Chapter I
The Untapped Learning Potential of CMC in Higher Education*

Cheryl Amundsen
Simon Fraser University, Canada

Elahe Sohbat
Simon Fraser University, Canada

ABSTRACT

We argue for programs that support academics to develop an understanding of the relationship between technology and pedagogy. To lay the groundwork, we document how nine instructors (in biology, education, English, general studies, geography, and kinesiology) at two universities integrated a computer conferencing tool into their course design and how their students reported actually using the tool. Among our findings was that most instructors intended students to use computer conferencing for learning of course content and to meet this goal three types of interactions were written into the course design: unidirectional, bidirectional, and co-constructive online interactions. The data was further considered from the perspective of Van Aalst's framework (2006), which provides a way to build a "communal online learning resource in terms of three notions: collaboration, learning how to learn and idea improvement" (p. 279). Implications are drawn for working with faculty to design online instruction.

INTRODUCTION

Many universities across Canada and the United States support initiatives that are designed to encourage faculty members to incorporate various technologies into their teaching. A number of reasons have been cited to defend this direction including staying abreast of innovation, address-ing competition from non-traditional degree providers, and preparing students to meet expectations of the workplace and a rapidly changing, information rich society.

Others argue that the most important reason for technology integration should be the *potential* of many of these technologies, such as computer mediated communication (CMC), to support more

student-centred instruction and collaborative learning (Barr, 1998; Barr & Tagg, 1995; Entwistle, Entwistle, & Tait, 1993; Hannafin & Land, 2000). Yet as some have pointed out (Garrison, 1997; Wilson, 2006), student-centered teaching and collaborative learning do not happen by simply making technology available and providing instructors with the *technical* know-how to use it. Instructors must also have the understanding required to design and implement teaching and learning strategies supported by technology that are appropriate to the development of knowledge in their disciplines (Laurillard, 2002).

Recent findings suggest that this may not be happening (Amundsen, Winer, & Gandell, 2004). Littlejohn (2002) concluded that the usage of technology in higher education is most often influenced by traditional models of teaching and learning that are familiar to instructors, often resulting in passive and didactic forms of teaching and learning. Uses of technology, such as course outlines and lecture notes posted on a Web site, e-mail assignment submissions, class mail lists, online references, drill and practice software, and online contact with the instructor, are perfectly legitimate uses of technology. They do not however begin to tap the learning potential offered by for example computer mediated conferencing (CMC), which allows "meaningful verbal exchange, increased participation and reflection, peer tutoring, close monitoring of student learning and time and space extension of classroom learning" (Chong, 1998, p. 158). These are all features that can support instruction beyond traditional didactically based approaches, and provide opportunity for collaboration (Garrison, 1997), and knowledge construction (Van Aalst, 2006).

In this chapter, we get right to the heart of it by focusing on how instructors think about technology in terms of supporting student learning and how they use CMC to support meaningful exchanges that go beyond traditional didactic approaches. First we describe a qualitative analysis of how each of nine instructors (in biology,

education, English, general studies, geography, and kinesiology) at two universities integrated an online conferencing tool (FirstClass©) into their course design. We describe their thoughts about the potential influence of their design to support learning, and how their students reported actually using the tool. We not only describe their broad usage, but also qualitatively analyze the *nature* of the intended on line interaction. Additionally, we use a recently proposed framework by Van Aalst (2006) as a lens, to consider how instructors provided a way to build a "communal online learning resource in terms of three notions: collaboration, learning how to learn and idea improvement" (p. 279).

We end the chapter with a brief discussion of some of the current literature on university professional/faculty development programs and discuss how these programs might better engage instructors in the kind of pedagogical thinking and action that lead to course designs that appropriately and effectively incorporate the potentially powerful learning features of computer mediated conferencing.

MODE OF INQUIRY

Data Collection

Nine instructors representing nine undergraduate courses from universities in British Columbia and Quebec, as well as 191 consenting students enrolled in these courses consented to participate in our investigation. Six of the courses were designed as a "blended" format with regular face-to-face meetings as well as online time. Three of the courses were distance education courses for which all communication was conducted online. The courses were offered in biology, education, English, general studies, geography, and kinesiology.

All courses used FirstClass©, a course organization and conferencing tool, similar to others in

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