Teaching HRD Personnel: Experiences of Computer-Mediated Communication in Differently Structured Environments

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Abstract

This paper will provide an overview of the CMC structure in two different units of study in the Masters of Professional Education and Training at Deakin University. Each of these structures makes a set of demands on participants, and provides differing collaborative learning opportunities. The paper examines the experiences we have had in each of these structures, focussing on student participation, style of contribution to CMC, and the relationship between socialisation processes and knowledge construction.

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Background

Deakin University offers a Masters degree and a Graduate Certificate in Professional Education and Training to around 350 students. Those programs, offered entirely in distance education mode, attract students from across Australia and from Asia, the USA and Canada, and from Europe and the Middle East. Students mostly have already completed an undergraduate degree and considerable work experience, although there are some who have been able to enter with different academic qualifications on a basis of their rich workplace experience. Most students do not have prior qualifications in Education, and come to us from a variety of disciplines and with a wide range of experience. The majority of students are senior human resource personnel in the corporate and government sectors, in consultancy, in higher education or VET organisations.

A unit of study in the program typically provides some printed material in the form of a Study Guide, together with a set of key readings distributed in print form. Together with those printed materials is access to an online environment that directs students through the unit, provides links to other websites, and links to online library materials and external databases. Additionally, students have access to an online virtual classroom, in which they participate in asynchronous mode. Although a chat mode facility is available and used by students, synchronous mode is not structured into the teaching since students are across the time zones of the world, and are seldom working in roles that easily enable them to make definite time commitments to real-time online tutorials.

In some units online participation in the virtual classroom is a compulsory component. That compulsoriness is mainly associated with units of study that are focussed on online learning as the content of the unit. Exposure to the media that students are learning about is seen in those units to be an important part of the student experience, and an important component of the learning outcomes. In other units the virtual classroom is not a compulsory part of the unit, since there are still issues of equity in terms of access, and in styles of learning preferred by individual students. The equity issues of access are not simply whether or not they have the hardware and telecommunications requirements, since the very vast majority do. They are much more subtle and vexing matters, relating to the contexts within which students work and study, and can participate online. For example, some work in enterprises well supported by technology, where a learning organisation culture has been developed, and where learning and skill development are expected and supported. Other students work in enterprises where learning and course

participation are seen as somewhat peripheral, and where the benefits are viewed as mainly accruing to the individual.

A significant challenge to us at Deakin is to ensure that compulsory participation is worthwhile; or that non-compulsory online environments are fruitful enough to encourage vigorous participation. Structuring these virtual classrooms to maximise a collaborative environment is the challenge that we discuss in this paper. This paper is the story of two different forms of structure, and what we have learned from them.

Research Background

The provision of the cognitive scaffolding the constructivists see as essential to higher-order thinking is achieved through learning in social environments through discussion, listening to other group members and receiving feedback on ideas (Slavin, 1994, p. 227). For example, von Glasersfeld (1987) argues that the development of knowledge and understanding within conceptual frameworks is an ongoing interpretive process that is reinforced by past and ongoing experiences. As Rogoff (1995) has argued, the appropriation of knowledge and understanding is not just the internalisation of externally derived stimuli but rather the individual's construction of those stimuli. Individuals collaboratively construct a common grounding of beliefs, meaning and understandings that they share in activity (Pea, 1993) through a culture, or community, of practice (Lave and Wenger, 1991). As Stacey (1996, 1998) has argued, these constructions depend largely on a socio-cultural and communicative context for their development.

Stacey (1998, 1999) has shown the importance of group collaboration in higher order learning and her discussion of computer mediated communication (CMC), from a social constructivist perspective, has focused on interactive online group discussion as central to the learners' effective construction of new conceptual understandings. Stacey found that a socially constructed learning environment is essential for effective higher order learning. The social conversation provides the learner with a context and stimulus for thought construction and learning, and is the means by which the group contributes more to each learner's understanding than is possible individually. Beckett (2000) has pointed to the potential for online learning to disembody learners and their instructors such that the important social construction of learning becomes lost. Effectively structured CMC that develops collaboration between learners, and between learners and their instructors, can serve to reduce the effects of that potential disembodiment and enable a more effective appropriation of meaning to be derived through interaction.

