### Chapter 10

## Enhancing Clinical Education for Healthcare Professionals through Innovative Pedagogy, Advanced Technologies, and Design Research

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#### **ABSTRACT**

Clinical education is a major component of higher education programs for healthcare professionals in fields such as medicine, nursing, pharmacy, public health, and social work. The increasing complexity of performance in these fields demands new approaches to clinical education and training. The reform of clinical education in colleges and universities must be driven first and foremost by innovative pedagogy (e.g., authentic tasks and case-based learning models) rather than advanced technologies alone (e.g., 3D immersive simulations and social networking tools). The overall transformation of clinical education and training would be best guided by a design research approach.

#### INTRODUCTION

In June 2009, the United Nations (U.N.) Food and Agricultural Organization (http://www.fao.org/)

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announced a grim milestone. Hunger, defined by the U.N. as the consumption of fewer than 1,800 calories a day, was being experienced by one in every six people on earth. Exacerbated by factors such as the global financial crisis, climate change, and political instability, serious hunger is a daily experience for one billion people. As terrible as the hunger tragedy is, it is just one aspect of a global crisis in public health which also includes the prevalence of disease, the lack of effective medical care, and widespread ignorance of basic health promotion activities (Bywaters, McLeod, & Napier, 2009; Garrett, 2000).

Competent healthcare professionals are essential to resolving this global crisis. They must possess competencies specific to their disciplines as well as general (often called "core") competencies. In recent years, various national and international health agencies have attempted to define the core competencies of healthcare professionals. For example, in the United States, the Council on Linkages between Academia and Public Health Practice (http://www.phf.org/) has defined core competencies (i.e., the set of skills, knowledge, and attitudes necessary for the broad practice of public health) in eight key domains:

- Analytic/Assessment Skills
- Policy Development/Program Planning Skills
- Communication Skills
- Cultural Competency Skills
- Community Dimensions of Practice Skills
- Basic Public Health Sciences Skills
- Financial Planning and Management Skills
- Leadership and Systems Thinking Skills

Clinical education is a major component of all higher education programs related to healthcare, such as medicine, nursing, pharmacy, public health, and social work. In most healthcare education programs students spend some period of time studying core subjects (e.g., the first two years of medical school) and then spend a defined period of time in clinical training (e.g., the second two years of medical school) where they actually work with real clients (e.g., patients in a teaching hospital associated with a medical school). In other healthcare education programs such as social work, core education and clinical

training are interwoven with students spending part of each week in core courses and another part in field placements. However, the separation of core education and clinical training is still the dominant approach in higher education related to the healthcare professions. For example, although a few medical schools have adopted some form of problem-based learning model (Barrows, 1986, 2003), wherein students begin to see patients much earlier in their programs, most still follow the traditional model whereby core subjects must be mastered before clinical experience begins.

Traditional instructional methods are no longer adequate in the healthcare professions for several reasons. According to a U.S. National Institute of Medicine report edited by Greiner and Knebel (2003):

Education for the health professions is in need of a major overhaul. Clinical education simply has not kept pace with or been responsive enough to shifting patient demographics and desires, changing health system expectations, evolving practice requirements and staffing arrangements, new information, a focus on improving quality, or new technologies. (p. 1)

A primary rationale for the reform of clinical education arises from the degree to which the sheer complexity of performance in the healthcare professions has increased. Consider the core competency of communications skills. Gawande (2009) described how miscommunication among surgical teams consisting of surgeons, nurses, anesthesiologists, and others is a primary cause of complications during surgery, with the result that "at least seven million people a year are left disabled and at least one million dead - a level of harm that approaches that of malaria, tuberculosis, and other traditional public health concerns" (p. 87). Healthcare professionals must develop strong expertise related to teamwork, communications, and other social skills, and these are best learned within the context of clinical education.

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