AN INVESTIGATION OF THE PREFERRED LEARNING PRACTICES OF CULTURALLY DIVERSE STUDENTS IN AN ONLINE DISTANCE EDUCATION ENVIRONMENT

by

ZUOCHEN ZHANG

B.A., Shanghai International Studies University, 1990
M.S., Minnesota State University, Mankato, 2002

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

DOCTOR OF PHILOSOPY

in

THE FACULTY OF GRADUATE STUDIES

(Curriculum Studies)

THE UNIVERSITY OF BRITISH COLUMBIA

May, 2007

© Zuochen Zhang, 2007

ABSTRACT

Online distance education courses use Computer-mediated Communication (CMC) spaces to create learning environments in which learners interact, collaborate, and build their knowledge base from their prior experiences. Online distance education also masks and possibly influences and changes one's perception of certain social category systems such as age, gender, ethnicity, race, and social status on communication practices. This study was conducted with two research objectives: 1) exploring the relationships between the learners' cultural conditions and their preferred learning practices, and 2) examining how learners' cultural conditions limit or extend his or her participation in online distance education courses.

Data were collected through four methods: survey, observation, email interview, and telephone or face-to-face interview. An online survey was used to collect demographic data such as age, access to the Internet, educational background, English proficiency, gender, life experience in North America, etc. And interviews were used to collect more in-depth data.

By analyzing relationships from this study, I identified time, space, convenience, flexibility, and control as five attributes of culture that had a direct influence on how and why participants preferred to engage in particular learning and life experiences in the online course. In order to manage these changing cultural attributes, participants in this study used and modified their preferred learning strategies in order to: 1) feel comfortable, 2) locate study space, 3) communicate effectively, 4) work independently and in community, 5) balance studies with family, employment, and social responsibilities, and 6) build confidence and maintain focus and commitment to actively participate in an online CMC learning environment. I do not believe, however, that these are isolated concepts associated with only CMC systems or online learning environments. Instead, these attributes of culture emerged from the possibilities presented when peoples' ways of living were challenged by the introduction of graduate studies and the use of CMC spaces as learning environments. It is the interactions of these various educational, cultural,

technological, and political forces that provided the contextual conditions for these attributes of culture to form and become visible and identifiable.

The focus of this study was on how cultural conditions affected participants' preferred learning practices in an online learning environment. During the research analysis, I grew to appreciate the complexity involved in looking at the relationships between the research participants' cultural conditions and their preferred learning practices. It was also clear that CMC spaces are not necessarily democratic learning environments. I was challenged by the findings that cultural conditions had such a strong influence on the research participants' learning within CMC spaces. I have come to believe that in such spaces, some specific populations continue to struggle for a voice. Democratic processes should be designed into the teaching presence, social presence, and cognitive presence of online learning environments, and these processes should be mediated so that they are not taken for granted. I anticipate that the democratic dimensions of culture and CMC spaces will be the topic of some of my future research studies.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ACKNOWLEDGEMENTS

Among the many people to whom I am indebted for help in preparing this dissertation, I particularly wish to thank the research participants from the online graduate course, identified in this document as Agnes, Cathy, Jerry, Karen, Masahiro, Mitra, Nancy, Paree, Ping, Sali, Steve and Wendy. Without their help, the production of this dissertation would not have been possible. I deeply appreciate their precious time and support in sharing with me their valuable experiences and reflections. I am deeply indebted to the instructors of the course, who graciously let me study their course and so kindly provided support throughout the research.

I am also deeply indebted to my research committee, research supervisor Dr. Don Krug, and committee members Dr. Gaalen Erickson, Dr. Rick Kenny, and Dr. David Anderson, for their support and full confidence in me through my doctoral program. I would also like to acknowledge many faculty and staff members in the Department of Curriculum Studies at the University of British Columbia, as well as my research committee members, who have provided support both academically and personally.

As always, I send thanks to my family, friends and colleagues from whom I got inspiration, encouragement and support.

CHAPTER 1

INTRODUCTION

In this study I examined the influences of research participants' cultural conditions on their individual and collaborative ability to learn through a computer-mediated communication (CMC) course. This research supports past studies that suggested adults learn best if they actively participate in the learning experience (Knowles, 1970, cited in Barker, 2002; Candy, 1991) and that active participation in course activities is a very important part of learning through online distance education (ODE) (Scheuermann, Larsson, & Toto, 2001). Some research (e.g., Bhabha, 1994; Krug, 1998) shows that course members' perceptions of their own self- and social identities and of their cultural conditions influence their participation in online communication.

Online learning environments are becoming more prevalent and integrated into all aspects of everyday life, as digital technologies become less expensive, providing people in many societies greater access to various forms of information. Online distance education courses use CMC spaces to create learning environments in which learners interact, collaborate, and build their knowledge base from their prior experience (Harasim, Hiltz, Teles, & Turoff, 1995; Harasim, Calvert, & Groeneboer, 1997). Researchers have examined ways to motivate online learners to actively participate in online course activities e.g., providing incentives, making participation a part of evaluation, etc. (Annand & Haughey, 1997; Palloff & Pratt, 1999). Through processes of discussion and collaborative work on specific group projects, it is argued

that meaning is negotiated among learners participating in a virtual learning environment. However, Beaudoin's (2002) study showed that "invisible" online learners, those who do not seem to be participating as often as others, often log on to the course site, and "feel they are still learning and benefiting from this low-profile approach to their online studies" (p. 147).

Learning conditions online are different from those in face-to-face experiences. While eliminating the physical and geographical boundaries of teaching and learning environments, the digital media employed in an online learning environment may also alter forms of communication (Fung, 2004; Mirsha, 2005; Woods & Keeler, 2001). Online distance education also masks and possibly influences and changes one's perception of certain social category systems such as age, gender, ethnicity, race, and social status on communication practices.

Several researchers have suggested that these characteristics of a virtual environment leave room for creating more intimate relations among learners (Bird, 2004). Asynchronous communication can expose course participants to a diverse and rich collection of ideas through many-to-many interactions via a bulletin board, list serve or email. Participants can engage in course discussions by providing reflections after thinking about what has already been said (Bird, 2004; Fung, 2004; Woods and Keeler 2001). The benefits of asynchronous communication via CMC have the potential to enhance cooperative learning by providing users with extended time (Aviv, 2001). As asynchronous communication may also allow course participants more time for reading and writing and postings on a bulletin board, there is the

potential to increase their participation. Moreover, this virtual environment may promote critical thinking that leads to higher achievement and more satisfaction in collaborative learning (Alavi, 1994). However, very few studies have been done examining the limitations of these same communication practices and systems.

Stahl (2005) posited that learning takes place in effective collaborative interactions and that individuals internalize the effects of collaboration. However, it has been argued that effective collaboration will not take place in an ODE course unless the instructor takes proactive measures to provide an appropriate context for collaborative learning (Harasim, 1989). The increasing globalization of education makes it necessary for educators to "be much more aware of the factors beyond their institutions which constrain, steer, or facilitate their practice" (Bottery, 2006, p. 106), and it also would indicate that online learning environments should avoid, or at least take into account, ethnocentric instructional designs (Gayeski, Sanchirico, & Anderson, 2002). In this study I examined why certain cultural conditions affect the design of ODE courses and how they limit and extend a learner's preferred learning practices (Moshinskie, 2001; Wild & Henderson, 1997).

In Chapter 2, I discuss an operational definition of a learner's cultural conditions of learning. While acknowledging perspectives of macro culture (nationality), I will argue for a reflexive interpretation that positions micro cultural interpretations that are specific and local within these broader generalized meanings and values (Banks & Banks, 1993). This specificity of culture includes ideas and practices of socialization, enculturation, dynamic

change and the social construction of language systems regarding the formation of human identity such as age, gender, ethnicity, race, language, nationality, socio-economic status, etc. Drawing from the research of du Gay and his associates (1997), Geertz (1973), Hall (1997), Mobley and Wilson (1998), Murphie and Potts (2003), and Reushle and McDonald (2000), on the relationships between culture and learning, especially learning in an online environment, I examined how learners' cultural conditions influence their preferred learning practices and their ways of learning during particular CMC activities.

When I began planning this study, I anticipated using 'participants' learning styles' as a construct for exploring differences in course members' participation in ODE. After I reviewed indices or instruments of learning styles (e.g., the Myers-Briggs Type Indicator, Kolb's Learning Style Model, Hermann Brain Dominance Instrument, and Felder-Silverman Learning Style Model), I found the term "learning style" was generally used to refer to a learner's general cognitive styles and the construct did not appear to be assessing the qualities that I was interested in with regard to the type of participation in ODE courses. Hence, "preferred learning practice", draws upon the work of Lave (1996) and Wenger (1998) and social learning practices. According to these social learning perspectives, learners bring a vast wealth of information to their online learning experiences which has a significant influence upon their participation and performance.

I am curious about learners' preferred forms of learning, but little research exists on the connections of learning preferences and ODE (Moshinskie, 2001). This lack of empirical

information has prompted me to explore relationships of preferred forms of online learning with their specific cultural conditions (Morse, 2003). I wanted to know how to enhance the effectiveness of online learning in order to help instructional designers improve the quality of their design, and so that online courses might serve a diverse group of ODE learners more satisfactorily.

1.1 Research Questions

Researchers have speculated that online distance education courses are shifting the design of instruction from approaches emphasizing received knowledge to those aligned more with autonomous learning using databases, hypertexts and hypermedia (Peters, 2002). Peters (2002) proposed, "subjects taught by means of printed books will be different when disseminated by [the] Internet" (p. 12). This raises an interesting question. If ODE learning differs from face-to-face learning and if it has its own characteristics, then how can ODE courses be designed in such a way that learners with different cultural conditions can participate in an equitable and effective manner? An underlying assumption throughout this study was that learners with different cultural conditions most likely have different preferred learning practices. I also conjectured that learners needed to be actively engaged in the learning environment to gain the best possible results from ODE courses. If these conjectures have merit, then instructional designers need to plan for a course participant's preferred learning practices and to take into account the cultural issues related to such preferences.

The following research questions guided the study:

1. What are the relationships between the research participants' cultural conditions and their preferred learning practices?

2. How do the research participants' cultural conditions limit or extend their participation in online distance education courses?

1.2 Methods

Participants included twelve graduate students enrolled in an online master of educational technology program offered at a large western Canadian university. Data were collected from WebCT, the online course management system for delivery. Two instructors co-taught the course during the summer of 2005.

Participants' ages ranged between twenty and fifty and there were nine females and three males. Most of the participants were enrolled in their first Master's degree. Two already had a Master's degree before this program. One was completing her second Master's and the other was taking courses towards a certificate. Most of the participants were located in western Canada while four were outside of Canada, two in Japan, one in China, and one in the United States.

Data were collected through four channels: survey, observation, email interview, and telephone or face-to-face interview. An online survey was used to collect demographic data such as age, access to the Internet, educational background, English proficiency, gender, life experience in North America, etc. Communications on the course website such as discussion postings, chat sessions were recorded and analyzed to find out how the participants

communicated with other class members and the instructors. Email interview questions were generated on the basis of the survey results and observations and then sent to participants individually asking about their cultural conditions of learning and any modifications of those conditions they made for the ODE course. Semi-structured interviews were conducted by telephone or in person to obtain an in-depth understanding of the participants' perspectives of online learning and their preferred learning practices in an online learning environment.

1.3 Educational Importance of the Study

Empirical research is all but absent regarding the impact of a learner's cultural conditions on ODE learning. This research addresses how and why designers and instructors should consider cultural differences of learners when designing and delivering such courses (Driscoll, 2000; Gayeski, et al., 2002; Moshinskie, 2001). Through this case study I sought to better understand the perspectives and preferred learning practices of adult learners with different cultural conditions in an online learning environment. The research findings will be especially useful for both designers and instructors of online distance education courses in the post-secondary setting.

1.4 Outline of Chapters

Chapter 2 outlines two relevant bodies of literature. The first is the key learning theories as they relate to instructional design for distance education and the second is a review of the literature on learners' cultural conditions in the design and delivery of computer-mediated communication (CMC) learning environments. The objective in this chapter is to develop a

theoretical framework for examining the research problem of learners' cultural conditions and their preferred learning practices in an online learning environment.

Chapter 3 discusses the research design and methods used in the thesis. The chapter introduces the overall design of the research, describes the participants and the environment for data collection, and explains the measures and procedures employed for data collection and data analysis.

Chapter 4 discusses the findings from the various data collection methods and categorizes these data according to a set of themes. These themes are subsequently described and discussed providing evidence from the quantitative and qualitative data. They are also discussed in terms of the theoretical framework developed in the literature review.

Chapter 5 draws conclusions related to the research questions, discusses the implications of the research findings in terms of the research literature, outlines the limitations of the study, and makes some suggestions for future research.

CHAPTER 2

LITERATURE REVIEW

Although several studies on online learning environments exist, there is little research in this area which considers learning preferences and the influence of cultural conditions on learning. This literature review examines the key concepts I used in this study and includes a discussion of (1) computer mediated communication (CMC) learning environments, (2) learning preferences and the affect of cultural conditions on learning in the design and delivery of CMC learning environments and, (3) an outline of the key learning theories as they relate to instructional design for distance education. This literature will be used to develop a theoretical framework for examining the research problem of learners' cultural conditions and their preferred learning practices in an online learning environment.

2.1 Computer-mediated Communication

A review of the literature related to CMC finds research that links course management systems such as Blackboard, Desire-To-Learn, and WebCT with teaching and learning online (e.g., Grooms, 2003; Morse, 2003; Nicol, Minty, & Sinclair, 2003). Course management systems allow for the administrative security of course information as well as a means for learners to access course content, resources, and synchronous and asynchronous communication technologies. In this study I focus on the use of computer-mediated communication technologies.

As I refer to it throughout this dissertation, CMC includes both the technological

infrastructure and human cognitive processes involved with communication and learning. Educational experiences are changing with the evolution of information and communication technologies. CMC includes an evolving range of both synchronous and asynchronous digital spaces, and each has its own advantages and disadvantages. Some advantages of asynchronous communication (i.e., email, threaded discussion forums, etc.) include features such as flexibility with logging-on in time, access flexibility from different geographic locations, and opportunity for reflection before responding to a classmate's or the instructor's posting (Burge, 1994; Everhart, 2000). For example, an electronic lecture or electure might "provide some crucial concept or technique that students need in order to be able to apply it to a problem or discussion, especially when this information is missing from other available instructional materials" (Harasim, et al., 1995, pp. 126-127). But some asynchronous communication methods can also adversely affect course participants so that they feel that they are being left behind or that they experience information overload.

An example of synchronous communication is an online chat space with which learners can have real time discussions. Course members can log onto a course management system at an established time and converse across vast geographic areas without leaving the comforts of their preferred place of learning. However, some research suggests that chats "may be a dead end for learning" (Polichar & Bagwell, 2000, p. 53) as chat topics can vary widely and can deviate easily away from related course materials. These sessions also have the potential to reinforce misunderstandings of course material (Polichar & Bagwell, 2000). However, both of

these caveats can also be characteristic of face-to-face instruction.

Multimedia (i.e., graphics, color, animation and sound) is another characteristic of CMC that can be used in course management systems to enhance learning. However, the inappropriate or over use of media may prove counterproductive. For example, while a webpage with many font colors and animations may look appealing, these features can also detract from the content (Ritchie & Hoffman, 1997).

Hypermedia is embedded in a computer-mediated conference system and it can "serve as a structure to allow students to weave their own path through a set of material" (Harasim, et al., 1995, p. 126). However, "links to external pages may too easily allow learners to forget the purpose of the instruction" so it is important to "judiciously include external links only to those locations which offer strong support to the instruction" (Ritchie & Hoffman, 1997, p. 136).

In this study I examine how online distance education courses can use CMC spaces to create learning environments in which course participants interact, cooperate, collaborate, and build their knowledge base from their prior experiences (Harasim, et al., 1995; Harasim, et al., 1997). CMC spaces can provide a social system for learning. Palloff & Pratt (1999) have shown that learning is improved when there is a sense of community established through the use of CMC (Rheingold, 1993). In communities of practice, when new members join the group they have access to existing members and learn from them as they work (Lave & Wenger, 1991). Through a process of discussion and collaborative work on specific group projects, meaning can be negotiated among learners while participating in a virtual learning community. Through

CMC spaces, course participants can also work with Web-partners so they can exchange their thoughts and ideas by using email (Bonk & Reynolds, 1997).