McAlpine (2000) uses the notion of a community of practice in a different form in his research on computer-mediated learning that, in part, uses the establishment of special discussion groups for students to work together on common focussed problems. Consistent with the Jonassen (1999) suggestion of Constructivist Learning Environments (CLEs), the technology enables collaboration and social construction of knowledge. CLEs engage students in investigation of a problem, critique of related cases and review of information resources. Learners develop needed skills and collaborate with others, using the social support of the group to learn effectively (Morphew, 2000). Jonassesen,

Prevish, Christy and Stavrulaki (1999) claim that 'the key to meaningful learning is ownership of the problem or learning goal' (p. 52), some component of which the learners must define. Tempering that view is research by Kinman and Kinman (2001) into management education indicating that where the motivation to study is very largely extrinsic, goal ownership is less important. Managers who are learning because they have been instructed to do so, or who only want the qualification for career advancement, are more likely to prefer the provision of externally set goals and a very clear structure towards assessment.

The literature on CMC provides a wealth of research on differently structured CMC experiences among students and their teachers, (Housego and Freeman, 2000; Collis, Winnips and Moonen, 2000) but there is a lack of research that undertakes a comparative analysis of different forms of structure.

A Comparison of Two Distinct Structures

A redevelopment of several units in the Masters program gave us opportunity to develop some different CMC structures, and enabled us to make detailed comparisons between the two structures focussed on in this chapter. Table 1 (from Smith and Stacey, 2002) provides a brief overview of the structures used in the two units compared here.

**Table 1:   Summary of Collaborative Structures in Units A and B**

Feature	Unit A	Unit B
Compulsory Participation	No	Yes
Participation part of Assessment	No	Yes – students moderate then summarise an online discussion, gather and post online resources and work collaboratively on an online group assignment.
General discussion space	Yes – students use this space to socialise across the group, and to discuss across-unit issues	Yes- students use space for administrative and whole group social interaction.
Specialised discussion space	Four different problem-solving exercises were generated. Students selected two of these and worked together to solve the problem posed.	Four major areas with sub conferences within them. These relate to the online tasks and course structure with a student social area designed by student request.

Unit A

The previous research, together with McAlpine's (2000) findings, encouraged us to develop smaller discussion groups, focussed on specific issues related to the subject. The

student cohort in the new subject was quite heterogeneous, but four general areas of focus could be easily identified to cover the collective student interests. These four areas of focus reflected the interests of these part time off-campus students, and also their work contexts and the challenges that they faced in their everyday practice. Accordingly, the new structure was based on these four communities of practice that were identifiable among the cohort. For each specialised area of interest an application problem was generated, such that the subset of students in the focal area were expected to work together as a group of consultants to solve the problem that had been posed. The role of the lecturer was to act as the customer for the consultant group, and to supply information to the group as they requested it from the 'customer'. Additionally, a general space was available to all participants in the subject, such that they could engage in broader discussions of the subject and its content. Figure 1 (from Smith and Stacey, 2002) shows the First Class architecture for Unit A.

