make them aware of the hotels that have already been built, and suggest ideas for interactive sessions," said one teacher.

Support in Using Second Life

Teachers were asked then to suggest what support should be given to help their use of Second Life. They indicated they would like training in how to create, build and delete objects. However, they would still like the support of technicians to help them when they start the class in order to not waste time with the technical issues. Teachers new to Second Life need technical support available because they may not be able to manage teaching without it.

Figure 4: Hotel Management students on a virtual hotel field trip



Encouraging wider use of Second Life

Teachers were asked what could be done to encourage other teachers to explore the use of Second Life in their teaching. Comments indicate that there should be continuous training and sharing sessions as well as video tutorials about using Second Life. Also, teachers suggest that there could be some instructions via e-mail on how to install Second Life software on their computers.

Other Suggestions for Using Second Life

Teachers were asked for their suggestions in planning and using Second Life in the next academic year. Most of the suggestions indicate that teachers want to be informed about the development of the University Islands so they can coordinate with the activities when planning their courses. In addition, one of the creative suggestions was to make the Second Life orientation mandatory for all new University students and create accounts for them instead of spending time setting up their accounts and learning the software later on.

STUDENT'S PERSPECTIVES ON USING SECOND LIFE

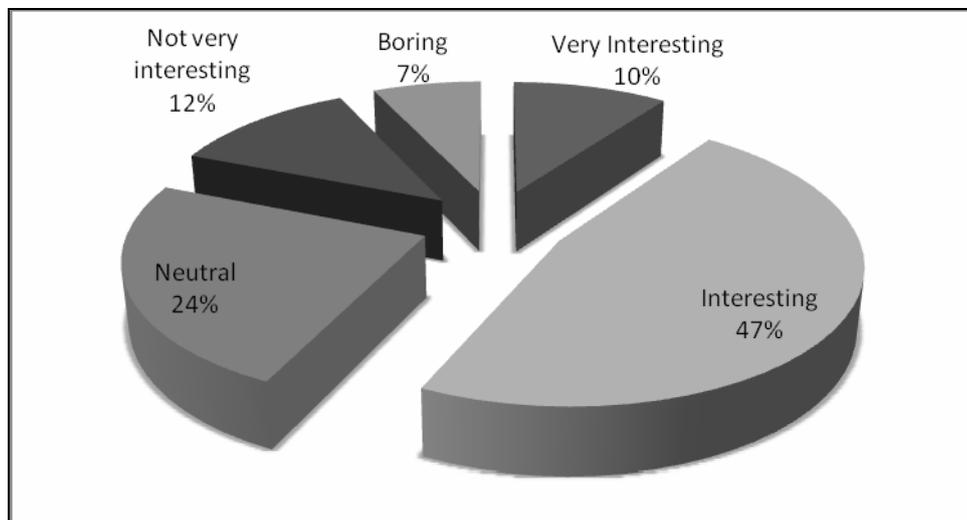
A questionnaire about Second Life experience that provided some perspectives on students' views of using the virtual world was completed by 152 students from the four pilot classes. When asked about whether Second Life added interest to their studies, the response showed that 57 percent of students overall found it interesting or very interesting, 24 percent were neutral and 19 percent of students found it boring or not very interesting (Figure 5). However, depending on the nature of the activity, the responses changed, and this may indicate that certain activities are either more attractive to students or work better for them than others. For example, 58 percent of students doing guest room design found the activity very interesting, and 37 percent found it interesting. Eleven percent of students found the virtual lecture and demonstration very interesting, and 84 percent found it interesting.

Figure 5: Students working in groups to design hotel guestrooms in Second Life hotel



However, for the virtual field trip only 40 percent found it interesting or very interesting, with 34 percent neutral, and the remaining 26 percent uninterested or bored. For the role play activity 55 percent of students found it interesting, 21 percent were neutral, and 21 percent found it not very interesting (Figure 6).

