

## Chapter 41

# Virtual Reality Simulations: Teaching Interpersonal and Clinical Judgments Skills to Healthcare Practitioners

**Michelle Aebersold**

*University of Michigan School of Nursing, USA*

**Dana Tschannen**

*University of Michigan School of Nursing, USA*

### **ABSTRACT**

*The use of simulation in the training of healthcare professionals has become an essential part of the educational experience. Students and practitioners need to learn a variety of technical, interpersonal, and clinical judgment skills to be effective healthcare practitioners. Virtual simulation can provide an effective training method to facilitate learning and can be targeted to develop specific skills. This chapter reviews the literature around simulation techniques and outlines a development process that can be used to develop virtual simulations to meet a variety of learning objectives. Specific issues and solutions will also be presented to ensure a successful educational experience.*

### **INTRODUCTION**

The use of simulation in the training of healthcare professionals has become an essential part of the educational experience. Students need to learn a variety of technical, interpersonal and clinical judgment skills to be effective healthcare

practitioners. Many simulation centers around the world focus on both low and high fidelity simulations using mannequins or simple role play in a lab environment. This has many benefits to the learner and is a proven teaching methodology as well as a proven technique in the education of healthcare students (Jeffries, 2007). Although, this type of simulation is beneficial for working with students in many clinical patient situations,

DOI: 10.4018/978-1-4666-0149-9.ch041

## Virtual Reality Simulations

other methods of simulation may be more appropriate for certain settings and learner objectives. In particular this chapter will focus on strategies for using Second Life (SL) as a platform to set up a virtual environment to run training simulations for both students and current practitioners in healthcare. The chapter will cover the basics around using SL including a discussion of the technical challenges that need to be addressed to ensure success. The chapter will then detail a process for developing, conducting and evaluating training simulations for a variety of skills such as interpersonal (communication, teamwork, feedback) and clinical judgment skills (priority setting, managing crisis situations, evaluation patient risk for problems). The chapter will include an extensive example that can be used as a basis for further simulation development.

## BACKGROUND

Patient safety is currently one of the most urgent issues facing our healthcare systems. Beginning with the Institute of Medicine's (IOM) (Kohn, Corrigan, & Donaldson, 2000) report on patient safety in which it was reported up to 98,000 people die each year because of medical errors, patient safety has become an urgent concern for both healthcare administrators and those educating the future generation of healthcare providers. The IOM (2003) has made recommendations on healthcare education focused around their vision, "All health professionals should be educated to deliver patient-centered care as members of an interdisciplinary team, emphasizing evidence-based practice, quality improvement approaches and informatics" (<http://www.nap.edu/catalog/10681.html>, p. 3). In particular their recommendations around teamwork include the need to develop skills around communication and collaboration. Evidence has shown that effective team performance requires team members effectively communicate with each other and have a shared goal;

such as improving patient care (AHRQ, 2003). Additionally communication failures are at the root cause of many sentinel events analyzed by The Joint Commission (a regulatory agency that accredits hospitals) ([http://www.jointcommission.org/sentinel\\_event.aspx](http://www.jointcommission.org/sentinel_event.aspx)). Many factors including how different professions train their students to communicate create the challenges in communication that currently exist between physicians and nurses in particular (Leonard, Graham, & Bonacum, 2004).

Recently The Carnegie Foundation for the Advancement of Teaching has recently published a report called, *Educating Nurses: A Call for Radical Transformation*, in which there are recommendations for essential changes in policy, curriculum and the way nursing programs approach student learning (<http://www.carnegiefoundation.org/newsroom/press-releases/educating-nurses-call-radical-transformation>). This report focuses on the essential role nursing play in patient safety and patient outcomes. Nurses provide most of the bedside monitoring of patients and maintain safety while managing multiple intrusive technologies where the margin of error is very low. In addition they must communicate to multiple healthcare practitioners and work as effective members of a healthcare team. Both of these reports underscore the need to revisit how our healthcare practitioners (including nurses) learn both in their initial education and their ongoing learning needs. Their findings indicate our current methods of educating our healthcare practitioners are not adequate and do not support continuous learning environments. Current teaching environments at many nursing schools are static and still rely heavily on didactic content taught in a lecture format. The recommendations from the *Carnegie Report* include integrative teaching methods that bridge theory learned in the classroom to actual care of patients in the clinical environment. One of the teaching strategies recommended to bridge this gap is simulation (Benner, Sutphen, Leonard & Day, 2009).

16 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

[www.igi-global.com/chapter/virtual-reality-simulations/64286](http://www.igi-global.com/chapter/virtual-reality-simulations/64286)

## Related Content

---

### Collaboratories and Virtual Safaris as Research in Virtual Learning Environments Scholarship

Jonathon Richter (2011). *International Journal of Gaming and Computer-Mediated Simulations* (pp. 94-96).

[www.irma-international.org/article/collaboratories-virtual-safaris-research-virtual/53158](http://www.irma-international.org/article/collaboratories-virtual-safaris-research-virtual/53158)

### Monster Mischief: Designing a Video Game to Assess Selective Sustained Attention

Karrie E. Godwin, Derek Lomas, Ken R. Koedinger and Anna V. Fisher (2015). *International Journal of Gaming and Computer-Mediated Simulations* (pp. 18-39).

[www.irma-international.org/article/monster-mischief/136315](http://www.irma-international.org/article/monster-mischief/136315)

### Learning as Becoming: Values, Identity, and Performance in the Enaction of Citizenship Education through Game Play

Yam San Chee, Swee Kin Loke and Ek Ming Tan (2011). *Discoveries in Gaming and Computer-Mediated Simulations: New Interdisciplinary Applications* (pp. 128-146).

[www.irma-international.org/chapter/learning-becoming-values-identity-performance/54360](http://www.irma-international.org/chapter/learning-becoming-values-identity-performance/54360)

### Presence Pedagogy as Framework for Research in Virtual Environments

Amelia W. Cheney and Stephen C. Bronack (2011). *International Journal of Gaming and Computer-Mediated Simulations* (pp. 79-85).

[www.irma-international.org/article/presence-pedagogy-framework-research-virtual/53155](http://www.irma-international.org/article/presence-pedagogy-framework-research-virtual/53155)

### Promoting Agroforestry Using Geo-Spatially Enabled Serious Gaming

Nadeem Ahmed Khan, Arun Khosla, Girish S. Pujar and Parampreet Singh (2022). *Handbook of Research on Promoting Economic and Social Development Through Serious Games* (pp. 420-445).

[www.irma-international.org/chapter/promoting-agroforestry-using-geo-spatially-enabled-serious-gaming/300638](http://www.irma-international.org/chapter/promoting-agroforestry-using-geo-spatially-enabled-serious-gaming/300638)