Morse (2003) states that the introduction of email and the World Wide Web that took place in 1994 brought great changes in university pedagogical structures. One example of these changes is the increase in the utilization of CMC in online learning programs. Grooms (2003) argues that CMC can serve as a tremendous pedagogical vehicle that provides an environment for learning communities to do collaborative learning and can increase both the breath and depth of interconnectivity between individuals. The interaction among individuals through CMC may assist learners in developing a "meaningful and strong sense of identity" (Postmes, Spears, & Lea, 2000).

While both face-to-face communication and CMC can be used to exchange information between individuals, they each have some unique characteristics. It has been argued that face-to-face interactions are "unmediated, proximal, synchronous, contingent, transformative, modality-rich, identified, largely serial, and anthropomorphic (and non-retrievable in its normal form)" (Burgoon, Buller, & Floyd, 2001, p. 506). Communication in a CMC environment, whether it is in the form of an email, mailing list, newsgroup, or discussion board, takes place in a digital space and a record of the content can be recorded as data for further analysis. Morse (2003) argues that CMC, especially when it is used as a course delivery component in a course management system and an online distance education program, has its own benefits, such as flexibility, participation quantity/quality, communication openness/access, and post-participation

review/access for reference. For example, Biesenbach-Lucas (2003) observes that while non-native and less verbal students tend to keep silent in face-to-face class, they "felt more comfortable participating more fully in electronic discussions" (p. 36).

A variety of research has been done using CMC as a form of conceptual system to examine different aspects of human social relations (e.g., Aviv, Erlich, Ravid, & Geva, 2003; Bullen, 1997; Lee, 2004; Postmes, Spears, & Lea, 2000; Rovai & Barnum, 2003; Tidwell & Walther, 2002; Wilson, Nolla, Gunawardena, López-Islas, Ramírez-Angel, & Megchun-Alpírez, 2002). For this study, only those social relationships closely related to online learning environments were reviewed. In the last two decades, especially in the last ten years, researchers have studied characteristics of CMC (e.g., Hancock, & Dunham, 2001; Kiesler, 1986; Postmes, Spears, & Lea, 2000; Nicol, Minty, & Sinclair, 2003; Ramirez, Walther, Burgoon, & Sunnafrank, 2002; Walther, 1993). These studies compared CMC and face-to-face (FtF) communications and investigated aspects of CMC such as information-seeking strategies (Ramirez, et al., 2002), the formation of group norms (Postmes, et al., 2000), and impression formation (Jacobson, 1999). Walther and Burgoon (1992) believe that without nonverbal cues, communicators adapt their relational behaviours to the remaining cues available in CMC, such as content and linguistic strategies. The social information processing theory (SIPT) (Walther & Burgoon, 1992), the social identity and deindividuation model (SIDE) (Lea & Spears, 1995), and hyperpersonal perspective (Walther, 1996) posit how "individuals engage in strategic cognitive deliberation and communicative behaviour to compensate for media limitations" (Ramirez, et al., 2002, p. 215)

through CMC. The social identity and deindividuation model reports that despite the lack of nonverbal cues such as gestures, facial expression, or direct physical contact, online interactions prompt users to form impressions that are based on textual and linguistic communication and not interpersonal cues. Through such interactions, groups mediate and develop a sense of identity that is very psychologically realistic to their members. The SIDE model is "supported by a range of studies showing that visual anonymity does not preclude normative behaviour or attraction" (Postmes, Spears, & Lea, 2000, p. 344). However, seeing pictures or having a biography can help form clearer impressions concerning ambiguity and one's own social positionality (Tanis & Postmes, 2003). Walther (1996) points out that in addition to SIPT and the SIDE model, there is also a hyperpersonal perspective associated with CMC.

> a fully integrated view of CMC taking into account the sender, receiver, channel, and feedback as each contributes to hyperpersonal interaction in CMC, interaction that is more desirable than we can often manage FtF(face-to-face). At the level of the sender, CMC partners may select and express communication behaviours that are more stereotypically desirable in achieving their social goals and transmit messages free of the 'noise' that otherwise comes with unintended appearance of behaviour features. At the other end, CMC receivers take in these stylized messages, construct idealized images of their partners and relationships, and, through reciprocation, confirm them. (pp. 28-29)

2.2 Learning Preferences and Cultural Conditions in CMC Environments

As online learning environments have the potential to enrol students from a greater variety of geographical locations than face-to-face classes, learners are more likely to bring to online learning environments a larger variety of preferred learning practices. These learning preferences are "the result of the interaction among previous learning experiences and social aspects" (Pinheiro, Campbell, Hirst, & Krupa, 2006, p. 53). I argue that these preferred

learning practices are relationally associated with the learner's ways of living (Hall, 1990) or cultural conditions. Learners' cultural conditions are influenced by the dynamics of social forces as they operate multidimensionally and multidirectionally across both the micro environments of the immediate locale and the macro environments of the person's societal situation. The flow and circulation of social, economic, technological, and political forces is complex across any society (Fiske, 1992). Throughout this research, my focus is the influence of these cultural conditions on course members in a CMC environment.

2.3 Culture, Group Identification, and Social Categories

Ziegahn (2001) suggests that it is important for designers of adult learning programs to take cultural differences into account. Definitions of culture are numerous and somewhat problematic. Bullivant (1993) defines culture as a group's program for survival in and adaptation to its environment. Culture consists of knowledge, concepts, and values shared by group members through systems of communication. Banks and Banks (1993) write, "Most social scientists today view culture as consisting primarily of symbolic, ideational, and intangible aspects of human societies" (p. 8). They argue that people hold multiple group memberships at any one time and that these socially-constructed categories include ability, age, gender, ethnicity, race, religion, nationality, social status, etc. Through this research I will study culture as the shared beliefs, symbols, and interpretations within a human group. However, here I want to emphasize that I agree with Banks and Banks (1993) that, "Although membership in a gender, racial, ethnic, social-class or religious group can provide us with

important clues about individuals' behavior, it cannot enable us to predict behavior" (p. 14). I also believe the isolated identification of social categories such as age, ability, ethnicity, etc should be avoided. It is more useful to consider how such cultural variables interact and intersect to influence individual and group communications and practices.

In this research I decided to avoid limiting my operational definition of culture through a homogenizing lens, such as national, organizational, and functional concepts (Duarte & Snyder, 2001). Buragga (2002) writes,

> National cultures are often formed from the aggregation of ethnic groups and this may not correspond with national boundaries. However, several nations, whose national cultures might be thought of as fairly homogeneous, may contain significant minority populations who consider themselves ethnically and culturally distinct from both the majority population and each other. (p. 469)

National cultural patterns, which are often established in childhood, are more entrenched than any other. Coupled with life experiences, national cultural patterns create individual and group differences in behaviour and thinking which serve as an identification of a person's social affiliation (Duarte & Snyder, 2001; Reushle & McDonald, 2000). However, national cultural patterns are too broad to be of use for this study. Instead, I agree with Bhabha (1994) when he writes,

> This "part" culture, this partial culture, is the contaminated yet connective tissue between cultures—at once the impossibility of culture's containedness and the boundary between. It is indeed something like culture's 'in-between', bafflingly both alike and different. To enlist in the defence of this "unhomely', migratory, partial nature of culture we must revive that archaic meaning of 'list' as 'limit' or 'boundary'. Having done so, we introduce into the polarizations of liberals and liberationists the sense that the translation of cultures, whether assimilative or agnostic, is a complex act that generates borderline affects and identifications, 'peculiar types of culture-sympathy and culture-clash'. The peculiarity of cultures' partial, even metonymic presence lies in

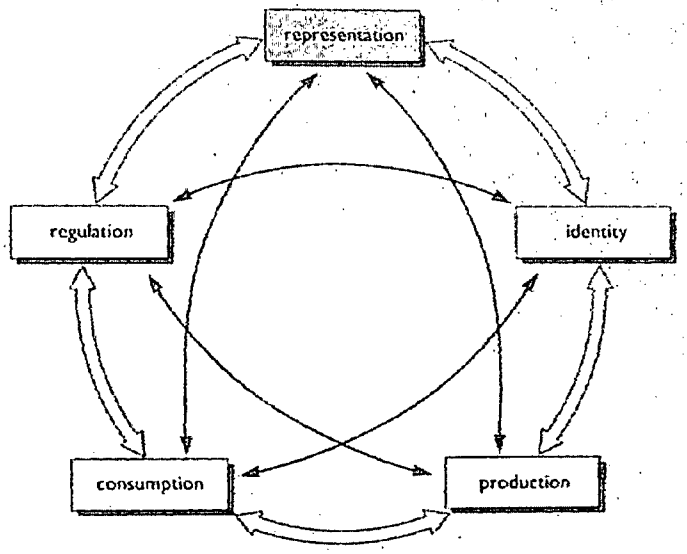
> articulating those social divisions and unequal developments that disturb the self-recognition of the national culture, its anointed horizons of territory and tradition. The discourse of minorities, spoken for and against in the multicultural wars, proposes a social subject constituted through cultural hybridization, the overdetermination of communial or group differences, the articulation of baffling alikeness and banal divergence. (p. 54)

People belong to more than one cultural group and adapt to other social affiliations with changes in their living environment. It is impossible for people to maintain a monocultural identity or set of cultural practices (Wild & Henderson, 1997). Murphie and Potts (2003), "regard culture as a dynamic and multiple thing" (p. 7) and Mobley and Wilson (1998) include class, religion and age as aspects of one's cultural identity.

du Gay, Hall, Janes, Mackay, & Negus (1997) identify five major cultural processes, namely representation, identity, production, consumption and regulation, as part of a "circuit of culture". This circuit of culture includes different human aspects of language, age, gender, ethnicity, religion, education, socio-economical status, etc. Figure 2.1 illustrates a "circuit of culture" in which different components of culture are interrelated.

Throughout this research, I examine culture as "the beliefs, philosophy, observed traditions, values, perceptions, and patterns of action by individuals and groups" (Chen, Mashhadi, Ang, & Harkrider, 1999, p. 220). Additionally, I understand that cultural beliefs can sometimes be contradictory, simultaneously finding certain foods, icons and particular actions acceptable and/or taboo (Reushle & McDonald, 2000).

Figure 2.1 The Circuit of Culture (Source: du Gay, et al., 1997)



2.4 Instructional Design and Cognition and Learning

The seminal work of Robert Gagné (1965) examined conditions of learning by applying general systems theory and systems analysis (Banathy, 1987). At different times instructional design has been influenced by different learning theories. La Follette (1986) states that

> [W]hile cognitive learning theories have had much less influence on prescriptive instructional design models than behavioral theories and systems approach principles, the shift from the behaviorist tradition to a science of cognition as the dominant learning theory will likely also occur with respect to prescriptive instructional design models. (p. 254)

The instructional designs of Gagné and Briggs (Gagné, Briggs & Wager, 1988), Dick and Carey (1996), Merrill (1983), and Reigeluth and Stein (1983), were based on behavioural and cognitive theories of learning, which have dominated the field of instructional design for over 25 years (Willis, 1998). Early instructional designs were organized with a prescriptive approach (Andrews & Goodsen, 1991; Reigeluth, 1983; Wedman & Tessmer, 1993) and utilized strong

objectivist theories (Jonassen, 1999). Such instructional designs continue to thrive in various portrayals (e.g., Morrison, Ross & Kemp, 2001; Seels & Glasgow, 1998) and have been taught to thousands of graduate students (Kenny, Zhang, Schwier, & Campbell, 2005; Willis, 1998).

More recently the field has experienced the strong influence of constructivist learning theories and a general shift away from teacher-controlled to learner-centred instruction (Peters, 2002; Reigeluth, 1999), which encourage students to "seek out as many alternative sources of knowledge as they find to deepen their perspective of the topic they are working on" (Kirschner, Carr, & van Merriënboer, 2002, p. 88). Even though Duffy and Kirkley (2004) claim that "there is little discussion of constructivist learning theory guiding the design and practice of distance education beyond stating the need for active discussion among students" (p. 6), several versions of instructional designs based on constructivist learning principles have emerged in the last ten years (e.g., Cennamo, Abell & Chung, 1996; Hannafin, Land & Oliver, 1999; Jonassen, 1999; Mayer, 1999; Willis, 2000). The study of distance education also shifted its focus from "constraints and approaches that bridged geographical constraints" (Garrison, 2000) to "educational issues associated with teaching-learning transaction, specifically, the concerns regarding real, sustained communication, as well as emerging communications technology to support sustained communication anytime, anywhere" (Garrison, 2000).

2.5 Learning Theories and Distance Education

Learning theories provide useful guidelines for the design of educational methods (Gredler, 1997). Hofer (2002) argues that learning processes differ for different people and in

different learning situations. Understanding of learning theories and their relation to knowing can in one way or another help educators make informed decisions about the information that is increasingly becoming available in online learning environments.

I agree with Jung (2001) that the instructional design features of online education "can be [partially] understood from the perspective of already existing theories such as cognitive flexibility theory, constructivism, and information processing theory" (p. 526). Cognitive flexibility theory emphasizes "the ability to spontaneously restructure one's knowledge, in many ways, in adaptive response to radically changing situational demands" (Spiro & Jehng, 1990, p. 165). According to Jung (2001), online distance education environments have the potential to feature a combination of functions used in older media, such as integrating texts, graphics, audio and video into one system, while still sharing many features of traditional (correspondence) distance education. Following is a brief review of Behaviourism, Cognitivism, and Constructivism, and some ways these theories have influenced instructional design of distance education courses.

2.5.1 Behaviourism

Gredler (1997) dates behaviourist research in education to the 1920s, with Edward Thorndike's educational studies focusing on the development of knowledge and learning. John Watson's behaviourism theory was in a dominant position from the 1920s until the 1950s. Watson's theory tries to explain relationships between antecedent conditions (stimuli), behaviour (responses), and consequences (reward, punishment, or neutral effect). He argues

that humans react to stimuli and learn in much the same way as animals. B.F. Skinner tested Watson's theories in a laboratory setting and he agreed that humans do respond to their environment, but he also believed that humans operate on the environment to produce consequences. Skinner's theory of "operant conditioning" suggested that people behave as they do because this behaviour has produced certain results in the past. People behave in certain ways based on experiences of reinforced behaviour (DeMar, n.d.).

Educators who hold the behaviourist learning perspective emphasize "the learning of a series of observable behaviours that lead to the overall goal – the ideal or desired behaviour" (Grabinger, 2004, p. 53). The key concepts of behaviourism are reinforcement, objectivism, and environmentalism, and each has significantly influenced the framework of certain instructional designs.

In technology-based learning environments, the learning material is usually divided into units or modules, each with a set of objectives for the specific unit (Cooper, 1993). Behavioral objectives specify what the student will be expected to do. Computer-aided tutorials and drills that are designed for the reinforcement of memorizing and responding are examples of programs under the influence of behavioural theory (Hung, 2001).

At the present time, even though the influence of behaviourism is still maintained in training programs for business enterprises, military, science, engineering and the medical health field, Bates & Poole (2003) suggest that teaching in higher education is moving away from behaviourist approaches.

2.5.2 Cognitivism

Generally speaking, while behaviourists think learning is determined by external factors in the environment that lead to the reinforcement of behaviour, cognitivists insist that human learning involves mental processing (Bates & Poole, 2003). Cognitivist theory emerged in the early part of the twentieth century (Matlin, 1994) and has strongly influenced the development of instructional design theories. One example is an information-processing approach that Gagné (1977) argues as a major advance in the scientific study of human cognition.

Bates and Poole (2003) state, in their brief introduction to learning theories and instructional design in higher education, that

> [C]ognitive approaches to learning cover a very wide range. On the one hand, attempts have been made through areas such as artificial intelligence to provide mechanical, electronic and physical representations of mental processes, reflecting very much an objectivist epistemological position. On the other hand, teachers who place a strong emphasis on learners developing personal meaning through reflection, analysis, and construction of knowledge through conscious mental processing would indicate much more of a constructivist epistemological position. Cognitive approaches to learning – with their focus on abstraction, generalization, and creative thinking – seem to fit much better in higher education. (p. 33)

For the purpose of this research, I will situate cognitivism between behaviourist and constructivist theories.