Figure 6: Students' level of interest in using Second Life in their classes



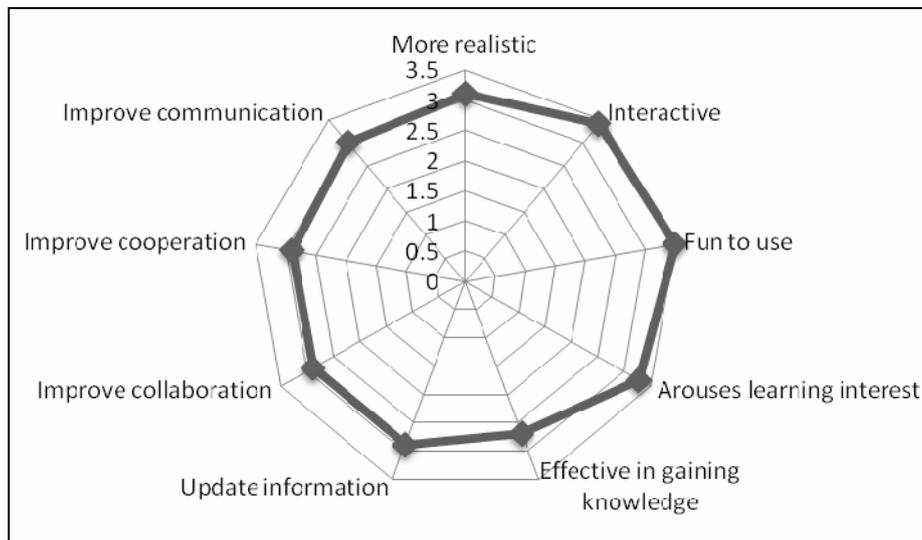
Our conclusions are that the guest room design created more engagement and a sense of satisfaction with a demonstrable outcome. The virtual lecture and demonstrations were more passive activities for students, but in a familiar environment. However, the role play and field trip (Figure 7) were more unpredictable, open-ended, less structured and both experienced technical problems during the activities. Further study could be made to compare Asian students with Western students to see if there are any differences in perception towards the type of activities experienced based on active and passive learning styles.

Figure 7: Students taking part in the hotel role play scenarios



The questionnaire also asked students for their perceptions, on a 5-point Likert scale (with 5 = very helpful and 1 = not very helpful) of how well Second Life assisted their learning (Figure 8). For this question the rating was between 2.7 and 3.5 across nine dimensions. Across all four classes, students told us the strong points of Second Life were, 'it was fun' 3.5; 'it was interactive' 3.4; and 'it aroused learning interest' 3.3. The weak points were, 'it was effective in gaining knowledge' 2.7; 'it improved collaboration' 2.9; 'it updated information' 2.9; (Figure 8) and 'it improved cooperation' 2.9 (Figure 7). However it should be noted that the guest room design activities again gained a high rating with, 'it was fun' 4.5; 'it aroused learning interest' 4.3 and 'it was interactive' 4.3.

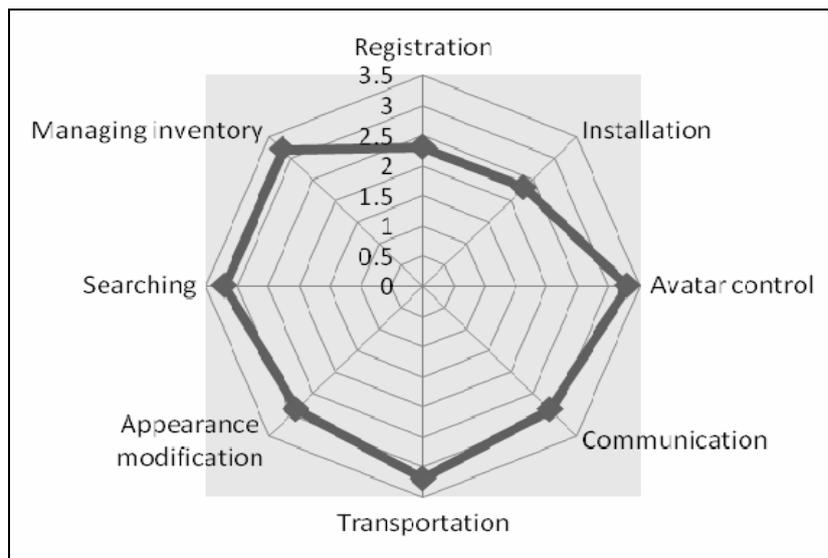
Figure 8: Students' perceptions of the benefits of using Second Life to assist learning