Figure 1:   First Class General Space and Discussion Structure for Unit A
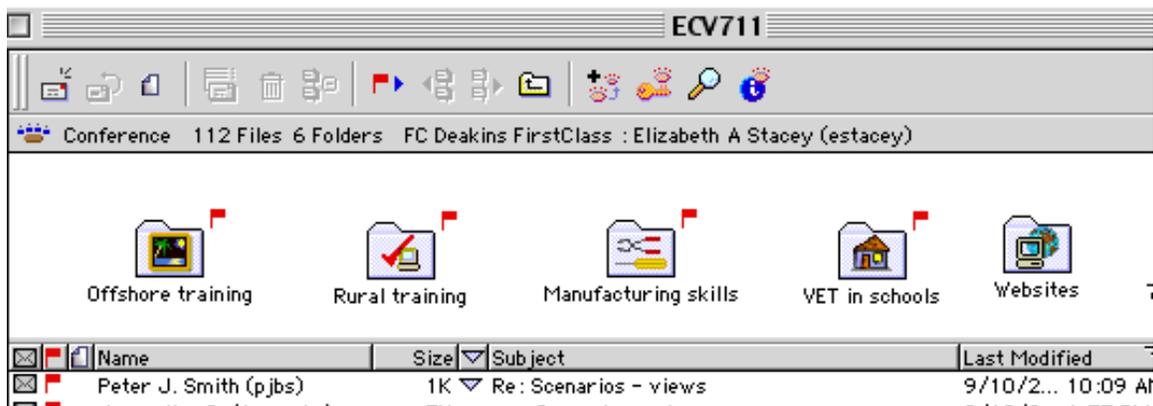
In Unit A student participation in the CMC discussion was strongly encouraged, but was not compulsory, and participation had no direct impact on assessment. Participation was not made compulsory on a basis that CMC skills were not part of the learning outcomes of the Unit, and the student cohort varied in their degree of access to the CMC discussions.

The development of socialisation and collaboration within this model is interesting to follow. First, the lecturer invited students to enter the general space and introduce themselves, and to state what their particular interests were. Whenever a student entered that space the lecturer would respond within 24 hours to welcome the student, to acknowledge the participation, and to guide them towards the selection of a specialised conference that might best engage their interest. Students typically responded to that message in the general space again, advising that they had been to the specialised space and read the problem and had decided to engage with it, or had decided to engage with a different problem in another of the specialised spaces. At that point students invited others to join them in the specialised space, and then moved from the general space and into the chosen specialism. Once in the specialised spaces, student interaction began with

considerable focus on the problem to be solved. However, it was clear that early communications between students were focussed more on housekeeping matters of how they would organise themselves; what common ground and experience they had; and what general perspectives they had on the problem to be solved.

By week three of the semester there appeared a sense of urgency among students to move towards task completion, and some impatience was displayed towards students who were not seen to be participating sufficiently. Communication flow in the CMC component of the subject was brisk at an early stage but as the semester progressed was a decreased interest in the scenarios among students. Fewer students participated in the discussion, which became dominated by a committed few who were keen to reach a 'solution' to the problem posed. Some discussion with students on this reduction in interest indicated that a number felt excluded by the process as the problem moved towards solution, because the discussion had moved beyond their level of experience and knowledge of the issue, and they felt somewhat intimidated by the students who were more experienced with addressing the implementation issues demanded by the scenarios provided. Additionally, there appeared to be a related matter that the problem was not 'owned' by them (Jonassen, Prevish, Christy and Stavrulaki, 1999), but had been developed by the course team. That lack of ownership was exacerbated by the convergent nature of the problems to be solved, which required the student group to reach agreed conclusions. There was evidence that the problems posed would have been more successful had they required divergent thinking and input on the part of students, so that they could each raise and explore issues, rather than converge to an agreed position.

Unit B

In Unit B, students were required to share resources they had researched and evaluated through searching the World Wide Web, to moderate discussions about issues they had chosen about online learning, and to work in collaborative groups for an assessed task on researching the theory and process of learning collaboratively online. The course has a needs based curriculum that is constructed to suit the varying levels of skills and experiences of each semester's group of students. The discussion is essential to developing the content of the course and with such an authentic reason, online interaction is high as it is demanded by the learners. Figure 2 (from Smith and Stacey, 2002) shows the architecture for Unit B.

