THOUGHTFUL INTERACTION:
STUDENTS' TEXT COMMUNICATION IN ONLINE DISTANCE EDUCATION

by

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A THESIS SUBMITTED IN PARTIAL FULLFILMENT OF
THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF ARTS

in

THE FACULTY OF GRADUATE STUDIES
Department of Educational Studies

We accept this thesis as conforming
to the required standard

THE UNIVERSITY OF BRITISH COLUMBIA
August 2002

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Date **August 20, 2002**
ABSTRACT

Interpretive and hermeneutic interview methodology was employed to report students’ descriptions of the peer interactions during one online distance education course. Claims in the literature that online learning can be designed using social-constructivist pedagogies provided the context for this study. The course is a graduate level study of e-learning which is offered on WebCT and accessed through the Internet. Eight students, seven from North America and one from Oceania volunteered to participate in two phone interviews during the second half of the semester. The analysis of the interviews presents the descriptions and perspectives of students on the interactions among peers in the course. They described using asynchronous text computer-mediated communication to participate in online class discussions. Reading text messages led students to further study and research and to develop an understanding of course topics. Writing messages to contribute to the online discussions enabled students to communicate and clarify their ideas and to integrate new information related to the course. However, the time used in the work of active and reflective reading and writing limited the students’ participation in the discussions. The students also described using online text interaction to work with a small group on an assigned task. The students valued the structured time frame and common goal of the task, and the personal connection with group members. They also felt more responsibility to participate, to contribute their expertise and to solve problems that arose. This study supports claims that students can participate in thoughtful interactions in an online learning environment in which the communication occurs by asynchronous text CMC. However, the students’ interests and the course design and content affect these interactions. Time for the literacy practices of online interactions and an appreciation of the complexity of students’ social, linguistic and cultural interests are needed.
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ACKNOWLEDGEMENTS

I wish to thank my husband, Shep, and my sons, John, Mark and Jeremy, who have provided encouragement, understanding and support throughout my graduate studies. The academic community of our household is one I cherish. Discussions with Shep throughout the research process have been invaluable.

I am very grateful for the excellent example of adult learning provided by my parents, Marjorie and Allan Williams. They have pursued interests and areas of knowledge that have enriched our family and the community. During these years of study, from first questions to final days, Dr. Ron and Helen Dampier Wilson have been true friends. Thank you.

I also appreciate the encouragement of my advisor, Kjell Rubenson, who encouraged me to take on the endeavor of doing research and writing a thesis. Kjell, and my committee members, Shauna Butterwick and Mark Bullen, have provided thoughtful and practical guidance along these steps of my academic journey.
Chapter 1
Introduction

Visualize learners in the multiple and changing roles of career, community and personal interests. As they work and study at the same time, using communication technologies to connect with ideas and people, these learners match the description of the twenty-first century students of higher education (Frand, 2000). They have opportunities to participate in classrooms beyond the campus and options to consider if they study by distance education. Through the Internet and the use of information and computer technology, one of the options is online learning, or electronic learning (e-learning). This learning environment provides the means for students to access and engage with a variety of resources, including the resources of their peers and teachers, without meeting in a shared physical space. Students who want to participate at flexible times and from various places can connect with sources of information in the course and interact with others using the Internet and computer-mediated communication (CMC). These advantages are motivating the development of e-learning in distance higher education (Bates, 2000; Rourke, Anderson, Garrison & Archer, 2001). However, the communicative competencies and conventions of online interactions and the forms and processes of reading and writing used to participate in an online class are not necessarily familiar or understood. This can be a challenge that is either an opportunity or a limitation and it is, therefore, a relevant and practical area of inquiry for adult educators. Investigating the ways in which students are experiencing this challenge is a means of learning about and understanding the literacies of e-learning.

E-learning is one term of many used to describe information and computer technology designed to deliver resources and connect learners. Online learning or virtual learning environments are also commonly used (Mauger, 2002; Barajas & Owen, 2001). While early e-
learning limited itself to the delivery of content by electronic means such as video or computer networks, current use of e-learning emphasizes the opportunities for people in the learning environment to communicate with each other as they explore the online resources. Learners interact and engage with one another and they have increased access to the teachers and experts in the field of study (McLester, 2001; Mauger, 2002). Online interaction in distance education uses CMC which has been defined in a general way as “the process of exchanging thoughts, ideas, and information via a computer keyboard and screen connected to other computers” (Lewis, Whitaker & Julian, 1995, p. 16). With current technology the connection between people using CMC is most often occurring through the Internet and the use of the World Wide Web (WWW).

The use of e-learning in higher distance education is promoted for a variety of reasons: making education more cost-effective for the institution; improving access and reducing costs for the learner; enhancing the quality of the learning environment; and providing a global context for education and the workplace. The stakeholders’ role – as teacher, administrator, student, etc. – may give some of these factors more weight (Bates, 1997; Feenberg, 1999; Mason, 1998). However, educators who are interested in improving teaching and learning insist that the needs of the learner must have priority over economic and institutional goals. Based on the research of effective learning in higher education, they advocate for the use of pedagogies in e-learning that incorporate interaction among learners and between learners and experts (Chickering & Ehrmann, 1997). These practices reflect social-constructivist perspectives on learning in which students are active and engaged learners using language as a tool of thoughtful and thought-provoking discussion and negotiation in the construction of knowledge (Garrison, Anderson & Archer, 2001; Hiltz, Coppola, Rotter, Turoff, & Benbaum-Fich, 2000; Kanuka & Anderson, 1999).
Advocates of e-learning in higher distance education are enthusiastic about using CMC to increase the amount of time learners spend in the learning environment because CMC can extend the time and place of the classroom. Learners can have more time and flexibility to engage with the content of a course through dialogue and reflection. They can interact at the same time – synchronously – or at different times – asynchronously (Warschauer, 1999; Hiltz, et al., 2000). They can also meet in the online environment from various locations, and the learning community can include the resources of learners from different educational, linguistic, social and cultural contexts. As a result of the interaction another advantage arises: diverse and alternative perspectives can be shared in an active and collaborative process of building knowledge and understanding (Harasim, Hiltz, Teles & Turoff, 1995; Warschauer, 1999; Hiltz, et al., 2000; Jonassen, 1999).

Improvements in the technology available for e-learning make audio and visual interactions increasingly possible but text-based communication is most common in higher education. It can be quickly transmitted to others and easily stored and retrieved for use at a later time (Feenberg, 1999; Warschauer, 1999). These interactions take place as written dialogue and share many features of conversation, breaking down the dichotomy between the strategies, spontaneity and control of oral and written language (Voiskounsky, 1997; Noblia, 1998). The opportunity to link the interaction of speech with the reflection of reading and writing through CMC is described as a new literacy, called electronic or e-literacy (Warschauer, 1999; Rafaeli & Sudweeks, 1997). The word interaction and its related forms, interactive and interactivity, have different meanings in different contexts and they can be used to refer to the capacities of the technology. However, in this study, interaction refers to communication between and among people as they reflect on and respond to one another in the learning environment. “Interaction covers those activities where the student is in two-way contact with another person (or persons)
in such a way as to elicit from them reactions and responses which are specific to the students’ own requests or contributions” (Kibby, 1999, Online Interaction: Interaction and independence, section 4). Interaction by asynchronous text CMC involves the participants in the use of language as text to convey information but also to express and reflect on what is known and to negotiate and explore new understandings.

*Development of My Curiosity and Questions*

In one course early in my graduate studies, I had my initiation into e-learning. We used online communication to continue our weekly campus seminar and the opportunity to extend the engaging and substantive conversations of the classroom was intriguing. This led me to study the field in published texts and journal articles – many of which are available on the WWW. I saw in CMC “an impressive array of new ways to link learners” and an emphasis on the value of using CMC in “creating cross-cultural communities of practice and critical inquiry” (Warschauer, 1997). I read about asynchronous text CMC dialogues and discussions as opportunities for students to communicate with their teachers, work with their peers and convert their ideas into text conversations. It was possible to use online interactions to reach across languages and cultures as well as academic disciplines (Johns, 1997; Duszak, 1997; Bass, 2000). I was particularly interested in these characteristics of e-learning because I am an English language teacher on a college campus that reflects the multicultural and multilingual diversity of the surrounding city. The students I meet who use English as a second language are actively acquiring the language skills and academic strategies they need to continue in higher education. The students could use e-learning to observe and participate in the practices of the academic community, and to use interactive texts as ways of thinking and learning. As I saw my
immediate interests reflected in the literature I became optimistic about the value of e-learning and my need to learn more about this interactive place of learning.

In a year of graduate studies my repertoire of experiences with e-learning environments grew as did my questions and doubts. I continued to take courses that combined online text discussions with the campus seminar and I enrolled in my first online distance education course. In this course, the primary mode of delivery was asynchronous text CMC via the WWW in which the participating students were located in various countries. From the experiences of this year, I began to reflect on my optimism and analyze the literature on e-learning. For instance, I read articles reporting the problems teachers and students were experiencing as they used CMC, such as difficulties accessing and using the technology, uncertainty about the workload and how to manage their time, and challenges from the asynchronous and text form of the interactions. I also recognized that there were differing points of view on the extent of the online environment and whether or not it included social, cultural and linguistic diversity or if it empowered or diminished participants. This review enhanced my appreciation of e-learning and the use of CMC.

Interest in the potential and problems of e-learning in distance higher education is evident in the rapidly growing body of literature on the field in academic journals and texts, some published traditionally and others on library databases or online journals. As I learned to critique the writing and research, I observed two troubling relationships—between participants and participation and between practice and research. I first noticed that although online distance education and asynchronous text CMC make possible a highly participatory and communicative role for learners, not all of my peers were involved in the discussions. It seemed logical that the tools of online interaction would lead to the expression, reflection, inquiry and collaboration of social constructivist learning but this correlation needed students to send messages. I began to
wonder what motivated some students to communicate by text in the discussion forums of my courses, and why others were silent and, seemingly, invisible. Also, while classrooms have developed social rituals and methods to encourage cooperative and communicative processes, was I entitled to assume that students would want, or know how, to transfer face-to-face oral interactions to text on their computer screens?

Secondly, I sense that the pace of using CMC and online course delivery has been noticeably greater than its research base in adult and higher education. E-learning has been led by technological developments and the excitement of innovators and early adopters, while educators and learners are still in the midst of understanding its nature and complexity. The advantages I initially experienced had been most prominent in the field’s literature, yet research that evaluated these claims was lacking (Bork, 2001; Freeman & Capper, 1999; Martin, 1998; McMahon, 1997; Palloff & Pratt, 1999). Further research was also needed to clarify experiences and pursue questions that add understanding to parallel the development of the online technologies of e-learning. For instance, changes have occurred in the degree of interaction and participation possible and in the numbers of teachers and students who have experience with CMC (Hiltz et al., 2000; Rafaeli & Sudweeks, 1997).

My experiences and questions have fed my curiosity about e-learning and my interest in listening to students’ discourse on the claims of CMC as a learning environment. What could be learned from the views of students who are using asynchronous text CMC in an online distance education course? How could their perspective as participants in the interactions influence our understanding of this means of distance learning in higher education? Rather than unquestioned acceptance of the optimistic position on e-learning or rejecting it altogether, I prefer to add more voices to the practice and the research through interviews with students who are experiencing e-learning.
Developing the Context of this Study

The focus on learners and learning in this study arises from the research and theory development in social-constructivist pedagogies, e-learning and distance education. Freeman and Capper (1999) examine educational innovations and look at our expectations of improving learning through technology. They emphasize that good research means generating the best possible data from a range of educational experiences while keeping the focus on the central purpose of “helping students learn”. They also emphasize that, even with a good research strategy, it is important to reflect on and critically evaluate all aspects of the issue so that “elements of truth” are not generalized or developed out of context thus becoming “hype.”

There are a growing number of texts, articles and conferences that examine online distance education as well as numerous courses and programs directly involved in the practice. Some of the literature in the field is based on people’s experiences. “We began by ‘just doing it’ – engaging students in loosely structured activities” (Sherry and Wilson, 1997, p. 70). Similarly, a first-year Geography course “was developed on the basis of intuitive beliefs about teaching and the capacities of the latest technologies, rather than being grounded in research on cognition and students’ learning” (Pitman, Gosper & Rich, 1999, p.180). Other articles build on the premises of the early studies, without doing further research, and make suggestions and predictions for teachers, students and learning activities. For examples see the work of Chickering and Ehrmann (1997) or Curtis and Lawson (2001). Some educators have a long history in the field and their names are frequently used to support arguments and claims in others’ publications (Harasim, et al., 1995; Hiltz et al, 2000). Also, there are ideas about using e-learning in higher education (Bass, 1999; Bork, 2001; Frand, 2000). These may be descriptions of particular experiences by
individuals or groups or the application of theory to activities of learning as seen in articles by Hartley and Collins-Brown (1999), Curtis and Lawson (1999), or Romiszowski (1997).

One body of literature in the field reviews studies from experimental settings that use control groups and variables and studies of controlled research in the field (Joy & Garcia, 2000; Lookatch, 1997). A review of several decades of research found serious flaws present in the studies. Problems include the wide range of variables involved in the complex environment of education and the "limited generalizability beyond the laboratory" (Joy & Garcia, 2000, p.2). Uncontrolled aspects in the learning environment make isolation and measurement of causes and effects difficult. "It is impossible to determine whether the changes in student attitudes were caused by the use of the same pre- and post-tests, by the instructional methods presented in the software, or by any other factor, such as familiarity with the software program" (Joy & Garcia, 2000, p.5). There were also problems with whether the learning analyzed is specific to the media or whether the media was just a neutral tool (Ahern, 2000).

Research, therefore, is needed and is being done in specific and naturalistic settings on students' responses to using technologies and on understanding students' experiences (Bates, 1997; Barker, Abrams, Tiyaamornwong, Seibold, Duggan, Park, et al., 2000; Bullen, 1998; Hara & Kling, 2000). Published studies include longitudinal reports of programs (Goodwin, Graham & Scarborough, 2001) and case studies of an individual course (Blum, 1999; Kanuka & Anderson, 1998; Nunan, 1999). Participants' perspectives and attitudes have been collected through large-scale course evaluations or questionnaires (Fredericksen, Pickett & Shea, 2000; Light, Nesbitt & Burns, 2000) and by interviews with students in particular contexts (Bullen, 1998; Hartley & Collins-Brown, 1999). The transcripts of online text discussions are used in numerous ways and for a variety of research questions, such as analyzing online debates (Gunawardena & Anderson, 1997) or evaluating the effectiveness of online discussion groups.
Thoughtful Interaction

(McKenzie & Murphy, 2000). Also, text analysis is used to investigate the effect of interactive computer technologies on academic learning and higher-order thinking (Jonassen, Davidson, Collins, Campbell, & Hagg, 1995; Garrison, Anderson & Archer, 2001). Recently, there has been an interest in qualitative studies on students’ experiences and perspectives on e-learning environments, yet the field is still at an early stage in understanding students’ attitudes, perceptions and receptivity to this mode of education (Daley, Watkins, Williams, Courtenay, Davis & Dymock, 2001; Hara & Kling, 2000; Haythornwaite, Kazmer & Robins, 2000; Christensen, Anakwe & Kessler, 2001). An interpretive and hermeneutic interview study, in which I explore my curiosity and questions, takes place within this investigative continuum.

The Purpose of this Study

The purpose of this research is to study how students enrolled in one graduate-level online distance education course experience e-learning, and particularly their experiences with asynchronous text CMC. I will report students' descriptions of the interactions among their peers and their perspectives on their experiences in this learning environment. In view of the claims that e-learning is an opportunity to implement social-constructivist pedagogy, I will investigate what students say about this method of communication as an active and collaborative process in which multiple perspectives are shared. These questions guided the design of interview protocols I developed.

• How do the students’ describe the interactions among peers in this online course?
• How do the students describe themselves as participants in these interactions?
• What are the students’ perspectives on the online interactions as a learning environment?
As a qualitative inquiry with an exploratory, descriptive focus, the goal of this study is to add the depth of students’ voices to the research of e-learning in distance education and interaction by asynchronous text CMC. The context and the method of the study will limit the generalizations that could be made to other individuals, places, and levels of education; however, these descriptions may be recognized and useful in similar contexts (Cresswell, 1998; Merriam, 1991). A more informed and sophisticated understanding of the experience of online interactions as a means of developing a social-constructivist learning community can be developed within these limits and aims (Guba & Lincoln, 1994). The study findings will be useful to students, instructors, course designers and researchers in the field of distance education, e-learning and higher education.

Overview of Thesis

In this chapter I have introduced the topic of this thesis and the interests that have led to the study questions. I have also developed this study’s purpose and described the need to study e-learning. In Chapter 2, I will review the literature that forms the background to this study. The methodology of the study and the rationale for my approach is described in Chapter 3. Then, in Chapter 4, I describe the course in which the students have participated. Chapter 5 describes the participants in the study and the analysis of the interviews. The findings are discussed and the implications of this study for practice and research conclude the thesis in Chapter 6.
Chapter 2

Literature Review

Investigating students' experiences with e-learning in distance education begins with a review of the literature. Normative explanations and empirical studies report on the characteristics and use of online communication and CMC, particularly at the graduate student level. As an introduction to the different points of view on e-learning, I summarize the positions discussed in the literature on the assumptions and interests behind the use of technology in education. Next, a description of the social-constructivist perspective on learning is presented and then related to online distance education and the claims of effective higher education. Then, studies that describe and analyze the characteristics and use of text CMC in certain learning contexts are reported. Included are studies that examine influences on participation in the online interactions from the students' perspectives.

*A Critical Look at E-learning in Distance Education*

The interests that motivate the growth in e-learning are numerous. There are different and sometimes competing priorities: the costs of higher education, the demands of the workplace, and a plain fascination with the latest and newest technologies. Chapter One introduced the advantages claimed for learners in online distance education when they are able to participate in courses that use social-constructivist pedagogies, but there are still differing viewpoints in this interest among educators. On the one hand, there are claims that online learning provides the kind of educational environment needed for lifelong learning in a global
society. Learners will earn their living as knowledge workers, using knowledge to create new knowledge. They will need the ability to meet the fast-moving and open nature of information in society. These claims are connected to the optimistic view of e-learning as a more democratic and learner-centered distance learning context. On the other hand, there is a concern that e-learning will be adopted in distance education without examining all of the motivating forces. There is a danger that technology will be the determining factor, that students’ interests will be overlooked or that the knowledge and experience developed in traditional distance education delivery will be discarded (Boshier & Chia, 1999).

In 1983, Sullivan predicted the need to approach the role of computers in education with a critical mind. He states that it is common for educational theory and research to follow “fads triggered by economic growth or decline” (p. 17). Therefore, he emphasizes maintaining a distance from enthusiastic, unfettered adoption of practices. Ahead of the current interest in e-learning, Sullivan stresses the importance of human intentions and agency with technological developments; as moral agents, it is people who have the responsibility for the effect of technology. He disagrees with either an “advocacy” position, which sees the advantages of technology in a value-neutral way, or a “reactionary” position, which is suspicious and negative towards technology (p. 21). Instead Sullivan takes a “critical-dialectical” position that, within the current socio-historical context, examines both the positive and negative effects of technology on cultural change (p. 23). In this position, as people are tool-users, it is people who have agency and responsibility to assess the intentions and consequences of technological choices.

Sullivan’s descriptions of three positions on technology have been further developed in the literature about the Internet, CMC, society and learning. Boshier and Chia (1999) distinguish four discourses that take different positions on the relationship of power and interests in the use
of e-learning or “Web learning and education. One of the most common positions is called techno-zealotry. This point of view is described as ideologically neutral and without a critique of one’s own or others’ interests and uses (Boshier & Chia, 1999). The people speaking from this point of view tend to focus on technological issues and ignore social and cultural issues.

Another common position is labelled techno-utopianism. A dominant position of early optimists of CMC, technology is seen to revolutionize and democratize society (Gayol & Schied, 1997). In this position, technology can be a solution to social problems. For example, the Internet will open means of communication among people that increase the possibility for democratic participation (Fisher & Wright, 2001). In education, this position claims a “paradigm shift,” especially for distance education as CMC allows greater access and equity for people across boundaries of age, gender, ability and culture (Boshier & Chia, 1999). In contrast to the neutral or optimistic positions is one called techno-cynicism. The predominant issues here are strong concerns about the negative effects of technology – computers and the Internet – on society, communication and education. For instance, e-learning will result in decreased democracy, a fragmented society in which people are isolated and less connected, and a weakened society and environment (Boshier & Chia, 1999; Fisher & Wright, 2001).

The fourth position, techno-structuralism, is not as common in the literature. It is a more cautious and modest position in which people critically examine the impact of technology in relationship to its use. This position questions the assumptions of stakeholders and the accessibility of technology, and the impact of the assumptions and accessibility on individuals, cultures and languages (Gayol & Schied, 1997; Boshier & Chia, 1999). Thus, the techno-structuralist position challenges the learning community to consider the implications of the growth of e-learning in distance higher education on all participants (Gayol & Schied, 1997; Hara & Kling, 2000; Bates, 1997). Similarly Freeman & Capper (1999) warn of the problem of
accepting innovations without reflection. These authors encourage further research in order to examine the assumptions and the practice of online distance learning.

*Advocating CMC in Distance Education from Social-Constructivist Perspectives on Learning*

The advocates of e-learning describe the advantages of an interactive distance education environment based on constructivist and sociocultural perspectives of learning. The student in distance education has traditionally been independent and self-directed, interacting with the course content, but only occasionally with other students or a teacher. However, educators have been looking for ways to increase interaction among the participants due to the assumption that the amount, type and quality of the interaction are related to the quality of learning (Jonassen, et al., 1995; Wagner, 1997). Thus, the opportunity to use CMC and the WWW to build a learning environment in which students and teachers can learn together is a significant development described in the literature.

The assumptions about acquiring knowledge in constructivist and sociocultural learning theory underlie the active and interactive pedagogy that can be designed and delivered using e-learning. With e-learning, distance higher education can include the kinds of discussions, cooperative and collaborative learning scenarios and problem-based learning that are important for higher order thinking (Bullen, 1998; Kanuka & Anderson, 1999). Online communication can facilitate activities in the learning environment that encourage students to use brainstorming, learn through case studies, express their thoughts in arguments and debates, and work on solving problems (Freeman & Capper, 1999; Kanuka & Anderson, 1999).

Kanuka and Anderson (1999) review the literature on educational technology and constructivism to bring some clarity to the various definitions and practices ascribed to the
constructivist position. They use the understanding of reality – from objective to subjective –
and the construction of knowledge – from individual to social – as their organizing criteria.
They state that “the most prevalent form of constructivism epistemology is co-constructivism –
sometimes labeled symbolic social interaction or social constructivism. This view emphasizes
the influence of cultural and social contexts in learning” (Kanuka & Anderson, Co-
constructivism, ¶1). In a social-constructivist perspective people use language and social
interaction to actively construct meaning in the context of shared cultural practices. Therefore,
the relationship between language, context and culture are essential aspects of knowledge
construction. In contrast to a cognitive constructivist perspective in which the individual and the
individual’s mind is at the centre of the process of knowledge construction, the sociocultural
perspective on constructivism focuses on the social and cultural context of people’s experiences,
interpretations, perceptions and values. The individual constructs knowledge as she or he
participates with others in the interactions of the community and culture (Lave & Wenger, 1991;
Nuthall, 1997).

The social-constructivist perspective highlights the role of language and communication
in learning. Language is not an abstract and objective system to be studied but a verbal and
textual dialogue in which meanings are negotiated and knowledge and understanding are
mutually developed. Therefore, learning is not acquiring a fixed and defined set of concepts; it is
an understanding that people develop as they interact with others in their community
(Berkenkotter & Huckin, 1995; Kanuka & Anderson, 1999). Negotiation in academic cultures
occurs among learners in oral dialogues and discussions and it is mediated through reading and
writing texts. Literacy practices are developed as students research texts and their roles, and
explore strategies to use in specific contexts (Johns, 1997). This perspective on communication
as part of thinking and learning has implications for the design of the learning environment and
thoughtful interaction

the role of students. Students need to be actively engaged with one another in cooperative and collaborative ways. They need to articulate and reflect on their understandings, test out their ideas and make connections between prior knowledge and new ideas. In the interactions that take place, the students need to be involved in meaningful tasks and solving real problems. The teacher's role is facilitative, not solely transmissive, guiding a supportive and explorative environment (Warschauer, 1999; Kanuka & Anderson, 1999). The literature of online distance education claims that students can use the text medium of CMC to participate in practices reflective of a social constructivist pedagogy.