2.5.3 Constructivism

Since appearing in learning literature in the 1970s, constructivism has been interpreted in a variety of ways through a variety of narratives (Davis & Sumara, 2002). Hedberg and Harper (1997) talk about constructivist theory in relation to how knowledge is constructed, emphasizing the active role of the learner in creating knowledge rather than the teacher or instructor

imparting information. As the learner interacts with objects and situations, he/she constructs an understanding of the relationships between the features characterizing those objects or situations. The learner, therefore, constructs his/her own conceptualizations and solutions to problems. Learner autonomy and initiative is accepted and encouraged. Learners acquire knowledge by fitting new information together with what they already know. Hence learning is affected by the social and cultural contexts of the situation and the beliefs and attitudes of the learner. Learners are encouraged to invent their own solutions, try out ideas and hypotheses, and assemble new knowledge from their prior experiences.

Theories of constructivism stand in contrast to mechanical conceptions of thinking and action by emphasizing the learner's role in constructing meaning, as opposed to the simple transmission of knowledge from teacher to student (Duffy & Cunningham, 1996). Learners do more than just process information–they assemble an understanding through interactions within other people and their environment. Learning is not regarded as just "taking things in" but as a process "of maintaining an adequate fit with one's ever-changing circumstances" (Davis, Sumara, & Luce-Kapler, 2000, p.65). If instruction is based on principles of constructivism, the role of the teacher shifts from someone who simply dispenses information to someone who structures activities that improve communication, that challenge students' pre-conceived notions, and that ask students to question and possibly change their views of the world. Learning through a constructivist approach requires learners to be active participants in multiple learning processes. Instructional designers and teachers, when using this approach, aim to encourage

students to learn how to learn.

Dewey, Piaget, and Vygotsky are perhaps the best known for their early work in articulating a constructivist or meaning-centered approach to learning and teaching. Each of these researchers concentrated on different aspects of learning. For example, Dewey's work "concentrates primarily on means, and recognizes the autonomous capacity of individuals to participate in shaping their social and cultural experience" (Hyslop-Margison, 2004, p. 5). Piaget's work is often referred to as cognitive constructivism while Vygotsky's work has been discussed as social constructivism (Kirkley, 2004).

The continual development in network bandwidth and wired and wireless connections increasingly makes an online learning environment a multifunctional space for social interactions. That is to say, the Internet now affords real time audio and video conferencing, and is being employed as a means for realizing shared meaning making through social networks such as the World Wide Web, and applications that allow for the use of hypertext and broadly sharing multimedia. Hypertext learning environments are being used to assist learners in developing complex knowledge and using it with flexibility (Jacobson, Maouri, Mishra, & Kolar, 1996).

In an introduction to Piaget's theory offered on *The Classroom Compass* website of Southwest Educational Development Laboratory (SEDL), the authors state,

> Piaget's constructivism is based on his view of the psychological development of children. In a short summation of his educational thoughts *(To Understand is to Invent, 1973)*, Piaget called for teachers to understand the steps in the development of the child's mind. The fundamental basis of learning, he believed, was discovery: 'To understand is

> to discover, or reconstruct by rediscovery, and such conditions must be complied with if in the future individuals are to be formed who are capable of production and creativity and not simply repetition.' To reach an understanding of basic phenomena, according to Piaget, children have to go through stages in which they accept ideas they may later see as not truthful. In autonomous activity, children must discover relationships and ideas in classroom situations that involve activities of interest to them. Understanding is built up step by step through active involvement. (SEDL, 1995)

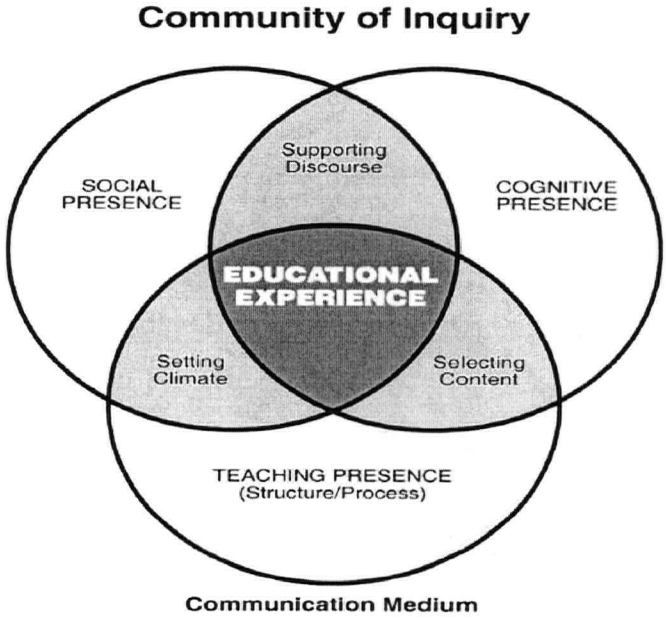
According to Vygotsky's (1978) social constructivist theory, the process of knowing involves "the agency of other people and mediated by community and culture" (Boudourides, 2003, p. 12), and "knowledge is constructed cooperatively through social negotiation" (Aviv, et al., 2003, p. 5). Defined as "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (Vygotsky, 1978, p. 86), Vygotsky's Zone of Proximal Development (ZPD) has been one of the most frequently discussed concepts advanced by social developmental researchers. Like other channels of communication, computer-mediated communication also occurs in a socially constructed environment and provides a virtual space for thinking and learning to occur (Mesher, 1999; Stacey, 1999). Within these virtual spaces, course participants in an online graduate program have a variety of conditions, and the discussion board and group projects provide them opportunities to learn from each other and grow together academically.

Vygotskian ZPD and situated cognition theory emphasizes the importance of connecting learning and authentic activity, context and culture (Brown, Collins & Duguid, 1989). In some online learning environments instructional tasks require course participants to work with the aid of their peers and instructor to succeed. Lave and Wenger (1991) talk about situated learning

in a community of practice, and suggest that when new members join the group they will learn from them as they work together.

Garrison, Anderson and Archer (2000) have advanced ideas of a community of inquiry with the assumption that "learning occurs within the community through the interaction of three core elements…which are cognitive presence, social presence, and teaching presence" (p. 88). Figure 2.2 illustrates Garrison et al.'s (2000) concept on how educational experiences are interrelated among these elements via the medium of communication.

Figure 2.2 Elements of an Educational Experience (Source: Garrison, et al., 2000)



Kanuka (2005, Conclusion section, ¶ 2) discusses the effectiveness of some specific instructional strategies, and points out that "learner motivation, intention, culture, gender, prior knowledge, and age, are all factors that can impact the teaching-learning experience". Even though Garrison, Anderson and Archer (2000) state that "much work remains to be done before

we truly understand how a worthwhile educational experience can be optimally designed and delivered in a text-based environment" (p. 103), I believe that cognitive presence, social presence and teaching presence are all important components for assessing how a community of inquiry can be formed in an online learning environment.

Through this brief review of behaviourist, cognitivist and constructivist learning theories, I have outlined a continuum that shows how instructional designs have been influenced by these theories over the past few decades. For example, computer-aided tutorials and drills that were designed for the reinforcement of memorizing and responding have largely been replaced by activities that are designed to engage students in active participation in learning communities.

2.5.4 Instructional Strategies Aligned with Constructivist Learning Theories

This study of an online graduate course involved many instructional strategies that are related to constructivist learning theories. In the next section, I describe several instructional strategies that are pertinent to constructivist learning theories such as cooperative learning, collaborative learning, project-based learning, and problem-based learning.

Cooperative learning and collaborative learning share many features, such as team or group work and an emphasis on interactivity. They are often referred to similarly or the terms are used interchangeably. However, these instructional approaches also have their own characteristics, and I will discuss them separately below.

Cooperative Learning

Cooperative learning usually engages a group of learners with different learning abilities

to complete a given task together. Learners are required to take responsibility for the group as a whole so that everyone contributes and learns to be successful. In order for this to happen, learners must interact with each other, delegate responsibility, exchange their thoughts and opinions, trust each other to finish the work well and on time, solve problems together and reflect on past, present and future goals (Gilbert & Driscoll, 2002).

According to Stahl (1994), a successful cooperative learning activity includes fourteen important elements:

1. A clear set of specific student learning outcome objectives;
2. All students in the group accept the targeted outcome;
3. Clear and complete set of task-completion directions or instructions;
4. Heterogeneous groups;
5. Equal opportunity for success;
6. Positive interdependence;
7. Face-to-face interaction;
8. Positive social interaction behaviours and attitudes;
9. Access to information students must learn;
10. Opportunities to complete required information processing tasks;
11. Sufficient time spent learning;
12. Individual accountability;
13. Public recognition and rewards for group academic success; and
14. Post-group reflection on within-group behaviors.

Slavin (1995) suggests that group rewards and individual accountability can be used as excellent enhancement strategies for achievement outcomes in cooperative learning activities. A number of research studies have been done on cooperative learning (e.g., Kirchner, 2005; Stahl, 1994; Toumasis, 2004) under various kinds of circumstances with many successful stories. However, further studies need to be done on the effects of cooperative learning, particularly in an online environment. For example, investigations need to focus on identifying situations in

which identified outcomes can still be achieved without group rewards, and what methods enable learners with different ethnic conditions.

Approaches to cooperative learning promote cognitive engagement for learners to plan and manage their own learning (Corno & Mandinach, 1983), as it "provides a variety of techniques designed to stimulate dialogue, provide needed explanations and supporting rationale, and to otherwise elaborate basic content" (Hannafin, 1989, p. 178). In a cooperative learning environment, group members with different conditions can engage in activities which will allow them to understand their own thought processes and those of their peers (Chafe, 1998).

Collaborative Learning

Collaborative learning seems similar to cooperative learning as both involve cooperation among group members. But collaborative learning has a less directive system of governance, is more learner-centered, and pays more attention to individual group members' abilities and contributions (Panitz, 1996). Collaborative learning is defined as "an activity that is undertaken by equal partners who work jointly on the same problem rather than on different components of the problem" (Brandon & Hollingshead, 1999, p. 111). Studies on collaborative learning (e.g., Gilbert & Driscoll, 2002; Scheuermann, Larsson, & Toto, 2001) and online distance education suggest that collaborative learning "changes the whole nature of the teaching-learning process and the teacher-student relationship. The educator becomes less an authority figure and more a resource and facilitator for the learning activities of the group" (Harasim, et al., 1995, p. 31). Stacey (1999) summarizes several useful features of collaborative learning:

- Attributes of social construction of knowledge
- Clarification of ideas via group communication
- Obtaining feedback to a learner's ideas from other group members
- Sharing the diverse perspective of the group members
- Group sharing of resources, new ideas, and expert advice
- Seeking group solutions for problems
- Providing technical support collaboratively.

Unlike a conventional class where learners physically meet face-to-face, the physical expanse in a traditional distance education program may result in the learners feeling isolated from others (Geelan & Taylor, 2004). A collaborative learning environment in online learning programs can increase communication among course members and decrease feeling of isolation (Geelan & Taylor, 2004).

Project-based Learning

The terms project-based learning and problem-based learning are often used as synonyms even though they each have distinctive features. Project-based learning seeks to engage learners in the investigation of real life problems (Barron, 1998) and uses Vygotsky's notion of a "Zone of Proximal Development" where there is an emphasis on "the critical importance of interaction with people" (Hung, 2001, p. 282). A project-based learning environment draws learners' attention to central course concepts and engages them in meaningful tasks that require problem-solving skills to complete the tasks. Learners generate evidence of their learning and work on their own to construct meaning (Collis, 1997; Thomas, 2002). Situations for sharing meaning are necessary for cognitive development within the zone of proximal development. Furthermore, group activities are organized so participants having different cognitive developmental levels are aware of each of the other participants'

abilities to contribute to the learning experience. It is important that one participant does not dominate the group interactions (Driscoll, 1994; Hausfather, 1996).

In a project-based learning environment, learners not only are involved in processes of reaching problem-specific learning goals, they also must strive to attain their cognitive and social goals. The use of this learning approach provides the opportunities for learners to develop problem-solving and group-interaction skills, as well as helps them to realize the importance of social responsibility (Collis, 1997). According to Moursund (1999), project-based learning focuses on problem solving with the help of previous knowledge and the experience of the learners themselves and others. A project-based learning lesson is expected to realize goals such as developing expertise, improving research skills, improving higher-order thinking skills, conducting self-assessment and peer assessment.

Problem-based Learning

Problem-based learning is widely used in medical education, but Stites (1998) suggests that problem-based learning is useful not only for medical students, but also for learners from early childhood to legal education in varying instructional contexts. This learning approach is a very effective way to increase learner motivation and to develop problem-solving and higher order thinking skills. Integrated with technology such as interactive multimedia, problem-based learning can be a powerful learning approach for instructional design.

The online graduate course used for this study employed many activities and course projects that involved the course members' active participation and collaboration. Interpreting

the instructor's use of these constructivist learning theories, I believe they were helpful in understanding learner participation in the dynamic learner-learner, learner-instructor, and learner-course content interactions, and their perspectives of online courses in relation to their diverse cultural conditions.

2.5.5 Application of Learning Theories in Designing Learning Environments

The aforementioned three learning theories: behaviourism, cognitivism and constructivism, and cooperative, collaborative, project-based, and problem-based learning approaches have their advantages and limitations when applied to online learning environments.

As a learning theory that influenced the design of millions of successful educational programs (Grabinger, 2004), behaviourism has certain advantages such as modeling, learning by doing, and positive reinforcement (Hiemstra & Brockett, 1994). One application of behaviourist theory in online distance education is the use of behavioural learning objectives to direct student learning. Behavioural learning objectives specify what a student must demonstrate in order for a teacher to measure that learning took place (Kizlik, 2004), or the outcomes expected of students' learning behaviour in a lesson (Mishra, 2002).

Should behavioural learning objectives be used to design online distance education courses? How do behavioural learning objectives affect students with culturally-specific learning preferences? Mishra (2002) cites that one advantage of behavioural learning objectives is that they promote individual pacing and progress. In a study conducted with Chinese students in Hong Kong, Pratt (1999) and his colleagues found that "there was little if

any disagreement about what constituted the 'basics' or foundational knowledge that students were expected to master. Furthermore, the text and/or teacher were considered the most authoritative source of that knowledge" (p. 7). This transmission approach to teaching continues to reproduce a traditional system of education that both teachers and students have encountered in their previous schooling experiences.

Online distance educational programs are usually designed to serve specific purposes. If the objective of an online distance education program is to *train* learners' skills of "memorizing and application of rules" (Hung, 2001, p. 284), then behaviourism can be used as a teaching strategy for the design of such a program, but designers of educational programs should bear in mind that the way a learner learns to accomplish a task may not be the best way, nor suit all learners or all situations (Schuman, 1996).

The disadvantages of behaviourism are also obvious. For example, students can learn the content presented in the course, but if the process of learning is not explicitly related to real world problems then students can have difficulty transferring their knowledge to new situations (Grabinger, 2004). Another limitation of behaviourism could be that in such learning programs, "each learner is assumed to learn in the same way and follows the strategies as every other learner" (Grabinger, 2004, p. 57). However, research has shown that not only do different people in both face-to-face and online distance education situations learn differently, but learners with different cultural conditions have different learning preferences (Bates & Poole, 2003; Duarte & Snyder, 1999). Therefore, with the increasing availability of the Internet and

CMC systems, online distance education learning environments should also be designed to consider the preferred learning practices of a culturally-diverse learner population.

Online distance education courses that are designed based on principles derived from constructivism and social constructivism theories of learning usually incorporate teaching strategies that require learners to collaborate, communicate, explore, and reflect (Lebow, 1993). Since learning is viewed in these perspectives as an "active, constructive process whereby the learner strategically manages available cognitive resources to create new knowledge by extracting information from the environment and integrating it with the information stored in memory" (Nathan & Robinson, 2001, p. 83), then it follows that "constructivist and collaborative approaches are the most appropriate modes for managing online discussion groups" (Oren, Mioduser, & Nachmias, 2002, p. 13).

However, Hanlis (2004) argues that as constructivism-based activities such as collaboration, communication, exploration and reflection require "a fair amount of instructional time" (p. 45), constructivism might not fit certain courses with time restrictions. In some programs, learners are required to acquire certain knowledge and skills before they can proceed to the next level to build their analytical and critical thinking skills. Bullen (1999) argues that even though collaborative learning is successful, there are still problems, such as the long time it takes for groups to get together because of the asynchronous feature of the course, and compatibility problems among some group members.

