



Featured Article

Second Life[®]: A New Strategy in Educating Nursing Students

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KEYWORDS

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patient safety;
virtual worlds

Abstract: The purpose of this article is to discuss how the University of Michigan School of Nursing designed and implemented a virtual hospital unit in Second Life[®] to run virtual simulations. Three scenarios were developed about topics that represent areas that contribute to patient safety, as well as key student learning challenges. Fifteen students completed a 6-question survey evaluating their experience. Comments indicated students did identify the potential benefits of the Second Life[®] simulation. The Second Life[®] platform may also provide avenues for learning in the clinical arena for a multitude of health care professionals. The opportunity to simulate emergent, complex situations in a nonthreatening, safe environment allows all members of the team to develop critical communication skills necessary to provide safe patient care.

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Introduction

Human patient simulators are becoming well integrated into many nursing school curricula and provide an excellent way for students to learn in a safe environment. However, there are other learning technologies that can be used, taking advantage of the advanced technical skills of many of the next generation of learners (who have grown up with computers and the Internet). The purpose of this article is to provide an overview of one advanced learning technology, the virtual environment of Second Life[®] (SL), and to share how the University of Michigan School of Nursing designed and implemented a virtual hospital unit in SL to run

simulations in a virtual space. The process used to select and develop virtual simulation scenarios is also discussed.

Background

Emerging technologies in education focus primarily on those technologies that allow collaboration with teachers and students and engagement with course-related content. Emerging technologies in health care make use of Web 2.0 technologies. *Web 2.0* is not a new version of the Web but refers to the ways designers have used the Web platform and also to the changing behaviors of those using the Web (Burrows, 2007). Web 2.0 generally refers to such Web programs as YouTube, Facebook, MySpace, blogs,

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wikis, Twitter, and Flickr. These programs are also referred to as *social media* or *social networking programs*. Web 2.0 also refers to such technologies as online gaming and three-dimensional virtual environments. These are spaces where users can interact with others in a synchronous, or real-time, fashion. Many nursing schools currently use learning management systems or course management systems such as Blackboard or WebCT®. Additionally, faculty use Webcasts or podcasts to deliver content to students. Students may use mobile devices such as smartphones, PDAs, or other mobile applications to look up information such as drug references during a clinical experience.

Key Points

- Three virtual simulations were developed to suit senior level students.
- Students thought the experience was better than or as good as SimMan®.
- Students struggled with text chatting.

Use of these new Web 2.0 technologies is coming at a time in nursing education when many courses are moving online and many of our students are considered the *net generation*, or digital natives: children who were born into and raised in the digital world (Palfrey & Gasser, 2008). It is also coming at a time when educators are challenged with rethinking the pedagogical approaches to teaching and learning. The recent publication from the Carnegie Foundation, *Educating Nurses: A Call for Radical Transformation*, discusses the need for students to engage in activities in the learning environment that enables them to bridge the gap from theory to practice (Benner, Sutphen, Leonard, & Day, 2009). This can be done through simulation. Many nursing schools have active simulation programs in which they use human patient simulators as part of the overall student education process. Human patient simulation has proven to be a successful educational strategy to improve knowledge acquisition, the recognition of deteriorating patients, and critical thinking (Lapkin, Levett-Jones, Bellchambers, & Fernandez, 2010). The success of human patient simulation provides us with an opportunity to venture into the use of simulation in a virtual environment such as SL.

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Second Life®

SL is an online three-dimensional virtual world developed by Linden Lab. It launched in 2003. It is a free, open access program that can be downloaded on most computers. Virtual worlds are three-dimensional, multiplayer environments with a social context (Aldridge, 2009). They are different from games as they generally do not focus on a specific goal. Participants in virtual worlds use an *avatar*, an online graphical representation of themselves, to interact with others and travel throughout the virtual environment. SL is similar to social networking sites such as Facebook

and MySpace. In SL you can join user groups based on your interests (social or educational). You can travel to different areas (called *islands*) to meet other people (i.e., their avatars); engage in social activities (e.g., dancing); or participate in meetings, support groups, or educational opportunities (e.g., genome island). Many universities and corporations have islands in SL where they conduct business or hold staff meetings or educational sessions. SL has its own currency, called *Linden dollars*, which allows users to buy items such as clothing for their avatar or furniture for their office. Avatars (users) can communicate with each other by using a text chatting method or a voice chat method that requires computer headphones. Avatars are moved around the virtual space or island by means of the computer keyboard or pull-down menus in SL. An avatar can walk or fly to travel around an island. To go to different islands, avatars *teleport*, using a map in SL that allows them to go from one island to another. Avatars can also build objects in SL and animate those objects by using a scripting code. This allows the user to build a chair and animate it so that an avatar can sit on the chair. Avatars come with a standard set of clothes. More clothing can then be made or purchased from vendors in SL.

Interest in SL as a platform for education has been growing in many areas, including health care. The first educators in SL taught courses on art, architecture, business, instructional technology, urban planning, human–computer interface, communities, sociology, education, game design, health care and disaster response, and simulation development (Linden, 2005). SL is currently used for role-playing, collaboration, real-time interaction between students and faculty, and an alternative environment to create simulations for nursing students (Skiba, 2009).

One of the strongest uses of SL educationally is the role of supporting simulation. SL is an excellent tool for supporting a broad approach to simulation, especially simulation involving interaction among multiple participants. SL provides the learner with the ability to be intimately involved in the story of an immersive scenario and the ability to simultaneously step back and get a more detached and broader view. This broad-view approach was used at the University of Michigan Medical School in the design of The Virtual First Responder, an elective course for 2nd-year medical students that explores the use of virtual reality (SL and immersive Cave Automatic Virtual Environment technology) to simulate mass-casualty disaster triage (Stephens & Chapman, 2009). Virtual reality can be an excellent platform for exploring “learning by doing” scenarios that are potentially dangerous or difficult to simulate in real life.

An important aspect that makes SL’s multiuser online nature stand out over single-user computer programs is the ability for a community of people to meet over a topic of interest within the virtual world. There is a broad public health community within SL that is engaged in topics ranging from H1N1 pandemic preparation to cancer and

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