

## Chapter 3

# A Threefold Framework for Relating to Innovations and Technology in Education: Learning from, with and about Technology

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### ABSTRACT

*In recent years computer technology has developed quickly as have cultural practices in society. However, educational practices with technology have not yet reached the point where educators and learners benefit optimally from innovative technology. In interprofessional education (IPE) there are examples of technology use that forms an integral part of education. To improve IPE there is a need for reflection on how today and tomorrow's technology can contribute. As technology and its practices melt together this reflection is however, not easily done. A framework intended as a starting point for such reflection is presented in the following chapter which involves learning from, with and about technology. To assess the benefit of technology for learning we need research on technology integration, on outcomes from learning with technology as well as processes of learning in conjunction with technology. This research has to use different perspectives involving various scientific traditions.*

### INTRODUCTION

Technology and education go naturally hand in hand, if by technology we mean a variety of tools ranging from the use of whiteboards to hi-tech simulation technology. The concept of technology used in the chapter has a broad scope encompassing man made tools with a strong bias towards Information and Communication Technology (ICT). Formal educa-

tion institutions have traditionally been reluctant to adopt new technology into practice (Cuban, 1988). In IPE there are, however, initiatives taken where technology is a crucial part of the learning process, some of them reported in this book. For interprofessional practice the functions of overcoming logistic barriers and providing links between health care areas has shown valuable (Hubbard & Temessl-Huber, 2005).

In many respects IPE shares educational conditions with other aspects of Higher Education. A core

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concern of IPE, however, is forming professional identities in a way that is open to collaboration with others in the interest of providing care (Barr, 2005). This implies collaborative practice and frequent meetings between learners and educators from different contexts. As a basis for using technology for learning, educators generally draw on sources from distance education, e-learning and health-professions education. An interesting area of technology research is also the Computer Supported Collaborative Learning area (CSCL) that raises awareness of collaborative aspects of learning (Koschmann, 1996).

Computer technology is under constant development in terms of software and hardware, as well as the way we use it. Anticipations of what the future has to offer around the corner are seldom correct, but recent trend-reports suggest that hardware, the physical devices, are getting smaller and melt more seamlessly into our everyday world. Devices are also getting smarter in the sense that they “know” where they are positioned in time and space. Information and social network services are becoming even more accessible and less dependent on single hardware servers, now residing on systems of hardware connected in “clouds” (for more technology trends see the Horizon report: Johnson, Levine & Smith, 2009). This continues the extension of human capacities through technology as tools that we use for communication and learning.

Current technology practices in IPE comprise e-learning modules on collaborative practice skills (Chambers, Conklin, Dalziel, MacDonald & Stodel, 2008), re-usable learning objects centred towards concepts and real life cases and interactive patient journeys (CIPEL, 2009; Jonsson et al., 2006), as well as technology that connects people in virtual communities (Demiris, 2006). Policy makers and educators need to keep an eye on current practices as well as looking ahead towards how technology can be used tomorrow as a lever advancing IPE. However, to be beneficial for practitioners and patients, introduction of technology

in IPE needs to be driven less by entrepreneurial or policy interests and more by everyday challenges in education and practice. These challenges consist of answering how technology can contribute in core areas of IPE: values, communication and social processes (Mallow & Gilje, 1999).

Technology can play a central role in the change of attitudes and practices necessary for interprofessional endeavours. There are therefore good reasons to consider technology and innovations seriously. The objective of this chapter is to provide food for thought concerning technology for IPE and to stimulate further deliberate use of new technology. The author draws from experience of educational software development and its integration in health care education as well as teaching experiences in e-learning and informatics to educators and doctoral students in the health professions.

## **BACKGROUND**

### **Now You See It – Now You Don’t: The Transparency of Technology in Practice**

Deliberate reflection on how technology supports learning social contexts is not easily done. When we use innovative technology it gets incorporated into our habits and a natural part of our resources. An illustration of how technology becomes one with ourselves is the famous blind-man-with-stick example that Merleau-Ponty (2002, p. 165) uses to illustrate how technology functions as an extension of our body. Where does the extension of bodily senses really end? –At the end of the blind man’s hand? –At the end of the stick? Even quite sophisticated technology becomes transparent to us when incorporated into our habits. It takes deliberate reflection to actually see it because it becomes incorporated in the way we communicate and go about our daily business. Think of one day in your week, for example next Tuesday, without

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