Chapter 4
Collaborative Knowledge Construction with Web Video Conferencing: A Work Based Learning Approach

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ABSTRACT

This chapter explores how web-based video conferencing (WVC) can be used to create and support learning environments within a work based learning context. Computer mediated communication interactions through WVC can support collaborative knowledge construction by encouraging dialogical processes in communities of learners and practitioners. We position our field of exploration within the educational landscape defined by socio-economic changes resulting from the development of the knowledge economy, and the explosive growth of information and communication technologies to serve it.

INTRODUCTION

Work-based learning (WBL) gives employed learners the opportunity to achieve academic credit for real-life learning experiences in the workplace (Armsby, Costley, & Garnett, 2006). It provides a framework for the development and acknowledgement of knowledge within and about practice and hence is a well evidenced vehicle for this type of flexible and context based development.

It is now accepted that distance learning within WBL should be provided through a blended approach (Basel, 2008). Computer based learning environments engage multimedia to motivate learners and to improve metacognitive skills; however they lack in social interaction. Social interaction, with the corresponding increase in trust and security
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for the individuals, can have an impact on deeper exploration and sharing of learning.

Videoconferencing technology allows people at different locations to see and hear each other and to share computer applications such as internet pages, documents or software (Greenberg, 2004). A synchronous web-based videoconferencing (WVC) set-up consists of computers fitted with a camera and appropriate software.

The chapter will discuss how to embed successfully WVC into the WBL curriculum design; it builds on our on-going research on WVC and its pedagogical affordances (Hatzipanagos, Commins & Basiel, 2007). Models of implementation will be discussed in conjunction with underpinning technology enhanced learning theories. Two case studies will illustrate the theoretical background and the affordances of the technology. We have used an action research approach, with an emphasis on the pedagogic shift in thinking of the tutor and professional learner practitioners. Finally, we have identified a number of specific issues whose explicit discussion allows a smooth progression from initiation/induction via the appropriate use of technology through to e-collaborative knowledge construction.

KNOWLEDGE ECONOMY AND COMMUNICATION TECHNOLOGIES

The development of the knowledge economy in organisations, and the use of communication technologies to serve it, has:

- Increased the ability to respond quickly to emerging opportunities and threats. (Morey, Maybury & Thuraisingham, 2002).
- Led to restructuring and made hierarchical levels manageable, away from a conventional organisational hierarchy towards flatter more networked systems, where authority and responsibility is devolved further downstream.
- Altered expectations of individual employees who must have the appropriate knowledge and authority to perform. They must be able to continually adapt and develop if they are to maintain their position in organisations seeking to achieve the responsiveness and innovation they need to prosper within rapidly changing markets (Jarvis, Lane & Fillery-Travis, 2006).

It was this need to harness individuals’ learning and development for the benefit of the whole organisation which led to the concept of the ‘learning organisation’, as envisaged by Senge (1990) and this driver remains at the centre of a range of both national and European government initiatives.

The expansion of information resulting from the new economy and changing work practices has placed strain on traditional organisational systems, bringing to light new required capabilities to fully evolve and take advantage of the opportunities and effects they provide. Knowledge management is the umbrella term for these new capabilities and has been an established discipline since 1995 (Stankosky, 2005). As its name implies, it attempts to bring together the various strands of thought and practice relating to:

- Intellectual capital and the knowledge worker (Drucker, 1973)
- The learning organisation (Senge, 1990)
- The formation of organisational communities, such as Communities of Practice (Wenger, 1998)
- Technologies such as knowledge bases and expert systems, help desks, corporate intranets and social software, such as organisational wikis.

Originally, knowledge management was seen as an investment in organisation–wide systems
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