Another issue to consider when applying constructivist principles in online distance

education course design is whether the design principles fit the perspectives and preferred learning practices of students with different cultural conditions. For example, in Asian countries such as China, even though the education system has been greatly influenced by Western pedagogical theories in the past few decades and reform is ongoing, mainstream educational programs are still test-driven (Lee, 2004). Learners' expectations of a course, whether face-to-face or online, tend to be focused on the mastery of content for the course and on obtaining high scores on the tests. Increasingly attention is being paid to the development of learners' problem solving and communication skills in different educational settings in China. In order to meet the needs of learners who are used to certain educational practices, it may be necessary for online distance education course designers to combine the design principles from both traditional and constructivism theories, at least during a period of transition of education paradigms.

Learners enrolled in online distance education graduate programs are usually adults. Researchers have shown that adults learn best if they actively participate in the learning experience (Candy, 1991; Knowles, 1970, cited in Barker, 2002). Active participation in course activities is a very important part of online learning (Scheuermann, et al., 2001). There has been research on how to motivate online learners to actively participate, including giving incentives and making participation a part of evaluation However, Beaudoin's (2002) study shows that "invisible" online students, those who do not seem to be participating as often as others, may still often log on to the course site, and "feel they are still learning and benefiting

from this low-profile approach to their online studies" (p. 147). This study raises some interesting questions. For example, if learners are encouraged to participate in the online course discussion board, should they be required to post a certain number of messages per week for grades?

2.6 Methods for Instructional Design for Online Distance Education

As new technologies become less expensive with the consequence that there is greater access to various forms of multimedia, online learning environments are becoming more prevalent. Online education, as experienced through CMC, is being heralded as meeting the needs of course participants' lifestyles by managing time conflicts and access from a variety of locations, and helping people to juggle personal commitments (Harrison & Bergen, 2000).

I argue in this dissertation that an online distance education course should be more than a website with a digital version of face-to-face course materials posted, as that does not make any contribution to active learning in an online learning environment (Bostock, 1997). Neither should it simply be a Web page with hyper links to other resources (Ritchie & Hoffman, 1997), even though a hypertext learning environment is helpful for learners in their acquisition of complex knowledge and provides the flexibility of using such knowledge (Jacobson, et al., 1996). The challenge in instructional design that this dissertation seeks to learn more about is how to "intertwine content, learning activities, guidance, and student support, to have a complete distance learning 'package'" (Bourdeau & Bates, 1996, p. 271). Instructional designers need to understand of learners' prior knowledge, the reading ability/readability of the

course, and learners' learning style (Bernard & Lundgren, 1994), in order to leverage the strengths that learners bring from their different previous knowledge and experience to the new learning environment (Moursund, 1999).

Considering that an online course may involve learners with diverse cultural conditions, the design of such a course needs to be culturally sensitive. McLoughlin and Oliver's (2000) ten principles for instructional design are intended to promote constructivist, contextualized and culturally responsive learning:

1) Adapt an epistemology that is consistent with, and supportive of constructivist learning and multiple perspectives
2) Design authentic learning activities
3) Create flexible tasks and instruments for knowledge sharing
4) Ensure different forms of support, within and outside the community
5) Establish flexible and responsive student roles and responsibilities
6) Provide communication tools and social interaction for learners to co-construct knowledge
7) Create tasks for self-direction, ownership and collaboration
8) Ensure flexible tutoring and mentoring roles that are responsive to learner needs
9) Create access to varied resources to ensure multiple perspectives
10) Provide flexibility in learning goals, outcomes and modes of assessment

I am interested in knowing if a learner's cultural condition influences his or her preferences when engaged with a particular course design (Cagiltay, 2000). I suspect that an online distance education course interface also needs to be designed that considers the learners' cultural conditions. Besides cognitive and motivational considerations, emotion should also be considered as an important component in the design of online learning environment in order to enhance student learning by increasing positive emotions such as pleasure and sympathy and decreasing negative emotions such as anger and fear (Astleitner & Detlev, 2000). This study

reports on findings that should help an online course designer become aware of how learners with different cultural conditions respond to issues that are socially sensitive (Chen, et al., 1999; Reushle & McDonald, 2000).

2.7 Learner's Cultural Condition as a Design Consideration

Currently, there is a lack of research on cultural issues in instructional design for online learning systems, and this situation is likely to have serious effects on teaching and learning for universities and students (Wild & Henderson, 1997). Wild and Henderson (1997) argue that despite different theories of culture, "there appears to be consensus that culture has a definite and very strong influence on the design and use of information, communication and learning systems, as well as on their management" (p. 183). Culture "creates a filter that people implicitly use to select their perceptions and behaviors" (Buragga, 2002, p. 471). Although Palloff and Pratt (1999) suggest that in a CMC environment, "[H]ow people look or what their cultural, ethnic, or social condition is become irrelevant factors in this medium, which has been referred to as the great equalizer" (p. 15), Reushle and McDonald (2000) argue that "because of the globalization of learning, the design process for online teaching and learning must consider and accommodate the challenges of changing learner profiles reflecting increasing enrolments of students from diverse conditions" (p. 353). Learning environments should be designed to critique ethno biases (Gayeski, et al., 2002).

It is also becoming common practice in higher education for online distance education programs to enrol international and transnational students. These programs are often offered in

a country other than where the awarding institution is located and involves students that have had different teaching and learning experiences and expectations (Ziguras, 2001). McLoughlin (2000) argues that "[O]ne of the limitations in current instructional design models is that they do not fully contextualize the learning experience, and are themselves the product of particular cultures. The design of Web-based instruction is not culturally neutral, but instead is based on the particular epistemologies, learning theories and goal orientations of the designers themselves" (p. 58). Wild and Henderson (1997) state that the learning theories that play a dominant role in distributed learning systems currently provided on the Internet are likely to avoid "the cognitive, epistemological and philosophical aspects of interrelated cultural educational contexts" (p. 187). They suggest that a multiple cultural approach be used for online learning systems. The authors suggest that this approach

> does not assume one instructional pedagogy as immutable but provides an epistemological and pedagogic pluralism in which multiple ways of constructing knowledge and understanding are valued, and it prompts learners to interrogate those pedagogies in the construction of their own knowledge. In this way cultural contextualization is visible in the instructional design of WWW learning materials. (p. 187)

2.8 Key Concepts Examined Through This Study

Through this research I explore why online distance education courses need to be designed in such a way that learners with different cultural conditions will feel motivated and gain the best possible learning results from such courses. I agree with Dowling (2000) that "a lack of awareness of and sensitivity to such differences can cause misunderstandings" (p. 170). One of the reasons that it is difficult for instructional designers of online education courses to

identify learners' preferred learning approaches and related social and cultural issues, and to design learning environments to meet these needs is because there is very little empirical evidence or systematic approach to help them identify these characteristics.

In this study I will adapt Morse's (2003) argument that ethnicity rather than nationality should be viewed as the indicator of cultural condition, and draw from Wild and Henderson (1997) that people's cultural identity changes with a change in their living environment rather than remaining the same all the time. The "circuit of culture" presented by du Gay et al (1997) will be adapted to examine different aspects of human social characteristics such as language, age, gender, ethnicity, education, socio-economical status, etc. I also extend Duarte and Snyder's (2001) concept of power-distance which posits how different cultures respond to broad notions of equality. I want to know more about how design methods can optimize learning. Because cultural issues intersect the design and delivery of an online learning environment, it is important to examine these issues toward the improvement and development of richer learning through cultural conditions and social contexts.

2.9 Positioning of the Researcher

In the process of data collection from the course CMC spaces, I positioned myself as a non-active participant observer, examining what and how the research participants engaged in communication in the online learning environment. While I did not send any messages to them thought the course cmc spaces, I recognize that my presence online was a form of participation.

Through the interpretation of research data, I represented the voices of the research

participants' and that of my own beliefs and interests. I embraced Lather's (1991) notion of a 'multi-voice text' with regards to my own positionality in the research. She described four different stories, which can be viewed, on a continuum from mechanistic to dialogic. For example, "realistic" stories represent a positivistic view; "Critical" stories examine multiple points of view; "Deconstructive" stories attempt to uncover social, political, and historical contexts; and, "reflexive" stories position the researcher's voice along side the voices of the research participants keeping the research process as transparent as possible. In my interpretation of the research data, especially the data collected from the interviews, I positioned my research within the last two views on this continuum, namely deconstructive and reflexive stories. I attempted to present the research participant's voice and my own voice in parallel. That is to say, I examined the views of the research participants to establish the themes and represented their voices in relation to these themes that emerged from the holistic coding. In addition, I included my own understanding and interpretation of what they said in Chapters 4 and 5 analyzing these data in relationship to the literature reviewed. In the next chapter I will discuss these methods more fully.

CHAPTER 3

RESEARCH METHODOLOGY

The purpose of this study was to examine the cultural conditions of research participants and their preferred learning practices in an online CMC learning environment. This case study was meant to be more exploratory than explanatory. This chapter discusses (1) the design of the research and objectives, (2) the participants and the environment for data collection, and (3) the measures and procedures employed for data collection and data analysis.

3.1 Research Objectives and Design

Case study "can be used to study a phenomenon systematically" (Merriam, 1988, p. 6). This case study systematically examined two research objectives: (1) what are the relationships between the research participants' cultural conditions and their preferred learning practices? and (2) how do the research participant's cultural conditions limit or extend his or her participation in online distance education courses?

A review of research methodologies reveals that researchers hold different views of case study. Yin (2003) asserts that it is possible to "do a valid and high-quality case study without leaving the library and the telephone or Internet, depending on the topic studied" (p. 11). Merriam (1988) implied that exploratory research and case study are different, but Yin (2003) argued that "[T]here may be exploratory case studies, descriptive case studies, or explanatory case studies" (p. 3). The goal of an exploratory case study is "not to conclude a study but to develop ideas for further study (Yin, 2003, p. 120). A case study "provides descriptions of a

case, a group, a situation, or an event" (Krathwohl, 1998, p. 26), and examines the details of a setting, subject, or particular event (Merriam, 1988; Stake, 1995; Yin, 2003). This is a case study that constitutes a voluntary group of twelve research participants regarding their cultural conditions and preferred learning practices in an online graduate course. Instead of examining each research participant individually, I examined the whole group as one case for this study. Drawing from this research, I examined relationships between a research participant's cultural conditions and his/her preferred learning practices as complex social phenomena (Yin, 2003) in order to provide a "comprehensive view and broader insight into the multifaceted phenomenon" (Waggoner, 1991, p. 137). In this case study, I combined both qualitative and quantitative research methods (Waggoner, 1991).

The research data were collected using multiple sources from participants and through the CMC learning environment. Data collection included research participant questionnaires, observation of participant activities, transcripts of discussion board postings, email interviews, telephone interviews, and face-to-face interviews with those located locally. These data were used to investigate the research questions regarding the relationships between the research participants' cultural conditions and their preferred learning practices. I also used these data to examine if a research participant's cultural conditions limited or extended his/her participation in online distance education courses. In order to cross-check the findings' reliability (Patton, 1990) and data clustering, a form of triangulation (Stake, 1995; Yin, 2003) was used in an attempt to make findings or conclusions "more convincing and accurate" than if the data were

only from a single source (Yin, 2003) or ideas are analyzed as isolated variables.

3.2 Permissions and Clearances

Research approval by the University of British Columbia Behavioural Research Ethics Board was granted before the research began. I received permission to monitor or "observe" the online class activities, contact course members about the research, access archived course postings, and interview the participants by email, telephone, and in person.

3.3 The Setting: An Online Course

The setting for this case study was an elective course of an online Master of Educational Technology (MET) program at a large Western Canadian research university during the summer of 2005. The course was on issues of culture and new media studies which was designed for the objective of orienting learners toward understanding the ways in which culture, nature and technology are converging to intensify and transform everyday life. This course provides a forum for exploring technocultural issues such as cyborgs and hybridity, digital property, cyberpunk fiction, the posthuman, AI and AEI, information warfare, virtual reality, third nature and religion. The course enrolled students at various stages of their program. The course was offered for thirteen weeks in the summer of 2005 and was designed and co-taught by two instructors. WebCT was used as the CMC system and included several built-in display functions for the syllabus, course content, and calendar, and communication technologies such as a bulletin board, chat, and WebCT email. Besides WebCT, the course also employed Moodle, another course management system, as well as a course mailing list for communication

regarding administrative updates for the course. The instructors also set up other optional online communication venues such as blogs and a wiki. They encouraged students to experiment with a variety of online communication applications available at the time. In this study I mainly focused on communications that occurred among course members and between course members and instructors in the principle WebCT course management system.

3.4 Researcher's Roles

I was a non-participating observer in the course, and I did not participate in any of the CMC discussions. The instructors told me that I could participate in the synchronous online chat sessions, as my status was set established as a Teaching Assistant. But I did not have any teaching or grading responsibilities for the course; I was simply assigned that status so I could have access to the WebCT system for the course. As I was apprehensive that my presence in the CMC spaces might cause confusion or be a distraction to the students , I decided not to engage directly in any course assignments. Instead, I chose to read the archived scripts afterwards.

3.5 Data Collection

In order to obtain empirical data about the research questions, this study was conducted as multi-methods research (Johnson & Onwuegbuzie, 2004) using both qualitative and quantitative data collection methods. Qualitative research questions were oriented to seek "patterns of unanticipated as well as expected relationships" (Stake, 1995, p. 41). More specifically these data were used to analyze 1) participants' perspectives of different aspects of

the CMC associated with the course, 2) participants' learning preferences in relationship to their cultural conditions, 3) participants' learning strategies used for online communication, and 4) participants' suggestions for the design and delivery of CMC spaces for online distance education courses. Quantitative data simply identified the participants' age range, gender, number of years they had been using the English language, their experience(s) within North American education systems, number and frequency of messages each person posted to the discussion board.

3.5.1 Participants

Participants were selected from the fifty-five students enrolled in an online graduate course on a voluntary basis. During the first week of the course, the two co-instructors sent out a research contact letter on my behalf informing all course members of the research. Course members were invited to voluntarily participate, and only three emailed me a few days later. Subsequently, the instructors sent out a reminder at my request via the class email list. This time six more course members contacted me. Then about five weeks after the course started, the instructors created a thread in the discussion area on the course website called "Zuochen's Research Project" where I posted a contact letter (See Appendix I), informing the course members I was still looking for more participants. Two weeks later, three additional course members elected to participate, bringing the total to twelve participants.

When I identified the potential research participants, I read their biographical statements posted on the course website to determine if they represented a diverse set of cultural conditions

needed for the study. The twelve participants were from different parts of the world and had a range of North American educational experiences. To those who were located in Canada, I mailed a consent form to sign with a stamped, self-addressed envelope. Most of them responded within one or two weeks. One person located outside of Canada asked me to send him the consent form as an email attachment so he could print it out, sign it, and then scan and return it by email. For the rest of those who lived outside of Canada, I enclosed postage for them to return the signed form by regular mail.

3.5.2 Observation Notes of Participant Activities

At the beginning of the 13-week term, the instructors notified their students by email and in the introduction of the course website that I would be collecting research data from this course. A week later I started to log on to the course website for about thirty minutes to an hour every day to monitor or "observe" participant activities by reading student and instructor postings on the bulletin board and the archives of the weekly synchronous chat sessions. Besides reading the content of the postings and chat session transcripts, I also recorded the length and frequency of postings from each participant and in what manner the postings received responses. I was especially interested in the tone communicated through the messages.

3.5.3 Course Computer Mediated Communication

Messages posted to the discussion board were digitally archived in the WebCT course management system. However, only the postings of the participants of this study were

compiled and downloaded as transcripts for data analysis. Even though asynchronous communication was usually used as the principle measure for information exchange to avoid time conflicts among course participants with different schedules or from different time zones, synchronous chat sessions in WebCT were scheduled weekly for ten weeks during the course. Each chat session was compiled by the instructors the following day and saved on the course website for those who missed the chat sessions to read. Later I used my observation notes and these course communication postings to identify themes and patterns. These themes are further examined and analyzed in Chapter 4 and interpreted in Chapter 5.