Jonassen et al. (1995) agree that CMC has the potential to bring the interactive role of language and communication into the distance learning community. They state the principles needed for this learning environment as:

context, construction, collaboration, and conversation. Constructivist environments engage learners in knowledge construction through collaborative activities that embed learning in a meaningful context and through reflection on what has been learned through conversation with other learners (p. 13).

In order to create this environment, however, the role of teachers and course designers must change from a prescriptive one to that of developing meaningful environments for learners. Then, the computer technologies, including CMC, must be used to connect people who are separated by space, or time, in conversation and collaboration. For instance, students using asynchronous or synchronous text CMC will have the opportunity to participate in the discussions, negotiations, and problem-solving characteristic of social-constructivist pedagogy (Jonassen, et al.). "Students and instructors can then build meaning, understanding, and relevant practice together to go far beyond the mere movement of information from instructors' minds to students' notebooks" (p. 8).

The claim that e-learning is effective in the educational environment is consistent with reports on good practices in higher education. Chickering and Ehrmann (1997) describe
instructional strategies with technology in relation to the “Seven Principles for Good Practice in Undergraduate Education.” These Seven Principles emerge from Chickering and Gamson’s (1991) review of research in post-secondary undergraduate education in the United States. They have summarized their findings as guidelines for improving teaching and learning in colleges and universities. These principles encourage active and interactive practices among students and teachers that are reflective of social-constructivism: “contact between students and faculty...reciprocity and cooperation among students,” and “active learning.” Subsequently, they have applied these principles to e-learning and described effective practices with computers, video and telecommunication. For instance, asynchronous text CMC by email, computer conferencing and online discussions is an opportunity for increased talk, reflection, cooperation and collaboration among students and between students and faculty.

*Interaction and Interactivity - Definitions in the Literature and this Study*

Interaction is a key component of the learning perspective and the learning activities advocated for e-learning. Students can access resources in the learning environment, but they can also learn by sharing resources through the interactions of online learning. The words *interaction* and its related forms, *interactive* and *interactivity*, have been defined as different concepts in sociology, communication and media studies, and informatics (Sims, 1999; Jensen, 1999). Although interactivity is sometimes used to describe the nature of the communication pattern among people, in this study, *interactivity* will refer to the technology system, and media and mediated communication. “Interactivity refers to the facilities provided by a computer-based application to provide the user with both control of the process and communication with content. This communication involves both the user initiating an action and the computer
responding to that action” (Sims, 1999, Introduction, ¶2). As well, *interaction* is used to refer to communication between and among people as they reflect on and respond to one another in the learning environment. Interaction by asynchronous text CMC involves the participants in the use of language as text to convey information and also to express and reflect on what is known and to explore and negotiate new understandings with others.

Moore as reported in Wagner (1997) described three types of interaction as student to teacher, student to student, and student to content. Bates (2000) describes another form of interaction as student to machine in which the machine is a medium to interact through in order to meet other learners separated by time and space. In Wagner’s (1997) discussion of the different kinds of interaction in the learning environment, she emphasizes that the goal is not interaction for its own sake, but as a means for the student to reach their objectives or goals. Therefore, the pedagogy and the course design are important aspects to consider as CMC is used in distance education to support interaction among learners. Bates’ discussion of multimedia technologies says there are “no super technologies that can meet all teaching and learning requirements, so technologies need to be mixed and matched to the educational purpose” (2000). The same software can be used to facilitate discussion and collaboration or didactic teaching methods so pedagogy needs to be the primary consideration of educators as they use CMC (Bates, 1997; Palloff & Pratt, 1999).

Gilbert and Moore (1998) describe a model of interaction for online distance courses. On one end of the pedagogical spectrum, the teacher controls the course and the content presented. However, as the course design becomes more collaborative and social, the directive role of the teacher decreases, and the student group exercises more influence and participates more actively in the learning activities. Bass (2000, Distributive Learning, ¶7) also states that interactions in online learning “can facilitate the distribution of responsibility
for making knowledge among the students in a particular class, shifting a teacher-centered environment to a more learner-centered one."

The understanding of interaction as it occurs among participants using asynchronous text CMC is explored in the literature. Gunawardena & Anderson (1997) say that both the presence and the nature of the interactions are essential for the construction of knowledge in social-constructivist learning environments. In an asynchronous text computer-mediated discussion it is not sufficient that individual messages are linked to one another; a holistic picture of the accumulating and merging messages from the participants' communication is needed. They define interaction:

as the totality of interconnected and mutually responsive messages, which make up the conference, and perhaps more: ‘interaction’ is the entire gestalt formed by the online communications among the participants. The participants are not speaking in the same virtual space by chance and regardless of each other's presence; they are acting in relation to each other and in a manner which reflects each other's presence and influence. They are not merely acting, nor reacting, but interacting, even if the links among individual messages may not be readily apparent. (p. 407)

These interactions occur, for the most part, in written language that is also conversation. In text CMC the virtual space does not convey gestures, expressions, intonations and accents that can be shared when communicating in the same physical space. And with asynchronous interaction, the written speech is "static as far as it is produced in the time provided for by the writer and that it may be consumed and read in the time set by the reader." As a result, the opportunity for the writer to know the presence and influence of a reader is not like oral interaction (Noblia, 1998).

*Reports of Interaction in the Learning Environment Using Asynchronous Text CMC*

Reports on specific courses describe students participating in e-learning and using CMC to meet and communicate with each other, the instructor and the course content. A distance
learning environment in which students are active and interactive is specifically described for asynchronous text CMC and the interactions have characteristics of social-constructivist pedagogy.

Warschauer (1997, 1999) sees the significance of text CMC as a tool of expressive, interactive and reflective language use. People can be connected with one other or many others, from similar or different places and perspectives. The activities in the distance environment can be experiential, goal-oriented or collaborative. He gives examples of students of different linguistic backgrounds using CMC and states that text-based interactions on the WWW are linking learners across cultural and linguistic communities in valuable and authentic literacy practices. For instance, students in Finland and England became involved in “real-purpose writing with genuine audiences around the world” and “reading also became more public and collaborative with students actively assisting each other in studying incoming messages” (1997, Many-to-Many Distant Exchanges via CMC, ¶8).

One anecdotal report describes the advantages of an online distance graduate course offered on WebCT. The students have the opportunity to interact by asynchronous text CMC to form a text seminar. Because they can post messages independent of the time restrictions of a campus seminar, they have both flexibility and autonomy. They can work at their own pace to ask questions, critique the discussion; however it is also interactive as they can get feedback on their own work and interests. As the students are participating from international contexts, they form a learning community that includes differences in perspective (Carey, 1999).

In a study of e-learning, Harasim, Calvert and Groeneboer (1997) report the effects of using a computer conferencing tool in higher education. Virtual-U is a computer-mediated learning environment based on the five key attributes of networked learning that have been described as “an asynchronous, place-independent, many-to-many, text-based computer-
mediated system” (1997, p. 150). They report numerous positive effects of learning in asynchronous text computer-mediated courses, such as the students participate actively in the learning environment, interact with their peers, share multiple perspectives, and encounter divergent thinking. However, negative effects are also reported as the students have problems managing their time and the quantity of information, and getting the educational support they need (Harasim, Calvert & Groeneboer, 1997).

Other reports publish the findings of studies in which the students have used online discussions and collaboration in combination with some face-to-face meetings, either in a class or in smaller, task-oriented groups. Stacey’s (1999) ethnographic study investigated students’ experiences with asynchronous text CMC interactions in a distance learning environment. In the group processes and tasks they clarified ideas, received feedback from their peers, shared diverse perspectives and resources and worked together to solve problems. The study took place in a post-graduate MBA program that included 31 students in their first year. They used email and online conferences for small and large group discussions and for collaborative tasks. However, this course combined distance communication with in person activities and only one group out of the three completed the collaborative group task solely by distance communication. A second group only met in face-to-face meetings and the third used a combination of distance and face-to-face communication. Data was collected from interviews with the students and from computer conference transcripts. However, because of the mixed modes of communication, this report is not limited to findings that arise from using asynchronous text CMC in distance education. In fact, one weakness of the report is that the analysis does not distinguish findings according to the different groups and the different means of communication used (Stacey).

A content analysis of a discussion transcript within an academic context also shows interactions taking place among participants using text CMC (McKenzie & Murphy, 2000). The
course in this study included four days of face-to-face workshops and then a campus network for computer-mediated discussions related to the course topic. The discussions occurred over one semester (approximately 12 weeks) among academic staff taking a graduate certificate course at an Australian multi-campus university. The transcript analysis showed there was a “lively” interaction between participants because the direct responses were greater than the independent statements. Also the forum was used to explore the course content and to discuss problems and strategies from the participants’ teaching practices. Participation was not assessed in the course and this may have affected the participation levels – less than one-third of the students posted about 80% of the messages. The authors say this study confirms that the students were satisfied with the nature of the interactions in the learning environment some or most of the time. However, the students must perceive the discussion to be helpful to their learning in order to be motivated to visit the course site and participate by CMC (McKenzie & Murphy, 2000).

This literature reports the use of CMC in courses designed to encourage interaction among the participants. Several of these studies also included face-to-face meetings so the findings are not exclusive to e-learning. Interviewing students who are only using text CMC to communicate will be useful to understand the interactions among peers in online distance education.

The Text-based Nature of the Interaction in E-learning

Some of the advantages described in the literature of e-learning in higher education are ascribed to the characteristics of asynchronous text CMC. According to Feenberg (1999), even with increasingly elaborate multimedia technology, text-based interaction between people is still the best online pedagogical activity. He argues that text provides the means for people to
interact with one another and to present themselves in the thoughtful use of writing and written interaction; however, his position needs to be examined in the practice of online courses. The literature includes descriptions of text CMC and studies that report the impact of using text CMC in undergraduate and graduate-level courses, although some of these studies are not in distance education. The use of text to communicate in the learning environment, the relationship of text communication to social-constructivist perspectives on learning, and the impact of communicating by text on the participants are reviewed in this section.

The interactions of a social-constructivist pedagogy in e-learning are described as students conversing with one another by reading and writing texts. One of the optimistic claims reported is that the "talk" by text interactions combine features of oral and written speech. "The historical divide between speech and writing has been overcome with the interactional and reflective aspects of language merged in a single medium" (Warschauer, 1999, p.6). Particularly when the messages are sent on the WWW, the messages transmit with the speed of speech, yet the participants have time to reflect on what they read and write. "The process does not feel like letter-writing. It feels like message-sending of a very rapid back-and-forth kind. The speed has engendered a feeling of immediacy, and thus of real interaction" (Pincas, 2000, Online Discourse Management, ¶9).

Warschauer's (1999) ethnographic study of English as a Second Language (ESL) students using a campus computer lab for writing classes reports the advantages claimed for text interactions. These students, studying at a multicultural college, used asynchronous text CMC to write about "their own experiences, questions, thoughts, and concerns" in a way "that other students and the teacher could reflect on and respond to" (p.79). Students had opportunities to express ideas in their voice in text and reflect on their peers' writing to create and participate in a sustained dialogue. Students were reported to be engaged, motivated and attentive
(Warschauer). However, in this study these students also had the opportunity to meet in campus classrooms with one another and their teacher.

In another study of the use of writing in online distance education (Mulligan & Geary, 1999) the faculty reported that students wrote more than in the comparable on-campus course and that this assisted students' thinking and learning. Two online undergraduate English courses with ten students in one and twenty in the other were designed to use an intensive amount of writing in discussions and formal assignments. Teachers were interviewed, students' online writing was analyzed and students' summative course evaluations were reviewed. The students discovered writing to be communication that is purposeful and dynamic, even though it was time-consuming and hard work. They also used writing to discuss their problems in the course with the teachers. The teachers recommended using text CMC with practices that require students to read and write in cooperative and collaborative tasks. They found they were able to get to know their students well and give critical feedback on their writing.

Another study (Lea, 2001) related students' literacy practices in asynchronous text CMC with essay writing in the students' academic courses. Seven volunteers in two Open University distance courses volunteered to participate in an ethnographic study with the researcher acting as participant-observer of the online discussions. Data was collected from the records of the discussions, regular email contact between the participants and the researcher, the students' assignments and from in-depth telephone interviews with students conducted after the course. The reported benefits of literacy practices of asynchronous text CMC included reflexivity and time to read and write. Also, they found that writing contributed to the students' academic accomplishments as their analysis of the online discussions and essays showed that the students included evidence and arguments from the online collaborative writing activities.
While these studies report that reading and writing interactions using asynchronous text CMC are engaging students in active, reflective and collaborative practices there are still uncertainties and difficulties in this communication. Pincas (1999, 2000) discusses the studies she has done using text analysis of online courses as well as her observations made as a teacher in courses using asynchronous text CMC. She states that, as yet, there is not very much research on this interactive reading and writing. Most of this research is in small trials, not field observations, and with synchronous chat rather than asynchronous discussions. She says that the concept of writing becoming talk is new and perplexing because it lacks the characteristics of face-to-face interaction. For instance, students have difficulties because they can’t see each other and don’t have certainty about who will read or answer their messages or when they will do so. Also, the discussions become diffuse and lose the dominant topic due to the volume and lack of chronological order of the messages. She is optimistic about people’s ability to adapt to the new communication context. “It is a normal part of conversational ability to [adapt]. All of us, from childhood on, are adjusting to new contexts with such ease, that they are not consciously perceived as a problem” (Pincas, 2000, Online Discourse Management, §2). For instance, email has become commonplace and the interaction patterns are understood; however, unlike a class, this is most often an interaction between two people.

E-learning and the use of asynchronous text CMC is taking place in higher education and students are involved in new literacy practices. These studies report teachers’ observations and students’ descriptions of interactions and effective learning using reading and writing to dialogue reflect and collaborate. There are also some difficulties with the distant and asynchronous communication. In order to make effective use of asynchronous text CMC and understand the limitations of online text interactions more information is needed about the practices of e-learning and e-literacies from students’ experiences.
Active and Collaborative Interactions in E-learning

E-learning is advocated in the literature of distance education because it is a means for students to participate actively and collaboratively in the construction of knowledge. The online learning environment is described as a social and cultural context in which students articulate and reflect on what they know. They also use the responses and reactions of others to add to or modify what they know. As the students engage with ideas, encounter a diversity of points of view, and dialogue on difficult issues, the interactions reflect the expertise and the interests of those who participate (Jonassen, 1995; Hiltz et al, 1999). There are reports of using e-learning to encourage the complex thinking required in higher education through brainstorming, cooperative and collaborative learning activities, and case studies (Bass, 2000; Kanuka & Anderson, 1999; Freeman & Capper, 1999). Freeman and Capper (1999) review their research findings on undergraduates in online learning environments with TopClass. They found that using asynchronous text CMC for debates resulted in better research of the arguments as students had more time to prepare and worked collaboratively. Also, some students with cultural and language differences felt less stress from presentations in the online environment. The students were satisfied with the course activities; however, they had some practical problems with the computer technology and access to the Internet.

Campos, Laferriere and Harasim (2001) studied courses that used a combination of online and on-campus meetings and report that collaborative activities and pedagogies are being used in higher education. One hundred classes that combined regular instructional strategies with interactive activities using asynchronous text CMC were studied through interviews of teachers and analyses of transcripts of the text-based interactions. The research found that teachers with more experience with e-learning used more collaborative processes in their
courses. Different levels of collaboration, based on the course design, were observed and they distinguished between cooperation and collaboration. *Cooperation* is a level of interaction in which people are participating in the same activity but not working or building knowledge together. One example of cooperative interaction is a voluntary online discussion about topics related to a course, without a search for solutions to problems. *Collaboration* is described as a level of interaction between people who are engaged in learning, through simulations and activities, to solve problems. These interactions can include discussions, complex argumentation, and contending with others’ points of view. The pedagogical activities used in the courses that demonstrated active and collaborative learning were group projects, simulations, case studies and seminars. Most of the activities were carried out either in or through asynchronous text CMC (Campos, Laferriere, & Harasim).

In another study the students used cooperation and collaboration but the interactions did not encompass the behaviours described in the literature in classroom interactions. Curtis and Lawson’s (2001) qualitative analysis of 19 adult students in an online distance education course used the behaviours listed by Johnson and Johnson (1996) to analyze the characteristics of the students’ interactions. In two tasks during the semester long higher education course, the students worked in small groups. The students used asynchronous CMC, especially email, and some phone and fax communication to plan, seek help and give feedback during these tasks. Although there was significant evidence of cooperation and collaboration, the students did not challenge one another’s input or explanations nor did they elaborate on their own contributions, which are features of interactions in face-to-face groups.

An undergraduate course of 34 students was studied using a model of collaborative learning to examine the communicative practices that help and hinder students’ asynchronous text interactions and to understand their processes of knowledge construction (Treleaven &
Cezez-Kecmanovic, 2001). This course was designed for team projects and asynchronous text discussions on a course bulletin board as well as face-to-face meetings. They used the model to do a linguistic analysis of the online interactions to discover the students' dominant goals (e.g. gaining understanding or getting a good grade) and the kinds of information in their messages (e.g. course content or social comments). Their findings show this model is useful for investigating the processes of online collaborative learning by analyzing the linguistic factors of the discussion transcripts. Also, this study indicates that collaborative learning will not take place because of the technology but because of the design of the learning environment and attention to the orientation and needs of the learners as they communicate by text with one another.

A series of studies by Hiltz et al (2000) compares the effectiveness of e-learning and campus classes. They studied 26 undergraduate courses over 3 years in which the students used asynchronous text CMC and compared the processes and outcomes with campus classes. Also, a field experiment was used to evaluate groups working online, groups working in the classroom, and individuals in either an online or a campus class. They also conducted semi-structured interviews with faculty on the use of pedagogical activities and their perceptions of student learning. Triangulating the results of these studies was done to assess the effects of asynchronous text CMC on collaboration and student learning. Their summary states that, when students are actively involved in collaborative (group) learning online, the outcomes can be as good as or better than those for traditional classes. When individuals are simply receiving posted material and sending back individual work, the results are poorer than in traditional classrooms” (Hiltz et al, 1999, p. 16).

Therefore, they conclude that the pedagogy, and not the medium, is the critical factor in effective practices of e-learning.
These studies that examine students participating in the complex activities of higher education are building understanding of the practice of cooperation and collaboration in e-learning. Descriptions of activities, transcript analysis and teacher’s perspectives can be augmented by the descriptions and perspectives of students. Also, students who are using asynchronous text CMC and not meeting in-person or using oral communication can explain the characteristics they have experienced when relying on online distance learning.

The Social Characteristics of Interactions in E-learning

The nature of online communication, particularly text-based communication, has also been studied for its social characteristics. There are suggestions that cooperative and collaborative tasks in e-learning may be limited by the lack of social communication and the students’ orientation to planning and completing the task (Curtis & Lawson, 2001; Baskin, 2001; Treleaven & Cezez-Kecmanovic, 2001). Various communication theories have been used in explanations and the literature includes different perspectives of the qualities of personal interaction by text. However, the understanding of the social-affective characteristics of online text is inconclusive. While earlier studies tended to be optimistic about the democratic nature of CMC, they also reported negative consequences of depersonalized interactions. This research was done in experimental conditions with participants interacting for short periods of time; also, the technologies have changed and people’s experiences with CMC is evolving, making the findings of these studies and their applicability to other contexts limited.

More recent studies emphasize that people are learning to use the medium and work with the characteristics of the technology. Participants with experience in the interactions are adapting to and overcoming the text characteristics of CMC and the effect of text on the social
aspects of communication (Walther, 1996; Postmes, Spears, & Lea, 1998; Kim, 2000; Rourke, 2001). Other literature reports online interactions and interviews with students from a range of contexts about their experiences of social-affective qualities of communicating by asynchronous text CMC. The purpose of the studies, the nature of the course, the role of the tutor and the students' prior knowledge of one another are seen as important factors and the findings are diverse.

One undergraduate communication course studied met on campus for two semesters and used an online discussion for the course seminar in the second semester (Light, Nesbitt, Light & Burns, 2000). Twenty-nine students participated in discussions of an article related to the topic of the course. The participants were assigned to one of four groups but they were free to join in all of the discussions. The tutor was observing but not moderating or facilitating the interactions. The study found that there was a large amount of off-task communication among the students and significant negative interpersonal interactions, including sarcasm and criticism. Some students also disrupted other group’s processes. The tutor reported that the course used online interaction to give the students an opportunity to experience CMC and to let them learn from successes and mistakes. In this way, the tutor did not intervene in the conversations or re-direct the students from off-task or harassing interactions.

In another study, Nunan (1999), as researcher and professor, conducted a case study of a graduate-level course to explore learning in an online distance course for teachers of English to second language users. A cohort of five students participated over 8 weeks. They never met face to face and they used synchronous and asynchronous text CMC to cover the course content and communicate with each other and the professor. As the course progressed the students took more control of the course and a group culture developed with its own rules & norms for interaction. Also, over the course the students posted more interactions of a social nature,
including their personalities, interests and concerns, and more interactions that linked the course content to their areas of work.

Students’ perceptions of social interaction and community in the learning process is reported by Brown (2001). A theoretical process of community development was used to analyze the telephone interview conversations and follow-up email questions of twenty-one students in a graduate-level online distance education course. The students were selected from three different semester long courses in a one-year period. The students were asked to define community and describe the process of forming the online community and their experiences in it. First, the students defined a “learning community” as students actively participating in online interactions with a commitment to contribute to their own and other’s learning. Three stages of community building that developed from comfort, to acceptance and, then, to camaraderie were identified and the students in successive stages participated in more dialogue and collaborative work. Throughout the course students were at different stages of community development and some said they felt no sense of community. The researchers say that participants choose to build and participate in the community or they choose not to. Some of the influences that affected students’ participation were the time students had for the course, their understanding of the course content and their experience and abilities with the technology.

In online distance education the social-affective characteristics of communication are relevant because of the potential for people to interact from many places and points of view. The advocates of this learning environment say that learners will develop respect for others, sensitivity to differences and alternative ways of solving problems (Harasim, et al., 1995; Reeves & Reeves, 1997; Kanuka & Anderson, 1999). Bass (2000) reports on practices of faculty using information technologies to teach culture and history. He says that e-learning is providing opportunities for students to converse with each other about difficult cultural issues on their own
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campus and with students at a distance. Other authors report the difficulties of establishing this communication across distances and cultures. Pincas (2000) has observed her students and says that their differing views of what is relevant in a particular discussion have been common causes of misunderstanding. Noblia’s linguistic approach to the analysis of CMC reviews the concept of communicative competence and the assumptions made about understanding in online global interactions (1998). This medium of communication, she says, is testing our ideas of conversation and of oral and written language as people interact without necessarily sharing contexts for building understanding. She suggests that asynchronous text CMC is altering the conventions of conversation.

International contexts of e-learning add further diversity and are discussed in the literature. Gayol and Schied (1997) critique the role distance educators are playing in the pedagogical design of online courses. They state that course materials and design, the predominance of English and the definition of what is academic may be working against cross-cultural communication. Their paper examines problems and suggests practices and research directions to open access and include people outside of the North American higher education community. Barajas and Owen (2000) report a summary and discussion of preliminary case studies by nine European universities implementing a joint e-learning program. The goal of the studies is to investigate the institutional, cultural and linguistic issues that are faced by students who are encountering new technology and new learning and teaching concepts. The potential for international collaboration, which in the European context involves multilingual and multicultural interaction, was anticipated. While this did not occur as expected across borders, collaboration was present within universities and at a national level. In an online discussion of these studies, the authors say that for a negotiation of meaning to occur issues of language and culture need to be integrated into the entire learning process and not considered a separate part of
a course. Also, with text discussions it is necessary to account for and make explicit differing discourses. The opportunities and the challenges presented by these authors and the advice they offer need to be examined in studies of students’ in online courses.

**Influences on Students’ Participation in E-Learning**

Studies of e-learning also include investigations of students’ perceptions and attitudes toward using this learning environment. These studies are at the undergraduate and graduate level and use CMC in distance and campus courses. They investigate students’ interests in distance education and technology, their perceptions of the influences on their participation, and the role of participation in learning.

