Chapter 29
Integrating Medical Education with Medical Practice:
Role of Web 2.0 Tools

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ABSTRACT

Education is essentially a social phenomenon. As such, a social constructivist approach to teaching and learning is highly applicable to all disciplines and especially medicine where most graduates are required to deeply engage with society and need to communicate with a diverse array of people as part of their professional responsibilities. While traditional models of medical education are predicated on the establishment of face-to-face interactions, particularly within teaching hospital settings and residencies, there may be some opportunities to utilize current developments in online social networking technologies to enhance students' and instructors' experiences {references}. A review of social networking in the professional preparation of medical students and their subsequent practices would be helpful in determining the viability of such an approach. In this chapter, we provide a review of two key concepts of online social learning (social presence and media richness), explore how they can be implemented in the current wave of web based collaboration tools, and indicate their place in medical education. We provide a few examplars of how educators are incorporating web based or online social tools in student learning in the context of medical education and indicate some ways to extend this approach further.

INTRODUCTION

Learning in an educational setting typically has a strong social activity component. In medical education, a social constructivist approach, where students learn together to inquire and create knowledge on the basis of their experiences, is appropriate. Medical graduates are professionally required to deeply engage with society and need to

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communicate with a diverse array of people as part of their professional responsibilities. While traditional models of medical education are predicated on the establishment of face-to-face interactions, particularly within teaching hospital settings and residency training programmes, there may be some opportunities to utilize current developments in online social networking technologies to enhance students' and instructors' experiences. The purpose and scope of this chapter is to provide a brief review of the current state of and potential directions for online social networking in medical education.

FROM LEARNING THEORIES TO SOCIAL NETWORKING TECHNOLOGIES

In general, we learn from and with others; learning and therefore education is essentially a social activity. In medicine, the social aspects of learning straddle a broad range of experiential learning with teachers, non-teaching academic staff, other students, and colleagues. In addition to learning from and with others, medical education also involves learning from rich media and experiential learning. For example, many medical students' first encounters with real corpses happen when they enter the grim environment of an anatomy dissection room with its display of dissected human remains. This process of learning anatomy is not limited to in the moment experiences with dissected specimens, the accompanying guidance from a teacher', and collaboration with other students but also includes navigating through richly designed anatomical atlases, detailed radiographs, and computerized tomograms and scanned images that were created prior to the in the moment experiences.

Similarly, there are other learning scenarios when students enter hospital wards with expectations of meeting real patients and these encounters involve not only communicating with the patient, learning from other patients, and simultaneously interacting with the teacher and other students but also engagement with sources of information that have been previously created (charts, records, x-rays, etc). Clinical clerkships also offer this kind of integration of information obtained from collaborating with patients, supervisors, colleagues and media. Thus, throughout their professional careers, from medical studentships and clinical clerkships through to advanced professional continuing medical education, physicians learn using a number of different channels of information that include experience, collaboration, and rich media (sight, sound, and senses). Developments in computer science and theoretical advancements in learning have together contributed significantly to the development of a number of rich media applications that provide opportunities to blend collaborative learning and media analysis in diverse fields of study. Given the way that traditional medical education has sought to teach medical students and physicians how to integrate collaboration, experience, and media analysis, it is conceivable that online activities that combine these three elements could play an important role in the professional learning of medical students.

In general, the increasing role that onlne social networking and rich media applications play in education may be attributed to their strong social presence and media richness. Briefly, Social Presence Theory (Short et al., 1976) is based on the premise that the presence of others around a learner, or social presence, has an important influence on the learning process. This implies that technology that allows both interactivity and a sense of others' presence might be interpreted by the learner to exhibit social presence and therefore might positively influence learning. In support of this construct, a review of the role of social presence in fostering social learning in technology-enhanced environments by Tu (2000) found that social presence was essentially subjective and open to interpretation of the learner and was therefore inherently dynamic. This dynamism of social presence was dependent on three key