3.5.4 Participant Interviews

Participants were initially interviewed by email; for a second round of interviews ten people were interviewed by telephone and two were interviewed face-to-face. Email was the communication method used most often among the online distance education faculty and learners. This online course used both WebCT email and the learners' own personal email accounts. Most of the participants were either located in areas far from where I lived or were too busy to schedule a time to meet. I followed Burke and Miller's (2001) suggestion that for each interview, questions should be asked with the same wording and in a prescribed order to "maintain data reliability and integrity".

A second round of interviews was conducted by telephone, with the exception of two interviews that were conducted face-to-face. It was apparent early in the process that due to the lack of nonverbal cues such as gestures and facial expression the email and telephone

interviews were different from face-to-face interviews. However, I found the telephone interviews were not much more challenging than face-to-face interviews. This may well have been because the interviews were carried out after regular correspondence through email with the participants and a comfortable relationship had been established. These processes are described below.

3.5.4.1 Email Interviews

The email interviews proved to be one of the most important sources of information for this case study. This information yielded important evidence about the participants' life experiences and social relationships associated with their cultural conditions (Yin, 2003).

The email interviews were done individually and the same questions were used for every participant. The initial plan was to send out interview questions at different times or "episodes" in groups of three or four (Bampton & Cowton, 2002). However, since many of the previous email messages did not get prompt responses, I decided to send all the email interview questions to each individual participant instead of posting them on the course website threaded discussion forum for the group.

The email interview questions focused on the participants' learning environment and living conditions such as the physical setting, amount of and use of time, influence of family life, work, or other aspects of their cultural ways of living that might have affected their social relationships, or enhanced or limited their preferred ways of learning in the CMC environment. About half of the participants responded in a week or two, while some did not respond until I

reminded them a few times. The longest time it took for an email interview to get back to me was about five weeks.

3.5.4.2 Telephone Interviews

Based on my observation notes, review of online discussions and email interview data, semi-structured questions were generated for the telephone or face-to-face interviews. The following interview questions were used as guidelines, but they were adjusted as the conversation went on with each interviewee:

- What was the biggest challenge for you in this online course? Why?
- What strategies did you use to deal with the challenge?
- How would you describe your preferred learning practice?
- How did you select which postings to read first? Why?
- Can you describe differences you noticed between the education system you had before and the online course in which you are enrolled?
- Can you describe how your MET online experiences were similar and or different from your past educational experiences?
- What do you think of the socializing/mingling space on the course website? Do you think such a space is helpful for your learning?
- Can you tell me why you chose to study in the online program?
- What suggestions would you like to make for an online course (design and delivery)?

A phone recorder was used to connect the telephone to a digital voice recorder in order to archive the conversations for later transcription. I used prepaid phone cards for long distance or international calls and the sound quality was generally good. I followed Burke and Miller's (2001) suggestions of testing the equipment beforehand to make sure that everything worked properly, and setting up interview appointments via the phone rather than through email because participants are more responsive to the former method. Due to the busy schedule of the participants, some of the telephone interviews were postponed a few times. The last

interview was carried out at the end of December 2005, when the interviewee's school term ended.

3.5.4.3 Face-to-face Interviews

Four participants indicated that they would prefer to be interviewed face-to-face, but later two of them decided to be interviewed by telephone because of their busy schedules towards the end of the school term. One face-to-face interview was done in the participant's office and the other in a coffee shop of the participant's choice. The interview conducted in the office had good recording quality because we were alone, but the background noise in the coffee shop made it rather difficult to hear the participant and later to transcribe the recording. We chose a table at the back of the room, which appeared to be quieter than in the front of the coffee shop. Nevertheless, the digital recording ended up having background noise from the machine the coffee shop employee used to make drinks. A digital voice recorder was used to record the conversations and, similar to those carried out by telephone, the interviews generally lasted between 40 to 60 minutes.

3.6 Data Analysis

The research data were analyzed to identify participants' preferred learning practices in an online learning environment, and how their cultural conditions affected their participation in the learning process. As discussed above, the case study data were collected from multiple sources including observation notes, course biography statements, survey questionnaires, email interviews, telephone interviews or face-to-face interviews. Multiple methods were used to

code the data. For example, I read all the transcripts from the discussion forums and used "open coding" (Creswell, 2003) to mark each participant's postings with regard to the: 1) kinds of questions they raised , 2) how often and when they participated online, 3) if and how they articulated arguments , 4) how they responded to peer messages , and 5) their perspectives and interpretations of different aspects of the course. Later, I used a "holistic coding" approach to analyze the interview transcripts, looking at the most frequently used key words and key terms (i.e., challenge, frustration, language, background knowledge, etc.). Using these data I identified themes related to the research questions and looked for relationships to the key concepts of learning preferences and cultural conditions as they emerged from the data and as they were associated with the literature reviewed.

Through the research analysis, I interwove the empirical data with the conceptual and theoretical ideas discussed in the literature review as a way to examine the contexts of these data within the broader scope of selected research. I also analyzed the online survey and posting data looking for what themes emerged while the collection of other data was still in process. For example, the recording and reading of discussion postings helped to construct and modify questions for the telephone or face-to-face interviews.

The analysis of quantitative data, for the purpose of generating statistical information, was carried out at the end of the course semester, while qualitative data collection started at the beginning of the course and was ongoing for the duration of the study.

3.6.1 Quantitative Data Analysis

For the quantitative data analysis, first I used the participant demographic information to cluster data (Merriam, 1988) using seven social conditions associated with the participants' broader cultural ways of living (i.e., English language proficiency, country of birth, age, gender, geographic location, previous educational background, and online educational life experiences). I organized data posted on the CMC website to identify how participants approached their online learning. I measured the rate and frequency of their postings in the discussion forum and, examined how they articulated and responded to each other and the instructors as they participated in synchronous chat sessions and asynchronous threaded discussions. NVivo 2.0 and Microsoft Excel were used to record the rate and frequency of postings in different discussion threads for each participant. Excel was used to sort and cluster participant demographic information. The specifics of these data are reported in the Tables and Charts in the next chapter that deals with the analytic dimension of this research.

3.6.2 Qualitative Data Analysis

The underlying premise of this research is that course participants' preferred learning practices are relationally associated with their particular ways of living or their cultural conditions. Furthermore, I expected, based on the previous research identified in my literature review, that the research participants' cultural conditions would influence and be influenced by the changing multidimensionally and multidirectionally social forces at work in their different and immediate locale and the macro environments of their societal situations. For example,

Cathy was a mother who was unable to attend the university to take a face-to-face program and also needed to wait until her children were away from home each day until she could participate online in the course. In light of these cultural conditions she began to value the quiet time afforded when her children were away from home or when they were asleep so she could concentrate on her course studies.

In the next chapter I will discuss the analysis of the clustered data around several broad themes that I developed in relationship to the key concepts from the literature review. Neuman (2003) suggests that "[I]n qualitative research, ideas and evidence are mutually interdependent ", and "... [C]ases are not given pre-established empirical units or theoretical categories apart from data; they are defined by data and theory. By analyzing a situation, the researcher organizes data and applies ideas simultaneously to create or specify a case" (p. 441).

I realize that this data analysis was only based on a partial snapshot of the research participants' cultural conditions and their learning preferences and that a complete picture of these life experiences is not possible (Bhabha, 1994). However, my systematic identification of themes is supported by an examination of previous research and grounded in the empirical data I collected associated with the research particpants' engagement in a CMC learning environment, and how they modified their everyday living conditions to optimize their learning. In this way I have been able to identify strategies research participants employed to accept, resist, and oppose particular course demands.

I also analyzed these data to identify communication patterns employed by research

participants. I coded the transcripts of discussion postings, email interviews, telephone interviews, (one telephone interview was conducted in Chinese at the interviewee's choice and I translated the transcription into English before the data was analyzed), and face-to-face interviews (Gunawardena, et al., 2002) using Transana 2.1, a free qualitative analysis software package for video and audio data. Next, NVivo 2.0 was used to assist with the coding processes. Then I examined the discussion postings in two steps. The first step was to identify the number and frequency of postings from participants to find out if there was a significant difference between native and non-native speakers of English. The second step was to analyze the content of the postings to identify and examine inquiry strategies research participants used in their online participation. These inquiry strategies included: 1) how they modified their life experiences to complete course assignments, 2) how they modified their course assignments because of certain life experiences, 3) how they articulated arguments, 4) how they responded to peer messages, 5) the level of formality in their language use, and 6) what their perspectives and interpretations were of the course CMC design. The synchronous chats were different from asynchronous discussions in that the tone of the responses was generally more informal. Instructors encouraged the students to use abbreviations for efficiency. Therefore the synchronous chat session transcripts were not analyzed in the same way as the asynchronous discussion transcripts. The synchronous transcripts were mainly examined in terms of participant attendance, the flow of the conversations, and the ways participants communicated with others in the discussions.

The interviews were carried out to obtain a "thick description" (Geertz, 1973) of the participants' learning preferences and cultural conditions and how they recognized and understood their learning in the online CMC environment. The analysis of the interview data was used to check and elaborate upon themes that emerged from the analysis of online postings more specifically and also brought a deeper understanding of the issues related to the learners' cultural conditions, which affected their preferred learning practice. The email interview data explored the participants' learning conditions including physical setting, amount of and use of time, influence of family life, work, or other aspects of their social encounters and interactions, how these cultural conditions enhanced or restricted their ability to learn, and the ways that they modified their ways of living to enhance their preferred learning practices in an online environment. Some participants provided a detailed description, while others offered limited information that was hardly more than what was found in their biography statements posted on the course website at the beginning of the course.

All of these data were categorized into a set of sub-questions or themes which were organized to address the overall research objectives.

- How does CMC provide a common space for participants to share ideas and negotiate meaning?
- How did participants avoid or resolve conflicts or misunderstandings caused by different cultural conditions of those who were involved in the CMC?
- What were the cultural conditions associated with the participants' living situations?

- How was learning affected by different aspects of human social categories such as language, age, gender, ethnicity, education, socio-economical status, etc.?
- What were the learning strategies used to modify the participants' cultural conditions in order to support their learning preferences?
- What were the cultural conditions that proved to be insurmountable and why?

A discussion of these sub-questions is described in greater detail in the next chapter.

CHAPTER 4

FINDINGS

This chapter describes and analyzes the research data. I investigated how the participants' cultural conditions influenced their preferred learning practices in a CMC environment. The research shows that a learner's preferred learning practices in an online environment are influenced by his or her cultural conditions. I analyzed the findings by clustering or organizing them around issues of time, space, change, convenience, flexibility and support, and control that emerged from the investigation of the participants' preferred learning practices and cultural conditions. These are discussed in terms of the two main research objectives: 1) What are the relationships between the learners' cultural conditions and their preferred learning practices? and 2) How do a learner's cultural conditions limit or extend his or her participation in online distance education courses? In this chapter, I discuss each research objective starting with an introduction followed by several sub-questions that probe deeper into the details and relationships among the data collected. Drawing from this analysis I offer an interpretation of the research findings.

4.1 Introduction to Research Objective # 1

In this section, I discuss the first research objective about relationships between the research participants' cultural conditions and their preferred learning practices. The research participants' cultural conditions include their particular ways of living that influenced their participation in an online distance education CMC learning environment. For this study I

focused on two locations because of access to technology (i.e., home and work environments), and four particular social categories: age, gender, educational experiences, and English language proficiency. Preferred learning practices are the chosen ways that participants engage in course assignments, online activities, and communication to acquire knowledge. These practices were preferred because the participants believed that in employing them, the tasks would be more easily or more effectively accomplished, or more readily avoided. I used the following sub-questions to help collect research data as a means to analyze this research objective:

- Who were the research participants?
- What were the cultural conditions associated with the participants' living situations?
- How was learning affected by different aspects of human social categories such as age, gender, previous education, and English language proficiency?
- What was the extent of learner participation in the course?
- What learning strategies were used by the participants to modify their social and cultural conditions in order to support their learning preferences, or to avoid or resolve conflicts or misunderstandings caused by different cultural conditions?

4.1.1 Profile of Participants

In Table 4.1, I summarize the biographical profile information of each participant organized by name, gender, age, online learning experience, English language proficiency, educational background, life experiences in North America, and Internet access. Twelve participants (nine females and three males) took part in this study. For ten of the twelve

participants, this was their first post-graduate degree. Two female students had Master's degrees prior to taking the course: one was working on a second Master's while the other on a certificate. Seven participants were in the age range between 30-39, two were between 40-49, two were between 20-29, and one was over 50 years of age. Eleven participants had taken three or more online courses and this was the first online course for only one participant. Eleven of them had high-speed access technology to the Internet from home through either ADSL or a cable connection. Four participants had moved to North America more than ten years ago, four were born and grew up in North America, one had never lived in North America, two had lived in North America for less than three years, and one had lived in North America between three and ten years. Five participants were native speakers of English and the rest had varying degrees of English language experiences. A brief narrative is provided below that describes these factors for each participant.

Table 4.1 Profile of Research Participants

Name	Gender	Age Range	Online learning experience	English language proficiency	Previous Education	North American Experiences	Internet Access
Agnes	Female	30-39	3 or more online courses	Non-native speaker but has been using English since grade 2	First post-graduate degree	Came to North America ten or more years ago	ADSL/ Cable
Cathy	Female	30-39	3 or more online courses	Native speaker	First post-graduate degree	Was born and grew up in North America	ADSL/ Cable
Jerry	Male	40-49	3 or more online courses	Spoke English among other languages back in home country	First post-graduate degree	Came to North America 10 or more years ago	ADSL/ Cable

Karen	Female	30-39	3 or more online courses	Native speaker	She has a Master's and this course was for a certificate	Was born and grew up in North America	ADSL/ Cable
Masahiro	Male	30-39	3 or more online courses	Non-native speaker; studied English since junior high school	First post-graduate degree	Has never lived in North America	ADSL/ Cable
Mitra	Female	20-29	First online course	Non-native speaker but has been using English since secondary school	First post-graduate degree	Has lived in North America for less than 3 years	ADSL/ Cable
Nancy	Female	30-39	3 or more online courses	Non-native speaker but has been using English since secondary school	First post-graduate degree	Came to North America 10 or more years ago	ADSL/ Cable
Paree	Female	30-39	3 or more online courses	Non-native speaker but English was her major in college/university	First post-graduate degree	Came to North America about 8 years ago	ADSL/ Cable
Ping	Female	30-39	3 or more online courses	Started to use English for academic purposes since she came to Canada	This is her second post-graduate degree	Has lived in North America for less than 3 years	ADSL/ Cable
Sali	Female	20-29	3 or more online courses	Native speaker	First post-graduate degree	Came to North America 10 or more years ago	ADSL/Cable
Steve	Male	50+	3 or more online courses	Native speaker	First post-graduate degree	Was born and grew up in North America	ADSL/ Cable
Wendy	Female	40-49	3 or more online courses	Native speaker	First post-graduate degree	Was born and grew up in North America	Dial-up

Agnes. Agnes (female, age range 30-39) had taken three or more online courses before this one and so was relatively experienced in the online learning environment. She was born in Korea and her first language was Korean, but she had been using English since grade 2. This online

graduate program was her first post-graduate degree. She came to North America more than ten years ago and worked as an interpreting services coordinator for deaf and hard-of-hearing students at a community college in British Columbia. She called herself a technology-challenged administrator but was ready to face these concerns by enrolling in an online graduate program. Her access to the Internet from home was through an ADSL/cable connection.

Cathy. Cathy (female, age range 30-39) had taken three or more online courses before this one. English was her native language and this online graduate program was her first post-graduate program. She was born and grew up in Canada and lived with her husband, her 8-year-old son and her 5-year-old daughter in British Columbia. She traveled a lot and had emigrated twice (Australia and France). She had worked the last 13 years in adult education in college and school board continuing education departments where she had taught adult ESL and literacy, designed courses, learning materials, and assessments, and planned and evaluated programs. Her professional interests lay in instructional design and project management. She was also a writer and editor. She had a BA in International Relations and a Diploma in Education in TESL. Her connection to the Internet from home was through ADSL/cable.

Jerry. Jerry (male, age range 40-49) had taken three or more online courses before this one. He was born in the Philippines and he spoke Chinese (Fujian dialect), English, and Tagalog at home before he got married. This online graduate program was his first post-graduate degree. He came to North America more than ten years ago. He taught English as a Second Language

(ESL) and Business English at a community college in British Columbia. He also taught the TESOL Diploma elective "Introduction to Computer Assisted Language Learning for ESL Instructors" at his college. His connection to the Internet from home was through ADSL/cable.

