Chapter 20
Future Developments in E-Simulations for Learning Soft Skills in the Health Professions

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ABSTRACT

New interaction modes involving avatars in 3D virtual worlds and also software for interpreting facial and voice expressions are recognised for their potential use in soft skills training in professions such as medicine. Doctor to patient communication is becoming a vital element in the transition from cure to care, and communication skills training needs continual revision and development. A series of projects examined in this chapter articulate instructional strategies that rely on controlling communicative parameters such as emotional states. In one project, the natural coach/mentor was complemented by a semi-realistic 3D “Intelligent Virtual Agent”. Pedagogical scenarios like “learning by modeling” rest upon doctors’ and nurse practitioners’ competencies to classify patients’ emotions and various existential crises. The project formulated the method to derive and structure ontologies for emotions and affective behaviors and the outcome is a confrontation between advanced media and instructional strategies. In terms of communicative strategy, the doctor-patient interaction is a precursor to the wider field of professional communication, and needs dedicated methods to consolidate best practices in ontologies for life-long learning.

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INTRODUCTION

Learning is gradually becoming a more integrated and inherent life attitude, spread along all phases and aspects of life. This chapter foregrounds how new media like Virtual Reality (VR), and facial and voice expression recognition media elicit a more active attention for developing soft skills; that is, the seamless integration of task performance and the more subtle social skills and intuition needed in health care and medical interventions. Role-based simulations for developing social skills in the medical context are, therefore, the primary focus of this chapter. It delivers theories, models, cases, benefits, and future directions of innovations in e-simulations. Crucial is how a range of disciplines across a variety of institutions conceptualise their learning designs for local blended learning environments, and build the necessary capacities for developing and delivering e-simulations. An emerging phenomenon is the use of web-based simulations for education, and for embedding in job-based training. Modern workplace learning is blended by default. Media, colleagues, and sometimes an explicit curriculum work together and allow the employee to become a continuous, experiential, and reflective learner.

These developments were first enacted in the “Myself” project (during the period 2004 – 2006) exploring the potential benefits of computer-based interactive simulations for enhancing communication and emotional competence training in physician/patient relationships amongst others. “Myself” is the project title for “Multimodal eLearning System based on Simulations, Role Playing, Automatic coaching and Voice recognition interaction for affective Profiling”. In 2003 the European Commission awarded funding to this cooperative research (CRAFT) project under the Sixth Framework Programme (FP6) for innovative small to medium-sized enterprises (SMEs).

The Myself project worked towards more abundant, accessible, interactive, and usable content and knowledge, coupled with shifts in demand (future of education and training systems, productivity, time to competency, focus on intangible assets) which will contribute to:

- Reshaping the way we learn;
- Teaching methods that are increasingly focused on inquiry-based, problem-solving approaches;
- Technologies that are suggesting new ways to generate learner engagement and motivation and to support innovation and creativity; and
- Learning that is increasingly integrated into business processes, corporate knowledge management and human resources systems.

An offspring of the Myself project is an underlying model for the acceptance and integration of media which is examined in this chapter. Sharing, mentoring, and coaching become more essential in medical training programs. While still under development through two related projects (the Martina and Top-Staff projects), the model illustrates how a range of disciplines across medical institutions envisage learning designs for local blended learning. The theories, characteristics, and target health-care users of the model will be examined. The chapter therefore aims to help the reader to envisage new didactic genres and scenarios. Should doctor-patient communication be subject to peer review? Should media like video conferencing and 3D virtual spaces be used for medical training? A relevant anecdote is that in the early nineties, medical faculties hesitated to let surgeons and nurse practitioners practice with simulations in anatomy, physiology, and pathology on the Apple computer. The slogan was: “an Apple a day keeps the doctor away”; obviously the mediated version of visual, haptic, and kinesthetic feedback hampered the realistic learning compared to real interaction with patients. However, virtuality, mobility, and vicarious learning start paying back the heavy efforts to adopt web-based commu-
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