Some educators in higher education say that learning environments that incorporate interactive technologies may encourage students’ interest in distance education. Frand (2000) describes the new generation of students in higher education as highly interactive; that is, students are comfortable with and expecting to use interactive technologies in all aspects of their lives, including the classroom. Several large-scale studies have been conducted with students to determine what influences their interest and participation in the online distance learning environments. In one study (Christensen, Anakwe, & Kessler, 2001), approximately 400 undergraduate and graduate students completed a questionnaire on their interest in distance education. These students were mostly full-time students, in their 20s, and enrolled in a regular campus business program. Their responses showed they would be receptive to distance education in which interaction was possible by computer conferencing. An Open University Business School study, conducted from 1996-1998, reports on the development of courses using asynchronous text CMC, although 1998 was the first time this course was online (Salmon, 2000). They report formal and anecdotal feedback from questionnaires of 100 out of 4900 students after
their first experience with asynchronous text CMC. The students liked the opportunity to use
this medium and more than half reported in open-ended comments that they liked the benefits of
interaction and would take a similar course. However, this is a very small sample and no details
of the students’ characteristics are reported.

Other influences on students in e-learning are related to the students’ perceptions of
interaction in the learning environment as continued and purposeful. In Muirhead’s (2000)
review of online distance education he summarizes his quantitative study of communication,
participation and feedback in online discussions with 93 graduate students. Almost half of the
students felt that students who didn’t participate as much, particularly those who participated too
late in the discussions, reduced the quality of the discussion. Ninety percent of the students said
that maintaining participation was needed to keep the course interactive. In another study that
used a qualitative methodology, Vrasidas and McIsaac (1999) were interested in discovering the
factors that influence students’ participation in online interactions. Six students and a teacher in
a semester length graduate-level course met online and on campus, alternating between several
weeks of classes in a computer lab with face-to-face interactions and then a week or several
weeks using CMC. The students conducted four moderated discussions in each environment and
used asynchronous as well as synchronous text CMC for the online interactions. Towards the
end of the course the researchers, who were participant-observers in the course, conducted semi-
structured interviews with all the participants and collected the students work and their messages
to the teacher. From this data they discovered a number of factors influencing participation in
the computer-mediated aspects of the course. If the workload was too high and there was no
purpose to the discussion, the students’ participation by asynchronous text CMC was low. For
example, students said these discussions were not needed because they would be meeting
regularly on campus. Another influence on their participation was the low number of students (1
as moderator and 5 as participants) and the lack of feedback from their teacher and each other on the postings in the online discussions.

Students' participation is also reported as an influence on their attitudes and perceptions of learning in an online environment. In several large-scale quantitative studies students' attitudes and perceptions about learning in this online environment were explored. One study (Hacker & Wignall, 1997) surveyed 71 students participating in an online conference and investigated what factors of CMC are useful alternatives to face-to-face discussions. These mixed CMC and face-to-face courses were on several campuses. Online discussions of the content of the campus lectures were carried out over a two-month period. Pre-and post-conference questionnaires with the same questions were delivered using a 5-point Likert Scale survey. The students were required to participate in the discussion of posted case studies and in topics of general interest but they could do this at their own frequency. Students who didn’t use the asynchronous text computer mediated discussions said the discussions were not useful as a form of interaction or for learning. Those who did use these CMC discussions reported that they were comfortable using this medium of interaction and that these made the course interesting. Similarly, a large-scale quantitative survey of students in online distance education at SUNY investigated satisfaction and perceived learning in various courses. Students who participated more and who interacted more with their classmates had a greater perception of learning while students who had more difficulty with the technology felt they learned less (Fredericksen, et al., 2000). However, these studies do not tell us more about the factors influencing participation. Bullen’s (1998) study of students using e-learning found that their lack of experience with learning activities affected participation. Quantitative and qualitative data was collected on 15 undergraduate students in a semester long e-learning course to examine some of the influences on participation and levels of critical thinking in this learning environment. The results indicate
that the students’ inexperience with the pedagogy and the technology of the online course, and
the teacher’s lack of facilitation in the online discussions limited the students’ participation and
the higher order thinking that had been anticipated.

These reports of some of the factors influencing students’ participation in e-learning
includes courses that were either using CMC and e-learning or were undergraduate courses.
Also, some of the reports are from large-scale quantitative studies that have analyzed the results
of questionnaires. This literature shows students’ experiences help to form their attitudes about
e-learning and their receptivity to participating in this kind of learning environment.

Summary

This review of the literature in the field of e-learning and distance education begins
the work of exploring and examining claims for online learning relevant to this study.
Various positions about the use of technology, from optimism to pessimism, are held among
educators. Advocates of online learning state that using asynchronous text CMC is an
opportunity for students to engage with one another in active and interactive distance
learning. To facilitate this learning environment, courses can be designed to include
activities reflective of social-constructivist perspectives on learning. The literature
presented shows the wide range of investigations that have already taken place and the need
for further study to build a stronger research base.

- Literature is presented that explains educators’ interests in effective higher
education through the application of social-constructivist pedagogies.

The relationship between social-constructivist pedagogy and online distance
education is prominent in the literature. CMC is advocated when courses are designed for
active and collaborative interaction among students in tasks and discussions that involve negotiation of meaning and construction of knowledge. Included in the literature are reports on specific courses and contexts in which students are using e-learning to communicate by text with each other and the instructor. The links between learning perspectives, pedagogical design, and the use of CMC is predominantly from educators and advocates while this study focuses on students’ experiences.

- The literature reviewed in this chapter includes descriptions of the characteristics of asynchronous text CMC and studies on how these characteristics are influencing students in the learning environment.

Researchers are observing and analyzing online interactions to understand the characteristics and qualities of text communication and whether they indicate social-constructivist processes of learning. There are reports of transcript analysis of online interactions, teacher’s perspectives on activities in the online classroom, and investigations of models to analyze learning and interactions. Studies are also seeking to understand the nature of the social communication by asynchronous text CMC and the implications of these interactions on the learning community. The understanding that research has provided to date can be augmented by the details of students’ descriptions from naturalistic contexts of e-learning in distance education.

- Literature in the field presents findings of students’ attitudes and perceptions influencing their perspective on and participation in e-learning.

Researchers are exploring students’ interests in e-learning through large-scale surveys and some in-depth studies in order to understand the students’ perspectives more fully. There are influences on students’ participation from their attitudes to technology, experiences with the pedagogical activities and orientations to learning. These studies indicate that exploring
students' experiences and perspectives is a useful research direction to pursue. Interviewing students to listen to their voices is needed to understand online distance education.

Literature in the field describes and reports investigations of the use of e-learning environments of higher education. There are also studies of mixed learning environments in which face-to-face meetings and online interactions are used. Sometimes the students meet in the same computer lab; at other times they only meet on campus for part of the semester. In this study students meet across distances and without the influence of face-to-face meetings. Other studies are testing models and analyzing text transcripts to understand the interactions. There are also reports from the perspective of the educators and researchers about courses they have observed or taught. However, if all participants are going to be heard, students' voices and claims need to be added to the research on asynchronous text CMC and the interactions of online learning environments. To continue investigating e-learning through the students' interests and participation this study asks:

- How do the students' describe the interactions among peers in this online course?
- How do the students describe themselves as participants in these interactions?
- What are the students' perspectives on the online interactions as a learning environment?
Chapter 3
Research Methods

The qualitative methodology of this interview study is an interpretive and hermeneutical approach to gathering and analyzing evidence on the study questions. In the interviews I asked students to attend to their perceptions as they described particular experiences of the online learning environment. During the conversations the students and I interpreted and tried to make sense of these experiences. The students’ perspectives were shared but also tested; meanings were discovered but also negotiated (Schwandt, 2000; Kvale, 1996; Usher & Bryant, 1997).

Thus, this qualitative inquiry occurs in the context of the people and the place of the study described in this chapter. I begin a presentation of the methodology by reflecting on the decisions that I made and the influences that shaped these decisions. Then I report my understanding of the qualitative research interview and the steps I have taken to conduct and analyze the interviews. Lastly, I discuss the limits of this methodology to pursue the study goals.

Decisions Made in the Research Process

The decision to use interviews within a qualitative framework to elicit responses regarding the study questions was the result of an active and reflective process during the design of the research proposal. I took my experiences and curiosity to the field’s literature, to people working in and leading the field, and to researchers with expertise in the academic process. As the proposal was developed decisions were made and the study became a reality. The following section describes this process and my rationale for the direction I have taken.
Selecting the Site of the Study

In order to pursue my research I needed a context, a course offered online, where students were using asynchronous text CMC in the learning environment. The site influenced the kind of study that could be undertaken and the people available as participants. I looked at several educational places – undergraduate and graduate – that were using e-learning to deliver courses and considered several priorities connected to my research interests. First, the site had to be naturalistic and include online text interactions among the students as an integral aspect of the course design. Second, the course had to be distance education. There are many studies of courses that combine some form of face-to-face interaction with asynchronous text CMC and I wanted to explore the study questions without the influence of in-person meetings. Third, the course design had to reflect characteristics of social-constructivism and not transmissive and didactic learning perspectives. This means the course activities needed to involve students in peer-to-peer interactions in order for my questions to be relevant to the students’ experiences. Fourth, the course needed to include people from different geographical, cultural and linguistic backgrounds. Finally, for practical reasons, I needed a course available for study during my research time frame and when access to student volunteers would be likely.

Out of several possibilities I selected one semester-length course in a university program that offered several advantages. The program is offered only by online distance education and it is offered worldwide via the Internet. It is also a graduate-level program on the study of e-learning and, thus, it had the potential to include people with interests and relevant experience important to this study. In particular, as graduate level students they would likely have the experience needed to form and articulate perceptions on my research questions. Although some of the students may be pursuing academic studies full-time, the program is designed to suit people working in their careers while they study. The students are often using e-learning in their
current workplace, or they are looking for opportunities to do so, and they come from various educational and career backgrounds. Finally, I chose a course that I had studied a year earlier. I wanted to have a good understanding of the design, language and culture of the course. This commonality with the study participants could assist our conversations about the online learning environment.

**Kinds of Data to be Generated and Collected as Evidence**

I selected the research interview as the methodology of this study because it allowed me to look in some depth at a specific aspect of a broad subject. During the interviews the student could describe their experiences and share their perspectives on the learning environment. Each interview became an active and reflexive process of generating data on asynchronous text CMC as a means of interaction in online distance learning.

The relationship between the interview methodology and the setting of the study also had an impact on the data I could collect. It was likely that some, if not most, of these interviews could not take place face-to-face. Although students might be from my local area, it was also my hope and my intention to include people from the range of geographical locations represented in the course. Thus, I needed to make decisions about interviewing people without the typical face-to-face venue. I decided to use telephone interviews – and not text communication such as email or synchronous computer-mediated communication – so that we could have the immediacy and interaction of conversation, add the personal dimension of our voices, but eliminate the influence of using text or CMC on the students’ responses.

I considered how to develop a fuller understanding of an online study site. Even though the design of the course had not changed in the year since I had participated as a student, I didn’t want to rely on my experiences. I felt it was important to approach the setting with fresh eyes for
detail, to ask questions about this particular offering of the course, and to see the course from a researcher's point of view. Furthermore, I had decided not to observe or participate in the course through the online interactions. While researchers use observation and participation to add information about the course interactions, there are other issues to be considered. For example, ethical problems arise if consent is not obtained from all of the participants in the course. Within the distant and computer-mediated environment this might be difficult to achieve. Then, because I was seeking participants' descriptions and perspectives, I didn't want my presence and observations to unduly influence their interactions in the course. Therefore, after making these decisions I wrestled with how to understand the context of the online course, one without a classroom and with participants from many places around the world.

I decided on three steps. The first step involved going to the program's homepage on the Internet and investigating the webpages available to the public. These pages provide an introduction to the program, the faculty and the courses offered. The online course is presented on Web Course Tools (WebCT), a course management system linked via a web browser to the WWW (Information on WebCT is available at http://www.webct.com/). The next step was to meet the course tutor and view the course webpages that are only available by password. We discussed and read through the online course without looking at any of the communication among the students or between the students and the tutor. I wanted to hear the instructor's description of the course and the schedule of activities in order to cross-reference this information with the program's website and with my experiences as a student in the course. In the third step, I interviewed the course tutor for his perspective on the course design, the students' interactions, and his role as tutor of the course (see Appendix A for the interview protocol). These steps added valuable information about the course activities that assisted my
understanding of the students’ experiences and confirmed the relevance of this course as a place to ask my study questions.

Selecting the Research Group

The next decisions involved the methods of contacting and selecting the people who would participate in the study. I decided on a strategy of theoretical or purposive sampling of participants from one section of the course (Mason, 1996). I wanted to include people from the range of experience with e-learning present in the class and the range of backgrounds students bring from their location, education and career. They would also be able to report their experiences and be available for the in-depth interviews necessary to gather data.

I decided on a goal of ten participants. Although there is no defined number of participants needed for a study I wanted to balance the opportunity to hear from a number of people while being able to collect the depth of evidence needed. The interviews needed to take place within the time frame of the course when the students were in the midst of the online experiences. However, ten was a target, not a necessity, as the students would be volunteers and the number enrolled in one section of the course might limit the sample. In order to contact the students yet maintain the confidentiality of those who didn’t choose to participate, I decided to ask the course tutor to email my request to the class. I also considered the kind of background information I would need to know about each person. For instance, I wanted to know the students’ access to computer technology and experience in the program as possible factors influencing their participation in the course. Thus, I designed a questionnaire for each volunteering student to complete prior to our first interview (see Appendix B).
Implementing an Interview Study in a Qualitative Tradition

Qualitative research is described as a method of inquiry that has traditions but is without defined rules or procedures. Kvale calls it a “craft” that requires the development of the “interviewer’s skills, knowledge and intuition” (1996, p. 84). It is also an iterative process involving options, decisions and directions that need to be considered and reconsidered (Cresswell, 1998). In my role as researcher and interviewer, I am challenged to enter the research practice and the field of the phenomenon reflexively, knowledgeably and ethically. The issues I have taken into account include understanding the nature of the research interview as conversation and preparing for and conducting the interviews according to the purpose of this study.

Understanding the Interview as Conversation

Kvale (1996) describes the qualitative interview as a specialized dialogue, a conversation in which language is a social act of sharing knowledge within a situation and culture. It is an interactive process of people defining and negotiating the meaning of the phenomenon from their experience and perspective. First, the dialogue produces text then the text is clarified and interpreted in the conversation. The end result is not a harmonizing of perspectives, however, as the interview conversation is not complete or well articulated and the inconsistencies, contradictions, and incoherence in the text are expected.

The word “conversation” is often applied to qualitative interviews to distinguish them from quantitative, often large-scale, interviews. However, this word may be misleading if not defined more clearly. The interview conversation is an interpersonal situation but it lacks the give and take of everyday talk; it is, instead, a directed and focused pursuit of the meaning of a
phenomenon. While the interviewer is open to the interviewee's route in the narrative she is also focused on pursuing the themes relevant to the research question. Because there are roles to play in the conversations the interviewer also needs to be cognizant of her position of influence, of the emotional and cognitive aspects of the interactions and of her presuppositions about the phenomenon. The potential of this conversation is a construction that is an interrelation of the interviewer's knowledge of the topic and her sensitivity to the interviewees experiences and understandings (Kvale, 1996).

The narratives of the interview conversations in this study have emerged from the process of listening to students' voices on e-learning. The questions that shaped and influenced the narrative investigated the students' experiences with the interactions of an online distance learning environment. As they described how they interact with their peers, how they viewed their own participation, and what their perspectives are on the online learning environment in the course, the students' stories, experiences and ideas were shared in the language of conversation. (see Appendix C for the first student interview protocol). Questions that prompted reflective descriptions of each student's experience of the phenomenon were asked, such as "What is it like?" and "How are you experiencing this?" Explanations as to "Why is this so?" were only listened to if they arose in the dialogue (Mason, 1996). I listened for and encouraged a conversation full of details and specific events rather than generalizations or opinions about the topic. At times there were discrepancies in the narrative and confusion about meanings and words, but these were a normal part of the dialogue. They were useful places to explore the students' experiences and their developing understanding (Kvale, 1996).

The technique of listening in the conversation is a further special aspect of the qualitative research interview. While the interviewer designs questions to pursue the theme of the study and to promote interaction, she is also attending to her skill as a listener. Listening has a role in the
moment of the interview interaction and it guides the continuing dialogue. The interviewer chooses whether or not to direct a question, pursue a story, clarify an event or word, or confirm the significance of a comment. In a hermeneutical approach, listening for meaning goes beneath the literal and explicit to meanings that are implicit and influenced by presuppositions. The interviewer listens to what is said and how it is said through, for example, emotional tones in the interviewee’s voice, or hesitancy or silence. Listening effectively is also part of establishing the relationship between interviewer and interviewee as a genuine interest in the conversation can build rapport. The interviewer directs attention to the themes of the research question yet is willing to let the interviewee’s story unfold. This requires the interviewer to attend to her voice in the dialogue and to the kinds of questions she asks and the comments she makes. Thus, the interviewer is both an active and a reflexive listener (Mason, 1996; Kvale, 1996).

*Preparing for the Interview Conversations*

Once I had decided to use a semi-structured approach to interviewing I was faced with the decisions involved in designing the interview protocol. My approach kept one of Kvale’s “1000-page questions” in mind: “How can the interviews assist me in extending my knowledge of the phenomenon I am investigating?” (1996, p. 182). The research questions needed to facilitate participants’ reflections on and descriptions of their experiences of asynchronous text computer-mediated discussions in one graduate-level online distance education course. In particular, the questions would seek the students’ perceptions on three aspects of social-constructivist pedagogy claimed as advantages in computer-mediated learning environments: that learners are active and engaged, that learning is a collaborative process and that knowledge is built through a multi-voiced discourse.
Thoughtful Interaction

Difficulties arose in planning these questions and presenting them on a page. The two-dimensional, black-and-white, linear text does not respond to the nature of the research interview. Questions printed in a list on a page do not easily convey the “interdependence of human interaction and knowledge construction” that is the research interview (Kvale, 1996, p. 14). Another difficult aspect of designing the questions was the influence of words and phrases. For example, the word interaction has a different tone, nuance than conversation; and the question ‘how does this help you…?’ hints at the kind of answer expected. Thus, I wanted questions that didn’t lead or limit the students’ responses. In practice, then, the interview protocol I designed was informal and organized around themes arising from the study purpose. It was a map of the questions I would follow according to the exchange of ideas in each conversation (Kvale).

I considered my need to develop interview skills based on knowledge, preparation and practice. As the interviewer, I must be responsible for the quality of the interview; it is not dependent on the characteristics of the interviewee. I must know: what to ask – or not – and know how to ask it; when to follow up a question or comment or make an interpretation – or not to do so; and how to understand and interpret language. I began this learning process with three practice interviews that also tested the interview questions. Students from another course in the online distance education program who would not be participants in the study volunteered. The first two interviews were conducted in person and the third by telephone. This phone interview proved to be a useful medium for a detailed and reflective conversation and I realized that I could conduct all of the study interviews in this way. I felt that conducting the interviews by distance was congruent with the site of the study, because the students in the course would be interacting with one another at a distance. After these interviews I analyzed my interview method and skills, identifying the areas I needed to
improve. I also reviewed my interview protocol, made some adjustments and confirmed
directions I should take.

The next step of preparation was to contact the students enrolled in the section of the
course that I was studying. There were twenty-two students in total, eight women and fourteen
men. The tutor, as my email intermediary, sent the students a letter to inform them of my study
and invite them to participate. Although the tutor encouraged students to participate, he also
stated that this study and their participation were not related to the program, the course or their
assessment in the course. He explained that he would not see any of the data and that I would not
share information from the interviews with him. In total, eight students volunteered. I received
emails from six interested students within a few days and, after a second email announcement
from the course tutor, two more responses came two weeks later. A further two students
inquired about the study but decided not to participate. I also mailed a formal consent letter to
the student volunteers to sign, which followed the ethical guidelines of this study. I emailed the
Participant Questionnaire (Appendix B) to each volunteer, which they completed and returned to
me by email.

*The Interviews as Conversation and Text*

My next concern was to arrange the interviews and the logistics of this seemed a
challenge. The interviewees and I needed to schedule interview times in their busy schedules,
across our different time zones, and at the right stage in the course. Using both email and phone
calls, I confirmed a first interview time with all of the students during the eighth to the tenth
week of the course (see Appendix C for the course schedule). I relied on the initial letter I had
sent to the students to present myself so my first substantial communication with each student
was at the initial interview.
I conducted each of the interviews by telephone (using a speakerphone) and I tape-recorded each conversation. These interviews were approximately one hour; some a little more, but none less than that time. The initial interviews took place between weeks 8 and 10 of the course. After the first student interview, I critically assessed the interview protocol I had developed (Mason, 1996). Although this is a necessary practice in qualitative interviewing, I was encouraged to do so because the first interviewee had several comments and questions about my research approach. He stated his interest was motivated by his concurrent roles as research participant and student of research methodology in the course. As a result, I looked carefully at the open-ended nature of my interview and confirmed my understanding of the questions I was asking. I also became more aware of the difficulty facing the students in the interview conversation and their need to reflect on and synthesize experiences and perceptions within the time and context of a telephone interview.

At this time I also realized that more connection with the participants would assist the qualitative interview process. Therefore, before embarking on the other interviews I sent an email to each student that confirmed the time of our appointment and, more importantly, included some information about my experiences in the field and my interest in the research project. Then, at the beginning of the phone interviews I took time to establish a conversational tone before beginning the interview questions. Within the time the students had available for our interview, I had to balance the need for conversation that would build rapport and conversation that would generate evidence on the research questions.

*Continuing the Conversation*

Following each interview I transcribed the recorded conversation and saved the data on disk. The transcription process, however, is a representation of the interview conversation and
not a copy as typing oral speech into text transforms and constructs a new medium. Thus, as I was beginning the interpretive and analytical process, decisions needed to be made (Mason, 1996). In the transcription process the interviewer is again a tool of the research process because she is actively structuring into text the “personal interaction of the interview situation” (Kvale, 1996, p. 167). As I transcribed the conversations, I strove to capture all of the dialogue in the words, phrases, and sentences that the interviewee actually used. The other ingredients of a conversation – pauses, silences, and emotional tones – were added when I felt these influenced the direction of the dialogue. Therefore, not all of the signs of affect, pace or tone are included (nor could they be included) in the text. I also wanted to be consistent with a person’s manner of speech using their vocabulary and grammatical choices. If an interviewee did make several attempts at phrasing an idea, or backtrack on their ideas, or use a particular idiomatic expression, I included these to show the character of the conversation. If I needed to clarify the use of a term I tried to note this. For example, one student called messages posted on the discussion forum *emails* so I asked him to define this term and noted that he was referring to the Discussion Forums in the course, not private email messages.

In the initial contact letter I had asked for the option of a second interview. I realized from the first interviews, however, that a follow-up interview was going to be very important and, fortunately, all of the students were willing. Later, in weeks 11 and 12 of the course, the second interviews took place. To prepare for this interview protocol I used some ideas from my literature study in the field and considered the course activities that had taken place in the intervening weeks. However, the most important source of questions came from listening to and reading the transcripts of the initial interview.

I had read through the transcripts of each student as distinct conversations and made some notes in the transcript margins. Then I made a summary of the main ideas from each
interview. I organized the variety of details under common main ideas, such as participation patterns, writing messages on the forum or descriptions of the small group process. Before I conducted the second interview I re-read the interviewee’s transcript and selected areas that I wanted to pursue. These included words or phrases that needed clarification, stories that had started but hadn’t ended or themes that had been noticeably absent but could prove worthwhile to probe. Although each student had also introduced some individual interests into our interview conversations, I decided to keep my focus on generating useful and meaningful conversations on my study questions. Thus, I developed a second interview protocol that had some common questions for all the students but also particular questions related to each student. The second interviews were approximately 45 minutes long. These interviews were recorded and transcribed in the same manner as the first interviews.

Analysis of the Data from the Interview Conversations

Purpose of the Analysis

The purpose of the analysis of qualitative research interviews is to continue the knowledge production of the interview conversations. Analysis of qualitative research data has been pictured as a spiral that moves through and connects each part of the study (Cresswell, 1998). Therefore, analysis is a part of each interview as it is occurring, as it is being transcribed, and each time the text transcription is read or considered. After the interviews are complete, however, there is an analysis stage in which the conversations are searched for evidence relevant to the study questions. “The analysis of an interview is interspersed between the initial story told by the interviewee to the researcher and the final story told by the researcher to an audience” (Kvale, 1996, p. 184).
The link between the research question and method continued during the analysis stage of this study. The choice of data sources had influenced the evidence generated. As well there were decisions to be made in the analysis beginning with the choice of the different ways of reading the transcribed conversations. Mason (1996) describes three ways of reading the data. A literal reading looks at the form, sequence and substance of the dialogue. An interpretive reading looks for the meaning in the dialogue and the experiences and a reflexive one looks for the interviewer's role in the data generation and interpretation. In the analysis I have undertaken there are both descriptive levels of the students' understanding of the interactions and interpretive levels in which categories and themes arise from across the interviewees' experiences. I have selected and organized the descriptive and interpretive data to build the analysis and develop an understanding of the phenomena of this study.