Karen. Karen (female, age range 30-39) had taken three or more online courses before this one. English was her native language. She had a MFA in Creative Writing. She was taking this course as part of a certificate program. She was born and grew up in the USA. She had worked primarily as a teacher of TEFL, literature, and writing for the past sixteen years, but in addition she had worked as a poet, researcher, gardener, assistant permissions and acquisitions editor, translator, overseas and summer program coordinator, writer-in-residence, and as an apprentice in bonsai and tile making. She had lived in Minnesota, Malta, Shiga, Kyoto, Alabama, Chiba, Tokyo, Detroit, and Hokkaido. She lived with her husband and 3-year-old son. Her connection to the Internet from home was through ADSL/cable.

Masahiro. Masahiro (male, age range 30-39) had taken three or more online courses before this one. His first language was Japanese, but he had studied English for 12 years at school since junior high school in order to pass different exams. In addition he studied English for 10 years on his own. He had never lived in a foreign country, but his wife was Canadian and they spoke English at home. This online graduate program was his first post-graduate degree. He lived in the southern part of Japan and taught at a technical high school for ten years. His previous career was as an electronics circuit designer for the key parts of televisions (Tuner, FBT, etc).

He had a Bachelor of Electronics. He used to teach electronics at the high school, but now he also taught computer-related courses. He had an 8-year-old daughter and a 4-year-old son. His wife started her own English conversation school at the beginning of April this year after the 11 years of work for high school as an English teacher. His connection to the Internet from home was through ADSL/cable.

Mitra. Mitra (female, age range 30-39). This was her first online course. She was born in Iran and Persian was her first language, but she had been using English since secondary school. She had lived in North America for fewer than three years. At the time of the study she was pursuing her MA degree at the university where this study was conducted. She had an undergraduate degree in Computer Engineering and worked as a web developer for two years before starting a teaching career. Her research interest was in the area of technology-enhanced educational communities of practice. Her connection to the Internet from home was through ADSL/cable.

Nancy. Nancy (female, age range 30-39) had taken three or more online courses before this one. She was born in Hong Kong and Chinese (Cantonese) was her first language, but she had been using English since secondary school. This online graduate program was her first post-graduate degree. She came to Canada ten or more years ago. She had taught for six years at an elementary school as an ESL teacher, a teacher-librarian, and a classroom teacher. She had a Bachelor of Science and a Bachelor of Education and lived with her husband in British Columbia. She liked jogging, playing badminton, working in her garden and looking

for new tech gadgets. Her connection to the Internet from home was through ADSL/cable.

Paree. Paree (female, age range 30-39) had taken three or more online courses before this one. She was born in Iran and Persian was her first language, but English was her major in college/university. This online graduate program was her first post-graduate degree. She came to Canada about 8 years ago. She lived in Vancouver, British Columbia. At the time of the study, she was a development support specialist at a university. She had been working in the Instructional Design and Research Group for the past five years, during which time she had constantly upgraded her skills through education and training, as well as personal exploration. She designed and developed online courses, and also trained staff and faculties using WebCT and other programs. She was interested in instructional design and elearning, and how to improve the quality and accessibility of online courses. She liked learning how to make elearning more interactive and fun and how to integrate technology into the curriculum effectively. She had a 13-year-old daughter and enjoyed spending time with her. Her hobbies were hiking, walking, reading and swimming. Her connection to the Internet from home was through ADSL/cable.

Ping. Ping (female, age range 30-39) had taken three or more online courses before this one. She was born in China and Chinese (Mandarin) was her first language. She started to use English for academic purposes since she came to Canada. This online graduate program was her second post-graduate degree. She had lived in Canada for up to three years. She had been an instructor in a Radio and TV University in China after she obtained her Master of Computer

Science degree nine years ago. She was in Vancouver with her son during the semester and went back to China the last week of the semester. Her connection to the Internet from home was through ADSL/cable.

Sali. Sali (female, age range 20-29) had taken three or more online courses before this one. She was born in the Philippines and she claimed English to be her native language. This online graduate program was her first post-graduate degree. She came to North America ten or more years ago. She worked at UCLA in the Systems Department of Undergraduate Admissions as a Technical Writer/Analyst. She was born in Manila, Philippines but moved around quite a lot as a child. She had attended schools in San Francisco, Santa Monica, CA, Richmond, BC, Vancouver, BC and Manila, Philippines. For the last four years, she had lived and worked in Los Angeles. In her spare time, she enjoyed reading, being outdoors, playing sports, and doing yoga and Pilates. Her connection to the Internet from home was through ADSL/cable.

Steve. Steve (male, age range 50 plus) had taken three or more online courses before this one. English was his native language. This online graduate program was his first post-graduate degree. He was born and grew up in Canada and the USA. He taught at an elementary school built on an isthmus 100 years ago. He had taught since 1990, and he was in business with his father for many years before that, and before their business venture he was an employee with Fisheries and Oceans Canada. He was married and his wife was from a Spanish-speaking country. His connection to the Internet from home was through ADSL/cable.

Wendy. Wendy (female, age range 40-49) had taken three or more online courses before this one. English was her native language. This online graduate program was her first post-graduate degree. She was born and grew up in Canada. She was a secondary Humanities teacher who taught English, Social Studies, Law, Psychology, BC First Nation's 12, Career and Personal Planning and also worked as an ICT Mentor at her school. Her connection to the Internet from home was through telephone line dial-up service.

4.1.2 Learning Practices Associated with the Participants' Living Situations

Depending on their living situations, the participants engaged with various learning practices for their online learning either at home or at their place of employment.

4.1.2.1 Access to Technologies

In this study, most students used broadband to connect to the Internet from work, home, or both. I was surprised to learn during the study that some research participants had limited access to technology, especially the Internet, while others had access to a wide range of technological devices. For example, Steve had Internet access using a desktop computer, laptop computer, Palm Pilot, and cell phone. He said:

> I use a desktop located in a quiet corner of our kitchen, or a laptop that has wireless. I don't find it interferes with family too much, nor do they interfere with my learning. I'm pretty disciplined so that family times are protected and yet I am "available" for comments and communication while I need to work. I use a Palm Pilot and cell phone, both Internet-abled, but I choose not to use them for learning. My Palm is limited to scheduling and addresses, with a couple games for times I am waiting or stuck with nothing to do. (Steve; Telephone interview)

The majority of research participants, however, only had Internet access either from

home or work. Wendy had access to the course at work, but did not have time to engage in online learning at her workplace. She lived in a rural area in western Canada, and used dial-up to access the Internet from home. Broadband was not available in her home location. Each participant's living situation was unique; however, there was some commonality across both the temporal and spatial dimensions of their living situations as well as the social relationships that influenced these dimensions on a regular basis.

4.1.2.2 Study Anytime and Anywhere

CMC learning environments offered the research participants the convenience of studying anytime and anywhere. Cathy pointed out that she enrolled in the online program because of the ease of attending class and studying course content without having to attend the university. She was interested in having greater control over certain factors associated with the scheduled course time and location. She said,

> In this Master's program you can take two courses outside of the program, so my two elective courses I actually did in a face-to-face environment. It was very stressful for my family, making sure we had child care, and I had a car, rushing here, rushing home, rushing back, you know, that kind of thing. So just at this time of my life, it's very convenient to take an online course. (Cathy; Telephone interview)

Convenience as a motivating factor was also reflected in the comments of other participants who stated that they appreciated the flexibility of studying the online distance education course material whenever they had time and wherever they could. Agnes stated, "The biggest challenge is just finding the time to study. There's always a time issue with a family. So that's just the rule of the game." Agnes viewed time and location as closely

connected with her particular cultural conditions. When I asked her why she enrolled in an online course she stated,

> I had no other options. Unless I win the lotto and I've got a lot of extra cash in my account and I can eat off of that. I need to work. Because I live in [Name of place] it takes me at least three hours to drive down there [the university], and another three to drive back, and I don't have that time. (Agnes; Telephone interview)

Similarly, Paree pointed out that, because of her busy schedule, she studied whenever she got time:

> For example I study at my breaks and lunchtime at work or when my daughter is sleep[ing] at home. My study hours start mostly at night after 8 or 9 pm and I am up until 1 a.m. most of the days. Working full-time and taking two courses each term have been really challenging and I just want to finish the program as soon as possible. (Paree; Email interview)

Wendy used multi-tasking as a strategy to cope with the slow uploading and downloading speed that was caused by her narrow-band Internet connection from home. She said,

> ...in a way the dial-up is really painful, but in a lot of ways I think it was helpful, because I was trying to multi-task. .. I guess multi-tasking and also organization. I put myself on not a very flexible schedule. Every day I did computer work for a certain amount of times. Certain days I did no computer work; I just read, and I use a lot of hard copies. (Wendy; Telephone interview)

Steve, an elementary school teacher, studied in-between home and at work. He stated,

> Most of my learning online occurs between school (about 10-45 minutes a day) and home (about 30 minutes a day). In general, I prioritize aspects of my life so that learning comes after family and relationships. If anything, my learning interferes with them, although my wife is helpful to alert me to that fact. (Steve; Telephone interview)

Steve's living situation or cultural conditions set the parameters for when and how much time is available each week for his academic learning. In order to gain some control over these

factors Steve established time to learn when he is finished with work but before he goes home. He said, "Most of my online learning relates to my job as a teacher. From time to time I enjoy the instant access to knowledge when visiting friends and a question comes up that a quick Google can answer." (Steve, Email interview) Steve believed that it was acceptable to use time at work because the online course and his learning were closely related to his job as a teacher.

Of course not all participants recognized time and location (space) as critical factors. Nancy said, "I try to do my work during weekdays, week nights, at home. I do log on at work once in a while, but usually just read a discussion or something I needed to read." But she added,

> For me there's no time issue. I pretty much go to the course website every night. I usually spend an hour each night, just to read through the discussions, and I can read some course materials at work. Sometimes I spend two hours or so. So time and space are not a problem. (Nancy; Face-to-face interview)

4.1.2.3 Study Mostly at Home

Several of the participants discussed the convenience of having computer access at home. Wendy said,

> The online Master's program and family worked well together. Because I was studying in my home, I did not need to leave for extended periods of time for 'campus' requirements. Although very busy, and although my family was required to take more active control over creating meals, housework etc... I was still able to be there. (Wendy; Telephone interview)

Cathy completed most of her online learning tasks in the comfort of her family room. Because she did not have access to computers at work, she was limited to studying at home. She gave a quite detailed description of the physical setting at home where she studied:

> Most of the time I work from my desk, which is in the family room. This room is shared by my children and husband and it is also a pass-through between the front and the back, meaning there is no door that I can close to shut out the rest of the world. It contains my desk, my husband's desk that he uses to login to work if he's working from home or if he has to work in the evenings, a table for the children to draw or make things, a couch, bookshelves, and a stereo. ...I try to do most of my schoolwork during the day when my children are in school but this doesn't always work out. When projects and papers are close to being due, I work as much as I have to, including all the times my family is home too. I have tried as much as possible to limit the influence of my family life on my studies as well as my studies on my family life. My children understand that I am studying and "doing my homework" but they are only 5 and 8. (Cathy; Telephone interview)

The physical proximity of Cathy's course study area to her husband and children's living space made it more difficult for her to control her study habits, especially when the family was home. This location worked well for reading or researching, and the asynchronous tasks allowed her to communicate in the discussion forum while her children were around. But it was hard for her to concentrate when she needed a quiet learning environment to think, when she engaged in real time chatting with her project groups, or for the weekly synchronous chat sessions. Cathy said,

> For most tasks (reading and researching, reading and responding to regular forums, technical stuff), I am able to work and have them around me at the same time, except for any "original thinking" or "composing" types of tasks. For those kinds of tasks, including difficult forum posts and assignments, I need absolute silence and no interruptions. Because of the asynchronous format, I am able to participate and be interrupted constantly by my children at the same time. The only significant difficulty I have had is when I have had real time chats with groups or a class and my children also need my attention and my husband isn't home. Those times are extremely stressful because of the speed of chat communications and because, unlike f2f, I cannot listen to what's going on in the chat at the same time as my kids are speaking to me. Videos of their favorite films have become a convenient babysitter during those times. (Cathy; Email interview)

Cathy frankly discussed the extreme stress on her family life created by certain tasks associated with some CMC tasks (i.e., chats). In this situation Cathy had to decide and balance the value of participating in the required course assignments at home, while her children needed her attention. How participants ascribe value to these situations is another important factor to which I will return later.

Masahiro taught in a private high school in Japan. Besides a heavy workload, he also had many commitments with different committees at the school and after-school activities for student interest groups. Most of his online studying took place at home during the evening. In our conversation, Masahiro described the impact of his cultural conditions on his learning:

> the only time I'm able to spend for my study is limited to night time (often from 10:00 pm - 2:00 am), weekends and holidays. I study for about 3-4 hours every night during weekdays and 4 to 15 hours during my days off. Of course, the number of hours I study depends on the due date for course assignments. I leave for school at seven in the morning and rarely get home before seven at night because the after-school club doesn't finish until 6:00. Once every month, I have a school meeting on Saturday. It is difficult to make time for my Master's study during working hours. (Masahiro; Telephone interview)

For some participants, their homes were sanctuaries away from the hustle of daily work life. Jerry completed most of his online learning in a basement office (Jerry, Email interview). Nancy and Sali do not have children and they had quiet places at home where they could do their online learning tasks. Nancy said,

> I usually work on my course materials in the study at home. We have a Shaw Cable high-speed Internet connection and I usually work on my desktop. The study is usually quiet and my husband and I share the space. The room is large enough to hold two desks so we have plenty of space. I sometimes work at my work place (in an elementary school) on networked computers. (Nancy; Email interview)

Sali gave the following description of her workstation at home where she did her online learning tasks:

> I set up a computer station upstairs in my home. I printed out all course outlines and kept them in binders beside my work station. I also had a bookshelf where all related materials, texts, pdf's etc were collected and stored. I do most of my studying in my room where I have my computer set up in the corner. (Sali; Email interview)

Studying at home does not guarantee a safe haven away from distractions in order to use CMC to learn course content. As was expected, each participant's unique lifestyle contributed to a diverse number of factors associated with their unique cultural conditions. Family size (number of family members), family composition (adult student, spouse, children's age range), and the computer location (private, semi-private, public work spaces) were some of the most-often cited factors for how one's cultural conditions might affect learning when using CMC within any home location to study course information or to participate in online distance education course assignments.

4.1.2.4 Family Support

Closely related to studying at home is how well supported research participants were by their families. While family obligations took a lot of the time and energy of the participants, family support played a very important role for the success of their online learning. Cathy said, "My husband is very supportive and we plan weekends around whether or not I will be tied to the computer. He also tries to keep the kids busy and takes them out so I can have some quiet." (Cathy; Telephone interview). A supportive partner made it much easier for some research

participants to participate in an online learning environment at home. Strong spousal support and flexibility also offered some participants the reassurance that the time they spent on completing course assignments would not disrupt their otherwise-steady social relations. Nancy commented,

> We don't have any children and my husband is quite flexible. He would entertain himself if I am busy with the course work. I tend to procrastinate ☺ when I have an assignment due so all family activities will be stopped for a couple days before the assignment due date. I would say there has been little disruption to my family life. (Nancy; Email interview)

Jerry affirmed this point of view stating, "I couldn't have completed the program without the support of my wife" (Jerry; Email interview). Steve also commented that,

> On occasions, I have taken my laptop to do research or work online while family members have been busy at some activity. Apart from this, as mentioned, social relationships (especially family) come first. When under pressure for work, my family understands and I will limit other social engagements in order to work, but it is the exception. During these times, I will use the laptop and work somewhere in the home. (Steve; Email interview)

Wendy thought that engaging in online learning at home was mutually beneficial for herself and her teenage children. She said,

> A huge bonus of doing the online program at home was that my teen age children were able to observe the time and effort required to complete a post secondary program. Seeing their parent model focused and sustained educational upgrading has had a huge impact on how they perceive their own educational agendas. I tried to engage my children as much as possible, both by sharing my studies (often student-centred and specific to their ages) and asking their opinions on topics under discussion. As well, they were of invaluable assistance on many of the technical aspects of computer based learning. ... The degree was never something isolated and what 'I' was doing. It was treated as a joint effort by everyone in our home. (Wendy; Email interview)

By asking her children for technical support and by modeling for her children the value of

life-long learning, Wendy believed that her cultural conditions did not only affect her learning, but her preferred way of learning (online and in her home) directly influenced her children and their ways of living.