Figure 2:   First Class General Space and Discussion Structure for Unit B
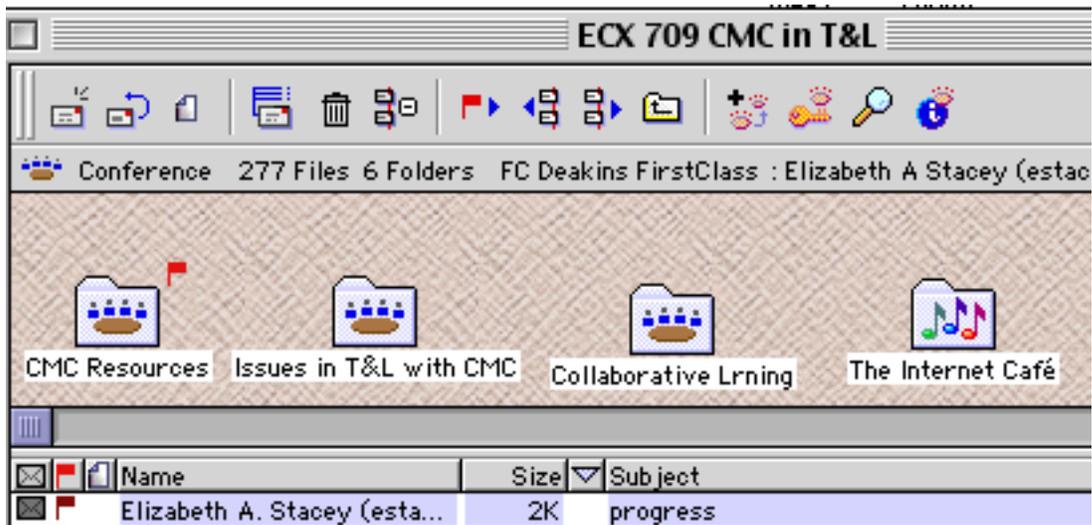
In this unit the teacher also explicitly established and modelled techniques of social interaction so that social presence of the participants was established consciously in an environment that encouraged trust and supportive response. The structure of the course required task based small group discussions to be established in the early stages of the semester. After the introduction phase, students communicated in conference spaces with fewer participants who shared a content focus that they had suggested or chosen. Moving into a small group collaborative environment meant that students could establish small group relationships in a more informal space and this was conducive to social comments being included in most content messages whatever their complexity of cognitive content. The structure of the tasks of the course required the students to break into subgroups by choice of issue for discussion and then if common issues showed a grouping pattern, the issues discussion groups were used as the basis of the formation of the small collaborative groups in which they worked for the second assessment task. Such smaller group conference discussion spaces encouraged even more continuing collaboration and socialisation as the group members interacted socially before beginning the group task.

Though online participation was a requirement of this unit, the smaller collaborative group spaces continued to be used for socialisation as well as the required content construction of the final group assignment. Though there was a high rate of cognitive message content, the social presence factors also continued to be important in the communication of the group, with high frequencies of interactive and cohesive comments in particular, continuing to appear within messages. Levels of social presence frequency rose towards the end of the semester, supporting and confirming Walther's (1996) findings that though interpersonal impressions were formed more slowly with CMC, relationships developed in the same way as in face to face situations, even becoming *more* socially oriented in the online context.

Summary of findings

In summary, we suggest the following factors were related to student participation and to sustained involvement:

- Compulsoriness was, of course, an obvious factor, with student participation more frequent in the compulsory environment.
- Opportunity for discussion and collaborative learning was a positive experience for participants in both structures and, they reported, was a significant benefit in developing an understanding of unit content, concepts and dilemmas inherent in the problems provided.
- Ownership by students of the discussion problem appeared to be an important factor.
- The convergent or divergent nature of the discussion problem was important in broadening the discussion, in enthusing students to maintain involvement, and in managing the discussion. The convergent problem yielded an apparent need in students to manage to a conclusion – a task they found difficult, divisive, and frustrating. The divergent problem provided a vehicle for continued discussion with no imperative to reach an agreed conclusion.
- Continued instructor presence was a feature of both structures that was welcomed by participants, but it was more accessible for the instructor to enter and participate in the divergent problem structure where the instructor played a facilitatory role only.
- Socialisation was important in both structures and was maintained throughout the divergent problem structure, but gave way to an impatience to get on in the convergent structure, resulting in less socialisation and more task-oriented communications. Although both units were characterised by continued collaboration between participants, lower levels of socialisation resulted in lower levels of collaboration.

Note

This paper is based on Smith and Stacey (2002), referenced below.

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