Steps Taken in the Study

From the time I met the students by email and telephone conversations through to the time I wrote the analysis, I have been interpreting, condensing and categorizing the data. During and between each interview and as I listened to and transcribed the recordings I was reviewing, reflecting, deciding, questioning and clarifying. I used a consistent process with each transcript and followed these steps in the analysis:

- Read the transcripts of the first interview – I used some general coding categories related to the study questions. These were: descriptions of using CMC in the course, participating in the course activities; interacting with peers; observing peers' interactions; and value ascribed to the learning environment in the course.

- Prepare for the second interview – I wrote a summary of each interview with common main ideas to provide an intermediate story of each student. I also re-read the
transcripts to discover questions and topics that needed to be pursued with one person and with all. Then, I prepared a second interview protocol that was unique to each student.

- Conduct the second interviews – I asked questions about the students’ most recent experiences in the course and I followed the second interview protocol to clarify, extend and fill gaps in the conversations from the first interviews.

- Prepare information for the students’ data check – I added to the summary written following the first interview with new, clarified, and extended information from the second interview. I sent each student a copy of her/his summary and asked for comments, clarifications and contradictions. Each person’s confidentiality was maintained and each one also had the opportunity to change or confirm understandings and interpretations I had made.

- Read across interviews by selected themes – I looked for descriptions and perspectives related to the study questions through coding categories that had arisen from the participants’ conversations. I read through the transcripts considering one theme at a time and I collected conversations from the transcripts that were evidence of the theme.

- Organize the condensed and categorized data by themes – I looked for relationships between the descriptions and perspectives that are in common among the students and those that are unique. I considered the degree to which certain information was present or absent and the contexts of the conversations in which the information was located. Then I began to write a report using summaries and direct quotations to support and illustrate each theme.
• Re-read each transcript holistically – I read each transcript again to re-visit the whole of the conversation. I not only checked the understanding and interpretation of the parts of the conversation that I had already selected, summarized and interpreted but I also looked for fresh perspectives.

• Write the analysis in relation to the study question – I reviewed and questioned the relationships between the interview conversations, the interpretations I was making and the study question. I continued to write a report that would communicate the meaning of the interview conversations to my audience.

Interpretive Validity and Limitations in the Context of this Study

The account of the methodology assists readers who are evaluating this study and assessing the usefulness of the findings for other contexts. In the description of my reflective approach to the design, method and analysis of the study I explain the rationale for the decisions I have made. My research questions have been at the forefront in my use of research interviews in a qualitative tradition. I interviewed eight student volunteers from the graduate level online distance education course. The interviews followed a semi-structured protocol and used open-ended questions to generate data. As an important aspect of the methodology, I have used consistent steps to record and transcribe the data. Each student has had the opportunity to review my summary of her or his conversations and to correct the information I heard and the interpretations I was making before I began the formal analysis stage. Four students replied but only one asked for a few words to be changed and the others were satisfied with my understanding as reported in the summary.

I have also been careful with my use of the descriptions and perspectives shared by the students. Only after listening to and then reading each transcript several times did I begin to
organize particular dialogues. I continued to use a reflective approach as I incorporated the analysis into a report. I questioned the dialogues I had selected to illustrate themes and I returned to the individual transcripts to keep the excerpts in the context of the conversation. In these ways, I checked the evidence I was using to support my interpretations.

I have also considered the challenges of this study and the limits of the knowledge produced. It is essential to recognize that the use of one course and one section of a course limited the number of students and the diversity of students' experiences in this study. The subject matter of the course, the course design, and the schedule of the activities and assignments will also have affected the students' descriptions of their experiences and their perspectives on this learning environment.

The number of participants I interviewed and the sampling method also limits this study. I relied on volunteers and, with only eight coming forward out of 22 students in the class, I was not able to use purposeful sampling. While I have interviewed more than one-third of the students in the course section, this number can only reflect a limited range of experiences in this course. The tutor facilitated access to the participants and encouraged their participation; however, distance and the use of text and telephone to communicate, ensure confidentiality and establish rapport may have deterred some students. Also, I relied solely on volunteers and I did not request or solicit participation from students representing different interests and locations.

Another limit to the study has been the single means of generating data through research interviews. The interview conversations are useful for the study purpose but there could only be a limited number of interviews within the weeks of the course. Other means of reflection and description by email or questionnaire could have given students more time respond to the questions, especially as I was asking students for detailed accounts of their experiences. However, this would also add another medium to be interpreted in the analysis. My experience
in qualitative interviewing and my interests in the study also limit the analysis. Without a second researcher involved in the data collection or analysis, the study is relying on my interpretations from listening to the conversations and reading the interview transcripts.

This description of the methodology and the limitations encountered is useful for readers to assess the trustworthiness and authenticity of this qualitative interview study. Keeping in mind the methodology I have used and the limitations I have just described, the analysis and findings presented in this study can add to the developing knowledge in the field of e-learning.
Chapter 4

The Context of the Study

A detailed description of the course provides the context for the interview conversations and for my interpretations and analysis. At the same time, I need to respect and protect the confidentiality of the people involved. As a result, I have made some generalizations about the study site and locations of students, and I have changed the names of the tutor and students who participated.

Description of the Course

The students I interviewed were enrolled in a course in the field of e-learning offered by online distance education at the University of British Columbia. This course is one of five in a post-graduate certificate program, and the students can take this course during any point in their studies toward the certificate. The course objectives state that current research in the field of e-learning will be examined and discussed. Students will analyze the quality of the research in order to develop an understanding of issues in research methodology and become critical consumers of research. To take this course the students had to meet the requirements for graduate studies at the University of British Columbia or have educational and work experience equivalent to the requirements. They could audit the course, use it as credit toward the certificate, or take it as elective toward a graduate degree in other departments and faculties of the university.

This course was offered on WebCT and instruction was online via the WWW. Information available on the program’s publicly accessible website includes an outline of the
course and a description of the pedagogical approach. The students were expected to study independently and interactively in scheduled discussions and collaborative small group activities using CMC, particularly asynchronous text CMC. "The course will make extensive use of asynchronous online discussions and small-group collaborative work to explore and develop the research and evaluation issues (course website, 2002, source confidential)." Students could also select synchronous text CMC and use email for smaller group interactions. In my interview with the tutor he explained that the course did not have a campus component so there was no expectation that the students would meet, or be able to meet, in person.

These students are all over the world. There are some students on campus, but there are also students from countries in Europe, South America and some from Australia, for example. So it's true distance education. These people are not coming to campus and there's no residency model where there's some face-to-face component (Ted).

There were two sections of this course offered at the time of my study. One took place in Spanish and the other – the section that formed the sample for my study participants – was offered in English. In this English section there were twenty-two students in total, eight women and fourteen men. All of the students had completed a bachelor's degree, ten of these students also have a master's degree and six have degrees at the doctoral level. These undergraduate and graduate level studies are in health sciences, arts and science, applied sciences, social sciences and education. Several students also have diplomas in fields of library science, journalism, film and television, and photography. While all of the students meet the English requirement for graduate studies at the University of British Columbia, sixteen students are native users of English and four use English as a second language. The information on first language was unavailable for two students. Half of the students are participating from locations in Canada (12), and there are four in the United States, three in Oceania, one in South America and two in Europe. The students' locations do not describe their geographical and cultural backgrounds,
however. For instance, two people in the class are in Canada as international students, and one of the students in the United States is from Canada.

The course was designed by a team of educators and technical advisors at the university. The current tutor, Ted, was not one of the designers and this was the first time he had tutored this particular course. However, he has extensive experience in the field of educational technology and instructional design and development. Ted has also designed and taught other e-learning courses at other higher education institutions. All of the students interviewed were from one section of the course, which was delivered in English. A second section was offered in Spanish. Registered students accessed the course by logging on to the course homepage with a password and then selecting from the course activity links that were listed there. A series of webpages contained the course outline, content materials, self-study activities, and instructions about assignments. Students also bought printed course materials and textbooks and there were links to references on the Internet in the resources page of the course website.

The course was organized into five blocks of content, activities and assignments that the students participated in and progressed through according to the course schedule. Block 1 was an introduction, Block 2 was the initial content unit for the course and Block 3 had the most extensive amount of course content and assignments. There were five assignments; four of these were completed individually and one was a small group task. The first three assignments were individual papers of 500 words each. The fourth assignment was a small group task and involved a group paper of 2000 words and an online discussion. The final assignment was an individual paper of 2000-3000 words and each student could select a topic of interest related to the course and their field of work. (see Appendix D for the course schedule).
A description of the tools of WebCT used by the students is needed to make sense of the students' reports and examples presented in the analysis of the interview conversations. WebCT course content was presented on a structured series of web pages and the students could interact with each other and their instructor in online discussions and chats and through email within the course site. WebCT can also be used for cloze or multiple-choice questions, although these were not used in the course in this study. Detailed technical knowledge of the software or the computer was not required for teachers or students. Navigating and using the tools of the course website is similar to using email and accessing information on the Internet. However, students needed regular access to the Internet and to computer hardware and software that met the course technical requirements.

**WebCT Tools Used for Interaction in the Course**

This course used a number of the WebCT tools to provide course content to the students and to provide opportunities for interaction with their peers and the tutor. These were accessible from the course homepage. The following tools are referred to in the description of the course and in the interview conversations:

- Course Content – text-based web pages for self-directed study
- Assignments – detailed text-based descriptions of the assignments and their due dates
- Resources – guidelines to the course and hypertext links to online academic journals and articles relevant to the course topic
- Bio Pages – a space for each student's autobiographical introduction
- Forums – asynchronous text-based CMC discussion space
Thoughtful Interaction

- Chat – synchronous text-based CMC conversation space
- WebCT mail – personal email account within the course web site for private communication with other course participants (The term email will be used to refer to email communication through servers outside of the WebCT course system.)

The following details on the communication tools used in this course will provide the context for understanding the students’ conversations and the analysis in Chapter 4. Students used the Communication Tools to participate in the class discussions and the small group task.

**Bio Page**

The students introduced themselves on an individual web page in which they could post a 300- word text message and add hyperlinks or a picture. The information in the “Bio” focused on the individual’s career, experiences in the program, goals for the course, and some personal information. This introduction provided some background information to begin the class relationships.

**Forum**

The Forum is the name of the asynchronous text CMC discussion space in this course. It was the main meeting place for students in the course. The students could interact with each other and the tutor by composing text messages and reading, and replying to each other’s messages. “The on-line discussion groups are an essential part of the course. As this is a graduate-level course, we expect you to participate regularly by reading the discussions and contributing to them” (course website, 2002, online discussion guidelines). Using asynchronous text CMC, the students and the tutor could participate at different times and from different places. “I like that opportunity for the students to have the time to read and think and then for us to participate online, but to do it at our own time. It’s more flexible” (Ted).
The messages posted to the Forum became a permanent text record of the course discussions. Each time a person logged on to the Forum all of the messages posted in the course were available. Some Forums were public – open to all course members to participate – while others were private – available only to an assigned group of students. A discussion space in a Forum is called a *Topic*. When students clicked on a Topic, a list of the messages posted to this discussion space appeared on the computer screen. Students could select just one message in this list to read, or the whole discussion or *thread*. The selected text message or messages then appeared on their computer screen. Usually a thread focused on a particular aspect or question in the Topic. In a Topic, students composed messages, which started a new thread. They also replied to messages they had read. New messages or postings were then added to the thread and became a part of the text record of the discussion. Like email, students could also *attach* a document from their local computer files to accompany a posted message.

*Chat*

WebCT has a synchronous communication tool for students to use for a text conversation. The students arranged a meeting time in a Chat Room. When they met, they signed in to the Chat Room and their name was posted in the conversation space. Then they typed messages to talk with each other and these messages were displayed immediately, with the sender's name, on the participating students' computer screens. Unlike the asynchronous Forum, a permanent text record of the chat was not available on the course site; however, it could be obtained from the webmaster of the course.

*Interaction in the Course*

The most common place for student interaction in this course was on the asynchronous text Forums, which are organized for particular activities and purposes. There was a *Student*
Café (for informal and social student interaction), a Discussion Forum (a public forum for class discussions on the course content and assignments) and a Private Forum (for each small group to work on the collaborative assignment). Discussion Forums were scheduled for each content block of the course. The students posted and read messages from one another and the tutor on the issues arising from their studies. In Block 3 the students’ papers for the third assignment were also posted as attachments to the Forum for others to read and discuss. In order for the class to discuss the small group papers written for Assignment 4, three one-week long discussions were scheduled for Block 4. These are referred to as Small Group Forums in this study. During the last block of the course a Guest Forum took place. Students from the English and Spanish sections participated – although in English – with an expert in the field. This guest expert facilitated this class discussion and engaged the students in applying and extending their knowledge of the course issues.

The students also worked in groups of four or five students on the task of Assignment 4, which I refer to as the Group Task. Each group examined and wrote a critique of a published study in the field of e-learning. “Students will be expected to research a position on the issue under discussion and to present an argument to the rest of the class…. Opportunities for small group collaboration will be provided for this activity” (course website, 2002, assessment). In this section of the course there were six groups and two groups were assigned to critique each article. Some of the groups formed because the students selected the same article to critique. Others students didn’t make a selection and they were assigned to a group randomly. After each group paper was completed, it was posted to a scheduled Small Group Forum for their peers to read and discuss. The small group members also introduced and facilitated this discussion. The tutor commented,
we’re discussing the group papers and I want to step back from that.... I made it clear that I’m going to step back but that I am reading the messages. I read all the messages and I will comment if I need to clarify something, or someone has a question. Otherwise, I’m going to give them a few days to discuss and then I’m going to summarize it (Ted).

Although free to use other means of communication, the students I interviewed primarily used asynchronous text CMC to work together on the Group Task. They used either a Private Forum assigned to their group, WebCT mail or email. One student said that her group also used some Chat (synchronous text CMC) and a few telephone conversations, which were needed to clarify the assignment. None of them had met face-to-face with members of the class or the tutor. The course tutor was able to monitor the Private Forums but he did not have access to WebCT mail, email or Chat communications between group members. He stated, “Clearly there’s been collaboration, strong collaboration, with Assignment 4, which was the group paper. But then it was required of them to do it” (Ted).

The students were expected to participate in all of the discussions on the Forums and the discussions in the Small Group Forum were 10% of the course grade. Guidelines on participation in discussions were provided for students on the course web site. These guidelines reiterated the purpose of the Forums and gave suggestions about the kinds of messages expected. “....these discussion groups provide you with an opportunity to share your knowledge, to seek feedback from fellow students as well as tutors on your ideas, and to ask for help when you need it. The discussion topics are closely related to the assignments” (course website, 2002, online discussion guidelines).

Students were expected to be actively and meaningfully involved in the course discussions as readers and writers. From the tutor’s perspective writing may not be as efficient but, perhaps it encourages more reflection. It gives people time to go back and read something. And maybe to go look something up. It encourages more deep processing of
thought...I think reading, in a way, is better than processing someone orally. In a class you can lose attention. Or you don’t even hear the words. But if it’s written there, and you’re having trouble focusing, you can come back to it. I think in terms of ‘listening’ to someone, it’s much more careful (Ted).

The guidelines also stated that the course content should be incorporated into messages – but not as lengthy quotes – and messages should add to and encourage further discussion on the topic. The students were responsible for continuing the discussions by responding to messages posted by other students, answering questions that were directed to them, and contributing their reflections on the course issues (course website, 2002, online discussion guidelines).

Another expectation stated in the course guidelines, and by the tutor, is that students should respect, but not judge, differences in understanding and points-of-view. Although the course involved the students in discussions to evaluate and critique published reports of research and evaluation studies, and although the students presented their own papers, the students’ messages were expected to be reasoned and well-supported arguments. In the tutor’s opinion, the students have been able to disagree with one another but “it’s been pretty professional” (Ted). The students have shared ideas and acknowledged differences indirectly.

Nobody has come out and been direct or negative about it. .... And the one’s who have been strong, in my view, have also been posting quality postings. They really are thinking about the issues, they’ve come up with some unique perspectives and good individual ideas (Ted).

The tutor described his role in the course as an organizer, encourager, and facilitator. As an organizer he assisted students with technical questions and with adjustments to assignments, as needed. He encouraged students – by email and on the Forums – who were having difficulties with the online course environment or who were lacking confidence in the course content. His role in the interactions was facilitative.
I see my role as not pontificating or stating my opinions – except for where I think it's necessary to clarify issues – and I've done some of that. But much more it's been posing further questions, being a bit of a devil’s advocate trying to encourage discussion, trying to get the students discussing and thinking about the issues…. Although you can certainly get into these Discussion Forums and be ‘professor in the centre’ I’ve tried not to do that (Ted).

The tutor pointed out problems with the time scheduled for the course activities. He felt the first two blocks, particularly the introduction, were given too much time and, then, the students didn’t have enough time for Block 3. The tutor noted the heavy load of work and the limited time scheduled in Block 3 so he re-organized and reduced the discussion requirements. For instance, instead of reading all of their peers’ papers, he suggested the students read a minimum of two student papers and post a message with their comments two times. He also felt the students participated less in the Forums because they had three individual assignments to complete in the first half of the course. “I think there have been some things about the design that have curtailed discussion and interaction” (Ted). As a result, some of the topics the students raised were not developed in the discussions. “I didn’t pursue [the topic]. It was an interesting discussion but I don’t think we were ready for it. There were a lot of other pressures at the time with assignments” (Ted).

Summary

The description of the course and WebCT in this chapter presents the online distance learning environment in which the students in this study have participated. The websites for this post-graduate certificate program and the course, as well as the interview with the tutor, have provided information about the course pedagogy and the roles of the participants. The course activities are designed for active, cooperative and collaborative learning. The tutor described his
role as a facilitator and the students' role as reflective and engaged learners in the reading and writing discussions of the Forum. Asynchronous text CMC was the primary means used for the discussions on the Forums and the work of the Group Task. Interactions among the students were a strong component of the learning activities; however, only the participation in the Group Task and the Small Group Forums was graded. The tutor emphasized, however, that the course was designed for interaction but the course schedule and workload limited the opportunities for this to take place. With this background to the students' experiences, an introduction to the students and the analysis of the interviews is presented in Chapter 5.
Chapter 5

Analysis

The analysis presented in this chapter continues the search for knowledge of this study. Led by my curiosity about students' experiences in online distance education, I have interpreted and analyzed the evidence of the research interviews on students' descriptions of the interactions and their perspectives on interacting with peers by asynchronous text CMC. My interpretations were at play as I listened for and pursued themes that arose from the dialogues and that disclosed the students' reflections on the study questions. I have selected and organized the text of the analysis to present the students' voices on interacting in the online learning environment of this course.

I begin this chapter by introducing the students who shared their experiences in the interview conversations. Next, I focus on the students' reports of the class discussions on the Forum and the opportunities and challenges they encountered. Then, the students' roles in the Group Task and their perspectives on the value of this online activity are presented. I conclude with the students' reflections on the extent of the learning environment that has developed through the interactions with their peers.

The Participants in the Interview Study

Information about the students in this study has been gathered from the Initial Questionnaire the students completed at the beginning of this study and from information they shared in the interviews. Out of the eight women and fourteen men registered in this section of the course, eight students – three females and five males – volunteered to participate. The
students are between age thirty and sixty; one is over age 30, three are over age 40, and four are over age 50. All of the students are fluent in English and seven are native users of English. Two of the eight are bilingual and they use English and their other language in their workplaces. The students are geographically dispersed and they did not meet face-to-face with their peers in this course. There are four students in Canada and three in the United States of America and each is from a different province or state. Only one student is located in another continent. These locations are not as diverse as the range of their classmates as out of the group of twenty-two in this section of the course, six are in non-North American countries. (see Appendix E for a summary of the participant’s characteristics, Table E1, Table E2, Table E3).

The students have been participants in higher education prior to this course. All of the students have completed at least one university degree at the bachelor’s level, and several have two bachelor’s degrees. One student has completed a Master’s degree and two have completed a Ph.D. Seven of the students were taking the course for credit; one applied this credit to his Master’s degree while five were working toward the post-graduate certificate in this distance education program. One student audited this course, yet participated in the discussions and completed the assignments as he would have if taking the course for credit. This was the first course in the program for one student, the third course for three of the students and the fourth for three others. For one student, this was the fifth and final course toward the post-graduate certificate. Seven of the students said that they enrolled in this course because it was useful for their current workplace. Five of these students are directly involved online higher education. Three students said they also took this course because of personal interest and two said this course will also be useful for career opportunities in the future.

The students were working full time as they took this course. They are faculty, administrators, program designers, and computer technologists. They work in a variety of areas
of higher education, adult education, and government. All of the students had regular access to a computer and the Internet for their coursework at home and, in most cases, at work. They reported the cost of the Internet connection to be affordable (3 students), very affordable (2 students) or cheap (3 students). All of the students could log onto the course web site to participate in the course quickly – from seconds to within one minute. Although access to and the cost of technology was not limiting their participation in the course, the students reported that responsibilities outside of the course were a limitation. Above the usual challenges of combining work and family responsibilities with coursework, several students reported particular situations that affected their participation in at least one period of the course. These included time without access to a computer, a unique workplace project that added to their responsibilities or assignments from a concurrent course.

Introduction to the Students

I have written an introduction to the students who have shared their experiences of online distance learning in this course. I obtained this information from the initial questionnaires and the interviews. The names used are pseudonyms.

Debra

Debra works in project management. This was her third course in the program. To communicate with others she used the Forum and sent a few emails to her small group and the instructor, but she did not use Chat or phone calls. Debra kept up with the course readings and new postings by reading frequently, usually for 1-2 hours per night, but she didn’t post messages often. In the last week of scheduled discussions, she was away from her computer and unable to participate. Debra feels the Forum, in comparison to a face-to-face class, is not a learning
environment that encourages her to participate. However, this online distance education course gave her the opportunity to study while she met her professional and personal responsibilities. Also, the interactions with other students on the Forum were a valuable source of information and a learning experience and the tone of the interactions was positive and respectful. She found the Group Task had advantages and she participated more often in this context. However, the group experience needed more time and, also, more interactions in a small group throughout the course would have been helpful. Debra said her peers in the course are very diverse, coming from different places and backgrounds. She said that participating in this course requires students to take a very active role and to be responsible for their learning.

Eleanor

Eleanor administers and designs the content aspects of training programs in one field that are delivered by e-learning. This was Eleanor’s third course in the certificate program. She participated in this course on the Forum and she also used Chat and a few phone calls in her small group. She logged on to the course at least every other day and spent an hour or more online. She posted about once a-week. Towards the end of the scheduled discussions her participation decreased quite substantially due to the demands of work and another course. Because she was working and taking other courses, Eleanor said this online distance education course is convenient and the best option available to her. She used the Forum to connect with the class but reading the text interactions challenged her learning style. There was a good level of participation and the information was dense and rich. Eleanor was very positive about the Group Task. The task took quite a bit of negotiation to complete but the experience was very interesting and very supportive. Eleanor said the people in the course come from a range of backgrounds from students to people working in the field. Eleanor thinks that students in an online course like this need to be independent and self-motivated.
Gary

Gary is a faculty member in a higher education institution. This was his third course in this program. He used the Forum to read regularly but he only made a few postings, about one per week. He feels there were fewer interactions in this course than an earlier one he had taken because of the class size, course design and assignments. Gary described the Forum as a valuable learning experience when accompanying the course materials. Reading was essential and motivating because of the high quality postings that he described as thoughtful, reflective and collegial. He thinks collaboration may be more difficult in online distance education, although he said that his perspective was affected by the problems his small group experienced. Gary said his peers come from diverse backgrounds in careers, education and experience in research, yet, overall, the class was fairly homogeneous. In an online learning environment designed for interaction and collaboration, Gary thinks students are more obviously responsible for their learning.

Howard

Howard is a teacher and administrator. This was his first course in this program. At first he participated in the course everyday but later he logged on every few days but for a longer time of an hour or more. At times during the course he had to be away for three to four days due to work responsibilities. Howard used the Forum, WebCT mail and email to interact with others, but he did not use Chat. He talked with the tutor by phone about some initial technical problems. Howard liked exchanging ideas in this medium even though it was a new mode of course participation for him. To suit his learning style, there could have been more organization of the course materials, the course objectives and the discussions. Howard thinks the Group Task process went well and that people worked together successfully. He said the diversity of students' workplaces is fairly broad and that their experiences or education brought different
points of view in interactions that were rich and respectful. Howard thinks that students in an online distance education course should be active in the discussions but that they will need to balance the course with their personal and workplace responsibilities.