4.1.2.5 Study at Work

While most people studied at home after work, a few used their work situations to complete their online learning tasks. The major reason for choosing to study at work was access to technology and fewer distractions than at home. Karen said,

> I study while I am at work, because I am a mother, and there is no way I can study when my kid is near me. [He is] three years old. I am kind of blessed because I have my own office and I only teach 6 ninety-minute classes a week, so if I organize myself well, I have a good three hours or so a day to study for my online class. (Karen; Telephone interview)

Masahiro relied on the support of colleagues at his workplace. He said,

> Actually I need people's understanding of my situation to make more time, especially working is difficult to schedule for [the] online course. I work for a high school, and the principal and the colleagues they understand my situation as well. So that's really helpful. (Masahiro; Telephone interview)

On the other hand, Sali said that she needed to change her work schedule in order to have enough time to satisfactorily complete all of the course assignments. She said,

> I think in the beginning I was really trying to manage my time. Like once I realized how much time it would take, then I had to change my work schedule a little bit to accommodate school better. Originally I thought you know working full-time just being able to study maybe in the evenings or on the weekends would be enough, but it was hard because I think a lot of people they just work part-time or they do a lot of postings like a day so [it's] hard to keep up. (Sali; Telephone interview)

Jerry echoed the sentiment of many of the research participants when he said, "Since I'm

committed to work, I found it almost impossible to maximize my learning when I'm working full time" (Jerry, Email interview).

Most of the research participants studied at home and not at work because of time management issues even though access to technologies was better at their place of employment. Research participants were more concerned with their ability to control their own daily schedule.

4.1.3 Learning Practices and Human Social Categories

Besides the location that research participants engaged in CMC learning experiences, several other cultural conditions were brought forward in the interviews associated with human social category systems. These include age, gender, education, and English language proficiency. While these social category systems are not representative of all possibilities they are also not mutually exclusive. I will discuss them separately below in order to focus on specific relations connected with each and with the participants' preferred learning practices.

4.1.3.1 Age

Age played a role in a research participant's preferred learning practice. Among the research participants, those who had to struggle with new forms of technology or ways of communication were usually those who were in their 40s or older. For example, Steve was in his 50s, and although he used new technologies such as the Internet, cell phone and PDA in his everyday life, he preferred to communicate by telephone. Despite having to pay long distance charges, he was prepared to do this, especially when he experienced difficulties in course readings or assignments and wanted to discuss them with peers. He thought that WebCT was clumsy and

said that he would prefer to pay $50 for the telephone company to set up a conference call but it did not work out (Steve, telephone interview). The literature indicates that younger people tend to find online communication more convenient while older people are more likely to choose traditional technology as a communication method (Chyi & Lasorsa, 1999; Thayer & Ray, 2006).

Jerry was in his 40s and he thought the synchronous chat was hard for "older people" who "are not MSN or Yahoo Messenger experts", and "do not know shorthand for chat" (Jerry, telephone interview). He recalled that once he and some other course members were discussing their group project online and found it hard to communicate their ideas. It happened that all of them lived in the same area, so they made arrangements to meet face-to-face and he thought that was more enjoyable and effective. Karen had taken an online course prior to this online graduate program; she quit after two weeks because she felt the content was not interesting and the language used for the course material was not appropriate for her age. She said,

> it was trying to be kind of like this MTV hip sort of language. You know I am 39 so I didn't find it very interesting. I felt it was like speaking with 18, 19-year olds. I just found it was not only dull, but kind of dumbed down to the point where it wasn't useful. (Karen, telephone interview)

She also found it hard to use the shorthand language during chat sessions, so she had to "punch the keys like mad" (Karen, telephone interview).

Another phenomenon that drew my attention regarding age and learning preference was that, among those who had their previous education in North America, those in their 40s or older were more likely to find it hard to get accustomed to the use of a constructivist teaching

methodology. They preferred and valued a correct answer to a question from the instructors. Jerry said that,

> I prefer to listen to what the professor says, because I am a very slow reader and struggle when I read, and I prefer to learn from professors, not to learn from peers. So that puts a lot of conflicts with social constructivism learning approach, explicitly taken by [the university]. (Jerry, telephone interview)

In my review of literature, past research shows that online communication is in some ways different from traditional ways of communication in terms of the use of language, such as shorthand, informality, capitalization, and netiquette. Younger people appear to adapt more easily than older ones to the requirements and attributes of online communication.

4.1.3.2 Gender

Research participants were not asked if they had children, but two male and five female participants volunteered that they were married with children, and that their family commitments increased the difficulties in finding enough time and a location to perform their online learning tasks. Because of the significantly different sizes of gender groups (three males and nine females), and the relatively small sample size of the study, it would be difficult to draw a conclusion about gender difference in terms of online learning. However, based on the interview data, I can say that female students, especially those with young children, had more challenges with performing their online learning tasks at home. Some female participants also commented that they found it challenging or overwhelming to deal with multiple forms of communication

while trying to study. Conversely, some male participants suggested that they would like to see more communication channels or multimedia employed for the delivery of the online course.

Data from observation notes showed that the male participants posted more messages in the socializing/mingling space than their female counterparts. Most of the course members' postings related to the course materials or activities; however, male students much more often than female students also posted jokes or other messages not closely related to the course content. Many participants said during the interviews that they viewed the socializing/mingling space as a pub or café. The male participants used it as a place to relax (e.g., Jerry posted quite a number of jokes he read on the Internet in this space and got responses mostly from other male students in the class) while female participants visited the site to post information about upcoming conferences or to seek information that might be related to course activities. For example, Paree said she did not go to pubs in real life. She preferred not to spend time in the socializing/mingling space that was not really associated with the course. She only went there to post information related to her online learning or to share relevant news with the class.

4.1.3.3 Previous Educational Experiences

Participants in this research had a wide variety of previous educational experiences. Data about the participants' previous educational experiences provided insight into their preferred learning practices and an educational context of their cultural conditions. I focused on whether their previous education was received outside of North America or had occurred within North America because the course they had enrolled in was offered through a North

American university. I assumed that their preferred learning would also be affected by whether they had learning experiences in an online environment or if they had previously experienced courses that were organized around a constructivist curriculum.

Paree was educated in Iran, India, Canada, and the USA. She found that the major difference in education systems is that those in North America are more enjoyable, and those in Iran and India are "harder". She preferred the North American education system:

> We don't have fun in Iran and India, I would say. In teaching and learning, there was no fun. It was like this is what you have to learn, and you have to do it. You don't expect a course to be enjoyable. You don't enjoy. I would say that it's mostly trying to pass it and get your degree. It was harder, I would say, maybe because of the lack of fun. (Paree; Telephone interview)

Paree had taken some online training courses before enrolling in this graduate level online program. She found the online learning community more engaging than a face-to-face class:

> I found the online course more engaging. I was feeling that community of learning, like you feel you are among your group. You don't feel you are doing it on your own and you are isolated. When I log in to my courses, after knowing a few people, even when I try to respond to them, if I've seen their pictures I feel I can see the person ... it's a nice feeling. Especially when I am studying after midnight sometimes that gives you the hope to continue, to read or respond to their postings, so that would be the difference. (Paree; Telephone interview)

Jerry received his post secondary education in Canada and he thought the face-to-face teaching and learning in Canada were similar to what he had experienced in high school in the Philippines. But his perspective of his online course experiences was different. He said,

> The education system I experienced in high school in Philippines, basically you learn from the teacher. When I came to Canada, it's still the teacher teaches you. So my

> expectation was that the instructor would teach or instruct. I found that the online courses I took there is too much on social constructivism approach. ...It's good to learn from each other, but how about the professor [who] has years and years of experience and learning and the background knowledge we don't have. (Jerry; Telephone interview)

Jerry equated a constructivist approach to learning from peers, but also related it to instructors not sharing their "years of experience" with the students. As students in the course, the research participants were asked by instructors to take responsibility for their learning. Agnes had a double major in Business and English for her Bachelor's degree. She said that for her English courses, students were always told on what to focus. When she first came to this online program, she found it hard to find a focus for her assignments. However, after a few courses, she got used to this method of learning in which students were provided more freedom to choose their own topics that interested them:

> Here they give you theoretical material, and it's very, very abstract, very broadly based theoretical whatever, and then they go "OK, you find your area of interest and you come back and then you look at the final project." That's totally different from what you were previously doing. It's amazing, we have animation, we have film, we have interviews, we have essays, we have... Sometimes, I mean there's a few that you can tell what line of thought there was about, but it's just such a variety of what people can actually decide that they're going to focus on. I think that's what constructivism is about. Yeah, that's what I'm getting used to because I was more used to being told what has to be based on. (Agnes; Telephone interview)

Cathy and Nancy both found that in online courses, instructors did not play the role of authority; rather, they worked more as facilitators and seldom gave definite answers as what was right and what was wrong. Cathy and Nancy indicated they were still trying to get used to the online learning environment, in which instructors did not give expert answers to student questions:

> The difference with online learning is that there's always these projects, group projects. That was very new to me as a student, even though I was a teacher for 15 years. As a learner, I don't have that much experience, and also in almost every single online course, every single instructor was very much like a facilitator. And also the first thing that struck me, at the beginning when I took an online course, was that it's like everyone can talk at the same time. So that's quite different. I grew up in the kind of education system where the teacher is the expert and, it's nice to be told what the right and wrong answers are, sometimes. I like to know if I am on the right track. (Cathy; Telephone interview)

> The difference is the role of instructors. With a traditional lecture-type class, the instructor, because of the physical presence in the classroom, it established the authority in the classroom. But online, people throw out questions, someone just responds. Usually the instructor comes last. I think the instructor reads all the responses before making the final word, or whatever. (Nancy; Face-to-face interview)

Ping got her first Master's degree in Computer Science in China ten years before this study. She believed the relationship between professors and graduate students was closer in her previous degree than in the current online program and the topics of graduate students' conversations were usually related to research rather than social:

> I got more advising from professors than in this online program. The learning environments are also different. Even when it was out of classroom or lab, the conversations with professors or other graduate students were mostly related to research. We often talked about newly released technologies or software in the dining hall. In this online environment, when you are not online, you are on your own. (Ping; Telephone interview)

Masahiro observed that the Japanese and Canadian education systems were quite different in terms of allowing students to have discussions in class. The Japanese curriculum is test-driven, and students are supposed to memorize what they learned from the textbook to pass tests. So when he started taking the online Master's program offered in Canada, it took him some time to become familiar with these different ways of teaching and learning:

> [In Japan], because we have the objectives, we want students to pass the qualification test, or license test. I have to teach the contents, so that they can solve any kind of questions for those tests. So [it's] more like pushing knowledge into their brains. Is there talking, or is there discussing during the class? It's not acceptable in Japan. No chatting during the class. You know what I mean, silence. Only the instructor's voice or students' voice if they are asked to answer. (Masahiro; Telephone interview)

Besides school education, life experiences in certain areas also affected the participants' understanding and perspectives of their learning environment. For example, when Ping first enrolled in the online program, she was new to Canada. Ping first tried to contact those with Chinese names or who "looked Chinese" because she thought it would be easier to communicate with them. But she found it hard to tell someone's first language or ethnic heritage simply by their name. Some of the participants found this lack of visual communication to be problematic.

> There are problems with the online environment. Because you can't see each other face-to-face, people use last names to tell the ethnicity of a person, whether that person is local or not. People here change their last names for different reasons so it's not reliable to do that. I found that a new thing for me to learn. It's a challenge because we jump to conclusions. Like a Chinese name doesn't necessarily mean if a person is a native speaker [of Chinese]. (Nancy; Face-to-face interview)

Nancy had lived in Canada for more than ten years. Her experience living in a city of diversity told her that it was hard to tell a person's native language by their look or name. In an online environment making this determination of a person's ethnic heritage or native language is even more difficult. Some of the participants who were born outside of North America and for whom English was a second language, expressed a strong preference to be able to identify peers with whom they might converse in their native language.

4.1.3.4 English Language Proficiency

Admission into this graduate program required that students first demonstrate both verbal and written proficiency in the use of English. However, as mentioned in previous sections, non-native English speakers, especially those whose written and verbal skills met a minimal level of proficiency, were apt to think the language barrier prevented them from posting as many messages as they would like. During their telephone interviews, Ping and Masahiro expressed difficulties they experienced when learning through a CMC system. Paree had lived in North America for more than eight years, and she spoke fluent English. But she did not feel very confident communicating in English in the online learning environment:

> I would like to put my ideas there, so I go with it, but sometimes you may not get the response you expect, so sometimes you feel bad. People who didn't get what you wanted to say, you know. It's just that challenge that you have something in your mind and it's hard to put it into words. What happens is that sometimes I talk with my friends, and I say "This is what I wanted to say, so what would be the wording?". That's the time that they can help me. "Well, you want to say this?" I'd say, "Yeah yeah, that's exactly what I wanted to say." Looking for [Finding] the right word is sometimes hard. (Paree; Telephone interview)

Masahiro thought his English was good enough for daily conversations, but reading and writing in English required a great deal of time. He was also challenged to keep pace with peers during online chat sessions:

> I am actually taking this course in a second language, and my [English] language, speaking, oral communication is not so bad, but reading and writing, especially writing, are actually pretty slow. And also I have to write with hand as well as type the words on computers. And spelling mistakes, sometimes I have to check the spelling and stuff, so it takes a lot of time. And especially if I'm participating in the chat, those are really hard. It's difficult to catch [keep] up with the conversation. (Masahiro; Telephone interview)

Like Paree and Masahiro, Ping also experienced language difficulties as a non-native speaker. However, she thought it easier to communicate in the online learning environment because compared with face-to-face courses, she did not feel as stressed or embarrassed when talking to classmates in English:

> I feel the online environment is better for ESL students, especially to those [who] are not at home in English. [In an online course] I can spend more time on reading, and I think it easier to read than to listen. And after reading threads of discussions I can figure out what it's about. ...in an online class, you don't have to worry too much about your English so you are less nervous. ... I feel more relaxed, I can spend more time on it but I don't have to worry about being embarrassed. (Ping; Telephone interview)

4.1.4 Learning Strategies and CMC

In this section, I examine learning strategies participants used in asynchronous and synchronous discussions and other CMC spaces. These communication spaces were designed as an important component of the online graduate course. My analysis of the data from this study, as described in the following sections, shows that the participants modified their practices in different ways to optimize their learning based on particular cultural conditions. They employed a variety of learning strategies to deal with the challenges and frustrations they faced day-to-day in terms of course requirements, family and work situations, and as they formed relationship with peers in the course.

4.1.4.1 Learning Strategies Associated with Participants' Social and Cultural Conditions

The research participants employed different strategies to modify their cultural conditions in order to support their learning preferences. Cathy tried to separate her learning

time and family time so she could concentrate on her studies. She studied mostly while her young children were not around or in bed and reduced her teaching load at work when she was enrolled in three online courses one term. She consciously limited her social activities by not calling or meeting with friends. She said,

> I try to separate as much as possible my learning time from my family time. Ideally, I try to not do any studying when they are around. But this only seems to last for the first two weeks of each course (!). If possible, I try to restrict it to only reading (books, print-outs, stuff that is portable) when my family is around. I get really crabby if I'm trying to do something difficult and my kids interrupt me, so I try to avoid the situation in the first place. I also stopped teaching my night class for a term when I was taking 3 courses at the same time. Working once the kids are in bed works out well as well. I suppose you could say I modified my social situation by not calling up or meeting my friends as much as I used to before the start of my program, although I'm not sure how accurate this is as they are all very busy too.
> (Cathy; Email interview)

Participants talked about the difficulties in balancing their studies with family and work demands. Some participants reduced their social or family life and some chose to limit their course load or workload in order to manage their energy and time. For example, Nancy and Karen decided to take only one course a term and Jerry took an educational leave from work to complete his online program. Nancy said,

> I am taking one course a term so that the workload is manageable. I do find it very stressful when I have to work on an assignment and write report cards in the same time period. In some ways I have given part of my social life so that I can focus on my course work. I have pulled myself away from some church ministries and have not been as active in church as before. (Nancy; Email interview)

Karen decided to focus on only one course a term so it would be easier to balance work, family and study:

> I found that taking only one class really helped me in having a good balance of work, family and study. Taking two classes meant I had to spend EVERY weekend at work and this was too much for me, and my family. Now I feel that the time factor only becomes a big problem when a project deadline approaches. So that is not as daunting for me or as stressful for my husband. The key was to focus on one class at a time. (Karen; Email interview)

Jerry took an educational leave to take more courses in one term so as to finish the degree program sooner:

> Because I found it extremely difficult to work and study at the same time, I decided to take some educational leave in order to complete the program faster and not prolong the suffering. I practically had no social life and had much less time to do anything else when I was taking three courses at the same time. In order to cope with the amount of work and time required for the online program, I had to spend less time with my family. By taking educational leave, I was able [to] focus on studying. (Jerry; Email interview)

Wendy modified her online social activities by "trying to maintain an academic tone within a casual and personal communication strategy". She said,

> Because I began my 'job' at noon I could work late into the evening or through the mornings. While this eliminated much opportunity for local social activities it certainly enhanced my ability to virtually work through the online Master's program. ...I am a visual and active learner. The most difficult part of on-line learning was being stationary at a chair for such long periods of time. Knowing that it was for a specific time period (I had set my learning strategy and objectives around course completion and time lines at the outset of the degree) helped me maintain focus and commitment. (Wendy; Email interview)

Karen also made adjustments with her teaching and social activities to make time for her online learning. She said, "I have been less 'social' than in the past because of my studies. Due to this, I am not well-acquainted with any faculty members here" (Karen, Email interview).