Our conclusions here are that generally students find Second Life fun to use, it arouses their learning interest and provides an interactive experience. It would seem that if some of the technical issues can be overcome and students and teachers are well prepared for class then it is a very positive medium to enhance learning or provide more interactive and enjoyable learning experiences for students (and teachers). Our findings are very similar to another university's use of Second Life for four Spanish language classes, where 22-40 percent of students were neutral about it, around 50 percent had technical problems but 50 percent said they enjoyed the tasks, it was interactive and they recognized how much they learned (Larsen 2008).

Students were asked what difficulties they experienced in using Second Life across eight dimensions on a 5-point Likert Scale (with 1 = very difficult and 5 = very easy). Students' indicated that they found the initial set up, registration and installation more difficult than using an avatar and working in Second Life (Figure 9). This confirms the teachers' perspective that more support is required at the beginning to ensure students and teachers are competent and confident in using the medium before starting learning activities.

Figure 9: Students' level of difficulty in using Second Life



CONCLUSIONS FROM THE STUDY

Hospitality and tourism education can be enhanced by using virtual worlds.

Visits can be made to virtual hotels such as Starwood's Aloft (Figure 10), InterContinental Hotel's - Crowne Plaza Virtual Meeting Place, and the Rixos Hotel and Resort islands. Travel companies have also set up shop in Second Life – TUI and STA have islands, where visitors can take tours of the virtual world and also book real life holidays. Conference and event companies are opening virtual conference and exhibition centers in Second Life, and there are a number of fascinating locations for field trips including Frankfurt, Copenhagen, Barcelona, Galveston, Casablanca, Mexico and elsewhere. Educators have designed eco-friendly islands, and created simulations of the effects of global warming and rising oceans. The opportunity to use Second Life for role play, facilities design, simulation, group work and social interaction are boundless.

Figure 10: Starwood's Aloft Hotel in Second Life



Careful consideration needs to be made before moving ahead

Before implementation of Second Life takes place there needs to be full discussion of the issues and resource implications. Questions like whether to purchase an island or rent a shared space with other educators need to be considered. Support from the university IT department is important, along with training in the technological and pedagogical use of virtual worlds. Information and promotion, with good case examples, needs to be shared with senior managers and faculty members to engage them in using the platform. Collaboration with others may be one way forward – where groups of hospitality educators come together to share ideas and pool resources. However, even when these initiatives are taken, it is still only likely to be the innovators and early adopters who will probably use virtual worlds regularly. Though virtual worlds could go main stream in the next 3-4 years, some educators are pessimistic about the uptake. Batson (2008) comments, “For the majority, it will never be a comfortable learning space unless they in that majority have control while they are teaching and if they see enough people using Second Life so that a tipping point has been reached. No good to fret now because that tipping point may be 20 years away, or never!”

The role of the teacher is central to the success

Bradshaw (2006) emphasized the central role of the teacher in effective virtual learning. She suggested that if teachers and learners are to achieve the full potential of Second Life, there are three key factors, reinforced from our own survey:

- the provision of time for teachers to prepare themselves for inhabiting Second Life as a broad and deep learning environment
- according critical importance to continuous, integrated reflection – which means incorporating guided dialogues with students before and after immersion
- providing adequate professional development and ongoing support for teachers, as they venture into what, for most, will be unknown territory – as both guides and ‘guardians’ of their students.