Ken

Ken is an educational designer in distance education. This was his third course in the program. He participated regularly by reading for an hour or more per day and he usually spent a half-hour writing messages. In this course he used the Forum and some email. Ken said that the interactions on the Forum helped him to understand a topic or issue more clearly and, possibly, more quickly. The interactions were agreeable and people listened to each other. He feels the student-to-student interaction is important for constructivist learning, but that this course was a challenge because of the workload. The Group Task encouraged more interactions. Their group had difficulties because one student wasn’t able to contribute very much; however, Ken feels it is important to encourage and include each person. He said there is geographic diversity among the students but that the class was not as diverse as others he had taken in this program. He feels experience in the program has helped him with the challenge of online learning. Compared with other forms of distance education, he thinks students are faced with issues of time management, as they have to participate with others in the scheduled course activities.

Mark

Mark has experience in public and higher education as a faculty member and an administrator. This was his fifth of the five courses in the program. He participated in the course by reading every day or two. Usually, he posted a message once a week but he participated more often in the Small Group Forums. He used the Forums and email in this course. Mark said the Forum was central to the course. The interactions were challenging and
insightful and they encouraged him to think and study more. He said it is important that
statements are substantiated, credible and written in a tone that is thoughtful and careful. He
feels the Forum is an advantage because he can read different perspectives on a topic, and a few
verbal people in the class can’t dominate the discussion. The Group Task was the most valuable
activity and the students had more responsibility in this context. Mark’s small group was
focused on the task and they only had one difficulty during one part of the editing stage. He said
there was some diversity of location and backgrounds among the students but the class was not
as diverse as his university campus. Meaningful participation in a course like this one is hard
work and he thinks students need to be independent and engaged learners.

Nicole

Nicole administers and plans online distance education courses in higher education. This
was her fourth course in the program. She usually logged onto the course every 3-4 days but
sometimes she would participate a few days in a row. She posted about two times a week.
Towards the end of the scheduled discussions Nicole’s work demands increased and she
participated much less. She used the Forum and a little WebCT mail to communicate with
classmates. She said the Forums were rewarding and dynamic and made the course an appealing
learning environment. Some interactions were back-and-forth and included some wrestling with
questions in a friendly and conversational tone. Nicole liked connecting with others in the small
group task because the interactions were more intense and open. Although there were
difficulties in their group, they were able to find ways to overcome most of the problems. Nicole
said the diversity in the course came from people’s location and backgrounds but this diversity
was within the academic context, not the North American one. She thinks students in an online
course need to be involved and actively building on one another’s understandings and
perspectives.
Ryan

Ryan works as an instructional and technical administrator in online higher education. This was his fourth course in the program. He logged on daily and read most of the messages. He posted every two or three days. However, in the latter part of the course Ryan didn’t post as often as he felt that there were fewer messages related to his interests in the course. In this course he used the Forum, although he used a few emails to discuss technical interests with the course webmaster. Ryan said the Forum was a key aspect of this learning environment. The text discussions were not as important as the course content; however, other student’s ideas spurred his thoughts on the course issues. Most of the messages were good, long but not dominating, and well thought out. He thinks students can dominate in this environment but that this wasn’t occurring in this course. He interacted regularly with his small group and the collaborative task was a positive experience. However, he said they needed more time to edit their paper. Ryan feels the Forum didn’t reveal much diversity because of the subject of the course. He said the level of discourse was very similar among the students except in the Forum that included the English and Spanish sections. While he found the Forums a novelty in the first courses he took, he said he is used to this experience now. The course is useful to him because it is related to his work and because it is self-directed and self-paced.

The Students’ Experiences of the Course Design

The students’ conversations on the course design and their participation in the course activities add their perspectives to the description of the course presented in Chapter 4. During the interviews the students described the course web site and how they used the communication tools of WebCT to participate in the learning environment. They also reported their understanding of the interactions that took place in the course activities and that fulfilled the
course requirements. Individual study patterns, experiences of cooperative and collaborative interactions, and assessments of their responsibility as participants were evident in our conversations.

First of all, the students confirmed that CMC, especially asynchronous text CMC, was the primary means used to meet as a class and participate in dialogues and discussions with their peers. Class discussions took place on the Forum of WebCT, the “preeminent peer-peer communication vehicle,” (Ryan) in which the back-and-forth exchanges of ideas were called “the heart” (Nicole) or “the central core” (Mark) of the course. The students also participated in a task with a small group of peers that, for the majority, took place by asynchronous text either on WebCT or by email. Only one student said a synchronous text Chat was used for a conversation in their small group.

The students said the level of interaction required in the course, either explicitly (assigned tasks) or implicitly (course design and tutor facilitation), varied throughout the weeks. In certain blocks, participation was expected though not graded, and the students posted messages to the Forum to discuss the course content. Most of the students said the tutor got involved, by email reminders or in the discussion threads, to encourage more participation. For instance, he would respond to students’ comments and when “the discussion’s not going along he might say ‘hey everybody what do you think about this comment?’” (Gary). In the Small Group Forums the students’ were responsible for posting one meaningful comment in each of the three discussions. One student described this as, “we were required to participate and to say something substantial, that we understood the article, the papers that were written about it, and had some intelligent comment to make” (Ryan). Several students liked this minimum requirement to post in the discussions. It was a good strategy to get people involved in reading the journal articles and the small group papers and then in posting their own messages. However, if people were only
commenting for a grade and not to contribute to or build on the interactions taking place, the discussions became repetitive.

In this course, the activities had been designed to include student-student and student-tutor interaction. The students recognized that they needed to participate actively in the online dialogues and discussions. The following statements illustrate the student role described by most of the study participants:

A student is more obviously responsible for their own learning. I chose the word ‘obviously’ very carefully there. In this kind of environment, if I don’t read the online discussions, read the papers, do the readings, I won’t get very much out of it. And it’s very obvious – you can’t miss that in this environment (Gary).

I feel as a student that I have to be self-motivated and that I can create my own structure and monitor my own structure....that the pacing, the motivation to get on and do it every day all lies in me as a student (Eleanor).

According to the students’ comments, the purpose of the interactions with their peers was related to exploring and understanding the course content. Participation was described as logging onto the Forums to read the text discussions, posting messages that contributed to these discussions, and learning from the synthesis of information from course materials and peers. Even though the students said that this communication allowed them to get to know others “a little,” it was not in a social or personal way. They felt that they were sharing with others in the class but they were mainly reading for the ideas communicated in the messages and then responding to a message because of its topic. Ryan said reading the text discussion on the Forum is like reading a research article. “I’ll read it [a Forum message] based on the words in the report and not really try to associate them with an individual, I don’t think” (Ryan).

All of the students indicated that they needed to participate more, or that they would like to be able to participate more, in order to do their part and take advantage of the learning environment. However, it was also difficult for them to participate and
Thoughtful Interaction

contribute meaningfully to the interactions of this course. First, as part-time students who were working full-time, they had commitments outside of the course. One student said she felt disconnected from the course when she didn’t participate regularly, yet meaningful participation required a considerable amount of time. As a result, when she faced added responsibilities at work, she contributed less to the online discussions. She felt she could read the course materials and keep up with some of the discussions but not with the depth that she needed to write and post a message to the Forum. Second, and more particular to the setting of this course, all of the students reported the challenges they faced because of the course design. The volume of reading and assignments was not balanced in the course schedule with the time needed to prepare for and participate in the Forums. Ryan said at times there was too much to do so “those discussions [Block 3] weren’t very successful. There wasn’t a lot of participation mainly because there was just so much reading to do and we had to do that group assignment so it was just way too heavy” (Ryan). Howard said it was difficult to know what to do because there were too many questions in the self-study assignments in these blocks. “Then it’s all too overwhelming at once, and you don’t know where to focus yourself” (Howard).

There was a particular concern with the schedule for the Small Group Forums because the students had to read the applicable journal article, papers from two different groups, and then prepare a posting within the time allotted. One student called it a “logistical challenge” (Ken). The Guest Forum – a discussion with the visiting expert – was scheduled at the same time as the third Small Group Forum. Students felt the scheduling problems in this course limited the amount of interaction on the Forum, and, at times, the depth of ideas shared. Nicole said that although they needed time for reflection and deeper learning:
having to dash off to the next topic, paper, assignment, is mitigating against that deeper level from happening.... Now the other side of that is that maybe the Discussion Forums will begin to pall, and fade, and lose momentum during that reflective period. Maybe we need to be hurried along to the next one to maintain the energy (Nicole).

Although the students described using asynchronous text CMC in all of the course activities, their conversations about the interactions on the Forum and in the small group for the Group Task were distinctly different. Therefore, throughout this analysis I will distinguish between the students’ comments about the interactions in the Group Task and the class discussions on the Forum. In the rest of this chapter, particular themes are explored that arise from the interview conversations and that relate to the study questions and the pedagogical claims of online distance education as an opportunity for social-constructivist learning. The next part of the analysis relates to the class interactions on the Forum – the Discussion Forums, Small Group Forums and the Guest Forum. Then, the analysis focuses on the Group Task and the interactions and activities in the students’ small groups. In the final part of the analysis, the students’ descriptions and perspectives relate to both the class discussions and the small group interactions in this online course.

Interactions by Asynchronous Text CMC on the Forum of an Online Course

Active and Engaged Readers and Writers in the Text Discussions

In this online course the students participated in literacy activities that created text discussions on the Forum of WebCT. They described themselves as active and reflective readers and writers engaged in a valuable, yet time-consuming, exploration of the course issues. As a result, the “talk” by text has facilitated the kinds of thinking and learning expected in higher education.
When I asked students to tell me about participating on the Discussion Forums, posting messages was the predominant topic in their conversation. Although they spent much more time reading the Forum discussions, they associated writing and posting messages with participating and making a contribution. Reading and reflecting on their peers’ messages was a significant aspect of the students’ participation, too. All of the students said reading took a lot of time and they felt it held a high priority in the course activities.

Even if I haven’t got enough time to post, I definitely want to read what everyone’s said because I feel enough valuable stuff is being said...I want to make sure I read those discussions, contribute if possible, because they will augment what’s being offered in the course (Gary).

As the students read and interacted with the text messages posted on the Forum, they made choices that directed their reading patterns. In one pattern the students began by reading and taking notes on the course materials and then they read the posted messages. They read through every message on a thread, or all of the new ones, as well as any student papers attached to the forum. Other students were more selective in their pattern. They skimmed many of the messages and only read certain ones in depth. Eleanor said, “I see the names of the particular ones [students messages] I’ve found to be particularly reflective, those might be the ones I read first.” Although she read other messages, too, she first chose from the students and the topics that related most directly to her work. Mark says he doesn’t have time to read all the messages so he looked for a “really good posting on an interesting topic...if it’s particularly thoughtful or thought-provoking.” Mark and several other students said they printed and saved worthwhile messages so that they could read them in more depth when they had more time. A few students also discussed the effect of their learning style on their pattern of reading on the Forum. For instance, Nicole is an avid reader and finds text an easy medium, so she said she just seems to
absorb the text. Meanwhile, Eleanor said that reading is a challenge for her and, as a result, she needed to read and re-read to get the intent of the information in the message threads.

The students described reading as an active and reflective process of understanding the text discussion. They looked for topics in a series of messages – a thread – that formed as the students posted their contributions. As they read they also developed their own ideas on the topic which they then compared with the messages from their peers. Debra says she read to get a feel for the topic of the new messages and as she read she stopped to reflect on the information.

I guess as I read through those [messages] I’ll try to just read them thoroughly to try to gain a feeling of the discussion. Like yesterday I read 50 of the comments. I read them through and I stop and try to reflect on them and think ‘what does that mean for me?’ and try to reflect on that (Debra).

Eleanor said she often read the thread, and then went back to read the course content materials to integrate the ideas from these sources.

I enjoy reading the comments, going back to the original study and reconsidering what I’m reading on the basis of people’s feedback. It’s interesting to see the different perspectives and how people read and interpret the information differently, at least sometimes. And then contrasting that with the theoretical foundation that’s been laid in the class. So I appreciate seeing how other people are making connections and having that reinforce my own thinking, or expanding on the way I’m thinking about it and giving me a new way to apply the theories or giving me different perspectives on a study (Eleanor).

The students described writing and posting messages on the Forum as a contribution to the learning environment. They wrote to communicate with others, to fulfill the course requirements, and to do their part. They also wrote because writing, itself, is a way of learning. The students described the process of writing a message and the styles and patterns of their messages and participation. These descriptions illustrate a range in the typical number, frequency and length of each student’s postings. They also described the different ways they used the
computer as a tool. Most wrote directly to the WebCT Forum while a few others used a word-processing program to write and edit first. Although a few students mentioned they wrote with a conversational style, the messages were academic in content. Ryan said the postings were like academic literature. “It is a graduate level course and most people are competent writers. Most people are able to express themselves clearly” (Ryan).

In one aspect of writing messages, the students shared a common perspective: they wrote, revised and considered the content of their messages in light of the reading audience – their peers and the tutor. Ken said he considered the amount of information he needed to include, and whether or not he should write a detailed account, a summary, or just a question.

You sort of wonder how much colour you want to keep in to get the message across.... How much detail you need to provide, to help people understand what you’re saying. As against what the other strategy is. One strategy is to provide detail, the other is simply to challenge, to sort of think of a question but not provide the detail. If you want to make a point I suppose you can say, ‘well have I thought about this, and do I want to make a detailed, reasonable argument?’ Or ‘have I thought about this, and I think it’s an important issue but I don’t want to write for half-an-hour, so I’ll put a short question up and see how people respond’ (Ken).

Although a few students said they wouldn’t revise a short comment or response, most of the students re-read a message to ensure it made sense. This involved checking the mechanics, such as spelling and punctuation, and reviewing the content for substance, unity and coherence. For example, Nicole sometimes changed the order of her points and added ideas that further developed and extended her thoughts. Several students specifically stated their intention to write clearly for their audience. Howard said he reviews a longer reply of about 300 words because he doesn’t want others to wonder, “What did he say? I think he meant to say this...” (Howard).

Another common aspect in the students’ descriptions of their writing processes is the substantial amount of time they took to prepare and write a message. Some replies were posted spontaneously, however, most of the students said they chose to be more reflective, particularly
when they wanted to respond to a complex or detailed discussion thread. Prior to writing their own message, the students said they read the course materials and reviewed the available literature (offline and online) to investigate the topic in more detail. They would also explore their own resources, such as notes in a course diary or materials from their workplace. After this period of investigation, the students would organize their thoughts, summarize the comments of the relevant postings, and then write their message. “You have to take more ownership, synthesize from your point of view as well as synthesize from others. I think it’s almost more complicated than trying to be spontaneous. I think you’re very reflective and this allows you to do an analysis or an inquiry” (Debra).

The students found the Forum to be a useful medium because they could take the time they needed to write these kinds of messages. Mark reported that, in comparison to a classroom conversation, the Forum gave him time to think through all aspects of an issue and the consequences of what he was going to say before he wrote a message. As a result, the topics are discussed in a more thoughtful and insightful manner and the questions asked are more penetrating. For instance, in response to a challenge to one of his ideas, Mark went back to the literature to make sure his thoughts were credible and academically defensible.

Like this question on our assignment, which was a question based on a section that I had done and a very direct question. I took the time because I wanted to make sure that I hadn’t said something that was off the wall, either. So I researched it carefully, spent probably an hour just researching it, making sure that I knew the answer and that I had enough sources to back up what I said (Mark).

Gary said that although he prefers face-to-face learning environments, the Forums provide him with the opportunity to write reflectively. “Sometimes committing things to – I was going to say paper – but committing things to writing helps you formulate your ideas more clearly than if you’re just sitting around talking, and that can be valuable”
Several students noted that having the time to formulate a response is especially important in a text discussion because it is a permanent record within the course and because you don’t see people you are talking with. To some, this meant that using asynchronous text CMC could also make participation in an online discussion more equitable.

Folks who do a better job of thinking on their feet don’t have an advantage over those who need more time... once it’s posted, we don’t know what went in before it. Did someone just do this off the cuff, or did they plan this, draft it, edit it a bit and then post? We just don’t know (Eleanor).

Reading and writing in the online text discussions are interactive rather than distinct literacy practices. In most cases, the students said they wrote their messages in the context of the text discussions underway in a particular thread. The back-and-forth interaction started with one text message posted to the Forum “Topic” and other students replied and reacted with comments, questions and clarifications. Although the students said it was a challenge to be an active participant, once they were involved they found they were motivated to keep involved. For instance, they would go back to the Forum to look for further postings on a discussion thread they had been reading, or to check for replies to one of their own messages. “Not that I really think that’s going to happen [every time] but there’s that sense of ‘I wonder who’s going to say what to my post?’” (Nicole).

All of the students said that personal and/or academic interests in a course issue were incentives to contributing to a discussion. For instance, Ryan posted a question about the process of collaboration in a distance learning environment. He was interested in discussing online collaboration while they were in the midst of the experience. The core content of the course was the focus of many of the threads. Students responded to and asked questions about the articles they were reading and the criteria they were developing to evaluate the research in
the field of e-learning. Howard described his experience during one discussion. He had been puzzling over one article when he noticed others discussing the same problem on the Forum:

And I threw in my comment that I was puzzled. I was looking throughout the article for anything that substantiated any of the claims that [the author’s of the article] said they were going to investigate. And one of the things in their initial paragraph that was interesting to me, wasn’t dealt with in their conclusions and in their results. And my comment was, ‘so I was most interested about this claim, and then in the end it hadn’t been there at all.’ And that was my part. I responded to the discussion that was already going, and I added to the mix, and then someone responded to me (Howard).

*Exploring Content and Extending Understanding in the Text Discussions*

Throughout the interview conversations the students reiterated that the primary purpose of interacting with others on the Forum was to communicate about the course content. All of the students connected their active and engaged roles as readers and writers to exploring topics and gaining understanding in the knowledge area of the course. The students said that the interactions allowed them to exchange information, ask and consider questions, and reflect on the ideas and issues of research methodology. They read the assignments of their peers which were posted to the Forum and encountered a range of understandings and points of view. The students said these interactions developed their ability to evaluate the research in the field of e-learning. The students also found these interactions were relevant and applicable to their current workplace practice.

The students said that the interactions on the Forum led them to explore their understanding of the course topics and issues. The discussion threads acted like a “sounding board” because the students could compare their ideas with their peers.
It's nice to have this asynchronous discussion cause you go, you read, you digest, and then it's almost like a sounding board. You can put your ideas down on [the Forum], you can get a reaction and you think, 'someone else thinks like me' or 'I was on the right track'... In other instances, you read someone else's message and you haven't looked at it in that perspective and you go 'oh yeah, that makes sense' (Howard).

Having the same understanding as others was valuable, especially for those who were wrestling with new language and concepts. “Sometimes I feel validated when I think I have the same ideas and I see someone else posting that [idea] and I think, ‘wow, I have captured some of those same views’” (Debra).

Some students described interactions that reinforced their curiosity and prompted them to consider more ideas and other perspectives. As a result, they did more study and research than they would have on their own. Nicole said that an interesting question in one discussion prompted her to look for information and articles on the use of Likert Scales in research studies. After reviewing the information she had found, she returned to the discussion forum and posted her findings for others to consider.

Someone had asked a question and I was responding to that. So if someone hadn’t raised those questions I probably wouldn’t have [done the further research]. Even though in the back of my mind I was saying, ‘I don’t like this,’ I probably would have let it slide. But the fact that somebody else was also feeling this, and I was curious, it reinforced my own curiosity (Nicole).

Eleanor said that she did some further study of an article that was being reviewed on the Forum because she disagreed with another student’s critique. She decided to go back to the article to find information to support her point of view. Then, using paraphrases of the article as evidence, she posted a reply that stated her point of view. The students said that this process took a lot of time, but it contributed to the quality of the discussions.

Although people did disagree or contradict one another, the students said the different perspectives were often expressed as suggestions of things to consider, or as different opinions
on what was good or interesting or not. Ryan’s example is from the discussion his group facilitated in the Small Group Forum. He said that one student had asked some questions on issues that,

were really appropriate and things that we didn’t even think about when we wrote our paper and I thought that was very cool and I thought, ‘yeah, we should have dealt with that.’ I felt that it was a really positive thing, having somebody else look at the paper and offer their own look at it in a way that we didn’t think of. That was good (Ryan).

In another discussion thread, Ken said he made a statement that questioned another group’s critique of a research article. He then got a reply that was long and interesting. “It went back to the texts and quoted material from the text... and obviously they [the student who wrote the message] had sat down and put some time into putting a response together.” As a result of this clarification, Ken said he started to think about aspects of qualitative case studies in new ways.

Some students described the Forum discussions as an opportunity to learn from different ways of analyzing and synthesizing ideas. They were challenged to reflect on the ways they were thinking through issues and to evaluate their understanding and need for knowledge. For instance, Gary said that some students’ messages were “sophisticated.” These were written by people who are able to see beneath the surface, who are able to understand the implications of certain things that are being said better than others. People who are able to draw connections between at first, seemingly disparate data, that actually makes sense. Some of it is the way that some people’s minds work and it also is a mix of experience, background, training, that sort of thing (Gary).

Mark said that these discussions were enlightening and they encouraged him to study and think further or in a different way.

Some people are very insightful with their thoughts about the particular research study and some of the things that could have been done or should have been done or weren’t explained fully. So it’s always been enlightening to read the people that are asking
questions. And everybody comes from a different angle, a different way of looking at a topic. And that's a valuable thing, just like a class (Mark).

Most of the students said they were also relating the information in the Forum discussions to their work environments. Some of the students were reading the threads for comments and references to the literature that are applicable to their day-to-day work. Eleanor said that she posted a comment and asked some questions in the Guest Forum related to budgets and administration – a concern in her university. Exploring this topic with the guest tutor and several students expanded her perspective on her question. In another reference to the discussion thread on the use of Likert Scales mentioned earlier, Debra said she felt she could incorporate this information into her work.

Well, like last night, there was a woman talking about using the Likert scale and she had done some independent research looking at that. And I had just spent some time designing an evaluation tool in one of my work groups and I found that it was really interesting to see what she had done and how she had gone a little bit further in looking at that. And so, for example, that would be one thing that I would like to do, go back and look at some of the hypertext links that she gave us.... And so what she was saying I thought it would be something beneficial to look at (Debra).

Students' Perspectives on the Tone of the Text Discussions

Throughout the interview conversations the students remarked on the respectful tone of the interactions and the openness to different points of view or levels of experience they found among their peers. The students said they could present their point of view on issues of the course and agree or disagree with one another, which was necessary in a learning environment. Challenges and questions are part of a “good lively academic debate” (Howard) “part of a good academic atmosphere” (Mark). Several students have experienced online interactions in which aggressive or dominating messages have occurred but they said this was not a characteristic of
this course context. On the other hand, Gary suggested that they were sticking to the topics and “we’re all being so polite that some of the differences are probably being obscured” (Gary).

All of the students described the posted messages with these kinds of adjectives: “respectful,” “civil,” “diplomatic,” “collegial” and “professional.” Gary explained his use of “civil” with one example. The tutor had posted several samples of course evaluations for the students to compare and then evaluate as to which one they would use and why. Even though students posted messages that disagreed with one another’s point of view, the differing opinions were stated without negative emotional language, compliments were included with the critiques, and reasons were given to defend positions. “People understand either instinctively or their education has taught them, that critiquing is not just saying what was wrong with the thing, but critiquing also involves saying what was positive about a piece of work” (Gary).

The students said the nature of the discussion was not different, nor should it be different, than the respectful and courteous behaviours of the workplace or the classroom. They cited particular language that encouraged their participation and willingness to express their point of view. For instance, people acknowledged and thanked others for the contributions and made positive statements like, “I agree with your comment” and ‘you have an interesting point’…. “When people disagreed with one another’s analysis in the small group papers, “people would say, ‘I don’t agree with you, but you had an interesting perspective,’ like you would interact in class. You’re not going to put someone down for that but you can disagree respectfully” (Debra).

This manner and tone communicated in the messages was similar to face to face communication but some students felt that extra attention was needed with asynchronous text CMC. Howard said that people wrote with

common courtesy… patterns of behaviour that we have just in general society that come out naturally in this environment. I haven't seen anything that seems particularly unique
in this environment except for the emotions, to make a smiley face, etc…. It seems just like what we do everyday in face-to-face just gets carried over into here (Howard).

