Chapter 16
Promoting Critical Thinking in Virtual Teams:
Lessons from the Higher Education Sector

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ABSTRACT

This chapter aims to raise awareness in leaders and practitioners on how critical thinking is embedded within the performance of virtual teams. The increasingly important nexus between critical thinking and team performance is demonstrated within the specific context of the virtual environment. The chapter is interspersed with brief case studies that demonstrate some of the experiences of Australian-based higher education staff in their efforts to incorporate both critical thinking and virtual teamwork into their pedagogy. A framework of success factors and challenges inherent to virtual teams and critical thinking is provided, which covers five influential factors: technology, student characteristics, educator characteristics, social aspects, and team dynamics. The chapter concludes with some directions for future research.

INTRODUCTION

Many studies already exist that identify the differences between teams and virtual teams (see for example Fiol & O'Connor, 2005; Lipnack & Stamps, 2000; Saunders, Van Slyke & Vogel, 2004). Much of the literature focuses on the use of virtual teams within organizations or business settings, with a significantly smaller proportion discussing the use of virtual teams within an educational setting (Brodie, 2009). Some studies examine the concept of critical thinking across

a range of disciplines (Hill & McGinnis, 2007; Kayes, 2006; Mumm & Kersting, 1997; Thurmond, 2001), with a study conducted by Derwin (2009) finding that online learning can enhance the critical thinking of adult learners within a university setting. Another study found that prolonged, tailored interventions delivered via weekly face-to-face (F2F) lectures and tutorials can significantly improve a university student's ability to think critically (Berzins & Sofo, 2008). The use of tailored assignments that specifically require students to complete critical thinking tasks has also been found to foster the development of critical thinking skills (Arend, 2007). But what happens in the virtual environment when the lecturer is not physically present and the team members are not engaging with each other face-to-face? What happens when assignments are completed in a virtual environment? How can students acquire and utilize skills in thinking critically within the virtual environment when the seemingly essential factors of F2F lecturer input and student interaction are missing?

The economic rationalisation of university education has changed the face of the higher education sector. As noted by Mandernach (2006), university educators now "try to cover more material, in more depth, with more critical analysis while simultaneously struggling with growing class sizes, limited funds and restricted contact time" (p.41). Information communication technology, and the plethora of web-based resources, have been key drivers of change in the higher education sector (Jefferies, Grodzinsky & Griffin, 2003), and the permeation of multimedia technologies has totally transformed the teaching and learning environment of the higher education sector (Neo, 2005). Another driver of change has been the ongoing, and indeed growing, student demand for courses to be run via the Internet (Boris & Hall, 2005). Yet while online distance education has experienced widespread growth and acceptance

in recent years, there remain some persistent criticisms regarding this type of educational delivery because it is thought to fail to provide interaction among students and between teaching staff and students (Bullen, 1998).

In Australia specifically, the higher education sector has seen many changes including cuts to funding and increasing demands for distance and online learning, which in turn have led to virtual team work replacing much of the traditional F2F interaction that previously occurred. Jefferies et al. (2003) describe this situation as the 'political push' and the 'technological pull' that is forcing educators in higher education institutions to experiment with tools that aid collaborative work. The use of Web 2.0 applications are now a standard part of many university lecturers' teaching repertoire, and students are expected to be savvy in the use of online collaborative software. It is therefore possible to reflect upon virtual team work, and to identify some practical methods that can be generalized beyond the higher education sector to promote and improve critical thinking in virtual teams. Given the many questions about online learning and in light of the changes in the higher education sector including the move from F2F teams to virtual teams, this paper provides reflections upon the lessons that can be gleaned from examining a number of case studies within the Australian higher education sector.

This chapter reports on the lessons learned from the shift in Australia from in-person teaching to virtual learning environments within the university setting, focusing in particular on the acquisition and utilization of critical thinking skills. A review of the international literature informs the chapter as well as reported experiences of five academics within Australian universities which are reported variously in the case studies. The chapter provides a list of success factors and challenges inherent to virtual teams and critical thinking which covers five influential elements: technology; student

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