The virtual world environment can be disorienting for learners *and* teachers. Rather than feeling proficient in the teaching environment, teachers are often thrust into the learner role as they acquire new skills themselves. Teachers in Second Life should try to develop their roles as facilitators because not every teacher in a face-to-face environment can facilitate virtual courses without good training and having the required technical skills (Schrum & Hong, 2002; Wozniak & Silveria, 2004; Wang, 2005). Their new roles are listed and discussed below:

- Be a learner first: Take time to learn the interface and culture. Teachers should learn how to move, to fly, to teleport just the same way students are learning how to move in Second Life.
- The teacher role is to create a level of interactivity to motivate students to focus on the main theme of learning in Second Life.
- Teachers should know how to balance in-world and out-world instructional experiences, making connections between what is learned in Second Life and the classroom and the curriculum.
- Teachers should realize that familiar ways teaching may not be as effective in a 3D multi-user space.
- Teachers should try to connect with more experienced educators and take advantage of the communities of practice in Second Life.

The Challenges and Difficulties in Using Virtual Worlds

While many educators are excited about the potential of virtual worlds, others are wary or skeptical. Some consider them as up-market games, while others are afraid they will degrade student learning. Virtual worlds are certainly not a panacea for higher education, and present many challenges for students, teachers, and administrators. Antonacci, Thomas, Gerald, Lamoureux, Hollingsworth & Noakes (2007) identified seven major challenges faced by most teachers and students, these being: technology, support, faculty development, legal issues, mature content, learning curve and cost.

First, most university campuses do not have technical infrastructure to support large-scale implementation of virtual worlds as this requires fast computer processors and video cards and a stable network. Second, most virtual worlds run off external servers and this creates IT support difficulties for students and teachers – IT support is essential for the smooth running of virtual worlds. Third, the majority of faculty members are digital immigrants, (Prensky 2001) who are highly challenged by new technology and need to be handled carefully and supported extensively.

Fourth, according to Kluge & Riley (2008) intellectual property issues, security, data protection and personal safety of students are also big concerns to universities. Fifth, along with security issues are concerns about the adult content available in virtual worlds, such as vendors offering virtual sex and gambling. These threats can be minimized, and are probably less innocuous than those found on the World Wide Web. Under-18s are usually banned from adult worlds, and teachers have to get special permission to enter and teach in the under-18 Second Life Teen Grid, for example. Sixth, the learning curve for virtual worlds is steep, and it is estimated that it may take up to 40 hours to fully familiarize new users with all the essential components for navigating and functioning well in some virtual worlds (Antonacci et al, 2007). Not everyone will be willing to devote this amount of time to learning a new piece of software. Finally, cost may be a deterrent for some universities (Kluge & Riley, 2008) – who may want to

ensure their investment is carefully planned before committing to a long-term development in a virtual world.

Final thoughts

Whatever the challenges, virtual worlds won't disappear, and the potential benefits seem to far outweigh the drawbacks. It is also likely that virtual worlds like Second Life could become part of every university's teaching toolkit – enabling them to provide a shared, interactive learning space where students and teachers can meet together in real time for creative learning activities. Business organizations will also find ways to collaborate, communicate, and provide training for their employees and in so doing begin to interface with education. Price (2008) states that, “Virtual worlds also have the potential to enhance and enrich education. Such technologies can bring learning to life in a way that is not readily matched by other digital media.” The conclusion is that the use of virtual worlds will continue to grow exponentially as young people increasingly use them to learn, play and work, and that in time virtual worlds will become as commonplace as instant messaging or email.

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USEFUL SECOND LIFE WEBSITES

Second Life Education Wiki: Linden Lab's official resource for educators in Second Life http://simteach.com/wiki/index.php?title=Second_Life_Education_Wiki

Second Life Education Blog: <http://www.sl-educationblog.org/>

SimTeach: Information and Community for Educators using M.U.V.E.'s (Multi-User Virtual Environments) <http://simteach.com/>

Second Life in Education: <http://sleducation.wikispaces.com/>

Second Life as a virtual learning environment: <http://www.dokimos.org/secondlife/education/>

Articles on Second Life in Delicious: <http://delicious.com/secondlife/education>

Second Life: Educational Possibilities: <http://www2.kumc.edu/tlt/SLEUCAUSES2005/SLPresentationOutline.htm>

Seriously engaging (video) <http://sl.nmc.org/2006/06/12/seriously-engaging-movie/>

Get a Second Life; Using virtual worlds in hospitality & tourism education: <http://penkyamp.blogspot.com/>