At the same time, Mark said that the nature of text makes the tone of the message especially important.

Some people like to type something up really fast and then hit enter and they set a tone in 5 minutes that may take hours to undo in terms of hurting people’s feelings or making a statement that’s indefensible and cannot be substantiated. You have to be thoughtful and careful with what you say because your words can come back to haunt you (Mark).

Ken said that when he asked a question or made a challenging statement he checked that his argument was clear but also tentative, and open for discussion, so that people wouldn’t be upset.

In a sense, what you’re trying to do is to not only to make your point, but to make sure your point gets through…. Communication is a fairly ambiguous process and I’m trying to make sure I’m treating it that way (Ken).

Students’ Perspectives on the Challenges of the Text Interactions

The interview conversations also revealed obstacles that limited or hindered interactions in the discussions on the Forum. The students described this learning environment as interactive but one that required purposeful and meaningful communication at the academic level of the course content. Also asynchronous text CMC alters the flow of the communication and the connection with others in the discussions that take place. As a result, there was some uncertainty and unpredictability in the online learning environment.

All of the students talked about the importance and the value of participating in the interactions on the Forum but they also felt that they were less connected to their peers in the online class discussions. Even though a person’s name is posted with her/his message, it was
difficult to remember the association between the names and the messages. As a result, the students tended to follow the ideas rather than the individual in the discussion. Several students said they recognized the names of a few people, especially those who participated regularly; however, from the number enrolled in the class they knew there were others who weren’t posting. Debra recognized that it was difficult for others to know her because she hasn’t been a very active participant. “I don’t know if they’ve really gotten to know me very well because I haven’t been an active participant.... I’ve kind of focused on my assignments and the reading and so I haven’t really participated in the Forum like I should have” (Debra).

The students also said that they were presenting themselves through their postings, replies and questions to their peers and the tutor. They were influenced by grades and the tutor’s evaluation on their participation, as well as their own expectations.

If you want to appear intelligent or academic in an academic course, you want to make sure you have your facts straight. You make sure you have somebody who’s going to back up what you’re saying in an academic sense....the word intelligent might not be the right word, but you have to be academically credible so that you’re just not spouting as some people do.... Unless you have some substance to what you’re saying they’re going to lose respect for you and your credibility is shot (Mark).

Some students were limited by their experience with the course content and the level of the discourse. They said that it was not easy to admit what they didn’t know or to make mistakes in front of others in the text discussions. Also, they could only respond if they understood what others were saying or if they had sufficient experience of or knowledge of the topic.

Maybe if I don’t understand something....Some of the people have been at this longer than I have. Maybe it’s their last course and this is my first.... Sometimes I get a little lost in the conversations. Sometimes there might be so many messages to read that I skim through and the one’s I understood better, and I am interested in are the ones that I hone in on (Howard).
The students commented on the high quality of the postings in this course, but for some students these lengthy, elaborate and well thought out messages made them hesitant to post their own messages. Debra found it difficult to add to ideas already presented because these postings were very complete and concise. “With a greater knowledge base and ease with the content, I think I would feel more comfortable with commenting” (Debra). Ryan, however, was able to post more messages as his understanding of the course topic developed and as he noticed a wider variety in the quality of the messages.

Within each course, as you read more and more of the postings and you read your postings in the context of the other postings, that you either get more comfortable with your level of posting or not. And if you get less comfortable you probably post fewer and fewer messages.... As you get into the course you read more and more posts and you realize that they’re not all brilliant. That’s why I say I’ve gotten more comfortable in postings (Ryan).

In contrast to this challenge, some students said the discussions were less relevant when they understood the issues too well. If the messages on the Forums didn’t help them to explore their interests and extend their understanding, then their participation waned. In this course, almost all of the students participated much less toward the end of the scheduled discussions of the small group papers [during Small Group Forum 3]. According to several students, the comments and themes in the analyses of the journal articles had become more repetitive and there was less discussion as students moved away from the Forum to their final, individual assignments. “What emerged as themes were similar to what had emerged in the earlier papers. We had all said pretty much what had to be said” (Eleanor). One of the leaders of this third discussion made a similar comment.

I tried to respond to one or two things other people said, and so did other members. And it was fine, but people weren’t posting as much. They’re working on their final papers and people had used up all their energy on the previous papers (Gary).
Other challenges were related to certain characteristics of asynchronous text CMC and the impact of these characteristics on the interactions on the Forum. Contributing at different times and by text led to some unpredictability and uncertainty in the interactions. Although the students liked selecting the times they could participate in the asynchronous online discussions, the flow of the communication among their peers was interrupted. As a result, at times there were responses to their messages or answers to their questions – and at times there were not.

Do you find that people respond?

Not as often as I like but you’ve got to expect that. People have to have time to put their own ideas up. It’s like fishing. Part of the experience is going around and throwing the bait in the water and that sometimes you don’t get a response. It’s like the tide’s not right (Ken).

As a result, some conversations didn’t continue and the feedback necessary for understanding was limited. Most of the students said replies to their messages on the Forum were a measure of whether or not they were understood by their peers. Some students said they “think” they were understood, or “as far as they knew” they were understood, but sometimes there was not enough of a reply for certainty. “You don’t always get direct feedback. Other people will say, ‘yeah that was a good point, bye’” (Gary). Eleanor said that the features of text communication limited the feedback, too.

Because I don’t know these people and I don’t see their faces and I don’t get their feedback, I don’t have that back-channeling that is so important in face-to-face communication. It helps to guide you as to whether you’re being appropriate socially, or whether what you’re saying is useful or not useful (Eleanor).

For several students who feel real-time interactions are more suited to their nature and to feeling a part of the dialogue, these characteristics limited their participation in the online discussions.
While some of the students wondered about the clarity or relevance of their message when there was no response, they also expected this characteristic in the online course. They understood that students could be offline for several days so conversations were delayed or discontinued. Questions that had been posted wouldn’t be answered directly and conversations waited for a response from another speaker. At times, the students knew they had posted their message too late in the discussion period to get a reply.

Sometimes questions just get left hung. They’re posted but they don’t get followed up on. That’s happened for me a few times. I’ve offered an observation and asked if this sounds reasonable. Sometimes this gets responded to, sometimes not. But that’s not just me. I see that happening with the students all the time. It seems to be a matter of if you’re posting early in the thread of a discussion or if you post later because if we’re making a transition then I do think that things do get left…. I don’t think that’s happening in some appropriate level, however…. And then if no one responds, that’s when the tutor will step in and offer some insights (Eleanor).

This also did not mean a message wasn’t read or considered worthwhile.

It depends on the group; what might be really interesting or intriguing to me might not be to them [other students]. Or they might just read it and just because you don’t get a response doesn’t mean it didn’t impact them (Howard).

On the other hand, the lack of responses in the Forum may not be that different from those in a face-to-face classroom. One student, Nicole, said that it is just easier to see an unanswered question or an incomplete discussion in the text discussion.

I’d say that in a face-to-face situation, because the discussion is so ephemeral, you’re not as consciously aware sometimes of questions that have not been completed, haven’t reached closure on. And it’s a fact that they’re there on the discussion board…. I think that the difference is, in a face-to-face environment you’re not consciously aware of it and it happens. It probably happens a whole lot more because we’re constantly moving on to the next thing, and because discussions are more ‘all over the place’ and disorganized in a classroom setting (Nicole).
A further challenge to the interactions was the number of people participating on the Forum. The students said that the interactions were affected by the size of the group during the online discussions. First of all, there were just too many messages. “There are just more than I have time for...and that many of the contributions are too verbose” (Eleanor). Then, sometimes there was a lack of coherence in the Topic if the thread became loosely structured with the many different interests and points of view stated at different times. If the message thread got too long, then integrating the new messages into the conversation also became difficult.

You’ve got a whole lot of people putting up different points of view. It’s not always structured around a topic to be able to come to grips with the different points of view in one sitting. It’s challenging if you’ve got ten or twelve people contributing. But if you hop on everyday, you might only have three or four new contributions and you can conceptually come to terms with that (Ken).

All of the students said that the Group Task with a group of their peers was an opportunity to overcome some of the challenges of the Forums. The smaller group provided some of the certainty and connection to help them deal with communicating by asynchronous text CMC in distance education. Mark says that small groups are valuable, even in a face-to-face class but that they are particularly valuable in the online courses.

I think there’s really more community building [in a small group] and it’s necessary in an online class because you don’t know what the person looks like, you don’t have the body language, you don’t know their facial expressions. There are a lot of things you can’t judge. And so to remove one part of that barrier there has to be some attempt at a small group, connecting with a small group within the big course itself (Mark).
The Group Task: Meeting the Challenges in an Online Distance Learning Environment

The Group Task had a different size and purpose than the Forum discussions. Each group was only four or five people, not 22. The students worked online with a particular goal – a group paper that would be shared with the rest of the class. They participated regularly with the same people and they kept within the time scheduled for the assignment. The students described using the Forum, WebCT mail or email to plan and carry out the project. Then they facilitated a discussion on their paper in the Small Group Forum.

In most cases, the students described their experiences and attitudes very favourably. When interacting by asynchronous text CMC, they preferred working with a smaller group of people and for a particular purpose: “I love these”; they are one of “my more favourite activities” (Debra); I “thoroughly enjoyed the collaborative assignments” (Eleanor); and “the most valuable exercises that I’ve done are the collaborative exercises” (Mark). One person I interviewed had a different perspective but he attributed some of this to the difficulties with his group. “I can appreciate the theory of doing collaborative work online and it is valuable, but it is the toughest part…. And again that’s because of the group I was in, that it was not as collaborative (Gary).

The interviews were also conversations about the processes the students experienced in the Group Task. They related details about the decisions made in each group, the ways the groups proceeded, and the means they used to edit and complete the group paper. They also discussed the problems that arose in their groups and how the groups coped and resolved these problems. I did not ask the students for details about the members of the groups nor did I get this information from the tutor. I wanted to respect the students’ confidentiality in the study and it was not my purpose to compare or clarify the different stories. Thus, in the following descriptions, I treat all of the information I have gathered about the small groups as separate
cases, except for the group of Nicole and Ken. Nicole and Ken were the only students to mention each other with details that confirmed they were in the same group. The remaining six students were in at least four, and at most 5 different groups.

*Interactions during the group process*

The Group Task was structured by the course designers but each group could follow their own process to reach their goal. Knowing what to do in the group, however, was not a certainty and each group evolved under the influence of an individual’s contributions. In several cases the students just assumed that the group would know what to do. Nicole said she really enjoys these group tasks so she didn’t think about “how” except to “just go for it.” Others have learned from prior experiences in online groups. Ken says,

In one of the first groups I was in, our first response was to do nothing and then the time line got really difficult…. The next course I did I had a better idea of what was going on and it wasn’t really important to structure your ideas, but it was important to get something started, to do something. And then the structure develops along with the ideas…. So this is my third course and things seem to flow a little more smoothly (Ken).

The groups were also responsible for facilitating the discussion on their paper in the Small Group Forum. Although one person’s task was to post the paper to the Forum, the students said they did not plan or decide on roles, such as how they would lead or respond to the discussion that would take place. For instance, Mark said he answered questions that were directed to his part of the paper and he just assumed that the rest of his group would do the same for their parts. “It was just an expectation” (Mark).

Most of the students said that each person needed to do their share or “pull their weight” but that the meaning of this would vary throughout the project. There could be a mix of abilities and backgrounds as long as there is some degree of expertise among the members. Mark said
that, in different parts of his group's process, different people took leadership. This was not a plan; "it evolved. Leaders became leaders that one time and dropped back the next, whatever you had time for. In the end it worked out. If everyone had been reticent we might have had some problems." The connection that formed in the small group helped the students to deal with understanding one another during the project work. Ken says,

There's the issue of everybody contributing equitably to the group but part of the equation is not just the time you put in, but the capacity you've got within the circumstances you're in. So if you understand some of the social issues and the backgrounds, then you say, "oh yeah, that's why this is happening this way. That makes me feel fairly comfortable with people making different contributions (Ken).

The groups organized the task in different ways but they followed one of two basic approaches. In one approach a group member made an initial suggestion, the rest of the students agreed, and they very quickly established a division of labour for the assignment.

It just happened very quickly where people just divided up different areas that they wanted to do. One of our group members suggested we use one of the frameworks from one of our books and I had just finished that so I agreed with that. That would definitely be a way to frame our analysis. So we all moved to a quick decision on that and we just divided it up.... It was very to the point, delegating tasks, how do we get started, how do we do this (Debra).

Another group that used this same approach encountered difficulties, however, because the tasks were not clear. In particular, the student who became the final editor of the paper did not realize, until later in the project, the extent of the task he was signing up to do. In a second approach to the process, there was also an initial suggestion from one student, but the others added to or subtracted from the steps according to their preferences. The discussions in these groups involved more negotiation but this was accomplished fairly easily. None of the groups discussed ideas to develop sections of the paper prior to contributing some form of a written first draft.
The groups were successful when the members listened to one another and had negotiable positions. Mark says his group worked well because everybody has to “give and take a little bit and you have to listen to the group. That’s my point of view.” For example, Howard had suggested one process to his group but he was willing to consider the advantages of another group member’s idea,

There’s more than one way to skin a cat. And this [the other suggestion] got us to go where we needed to anyways and we got there quicker this way. The other way there would have been a lot more ping-ponging of messages back and forth and building up a document and adding to it and so on before we could go on and elaborate it. This broke it down into tasks so it did the same sort of thing (Howard).

During the writing and editing stage of the assignment, the groups were more varied in the ways they reached their final goal. One group worked very independently and the group members had difficulty completing the project as a group. In the other groups, the students worked independently on sections of the task but then they worked together at the editing stage. When the various group members were online regularly – even though asynchronously – during the task process, the groups were able to work together on the project and the students reports of the group experience were positive. However, students from several groups reported the effect of members being offline. For example,

One of the people in the group ended up with some commitments during our peak work periods that meant he never tended to be online to contribute to the final refining of the process and edit of the paper….He expected to be away for a day and it ended up being two days. I think we had enough content and general agreement that we had something to work with, that it wasn’t going to be a problem….But if we didn’t have the actual structure then it would have been a problem if he couldn’t participate (Ken).

At particular points in each group process assistance and negotiation among group members took place. The students described the particular roles that were needed and subsequently filled to complete the task. I have summarized the descriptions from four groups
because they illustrate one of the processes described in the interview conversations. I have not synthesized information from the narratives of different students, except for the information from Nicole and Ken who shared the same group. The following descriptions are presented from the most independent process to the most collaborative.

*Independence*

Gary’s group used email and each person wrote one section of the paper and submitted it as a first draft to Gary to compile. Gary said his group had one person with health problems and another who was away for almost a week. Another person did part of a first draft and then didn’t send the second draft promised. For a time they had little or no communication within the group and he wondered if he should have used email to maintain more contact while waiting for the drafts. In the end, Gary finished the partial first draft and edited the paper on his own. Therefore, he said they did not really have a group process, especially as he wrote the final draft without any feedback from the rest of the group.

*Cooperation*

It took Mark’s group a few days to confirm the group members so they needed to get started quickly to finish by the due date. They each wrote a first draft of the section of the paper they had chosen to write and then exchanged these drafts with each other to edit. Mark said that the ‘track changes’ feature of *Word* was useful for this. People made suggestions to one another but Mark worked on his section the most to ensure he was doing his part. He said that one student had contributed a first draft that was weaker than expected. One of the other group members had pointed this out, bluntly but without “nastiness.” The writer of the section agreed with this critique, and then the group worked together on the revision. Mark said, “I don’t think
the person was offended by that. It was just a recognized fact that you have to do it.” One person compiled the different sections, they each had a chance to contribute some final suggestions, and then the paper was posted to the Small Group Forum on time.

_Cooperation and collaboration_

The people in Howard’s group each wrote one component of the framework they had selected and then they sent this to a central editor to put together. The editor sent the compiled draft back to each person and the group members critiqued each other’s sections. They asked, “what did you mean by this?” or made suggestions, “you could write this like this.” One person was busy so Howard helped with this section of the paper, too. It was a section that included content he had studied so he was able to add something further. This group also used ‘track changes’ in *Word*. They could see their peers’ suggestions and changes and then make comments and ask questions right in the document. Also, because they were using a central editor, Howard said they were always working on the one current draft that was circulating. The editor then implemented the changes from the group in the final draft of the paper.

_Collaboration_

The group that Ken and Nicole participated in used a different process than the others for the first draft. They each worked on writing a shorter version of the whole paper, rather than one section. Then one person merged these drafts into one paper for the group to work with. At this point, each person began to focus on certain sections and they wrote and edited in the context of the whole paper. Nicole says, “this was done very much on a collective basis by writing parts and moving things around and highlighting things and putting new things in and putting revisions in one colour and underlining things in another colour so that you could see the work in
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progress” (Nicole). Then, when they had the order and the ideas they wanted, Nicole reduced
the length to an appropriate level. Ken did the final edit and he said making concessions and
including each person’s voice is important at this stage.

“For group ownership of the paper it’s important to have the words and voices of the
different members. The person who is editing doesn’t take the people’s summaries and
write it in their own words...especially when this might be their first course, or English is
a second language, or they’ve got different backgrounds that need to be valued” (Ken).

Although their final paper contained different points of view at this stage, he said this was useful
for stimulating discussion on the Small Group Forum.

These comments are particularly relevant for Ken and Nicole because one person in
their group had difficulty connecting with the others and contributing to the paper. Ken and
Nicole were both uncertain about what to do at this point but they tried to solve the problem.
Nicole thought that their group process might be unclear, so she posted a message that stated
her understanding of the steps and their goal; however this didn’t have much effect. Ken
used email to contact the student directly and encourage him to contribute a draft related to
the assignment (an analysis of a research article). Although this student did send a draft his
contribution related an experience in his school to the topic and it did not address the
research methodology. Nicole said the two other members of her group responded with
some encouraging comments and, also, found ways to incorporate some key points into their
group paper. “The [other two members in the group] responded that it was an important
issue, that their experiences were comparable....So what they did was summarize two key
points out of his words” (Nicole). In the interview, Nicole complimented Ken and the third
group member for getting this person involved. In Ken’s conversation, however, he said he
felt uncertain during these negotiations. He was wary of using the text medium without face-
to-face or voice communication to solve this kind of group problem.
Opportunities in the Small Group Interactions by Asynchronous Text CMC

The small group provided opportunities for students to connect with a smaller number of people during one block of this course. Students saw the benefits of interacting with others in a purposeful way as they worked on a task toward a shared goal.

Each of us contributed aspects that would not have been there without the participation of the other people in the group. And that’s what it’s all about. You get a more rounded, fully reflective and more thoughtful reaction, assessment, reflection – whatever you want to call it. I think that’s the real strength of the group work (Nicole).

The students said they felt a greater responsibility to participate in this small group task.

Compared to distance education in which students work independently, or compared to the Discussion Forum where a larger cohort is available, this task required participation with others within a particular time frame. They also knew they were responsible to themselves and their group members for the quality of the completed project. The group paper would be graded but it would also published on the Forum for the rest of the class to read and discuss. As a result, some students were more committed to participating in the small group than on the Forum.

“There’s kind of a back-off attitude – at least that’s my personality – when you’re posting to 30 people and you say, ‘well, I’m just one of 30.’ But when you’re one of four and you have a section to do then it’s incumbent among you [sic] to do a lot more and to contribute a lot more. And the expectation that you don’t want to let the group down, and that you want to appear intelligent. And that’s important” (Mark).

They were also able to interact with people in their group in more personal ways even though the goal was to make the project successful.

We have a very broad common goal with students in the larger discussion group – but in the small group you have a common goal that ends up being product-oriented and so it requires people to reveal their strengths and weaknesses more quickly in order to allow the group to be more successful.... And so right away you get people revealing things about themselves that you might never find out about them. And it allows you to connect – like, ‘I’m not very good at that either,’ or ‘I am’ (Eleanor).
Even after the small group task, however, the students said they only got to know their peers “to a degree” and “in a sense” through the course activities.

Some of the students wanted more opportunities to work in the small group. They said they needed more time in the Group Task to discuss and edit their paper in a collaborative way. Then, they would also have liked more small group discussions throughout the course. Debra said that more dialogue in the small group would have facilitated her participation.

For example, I think once you get to know that group, you could even do some exploration or evaluation with those same people. I felt like we could have used more time exploring our own issues. We spent a lot of time completing our task and making sure our assignment was handed in on our deadline. But I had some issues I wanted to talk about with our group before we had other people commenting. I wondered if we shorted the process somewhat (Debra).

Ken said that in groups of six to eight the dialogue can get going and there’s “more of a perception that everyone’s going to get their turn” (Ken).

*The Extent of the Communication in an Online Distance Education Course*

The students I interviewed participated in this online course without using face-to-face communication with their peers. The relationships and understandings that developed among the students occurred through the text messages of CMC and not from sharing a common physical space such as a campus classroom. Through the autobiographical messages (Bios) posted at the beginning of the course and asynchronous text CMC on the Forum and in the Group Task, the students communicated some of their interests, backgrounds, and perspectives to the class.
Knowing their Peers in Text Interactions

Students found the text messages included information about their peers’ workplaces, educational experiences, and geographic locations. “Well, there’s quite a geographic distribution. I would say there has been an extensive geographic distribution in all of the courses [in this program]” (Nicole). “It seems to be very diverse. They come from many parts all over our world and they come from different positions” (Debra). “People from Canada, some people from the U.S., some people from Australia. Some people from business, some people from university backgrounds” (Mark). There was language diversity as well, even within the English language, as messages contained particular social or linguistic nuances from different parts of the world. Also, some students in the course use English as a second language. Only two students mentioned gender: “I don’t know the gender issues, but my feeling is there are more males than females but I haven’t really noted that...I just wonder if there are more males than females” (Debra). And two others noted the age range as “mid-30s to 50s or even 60s” (Nicole) and as “older people who are probably working” (Ryan). Several students said that they could make some inferences about diversity from comments in the Forums. For example, “in terms of diversity, people also post in ways that people may assume access to computers.... So others will say ‘well, you’re assuming that.’ I guess this might reflect socioeconomic diversity” (Gary).

Other inferences were made from the text messages, too. The students got impressions of their peers from a pattern or style of writing, such as the use of personal expressions, features of polite speech, or humour. Nicole said,

the most frequent participators you really begin to develop a sense of personality about them.... Some people will be more personal, more self-revelatory about their experience and the basis for their making a decision. Others will be more likely to refer to the literature as opposed to their experience (Nicole).
Ryan, however, said the text messages, even though they contained different points of view on different issues, didn’t reveal “distinct characters.”

Maybe I’ve fabricated an idea of who they are by reading what they’ve written, which is probably nothing like what they are... And so just as when I read a research article, you sort of get some idea of the person that’s writing it, but not really. You’d never to be able to make a judgement on what they’re really like. Similarly in a [Forum] message, even a number of them from the same person, you really don’t get a sense of who they are (Ryan).

The interactions also revealed the variety of expertise in the class in various areas, such as in graduate studies, in the use of technology in education, and in the practice of qualitative research. From the quality as well as the content of the messages, some students recognized those with experience in the content of the course.

I’ve really been impressed with the level of ability in our courses. It seems like pretty high quality... People who have commented are really advanced with the research and evaluation field and they do have a great way of making their comments and statements (Debra).

Others students have expertise in a particular area. “This is a course in qualitative research, some people have done qualitative studies before. Some people have not done anything with qualitative studies before.... Some people understand the nuances of doing qualitative research, some don’t” (Mark). Several students noted messages that related a career background to an orientation to research. For instance, people from the health science fields communicated perspectives that were more positivist and quantitative. Gary said he has noticed people’s backgrounds and their philosophical orientations.

You get to associate certain names with certain insights and comments and you know that as somebody posts something it’s going to have a certain bent to it. Not as much as I would in a face-to-face environment.... If I read one person I know he’s going to have a more philosophical bent than somebody else when he makes a comment...and some
people are more positivist in their epistemologies or perspectives and some are more subjectivist (Gary).

Although the students said it wasn’t important to know one another in a personal sense during this course, there were some advantages to sharing personal or social information. Several of the students liked to pay attention to people who share interests or work experiences, for instance, as it motivates them to participate. Others feel that knowing people’s orientations and approaches to thinking helped the communication on the course content. Nicole says,

We get to know each other and it contributes to these multiple levels of richness that go beyond a mere exchange of academic perspectives. [The focus remains on the ideas] but there is a sense of relationship so that I could say to someone, ‘Well I know that you only believe in quantitative but let’s just look at it from this perspective.’ So there’s some of that personalizing in a positive sense of the content and the posting and the relationship (Nicole).

