

Chapter 7

Developing 3D Case Studies for Authentic Learning Experiences

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EXECUTIVE SUMMARY

This chapter describes the authors effort to develop and pilot prototypes of 3D case studies in Second Life for authentic interdisciplinary learning experiences in the health and allied health professions. It explores 3D technologies that rely on rich visual affordances and specialized knowledge for meaningful simulations of clinical spaces. The pilot results suggest 3D case studies appear to be an exciting, promising, affordable pedagogy to engage students in analyzing a real life situation. Here, the authors emphasize what they think is unique about this project: 1) it fostered interdisciplinary knowledge construction; 2) it was piloted with a quasi-experimental design with random assignment; and 3) it included data of attitudinal and cognitive measures.

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INTRODUCTION

Simulation in Nursing Education

This chapter focuses on a novel approach to the already established practice of incorporating simulation in healthcare provider education programs. The researchers recognize the value of simulation as well as some of the drawbacks, most notably cost, personnel, and equipment breakdown. The use of 3D technology addresses these issues while providing a valid learning experience and may well be a viable option in the future of healthcare provider education.

Future health care professionals need to be proficient critical thinkers quickly able to collaborate and respond to emerging situations. The purpose of this research is to design 3D learning environments and 3D cases to explore the affordances and constraints of using 3D technology to establish multidisciplinary collaborations and engage underrepresented groups anytime anywhere.

Nursing educators believe that it is not until the student applies theory to a given patient situation thereby linking the theory with practice that true understanding materializes. This is one of the reasons that clinical experiences have been an essential component in nursing education programs. With the enormous increase in nursing education programs, both public and private for-profit, there has been an unprecedented competition for a declining number of available clinical experiences in many urban areas. The decline in available clinical experiences is partly attributed to the recent downsizing and closing of hospitals resulting from both economic downturn and efforts to decrease hospital length of stay and managed care programs.

Simulation, as a teaching tool, is found to meet the broad goals within the context of any program: think critically, communicate effectively, and intervene therapeutically. Users can take on a new role, learn by doing and reflection, take risks, and engage in meaningful knowledge construction through proactive interaction with peers in the process. Unquestionably, the use of simulated patient scenarios is a core component in current nursing education programs. It provides students with opportunities to be involved in patient care experiences they may otherwise not be exposed to in actual clinical settings; to critically analyze patient data and intervene while learning from one's errors; and to learn in a low-stress environment. One factor that has contributed to the frequent use of simulation has gained popularity is that there is increased competition for a declining number of actual clinical site experiences. In addition, some patient situations are not appropriate for students. One example would be a patient whose condition is deteriorating and requires expert clinical care for stabilization. The use of these simulated patient scenarios can allow students to experience a situation such as cardiac arrest in a safe non-threatening atmosphere. Anxiety is decreased since no harm will come to a live patient. Often

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