*Communicating with their Peers across Distances*

While the students recognized that they were communicating with their peers in a distance learning environment, their perspectives on this distance was varied. For instance, Ryan said that, compared to his first course in the program, there was less “power” on the Forum from meeting others and talking about experiences and issues from all over the world.

The more online courses I take, the less power I see in the [Forum] and the online discussions. In my first course I thought it was fantastic and this is my fourth course and it always now seems the same to me. Like the excitement and novelty you have in the first course, meeting people from all over, and talking about experiences and issues, and that doesn’t happen for me anymore. I guess I just expect it, that that will happen. So there’s less of a sense of wonder or amazement at talking to these people from all over the world (Ryan).

Others considered the opportunity to meet with others at a distance to be one of the advantages – and at times countering the disadvantages they have experienced – of learning in this medium.
Debra said that she has valued connecting with people in different fields and from around the world.

Sometimes it’s just kind of like an ‘ah’ that here we are here tonight and we’re all in different parts of the world and somehow we can speak about some of these same issues. That in a way it doesn’t seem like it’s been a barrier, that we all have some similar issues, although we’re all in different parts of the world (Debra).

Gary said this was one of the advantages of this distance education course.

I’m looking at it as an opportunity to learn from people that I would ordinarily never be in contact with…. I’m getting to hear what people have to say from various countries, and walks of life on the same issues that I’m thinking about. That’s great. That’s valuable (Gary).

Although geographic locations of the students were evident, most of the students didn’t notice much social or cultural diversity in the interactions on the Forum. In comparison to their university campus or their country, the diversity in the discussions was not very evident. Mark said it “doesn’t come through real plain…I don’t notice too much diversity…. I can’t pick it out. It’s more like we’re interested in ideas, more than cultural diversity.” Nicole wondered, if people didn’t present information about their cultural backgrounds, because this aspect of learning together was being overlooked in the course.

If you have the academic requirement and access to the technology it’s [this course] theoretically as inclusive as any course can be. There certainly has been a diverse range of people but if I think of diversity within the Canadian context, of people from different visible minorities, I don’t get the sense of it…. But then I don’t go around asking, ‘well tell me, are you a black person, are you of Asian ethnic origin?’ Maybe it’s because I’m white I say it doesn’t matter but that’s too easy and to glib for me to say that (Nicole).

She wondered if this matters to some students and if they participated less or posted shorter messages as a result. Earlier in the program Ken had been uncertain about what to expect in the interactions and he had anticipated some influence from different locations and cultures.
I was coming to terms with the cultural issues, the internationalization, and also, do people in Canada think differently from people in Australia. You’re not too sure about those sorts of things but once I started, in the end, it didn’t matter where people were. The technologies getting to be equally transparent and the international flavour is interesting...you get challenged but it’s not a challenge that’s threatening, it’s a challenge you learn from (Ken).

However, he also noted that although this was his experience he wondered about those who use English as a second language and if they would have a different perspective on the nature of this challenge.

Linguistic and cultural issues in the interactions with their peers were not a regular part of the Forum discussion. However, some of the students commented on reading messages from and interacting with students who use English as a second language. About one-fifth of the students in the English section of the course use English as a second language and, in the Guest Forum, the students from the Spanish section of the course participated. At certain points on the Forum or in the Group Task, language use affected the degree to which students understood one another’s messages. Several students said that when language interrupted the fluency of the message they would read it several times to check for understanding. For instance, there might be some confusion from the language structure used or the meaning of cultural and conversational expressions. In this course these messages are present but infrequent on the Forum. “In terms of English as a second language, there was one yesterday that I re-read three times to try to capture what they were saying. But that has been more rare” (Camille).

Sometimes language use was relevant in the Group Task where clarification and negotiation of the process and the written contributions were needed.

One of our members was not fluent in English...and it resulted in our group having to do some significant rewrites.... And this particular student was very open and I was also impressed with the other roles that he contributed to the team process...[group moderator, for example]. And it was actually this one student who was not a native
English user who requested the interaction by phone...we clarified the assignment, and possible resources, and sources of references (Eleanor).

In contrast to the fluency of English as second language users, most of the students I interviewed emphasized their inability to use their peers’ languages in an academic context. None had communicative competence in Spanish, for instance, which limited their interactions with the students in the Spanish section of the course. In the Guest Forum, they interacted with the Spanish-speaking students who used English. Eleanor said that online learning is theoretically “very democratic – it gives everyone a chance to participate...but then it comes down to practically. And you know when I look in the Spanish speaking forums, I look because I don’t understand most of what they are saying.” Ryan said that the level of the discussion on the Guest Forum was affected because of the interactions across the language groups.

I think I understood what they were saying but it was on a different level.... I have no idea what the level of the postings are in Spanish, but I’m sure they’re all very academic, too. But the conversion to working in a second language has an effect on the level of the postings. And I wouldn’t have a clue how to do it in Spanish (Ryan).

Language barriers affected some students’ interests in pursuing cultural issues, too. Eleanor’s background is in linguistics and she works in a bilingual context. She said she is interested in the inclusiveness of the text medium of the Forum on participants using a second language so she pays attention to issues of language and meaning that arise. She noticed one pattern of interactions on the Guest Forum that she wondered about.

And I see that they [Spanish-speaking students] have a different approach that’s less interactive. Like they’ll pose a question, and he’ll [the Guest Tutor] give a response, and in that response he’ll encourage them to comment further. And their comments are usually, ‘Thanks very much, Professor.’ And so I think that may be a different perspective on the role of the teacher and I suspect that may be cultural but I don’t know that. And that’s why I would love, personally, to have a facilitator to do some cultural mediation or explanation (Eleanor).
Ken observed this pattern in the interactions, too. “I thought the [Spanish students] were saying ‘hello’ and making a few comments but there wasn’t a lot of interaction.... It might be a cultural thing. Coming to say ‘hello’ is important before you start into meaningful stuff.”

Negotiations were needed in several small groups that involved students across languages and cultures. The interactions took place and the task was completed, yet the participating students were uncertain about the affect of some of their questions, criticisms and assistance in this context. Eleanor said that her group had quite a bit of interaction and negotiation with one of their group members who was having some language difficulty with the aspects of the written assignment.

I asked him if it would be alright if I paraphrased what he had said....so he said ‘yes, he would really appreciate that’.... I tried to do it in what I hoped was a culturally appropriate way to say, ‘I wonder if this would work’.... So I didn’t just do it, I negotiated (Eleanor).

Apart from the group task, however, the students’ descriptions and examples didn’t include much of this type of discussion or clarification.

**Communication among peers in the academic context of the online course**

The students’ said that the extent of this course context was circumscribed by graduate studies, the English language, the field of e-learning, and access to computer and Internet technology. Ryan thinks that the people who would be taking this course – graduate students with a particular interest in understanding and evaluating academic research, would narrow the kinds of discussions and the level of discussion taking place.

Generally the level of discourse is pretty equal, all the people that are posting. In that sense there’s not much diversity at all. They’re pretty standard graduate students, English-speaking graduate students. I suspect some of them aren’t native first language English speakers, but they’re certainly very good English speakers. So to me there’s a
real homogeneity in the class in that all I can judge them [my peers] on is their postings (Ryan).

Gary agrees: “So we have our cultural differences but at the same time…we aren’t super-diverse. We’re all doing this course. There’s this common interest” (Gary).

Within this description, however, the students said they appreciated and were excited about the opportunity to work with the range and expertise of their peers in this course and they felt it was important to share an interest in adult education or training. Most students said they felt appreciated from their perspective or position and that there was a broad enough range of interests and experiences so that a particular one didn’t dominate. Eleanor says,

The class has some very dynamic learners in it. I’m very excited about the kinds of learners in the class. I do think that the range of, variation in our backgrounds, and that the class is not only open to graduate students but to really anyone who is working in the area does create quite a breadth of responses (Eleanor).

Several students said that the course was inclusive from their perspective. Ken said, “I think everybody is interested in everybody else’s practice as a practitioner and that where you come from isn’t an issue.”

The students also reported the value and challenge of the range of expertise. Mark stated that the different levels of expertise, with some more knowledgeable in qualitative research and others in quantitative methodology, raised the level of the course interactions. “I always think it challenges everybody in the class if somebody knows more about the topic. It always challenges everyone to understand what that person is talking about…they bring it to a higher level.”

Several students who described themselves as novices agreed. They could see that some of their peers were writing thought provoking and reflective messages and they challenged themselves to do the same. While some felt cautious about getting involved, they also discovered this was a valuable forum to test out their understandings. As Howard reports,
they can bring a point of view that’s different than mine and maybe better formulated because I’m only starting out in this master’s thing. So it gets interesting to see how people frame ideas, and then you frame your own…. It makes for a rich experience in terms of bringing knowledge out (Howard).

However, the nature of the course content and the academic and analytical approach to research methodology may be affecting the diversity of ideas expressed and encountered on the forum. Ken says the subject of the course, ‘Research and Evaluation’ makes the content of the discussions less diverse than he noticed in another course in the program – ‘Social Issues.’ Rather than ideas, “we’re looking at things at two levels, one is the quality of the research, not the content…not so much about the ideas, but about the process of getting there.” He also suggested that the pace of the course limited students’ abilities to raise topics relevant to their particular experiences. For instance, he said one discussion relating research and social issues didn’t continue and he felt that the concern, instead, was to keep to the course schedule. Nicole also wondered if the way that they were approaching this topic might be limiting diversity. For instance, evaluating and analyzing research methodologies can be considered from a number of ways of gathering evidence and constructing knowledge.

What is knowledge? How do we know? What is research? Just because there’s the Western paradigm of research doesn’t mean it’s the only way of doing research. So yes, there could be very exciting possibilities. And so from that form of diversity there’s room for a lot more potential (Nicole).

On the other hand, she adds that, “by some strict constructions of the academic world it’s not an academic course because it’s not face-to-face and perhaps uses more relaxed standards of presentation of knowledge and it’s more collaborative.”

The students have many diverse things to say about the communication with their peers in the text messages of the Forum and the interactions of their small groups. They have
developed some understanding of their peers through this communication, especially about one another’s workplaces, educational experiences, and geographic locations. The variety of expertise was valued and the students were challenged to learn through these interactions. On the other hand, aspects of communication in the learning environment of this course seem to have limited the articulation of social, cultural or linguistic knowledge in the dialogues and discussions.

Summary

The students’ conversations included descriptions and perspectives that reflect their experiences in this online distance education course. Their responses were often detailed and contained specific examples of interactions from their participation as readers and writers in the asynchronous text CMC discussions of the Forum. They have also provided a narrative of the varied and complex ways each group met the goal of the small group assignment. Throughout the interviews, the students shared their understanding of the learning environment and the extent of the communication among their peers in one online text-based environment. Listening to the students in the interviews has provided insights about the ways students participate in and experience the online environment of this course. In the selections and summaries that I have presented in this analysis, there is evidence of thoughtful and respectful interaction among students, a responsibility for learning, and real attempts to reflect on and incorporate the information of the online discussions into conceptual understanding and practice. In the following chapter, the findings of this study that result from this analysis are discussed and the implications for research and practice are presented.
Chapter 6
Discussion

The students' descriptions and perspectives that were shared in the research interviews were presented in the analysis of Chapter 5. Now, these conversations, based on the students' experiences of online learning in this course, are discussed in relation to the study questions and the literature of e-learning. These questions have been asked in light of the claims in the literature that online learning environments can be designed using social-constructivist pedagogies.

Eight graduate level students were interviewed in two telephone interviews during the second-half of the 13-week course. I asked the students to reflect on their experiences of using asynchronous text CMC to interact with their peers. The students described the interactions, their participation in the interactions, and their views on the interactions as a learning environment. The interviews developed from the questions of this study:

- How do the students' describe the interactions among peers in this online course?
- How do the students describe themselves as participants in these interactions?
- What are the students' perspectives on the online interactions as a learning environment?

I recorded, transcribed and then analyzed the interviews. As I listened to the students' voices, I allowed their claims to inform and extend my understanding of online distance learning. On the one hand, the students have been valuable resources in this study. They enrolled in this course because of their interest in the field, and they have a range of experience in e-learning as practitioners and students. In this course, they used asynchronous text CMC to interact with one another throughout the 13-week semester. The course activities included self-study and
individual assignments as well as class discussions by asynchronous text CMC and an online collaborative task. They also did not have the influences of face-to-face meetings on their communication with peers or the tutor. On the other hand, there are limitations that need to be considered. This study includes eight student volunteers of the twenty-two class members. While I had intended to use a purposive sampling strategy to select students for the study, this was not possible with this number of volunteers. I encouraged more students to participate but I did not specifically seek out students from the course to extend the range of descriptions and perspectives possible on the study questions. Using long-distance phone calls also could have been a discouraging factor for some students, and this might have limited the number of study participants who use English as a second language. Keeping these limitations in mind, the following section highlights the findings from the students' conversations on interactions in the online learning environment of this course.

Summary of Findings

Description of the Online Interactions Among Peers

The exchange of texts by asynchronous CMC formed the interaction space of the online class environment. Text messages on the WebCT Forum and the use of some email connected the members throughout the course. Students read the messages on the Forum to look for and explore the course topics and issues. Sometimes, they posted a message to add their understanding, comment or question to the online discussion. In these interactions the course tutor played a facilitative, not a directive, role.

Asynchronous text CMC on the Forums and by email was used in each small group to carry out the thinking and writing processes of the group assignment. In order to make
decisions, especially when they were editing the collaborative paper, the students worked together to question, clarify and negotiate the structure and meaning of the text. However, this could only take place if the students in the group were available and online during the days the group was carrying out this process. When this occurred, the opportunity to interact with their peers in text dialogues and discussions decreased the students’ isolation in distance learning. Linking the interaction of speech with the reflection of reading and writing through CMC is described as e-literacy (Warschauer, 1999; Rafaeli & Sudweeks, 1997). These descriptions from students I interviewed reflect the perspective of educators who are encouraging learners to be active and engaged in the academic community (Jonassen et al, 1995; Johns, 1997; Warschauer, 1999; Chickering & Ehrmann, 1999).

The students described their practices of reading, reflecting, and writing within the context of the course and an audience of their peers. As such, reading and writing were integrated communication processes. Students wrote texts that added to the published course materials and became readers of their peers’ texts. Feenberg (1999) and Warschauer (1999) describe the significance of text-based CMC as an authentic use of reading and writing to connect learners. Several studies (Warschauer, 1999; Stacey, 1999) report these practices among students in courses that include face-to-face interaction. The students I interviewed didn’t have this opportunity; as a result, they had to rely on the online text conversations to express their ideas, and reflect on and respond to their peers’ messages.

Warschauer (1999) and Pincas (2000) describe the back-and-forth immediacy of a conversation by asynchronous text CMC that combines features of speech and writing. The students in this study have described the asynchronous text interactions in online distance education in ways that are like a conversation, but not an oral or face-to-face one. The CMC messages are transmitted quickly via the WWW, but the replies are unpredictable. Unlike an
oral interaction, with asynchronous text CMC an audience was not always present and ready to respond, answer questions and negotiate. There was always an opportunity to speak yet, students' questions remained unanswered and discussions were not completed.

The students understood the uncertainty of text and asynchronous online discussions; they also wanted the flexibility to post messages at different times in the discussion – during their workday, or in the evening – and from different places. On the other hand, if there was little or no feedback, students didn't know if messages had been read, understood or considered relevant to the discussion or dialogue. Some students say that this challenge is not a good match with their learning style and personality. Although Pincas reports that people will adapt with time to this medium as they have to others in the past, others state that new communicative competency in technology and learning are needed (Barajas & Owen, 2000; Noblia, 1998).

The Forum messages were described as respectful and collegial, but not personal. Students found the messages communicated some information about a person's background or experience and they made assumptions about individuals from the text messages. However, the focus was predominantly on the ideas related to the course content and the core of the messages was a substantive and well-supported position on a topic, similar to academic discourse. In the small groups personal and social information was more noticeable as it was relevant to completing the task.

The students said that messages in a conversational tone and with features of polite speech encouraged understandings and opinions, differences and contradictions to be expressed. They found that individuals did not dominate the message threads or criticize the person as they conducted the analysis and critique of the course topics and issues. Instead, they brought practices of a collegial workplace to the text interactions. The literature does not clarify the critical ingredients needed for a supportive and respectful learning environment and there is a
wide range of findings from diverse studies (Walther, 1996; Postmes, Spears and Lea, 1998; Light et al., 2000). However, the students I interviewed were able to describe the features of tone and messages that helped them to participate. Similar to Curtis and Lawson’s (2001) study of cooperative and collaborative online interaction, the students’ messages to their peers were supportive and cohesive rather than challenging.

The students’ descriptions of the online interactions in this course reveal that significant amounts of time are needed for the work of active and reflective reading and writing in the text discussions and the group task. Asynchronous text CMC provided students with the opportunity to be thoughtful and insightful in their comments and questions, and students needed and wanted the time to prepare and participate in these ways. This report is similar to the participants in Lea’s (2001) study of students interacting in an online writing course. Because the messages have permanence in the text discussion and lack the oral and visual features of speech, the students I interviewed also felt it was important to take the time to write and revise before posting to the class. The students wanted to communicate clearly and thoughtfully to establish their own credibility but also to ensure that their words were respectful of others. Having the time for this reflective practice is an advantage claimed for asynchronous text CMC (Harasim et al., 1997; Warschauer, 1999; Lea, 2001). Mulligan and Geary (1999) have found written discussions to be dynamic and purposeful but the volume of writing involved was a problem for students in their study. The number of interactions in the discussion stage and, the time it takes to read and respond add to the time that the students need to participate.

**Participating in the Online Interactions with Peers**

The students described the goals that motivated their involvement in the online interactions. They participated to engage with the course content and to relate their developing
knowledge to their interests, especially their careers. It was also an advantage to be able to access the expertise of the tutor, the course, and their peers from different locations and at a distance to the campus. Reading the online discussions was a priority and contributing messages to the online discussions and fulfilling their roles in the small group was a responsibility. The literature in distance education reports that students are motivated to participate when the interactions are related to their interests and helpful to their learning goals (McKenzie & Murphy, 2000; Fredericksen et al., 2000). In the learning environment, interaction needs to be a purposeful aspect of course design related to the students’ goals (Wagner, 1997). They liked this course because of the flexibility it provided as they worked full time and juggled their student role with personal and career needs. While these goals fit with the independence of the self-directed distant learner, in this course the students also needed to participate with each other within the schedule of the course design.

The students were more likely to participate as writers when they felt they had something worthwhile to communicate. It was important to make sense to others and post clear and credible messages that extended the conversation or asked a relevant question on the topic. Thus, reading, evaluating and analyzing numerous texts was necessary before they could post a new message or respond to one in the discussions. As a result, there was more participation later in a scheduled discussion period, but not more interaction. These postings might be read, and they might contribute to the development of the topic, but they were too late to generate a response and further the interaction of the text conversations.

Writing messages to contribute to the interactions was limited due to the volume of reading the students faced, and the time allowed in the course schedule. The course requirements and the assignments provided guidelines for the students’ participation and at times they were only able to meet the minimum level of postings expected. Also, due to the number of
students in the course, there were a lot of peer messages to read before they could write. Both Lea (2001) and Mulligan and Geary (1999) report the benefits of participating in the reflective writing practices of online discussions for students’ learning. As a result, they recommend providing the time for these experiences into the design of a course. Goodwin, Graham and Scarborough (2001) report that students focused on individual assignments and reading messages, but not posting, when participation was not evaluated in the course. Vrasidas and Mclsaac (1999), also found that the students in their study participated less when there was a high volume of course work to complete and these students waited until one of the regular on-campus meetings to enter into discussions. The students I interviewed, however, did not have the opportunity to rely on face-to-face meetings.

Participating in an online group assignment was valuable for the students. They said that working with others resulted in more ideas and a fuller understanding than they could reach on their own. This concurs with Hiltz et al (2000) that students have a more effective learning environment when they collaborate online than when they work online as individuals. Using online communication as effective practices in distance higher education is reported in the literature through interactive group practices such as problem-solving and cooperative and collaborative learning strategies (Freeman & Capper, 1999; Garrison, Anderson & Archer, 2001). The students described the ways each person contributed to the group process according to their perspectives and experiences. They worked together through online text to share information, synthesize from a variety of resources (including the resources of their peers) and negotiate interests and understandings in order to reach the group’s goal. Collaborative work took place, although the students’ described a range of experiences and communication strategies involved in getting the task done. This range can be compared with the descriptions of cooperation and collaboration reported by Campos et al (2001) who examined a wide variety of
courses from the perspective of the teachers. In this study, however, the students’ descriptions and perspectives are reported and these are useful to understanding online group tasks.

The students reported that the small group task involved dealing with differences in ideas and understanding but individuals supported one another and worked on solving the problems of time, distance, and language as they arose. In the interviews, the students described their group as a success if the members were able to listen to one another in the negotiations and if individuals contributed from their capabilities in the process. However, the students weren’t always confident about communicating by text when they couldn’t contact their peers online or when their peers’ written contributions were off-task. Harasim et al (1995) and Kanuka and Anderson (1999) discuss the advantages of developing respect and sensitivity to others through participating in online distance education. From his experience in interdisciplinary courses in culture and history, Bass (2000) suggests e-learning is an opportunity to discuss difficult issues and use text conversation to cross cultural contexts. In this study, however, the students wondered about the effect of language and culture on the interactions when sorting out difficulties, but these questions were usually not explored in the group discussions.

The small group helped the students to overcome some of the challenges of participating by asynchronous text CMC. There is a set time period, a known group to work with, and a defined goal. The students were committed to participating in the Group Task and, in most cases, they enjoyed working together in this aspect of the online course. The students were also oriented to completing this task. Studies of online learning environments have shown that students are more focused on participating when the assignments and projects are required elements of the course and goal-oriented (Vrasidas & McIsaac, 1999; Baskin, 2001; Goodwin, Graham & Scarborough, 2001).
The small group was also a place where the students had more connection with each other. They knew the names of their peers, a little about their backgrounds, and what experiences and abilities would contribute to the overall goal. There was more responsibility to participate and communicate but the students also had a more reasonable expectation that they would get a response to a message or a question. Nunan (1999) reports that as the small group of students he studied took more control of the interactions, they became more engaged with one another and the course content and applied the subject matter to their everyday lives. Gilbert and Moore’s (1998) model of interaction in the learning environment also shows an increase in student involvement and group influence when the tasks are collaborative and the teacher’s control of the course decreases.

*Perspectives on the Online Interactions as a Learning Environment*

The online interactions facilitated thinking and learning as students participated in an active role in the text discussions and explored the course content. The students report the online text discussions as valuable, thoughtful, credible, substantive and sophisticated sources of information. As well, reading and writing messages developed their knowledge of the course subject and helped them to build connections to their current and developing career experiences. Reading the messages led students into further study and research and they found this confirmed, corrected or challenged their understanding. They questioned their perspectives on the course topics and issues and considered the positions that others presented. Writing in the discussions was a means of communicating and clarifying their own ideas as well as integrating new sources of information into their current knowledge. The students’ descriptions are similar to the claims that in the use of active and reflective literacy practices, language does not just convey
information; it also is a tool of thinking and learning in the construction of knowledge (Lea, 2001; Warschauer, 1999; Kanuka & Anderson, 1999).

The students became a resource for their peers in the learning environment through the online interactions that conveyed their experience in work, education, and the field of the course. They recognized a range of expertise and appreciated the opportunity to connect with people they would not meet or study with in their geographical locations. They encountered more ideas and more ways of thinking as their peers brought their backgrounds and interests to the discussions. At times, a student was a novice in one area but an expert in another as the discussions covered interests in distance education, technology or research methodology. The ability to analyze and critique the literature in the field of e-learning also varied and this challenged the class to participate and learn from one another. As Jonassen et al (1995) report, the opportunity to engage with more experiences leads to more perspectives and complexity. Students can see the ways others approach a field and solve problems. These alternative perspectives increase the multiplicity of views in the learning environment that are a relevant goal of higher education and international distance education (Bass, 2000; Warschauer, 1999).

In this course, some of the students were experienced users of online distance education and asynchronous text CMC; others were in the midst of developing new strategies as readers and writers in this medium. They brought strategies from the workplace and the classroom and from prior online courses. As well, they learned from the trial-and-error of their experience in the course and from observing others. However, students sometimes felt there was not an opportunity — or they felt reluctant to take the opportunity — to inquire about the strategies their peers were finding successful in the online learning environment. Several studies report that students participated less when they were inexperienced with the technology of online
communication or the pedagogy of the course, such as participating in social-constructivist practices (Bullen, 1998; Brown, 2001; Barajas & Owen, 2000).

The students recognized that their peers came from different backgrounds, languages and locations; however, some students felt that the steady series of readings and assignments limited the opportunity for questions and discussions on cultural diversity or social issues. Instead, students participated within the shared context of graduate level distance education in the English language that, for the most part, had a North American perspective. In this online environment the students were negotiating meaning and developing understanding without the communicative practices that develop when people share the same physical space over an extended period of time. Although guidelines for discussion were presented on the course website, the students in this class did not discuss their understanding or acceptance of these as norms for the course. Noblia (1998) reviews the meaning of linguistic competence in online communication in which social and cultural practices may not be common to all participants. Beyond understanding the words of the language used, participants also need to know the conventions of text communication via the Internet, such as greetings, ways to ask questions or how to resolve conflicts. Both Noblia and Pincas (2000) question the assumptions that text CMC carries less cultural context and equalizes participation. They suggest that sociocultural conventions, such as norms of conversation, should be directly discussed by the online participants.

Discussion of the Findings

The students' conversations illustrated the claims of the literature that an interactive learning environment is possible in distance education. The context of the academic field of the
course, the students' participation, and the literacy practices of asynchronous text CMC created a particular social, cultural and linguistic milieu for the interaction. First, the course was an analytical and critical approach to research and evaluation studies, which defined an area of expertise. As a result there was a range of comfort and understanding among the students depending on their prior knowledge of the field. However, the online course was a place for students to share resources and they recognized their peers who had expertise in distance education, e-learning or research methodology. Second, the students came to this course with goals and needs that helped to create the learning environment. They were balancing – in fact, juggling – numerous roles such as teacher, administrator and graduate student. They approached their studies seriously and they were interested in relating the subject matter to their careers. They also communicated high expectations of themselves as participants in the learning environment. The third important contributor to the context was the online course delivery. Asynchronous text CMC on the Forums of WebCT and some email connected the students and formed the classroom of this course. The characteristics of the literacy practices of this medium influenced the characteristics of the students' communication.

The descriptions shared by the students give us their understanding of the nature and quality of the online interactions, which they said were both thoughtful and thought provoking. Their perspectives were conveyed in several ways and they illustrate several meanings. The students read their peers' texts thoughtfully, reflecting on the ideas and issues that were relevant to the course and to their interests. Through these posted messages, views were clarified and new ideas emerged as students developed an understanding of the course content and found additional ways to explore knowledge. Also, students took time to form their own thoughts into text and then revise their writing in light of the audience of their peers. In order to contribute to the developing conversation, they considered both the substance and the credibility of their
messages. However, they also thought about how others were receiving and evaluating their ideas in text, especially in this challenging academic context. In the interactions among the small group of peers, their combined efforts were thought provoking as well, stimulating a fuller investigation of their question. The result of working together was a more thoughtful text than they would have realized as individuals. The negotiations in this group context and the communication in the class discussions were done thoughtfully as well. The students felt they had been included and respected and they were also careful to offer encouragement and be sensitive when challenging or critiquing others.

The students said the online interactions with their peers were valuable and they valued the opportunity to participate; however, they also felt they could not participate as much as was needed or they desired. The time to be reflective, let their curiosity take hold, and explore the field in the interactions with others was limited, not just by the time they had available for the course, but also by the intensity and volume of the coursework. The active and reflective processes of reading and writing took time. Although their messages could be sent with speed across distances, this did not mean they could write or read more quickly, too, and do so with the thoughtful analysis they intended. The students were also developing an understanding of the course content, so they needed time to observe others and learn from the online interactions. When there wasn’t time, the students found it was difficult to converse with their peers and they became listeners rather than speakers. Interactive pedagogies can become didactic and transmissive without the time for participants to engage with the ideas and one another. If the thoughtful and valuable communication is going to take place in this context it is important to account for these challenges and limits.

Asynchronous text CMC is only a mediator, not the facilitator, in online distance education that incorporates interaction among peers. This interaction modifies the traditional
expectation of the distance education student. The flexible, self-directed and independent student working alone and at their own time needs to become an active participant with their peers and responsible to others in the learning environment. While the tool for the interaction is available it is the students who must engage with one another to create the online learning environment. Students still have the freedom to participate when their particular interests are addressed but, in the course in this study, the students also needed to pursue knowledge in the company of their peers. As a result of the students’ conversations, we know why some students are participating and why others are not. In particular, educators and designers cannot assume that a course with interactive activities will lead students to negotiate meaning, develop understanding and construct knowledge in the learning environment. While the students I interviewed were committed to taking advantage of the opportunities present for interaction, challenges and limits were still present that reduced their participation in the course dialogues and discussions.

In the text interactions, the students use language to share experiences, negotiate meaning, and build understanding in order “to make sense of what is said with respect to what we know” (Noblia, 1998, The Community Notion, ¶5). Also, in higher education and international contexts, interacting in the presence of differences and conversing across shared and alternative perspectives is expected (Bass, 2000; Barajas, & Owen, 2000). However, if it is difficult for students to participate in the interactions of asynchronous text CMC, then it is difficult for them to be resources for one another in the learning environment. The students are participating across various distances, from linguistic to academic but these distances become apparent only when the time is taken to write their identity into the online conversation. Without the characteristics of face-to-face interactions, the words of the text are the only means available to convey social and cultural contexts. Studies report that this communication can take place
without meeting in person (Brown, 2001; Nunan, 1999) although, among the students I interviewed, complexities of social, cultural and linguistic issues were unexplored that could have extended the boundaries of the academic discourse. One reason reported for the omission was the analytical and technical nature of the course content, which did not easily facilitate these kinds of discussion. Another reason was the lack of time available to the students to explore intersecting issues and questions that arose from the course topics. As a result the possibility that there were more and different discourses among the participants is not known. In a social-constructivist perspective, the relationship between language, context and culture are essential aspects of knowledge construction. Students’ experiences, interpretations, perceptions and values are shared in the interactions of the community and culture (Lave & Wenger, 1991; Nuthall, 1997). Barajas and Owen (2000) suggest that individual contexts and identities need to be accounted for and made explicit, not as a separate part of a course design but as an integral aspect of the learning activities.

**Implications**

**Implications for Practice**

In a learning environment there is interaction between individual and community and culture. The characteristics and qualities of this interaction among the participants construct knowledge (Lave & Wenger, 1991; Nuthall, 1997; Kanuka & Anderson, 1999). Therefore, the context of the course, the people who participate, and the media used for interaction need to be considered. The literature reports the influence of pedagogy and course design on the learning environment (Gilbert & Moore, 1998; Bates, 1997; Campos et al, 2001). However, the social, cultural and linguistic context that forms the learning environment also has considerable influence. The claims made for interaction by asynchronous text CMC in an effective learning
environment of online distance education cannot be generalized. They must be understood and interpreted in the field of the course, the identities of the students, and the characteristics of text communication. The nature of communication has not changed even if a new medium of communication is used. People talk with one another when there is a purpose and when there is a reasonable expectation of interaction – that their message is going to be understood and receive a response.

In this course, the analytical and critical nature of the content and the extensive amount of reading had implications for the learning environment and the interaction among the students. In order for a student to participate in the writing process of the text discussion, they first need the understanding that develops through study and reflection. Recognizing that participation includes reading and reflecting on the course content means that the course schedule must include time for silence; that is, time is scheduled for study and research when no online discussion is taking place. Then, the students can have the time they need to read, reflect, and prepare without the pressure of being online to keep up with a discussion or to post their own messages.

Students who want to contribute effectively could benefit from a course that is designed and facilitated with the time needed for the literacy practices of online text dialogues and discussions. First, a student’s role as reader of peers’ texts must be appreciated and encouraged. As the students read, they are interacting with the online messages to understand the information, meaning and social and cultural influences communicated. On the asynchronous text CMC Forum, reading the text messages posted by the students’ peers is a contribution to the interaction. This makes the term lurker – the person ‘listening,’ or reading online, but not writing – irrelevant in this context. Second, a student also needs to be recognized as an author in the online interaction. The students are involved in a writing process in which they communicate
understandings and identities to an audience of peers and the tutor through the published and permanent (within the course website) texts of the Forum. Students will need strategies to engage in the active and reflective reading and writing of the online texts, encouragement to take the author’s role and its risks, and time for depth of thought rather than superficial interaction.

In the design of the course, interaction as an activity needs attention to meet the communicative needs of the learners. The course design and the students’ goals should fit the purpose of the interaction. For instance, if as adult learners the students are busy people in multiple roles, then the course design must take this into account. Interaction can be open-ended discussions but it should also occur as small group tasks that are purposeful and that encourage students to relate the course to their interests. One consideration must be the time for asynchronous communication – requests and responses, challenges and clarifications – to occur. The course schedule needs to be arranged so that the students can commit to individual and group assignments and have time for the peer interactions needed to complete them. Also, if there are conflicts between scheduled discussions and graded assignments, the latter may take precedence in a task-oriented credit course. Another aspect of course design that facilitates purposeful interaction is to reduce the extent of either the course objectives or the course activities so that topics can be explored, not just covered, and issues and questions that arise can be thoughtfully considered.

Creating opportunities for communication in the online course gives students access to a range of expertise among their peers and with their tutor. Facilitating this access to the academic community, especially for novices, and people experiencing a new academic and linguistic culture can be perplexing. The assumption that students will adapt with time, or adopt learning practices through trial-and-error is not enough. Time is needed for students to ask their questions about the practices of e-literacy and to share the strategies they have found useful for the
interactions of asynchronous text CMC. While the students are researching their roles in this
learning environment, the tutor is facilitating as a guide, but also as a leader and mediator. For
instance, as a leader, the tutor can be explicit about the kinds of reading and writing practices
needed in the online interactions. As a mediator, the tutor can raise topics that encourage a
dialogue on the beliefs and values that exist in the learning environment – including texts and
content and the roles of participants and participation. The tutor, therefore, needs to be flexible,
and have the freedom within the course program to be flexible, as the course design is
implemented.

There is another challenge of the online text communication – being aware of others and
being able to share one’s self in this environment. Each student has prior knowledge and
experience that they can build on but also contribute to the shared resources of the learning
environment. This has implications for the extent of the field of academic study and the
diversity of perspectives that can be known. In the definition of interaction used in this study, the
students don’t just relate to each other they also reflect each other’s presence (Gunawardena et
al, 1997). Conversations are needed in which the students share their identities and in which
they listen to and seek to understand their peers. In online distance education, structure and
schedule – as it is published on the website, for example – will need to be interpreted by
instructors to attend to interests and goals that are present among the students of each course and
to encourage the students to shape the course activities.

Implications for Research

The students’ conversations in this study have led to further questions that need to be
pursued in the field of e-learning. First, speaking to students across the diversity of languages
and cultures that are participating in an international course and asking the same questions of this
study would be useful. Other areas of investigation have come forward as a result of the
interviews of this study and the analysis of the students' descriptions and perspectives.

The prominence of e-literacy practices in the online interactions raises questions about
students' backgrounds and identities as readers and writers. What are the influences of students’
prior literacy experiences on participation the reading and writing interactions of asynchronous
text CMC? What are students doing to overcome or take advantage of the text medium? How
do instructors understand their students’ backgrounds as readers and writers in the online
environment? What aspects of the course design attend to the development of e-literacy
practices?

In e-learning, learners are connected to one another and to resources. In a course that
reflects a social-constructivist perspective on learning, the learners, themselves, are important
resources to their peers. How can the range of backgrounds and experiences of peers contribute
to the multiple perspectives of the learning environment if the opportunity to share these
resources is limited? What is the effect on the interaction when students only have a 'sense' of
one another in the course? How is meaning negotiated in written texts when the students’ are
relatively anonymous or seemingly homogeneous?

One aspect of the online interaction that is affecting interaction among students is the
asynchronous timing of communication. How can students maintain participation and interact
with others in light of the uncertainty and unpredictability of asynchronous text CMC? What
impact is the uncertainty and unpredictability having on students' exploration in the learning
environment? For instance, how does it prevent students from asking questions or sharing
problems or challenging points of views? Also, without a shared time and place, how are
students developing and negotiating social and cultural conventions of communication?
Considering the nature of interactions by asynchronous text CMC leads to consideration of the kinds of interaction that occur in face-to-face learning in academic environments. Is the online interaction incomplete, uncertain and unpredictable compared to face-to-face interaction, or is it just more noticeable? What does a ‘completed discussion’ or an ‘answered question’ mean within different social, academic, linguistic and cultural groups? What are our assumptions about face-to-face learning environments in higher education and how are they helping or hindering the online conversations?

The small group task was a particularly positive aspect of the course for the students I interviewed. What are the ingredients that make the small group positive? How do the students know what to do in the small group? Is there a way to design more small group interaction into a course, yet maintain participation? What would happen with the students whose small groups weren’t working, for instance?

Curiosity continues

My curiosity about students’ experiences of e-learning has been explored in this study through research interviews. The experiences of eight willing and reflective students have provided descriptions of online interactions with peers and perspectives on these interactions as a learning environment. The details of the students’ reading and writing processes by asynchronous text CMC present their voices on e-literacy from one context. They have also added their understanding to the complex questions of who participates and why they do so. The students’ narratives include descriptions of thoughtful and thought-provoking interactions, and the ways they have faced the uncertainties and difficulties that can arise in online learning. The commentary on the course design is a challenge to teachers and designers to examine the
meaning and practice of interaction and to be cognizant of the relationships between participants, texts, and academic content in the e-learning environment. Pursuing my study questions has been a useful way to examine the claims in the literature of e-learning as a social and cultural context for interactions among learners. The students' conversations contribute to the practice and research of online distance education and lead to further areas for the curious to explore.
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Appendix A

Tutor Interview Protocol

What is your experience with teaching online?
   Why did you decide to teach online?
   What adaptations are you making / have you made/ in your teaching?
      from past online courses?
      from face-to-face courses?

How would you describe your role in this course?
   How have you organized the interaction in this online course?

What is your view of the role of the Forum in this course?
   How are you involved in the interactions?

What do you have to say this online course and learning?
   From different aspects of the course?
   From the nature of the interaction?
   Other?

What other comments or perspectives do you have on the Forums?
   The course interaction?
   Your teaching processes?
Appendix B

Participant Questionnaire

For the study Thoughtful interaction: students’ text communication in online distance education

Note that personal information is only for my records & to contact you; strict confidentiality guidelines will be followed in the study procedures and publication as noted on the participant consent form.

Name:

Address:

Phone: (please list only the phone number(s) that you wish me to use to contact you)
Home Work Cell

Email: Age: Sex:

Current occupation: Current student status:

Native language: Languages used for study and/or work:

A. Educational experience:

1. What level of post-secondary education have you completed? (please check one level)
   - ___ 2-year degree or certificate
   - ___ post-bachelor/graduate certificate or program
   - ___ PhD
   - ___ 4-year bachelor degree
   - ___ Master’s degree
   - ___ Other: __________________________

2. How many courses have you completed in the program, [source confidential]?
   ___

3. Aside from [course name], are you taking another [program] course this semester?
   - ___ Yes (please list) __________________________
   - ___ No

   Do you plan to take another [program] course in a future semester?
   - ___ Yes (please list) __________________________
   - ___ No

4. Reasons for taking [course name] (please check as many as apply to you)
   - ___ Credit for [program, source confidential]
   - ___ Credit for graduate studies at the University of British Columbia
   - ___ Credit toward another certificate or degree
   - ___ Related to current work in the field
   - ___ Preparing for future work in the field
   - ___ Personal interest
   - ___ Other (please describe: ____________________________)

5. What other experiences have you had in Distance Education?

<p>| Type of Course | Mode of Delivery |</p>
<table>
<thead>
<tr>
<th>(credit, professional development, personal interest, etc)</th>
<th>(print, video, computer-based, etc.)</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>
B. Computer Experience

1. Please list the most common tasks you do with a computer:

2. **Before** you began taking this course, [course name]...

3. **Now** that you are taking this course, [course name]...

<table>
<thead>
<tr>
<th>How often did you use a computer?</th>
<th>At home</th>
<th>At work</th>
<th>At school</th>
<th>Other Sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Several times/day</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Once every day</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>At least several times a week</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Once a week</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A few times a month</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Where do you use the computer to access this course? (list other sites)</th>
<th>At home</th>
<th>At work</th>
<th>At school</th>
<th>Other Sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most of the time</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Often</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sometimes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Just a few times</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What is your personal access to a computer like?</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Have my own</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Share with a few</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Share with 5-10 others</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Share with 10-20 others</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Share with many</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. For the next two questions, answer only for the sites from which you access this course (as noted in Q. 3)

<table>
<thead>
<tr>
<th>Do you consider the cost of accessing computer technology for this course to be...?</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cheap</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very affordable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affordable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not very affordable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expensive</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How long does it usually take to get connected to the discussion forums on the course website?</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Seconds</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>About a minute</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>About 2 to 5 minutes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>About 5 to 10 minutes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>More than 10 minutes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix C

Student First Interview Protocol

Introductory questions:

1. Tell me about your experience in this field of using computers & online communication...at work, to learn, other.
2. What is your purpose in taking this course using the distributed or online media for course content and communication?
3. What means / media did you use to interact with students for the purposes of this course?

Questions on the active role of the learner:

1. What role does the Forum (bulletin board) play in this course?
2. What would you say about your participation in the Forum?
3. Tell me about a typical time when you log onto the Forum...what do you usually do? What changes or influences this pattern?
4. The Forum involves reading and writing to participate. What is it like to read as a way of participating in the Forum? What is it like to write as a way of participating in the forum?

Questions on the collaborative learning environment:

1. When the focus is on exchanging information on the course topics & content, what is the interaction with other students like?
2. Can you tell me about a time when you participated in one of these interactions with other students to share information...added new ideas...gave an explanation?
3. What role do questions play in the interactions? What happens when you / others asked a question?
4. What it’s like to understand other students by reading/writing in the interactions of the Discussion Forums? Did you feel other students understood you?
Questions on diverse and alternative perspectives:

1. How would you describe the diversity of students in your section of the course?
2. What do you say about the Forum reflecting the diversity? In what ways?
3. How did the level of diversity among the students affect your participation in the Forum / in other online communication in the course?
4. What do you have to say about the Forum in the course as a place to discuss your perspectives / your classmates’ perspectives on the topics of the course?

Concluding questions:

1. How do you feel about the Discussion Forums / the online communication as a learning experience for you in this course?
2. What other comments or perspectives do you have on the Discussion Forums / interactions with students in the course at this time?
### Appendix D

*Schedule of Course Assignments, Activities and Interviews*

<table>
<thead>
<tr>
<th>Week</th>
<th>Block</th>
<th>Assignments Due</th>
<th>Forums</th>
<th>Group Task</th>
<th>Interviews</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ONE</td>
<td>Introduction to people in class</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>TWO</td>
<td># 1 Discussion of Block 2</td>
<td></td>
<td>Preparation of Group Paper</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td># 2</td>
<td></td>
<td></td>
<td>First</td>
</tr>
<tr>
<td>5</td>
<td>THREE</td>
<td># 3 Discussion of Block 3 &amp; Assignment 3</td>
<td></td>
<td>Facilitate Small Group Forum 1 week/group</td>
<td>Second</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>FOUR</td>
<td># 4 Small Group Forums</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>Week 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>Week 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>Week 3 &amp; Guest Forum</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>FIVE</td>
<td></td>
<td></td>
<td>Final</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td>Final # 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
<td></td>
<td></td>
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</table>
Appendix E

Summary of Participants’ Characteristics

Table E1

Location, Language, Gender and Age

<table>
<thead>
<tr>
<th>Name</th>
<th>Location (Time zone from Vancouver &amp; country)</th>
<th>First languages</th>
<th>Languages used for study and/or work</th>
<th>Gender</th>
<th>Age group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debra</td>
<td>+2 h USA</td>
<td>English</td>
<td>English</td>
<td>F</td>
<td>30+</td>
</tr>
<tr>
<td>Eleanor</td>
<td>+1 h USA</td>
<td>American Sign Language English</td>
<td>American Sign Language English</td>
<td>F</td>
<td>50+</td>
</tr>
<tr>
<td>Gary</td>
<td>+1 h CAN</td>
<td>English</td>
<td>English</td>
<td>M</td>
<td>40+</td>
</tr>
<tr>
<td>Howard</td>
<td>+3 h CAN</td>
<td>French</td>
<td>French English</td>
<td>M</td>
<td>40+</td>
</tr>
<tr>
<td>Ken</td>
<td>+16 h AUS</td>
<td>English</td>
<td>English</td>
<td>M</td>
<td>50+</td>
</tr>
<tr>
<td>Mark</td>
<td>+3 h USA</td>
<td>English</td>
<td>English</td>
<td>M</td>
<td>50+</td>
</tr>
<tr>
<td>Nicole</td>
<td>+4 h CAN</td>
<td>English</td>
<td>English</td>
<td>F</td>
<td>50+</td>
</tr>
<tr>
<td>Ryan</td>
<td>+2 h CAN</td>
<td>English</td>
<td>English</td>
<td>M</td>
<td>40+</td>
</tr>
</tbody>
</table>
Table E2

*Career and Educational Experience*

<table>
<thead>
<tr>
<th>Name</th>
<th>Career area</th>
<th>Current workplace</th>
<th>Educational experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debra</td>
<td>Distance learning &amp; technology</td>
<td>government</td>
<td>Master’s degree</td>
</tr>
<tr>
<td></td>
<td>Special education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eleanor</td>
<td>Linguistics</td>
<td>university</td>
<td>Bachelor’s degree</td>
</tr>
<tr>
<td></td>
<td>Special education</td>
<td></td>
<td>Postgraduate certificate</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gary</td>
<td>Religious studies</td>
<td>college</td>
<td>Ph.D.</td>
</tr>
<tr>
<td></td>
<td>Adult education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Howard</td>
<td>Public school teacher</td>
<td>non-profit organization</td>
<td>Bachelor’s degree</td>
</tr>
<tr>
<td></td>
<td>Adult Literacy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ken</td>
<td>Distance education</td>
<td>university</td>
<td>Bachelor’s degree X 2</td>
</tr>
<tr>
<td></td>
<td>Educational design</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mark</td>
<td>Public &amp; higher education</td>
<td>university</td>
<td>Ph.D.</td>
</tr>
<tr>
<td></td>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Technology and education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nicole</td>
<td>Education</td>
<td>university</td>
<td>Bachelor’s degree</td>
</tr>
<tr>
<td></td>
<td>Distance education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ryan</td>
<td>Instructional technology</td>
<td>university</td>
<td>Bachelor’s degree</td>
</tr>
</tbody>
</table>
Table E3

*Online Education Experience and Individual Goals*

<table>
<thead>
<tr>
<th>Name</th>
<th>Prior courses in program</th>
<th>Experience with online education</th>
<th>Student’s goal in program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debra</td>
<td>2</td>
<td>As a university student and project manager of online training</td>
<td>Current work in field</td>
</tr>
<tr>
<td>Eleanor</td>
<td>3</td>
<td>Administrates, plans &amp; designs pedagogy of online distance education training programs</td>
<td>Credit, graduate studies, Current &amp; future work in field</td>
</tr>
<tr>
<td>Gary</td>
<td>2</td>
<td>As graduate student in online distance education</td>
<td>Future work in field, Personal interest</td>
</tr>
<tr>
<td>Howard</td>
<td>0</td>
<td>1st time in an online distance education course</td>
<td>Current &amp; future work, Credit, Master’s degree, Personal interest</td>
</tr>
<tr>
<td>Ken</td>
<td>2</td>
<td>Designs online distance education university courses</td>
<td>Credit, graduate certificate, Current work in field</td>
</tr>
<tr>
<td>Mark</td>
<td>4</td>
<td>Teaches university courses using CMC in distance education and campus courses</td>
<td>Credit, graduate certificate</td>
</tr>
<tr>
<td>Nicole</td>
<td>3</td>
<td>Administrates, plans, &amp; designs pedagogy of online university programs &amp; courses</td>
<td>Credit, graduate certificate, Current work in field, Personal interest</td>
</tr>
<tr>
<td>Ryan</td>
<td>3</td>
<td>Technical design, support faculty, training others is use of WebCT in university courses</td>
<td>Credit, graduate certificate, Current work in field</td>
</tr>
</tbody>
</table>