Masahiro felt that in addition to family and work commitments, he also had to make changes to his learning strategies because of his previous educational experiences and the

expectations of the online graduate program. He said,

> Balancing family, work and study has been a challenge for me. Another enormous change for me was in learning what is expected as a graduate student in Canada compared to what is expected in Japan. The Japanese education system is much more structured and opinions are rarely expected from students. In taking this master [Master's] course in Canada I have come to the realization that not only can I give my opinion, it's expected, as long as it's well supported. (Masahiro; Email interview)

Agnes expressed frustration concerning the difficulties she had in modifying her family obligations. She said that even though her family had lived in Canada for a long time, they maintained certain Asian family values. For example Agnes asserted, sometimes "you can not say no ... you just can't" (Agnes, telephone interview). As a daughter and granddaughter she had many family requirements. Her decision to enroll in the program put her in a position where she had to struggle with her Eastern family values and Western cultural conditions. Agnes proffered:

> To be honest, I have tried to modify my family obligations and their expectations in order to give myself and my studies priority over those of my family members. Unfortunately, I have had little success. Maybe it's because I'm too lazy to try harder. It's probably because I've surrendered to the notion that I have to continue managing things and people as they are. (Agnes; Email interview)

4.1.4.2 Learning Strategies Associated with Participants' Learning Preferences

During the telephone and face-to-face interviews, I asked the research participants about their learning preferences. As explained above, learning preferences or preferred learning practices are the chosen ways that participants engage in course assignments, activities, and communication to acquire knowledge. These practices were preferred because the participants believed that in employing them, the tasks would be more easily or more effectively

accomplished, or more readily avoided.. Some participants chose a specific time, such as at night or on weekends, to conduct their online learning. However, sometimes these available study times were not really a preference, but a practical limitation of their personal circumstances. Participants explained that they had different learning preferences depending on their cultural conditions and the course curriculum objectives.

Paree described her preferred learning practices as flexible, visual and social. She modified her learning depending on the course she was taking. Paree stated,

> Sometimes I feel I need to see things in order to learn, sometimes just by reading and sometimes by doing the work. So I would say that my learning style is flexible based on the subjects. As I said that sometimes I find myself that I need something to see (it) in order to understand, but sometimes just by reading it, so I don't know what the answer is, all inclusive maybe. It depends on the content. What I found is that sometimes I personally like to have the content in simple words. If it is plain language I would just read it myself and enjoy it. But if it is difficult then I prefer to have like somewhere, like a discussion to discuss it with my friends to understand, especially if the concept is a kind of Western concept, which is, more difficult for me to observe since I have a different background, so in order to catch up, I need to discuss and find out what they are really referring to. (Paree; Telephone interview)

Agnes said that as she was easily distracted, she preferred to study alone. She did not like to do group projects because she thought it took time to coordinate group meetings. The online graduate course had group projects as assignments but she thought the online course provided her the flexibility she needed:

> I prefer to study alone, because I get very easily distracted. I can't have noise around me, so I usually study at night because that's when everybody sleeps and I can get my work done anyway. The online learning is quite conducive to that except with the group project. I actually had one group project where we had a lot of telephone conferences. I even had a group project, where actually we had to get together over [area] and meet over the period of three or four months to finish our final project. ...It's

always challenging to schedule and find the time. Even the group project, I prefer not to do group projects, just because it takes so much more time and effort and energy trying to get organized. That's the difficult part I found. The online learning is good. That is the only way that I was able to study in a Master level program. (Agnes; Telephone interview)

Cathy and Wendy called themselves experiential learners and they would prefer to learn something by doing:

> I would say that I'm really an experiential learner. I definitely like to get my hands on whatever it is I am doing. Even with some things, for example, in a lecture style, I get really impatient, and I want to go and read the book for myself, to try to understand it myself. And if I had a question or problem, I try to figure it [out] on my own first. So that's my learning preference. (Cathy; Telephone interview)

> I prefer to learn experientially, it always has been, so I am not good at learning in isolation not actually doing something, what I am learning about. So I'd like to do more hands-on. (Wendy; Telephone interview)

Like Cathy, Nancy said she also liked having the opportunity to first find answers to questions on her own. She thought that was what an online learner was supposed to do as this was not the environment where a direct answer could be obtained:

> usually if I have a question, I post it on the forum. .... I do like to find answers on my own first. This is an online thing; we don't do face-to-face. What I like in a class, we have discussion time, so we can just throw little questions, in a traditional classroom setting, (so) if someone has a question and someone else knows the answer, they will give the answer. Online, I have to type the question and then wait. If I really want to know an answer, I have to go and find it myself. (Nancy; Face-to-face interview)

Masahiro also expressed his preference for figuring out answers on his own, but he said that in the online environment it is important to share ideas and learn from others.

> When I do my face-to-face study, whenever I have difficulties, I always go [to] the library and just figure it out by myself. By online [it] is different. My own idea is never complete without sharing ideas and learning from others. The content of the

course is actually, that's the main focus. And I really think it's important. So I really need someone else's ideas and someone else's response to my postings. I learned a lot from others. (Masahiro; Telephone interview)

Jerry called himself a slow reader and said he did not like to read just text to get information. He would like to be an active learner and would prefer to listen to instructors to get information rather than receive it from peers:

> I like to be active learning. I like multi-sensory. I am not a good reader, and I really hate [to] just read text because when I was at university I attended all the lectures and I got most of my information or learning from the professors. I prefer to listen to what the professor says, because I am a very slow reader and struggle when I read, and I prefer to learn from professors, not to learn from peers, so that puts a lot of conflicts with social constructivism learning approach, explicitly taken by [the university]. (Jerry; Telephone interview)

Mitra and Steve said they preferred to do their online learning tasks in the morning when they could concentrate better. Mitra did not have children and Steve did not mention children as a distraction factor in the interviews, and I assume that they had a space at home that allowed them to concentrate on their studies in the early morning:

> I am a morning person, I should say. I do most of my work during the day, at night I can't concentrate. First I go over, I skim through whatever I have, and look at the questions, or the kind of concerns the instructor or any discussion that you have to pay attention to, and then I reread what I have and try to extract those parts that are related to the questions. I seldom study with others; I prefer to do it myself, and take my time. I really can't learn in rush. I have to take my time to read and digest, and when I finish, then I am ready to share with others. (Mitra; Telephone interview)

> I prefer to do my work in the morning, when I can think more clearly. I think my best work is done in the morning, and I prefer to work where there are not a lot of distractions. I prefer to work where I have room where I can spread things out. I prefer to work in a spot where I can leave my stuff and pack it up after. (Steve; Telephone interview)

From the above data, I was able to extrapolate that the participants' preferred ways of learning were influenced by both divergent and common attributes associated with their unique cultural conditions. In particular, I identified issues of time, space, change, convenience, flexibility and support, and control as cultural attributes connected with CMC spaces. These issues are further analyzed later in this study. In order to manage these changing cultural attributes, participants used and modified their preferred learning strategies in order to: 1) feel comfortable, 2) locate study space, 3) communicate effectively, 4) work independently and in community, 5) balance studies with family, employment, and social responsibilities, and 6) build confidence and maintain focus and commitment to actively participate in an online CMC learning environment. These issues will be used to guide my analysis of the second research objective below.

4.2 Introduction to Research Objective #2

In this section, I discuss the second research objective by examining how a research participant's cultural conditions limited or extended his or her participation in online distance education courses. Issues of time, space, change, convenience, flexibility and support, and control were identified as participants engaged in CMC online activities. These issues played a role in limiting or extending their preferred learning practices.

In this section, I examine the research participants' involvement, CMC practices, and how they shared ideas and negotiated meaning. I also discuss the participants' cultural conditions associated with their preferred learning practices within CMC spaces. The literature

I reviewed emphasized that active participation in online distance education courses is extremely important for learners, especially for adult learners. However, how learners' cultural conditions affect their ability to participate in a CMC space has not been adequately studied. I am particularly interested in the different ways in which peoples' learning through a CMC space was extended or limited through their particular ways of living. I used the following sub-questions to help collect research data and as a means to analyze this research objective:

- What was the frequency of use of the course CMC spaces by research participants?
- What were the participatory and communicative dynamics of participants as they shared ideas and negotiated meaning through the course CMC spaces?
- How was participants' involvement in CMC spaces limited or extended by their cultural conditions and preferred learning practices?

Below, I analyze data about the frequency, participatory and communicative dynamics of the research participants in the course in order to determine how their preferred learning practices were limited or extended by their cultural conditions.

4.2.1 Frequency and Use of CMC Spaces

In this study, research participants visited virtual locations over the Internet to converse, socialize, and study with peers and to learn the course content. As participants interacted with peers in these CMC spaces their interactions were also affected by their immediate physical, social, and cultural conditions. These conditions were mostly taken for granted while they used both synchronous and asynchronous CMC spaces to mediate encounters with their peers

and the course co-instructors.

As discussed earlier, CMC spaces are produced using social software [i.e., email, listserv, discussion forum (bulletin board), chat, etc.) connected with course management systems, such as WebCT. Each of these virtual CMC spaces was accessed by participants through a wired or wireless connection using certain hardware and software. The course used both synchronous and asynchronous spaces to facilitate active, participatory communication. The course objectives stated that student participation was required for the successful completion of the course. Below I examine the frequency and use of these CMC spaces.

4.2.1.1 Synchronous CMC Spaces (Chat Sessions)

Synchronous CMC spaces, such as online chats, are designed for participants to use in real time. From week one to week eleven (except week eight) there were weekly scheduled chat sessions conducted twice a day on Thursdays at 9:00 a.m. – 10:00 a.m. and 6:00 p.m. – 7:00 p.m. local time. As participation in these sessions was required, most of the course members logged in using their home or work computers. At the beginning of the chat sessions, the instructors would post approximately four questions for discussion. The frequency of session participation and number of passages posted during the synchronous chat sessions by research participants is represented in Table 4.2. A "passage" is a word, phrase, sentence, or paragraph that immediately follows a user name on the transcript of a chat session.

Among the synchronous chat sessions, two participants in this study attended all ten of them, while two attended none. One person attended only three and the rest attended most (7,

9) of the chat sessions.

I learned during the interviews that even though participation was required for the synchronous component of the course, the following issues: time zone differences, language proficiency, and the perceived unfriendly design of the WebCT chat space, contributed to many of the participants' concerns and lack of involvement and communication within this CMC space.

Table 4.1 Chat Session Participation

Name	Number of Sessions	Number of Passages
Agnes	9	239
Cathy	9	435
Jerry	10	300
Karen	7	197
Masahiro	0	0
Mitra	7	282
Nancy	8	142
Paree	10	277
Ping	3	18
Sali	0	0
Steve	9	177
Wendy	9	307

Ping said the chat sessions were scheduled at times that were difficult for her to attend and that kept her from attending as many chat sessions as she had hoped to do. Masahiro commented that the time zone difference was a major obstacle that excluded him completely from attending the synchronous chat sessions. He stated,

> One major restriction I have found in doing this online course is the time difference between Japan and Canada. There is a 17-hour time difference, so for me to participate in chats, I would have to be up in the middle of the night. (Masahiro; Telephone

interview)

Karen also lived in Japan and managed to attend seven chat sessions. However, she did not think the synchronous chats were helpful for discussing course content. She stated,

> when we had chats, it was like throwing spelling and grammar out of the window because you just want to rush in to get your silly point across. So speedy that I couldn't really spell, which is for an English teacher, a hard thing, very difficult to not worry about it. So some people were cutting and pasting but I didn't have that kind of discipline, I just punch the keys like mad. Actually I didn't find the chat very useful as far as discussing subject matter. It was good for socializing more, in a sense of people's personalities. (Karen; Telephone interview)

Agnes also said she believed that the synchronous CMC space showed less potential for learning the course content.

In weekly chats, participants were pressed for time and many were unable to discuss all of the questions posted at the beginning of the session by the instructors. Mitra attended most (7 of 10) of the synchronous chat sessions, and she thought these CMC experiences were "really stressful" and did not believe she learned much during this time:

> I didn't learn much from those chat sessions, because we were always in a hurry. We had a few minutes of kind of group work, and when you are typing something, two people typing at the same time, and you don't know which one to read first, and then you have to go back and report, and sometimes what you report is totally different from what you are speaking ...For me, it was really stressful, I mean, from 9:00 - 10:00 or 9:30 - 10:30, five minutes of chatting and hello and how are you, and then posting questions. (Mitra; Face-to-face interview)

But some of the participants said they enjoyed the chat sessions because of the social networking provided through this communication medium. Agnes especially liked the fact that she sensed the presence of other people while using the CMC chat space. Ping felt that the online chat offered her a feeling of community. So it seems that the synchronous chat sessions

were perceived more as a mechanism for community building rather than course content discussion.

4.2.1.2 Asynchronous CMC Spaces (Discussion Forums)

The most used CMC space for this online course was the discussion forum that included seventeen (N = 17) different threads (topics) such as: Admin Updates, Course Innovation, Cyber Groups, ePortfolio, Tech Difficulties, and those labelled by week numbers or group names. By the end of the course a total number of 2736 messages were posted on the discussion board.

Although specific threads were created by the instructors, many messages were not posted according to these threads. For example, some course members posted their questions regarding technical difficulties in the thread of course material discussion while others discussed course material in the technical difficulties thread. In my analysis, instead of looking at the number of postings according to the threads, I counted the total number of postings by each research participant. Table 4.3 shows the number of postings related to the discussion of course materials or assignments.

Table 4.3 Total Number of Postings from Participants

Name	Total Number of Messages Posted
Agnes	21
Cathy	76
Jerry	193
Karen	114
Masahiro	35
Mitra	81
Nancy	50
Paree	60

Ping	30
Sali	36
Steve	113
Wendy	165

There was a huge range in the number of postings (from 21 to 193) by different participants in the discussion forum area.

Jerry posted 44 messages in the Tech Difficulties thread, trying to help those who were experiencing problems with broken links in their projects.

The reasons for the number of postings varied, and some of the issues related to: 1) language proficiency, 2) perception of the value of these online discussions, and 3) strategies employed for modifying learning conditions.

Ping and Masahiro were among the participants in this study who posted fewer messages than many others. They were both non-native speakers of English and in the interviews they expressed their language difficulties in writing discussion messages. Agnes did not have difficulties with English and claimed to have good writing skills, but she posted the least number of messages among the participants in this study. Her explanation was she did not feel she had anything to contribute. She said that most of the class was talking about teaching and, not being a teacher she had little to add. She did not want to post superficial messages just for the sake of the number of postings:

> there are a lot of teachers in this program, and I am not a teacher, and I certainly don't want to be a teacher. A lot of discussions are about their teaching experiences, what methodology works best, what methodology doesn't work. I just cannot relate to that. There's nothing I can contribute to, unfortunately. (Agnes; Telephone interview)

4.2.1.3 Asynchronous Communication Spaces (Socializing/Mingling)

The instructors for the course established a discussion forum thread called "socializing/mingling". This CMC space was for course members to post messages that they thought were not directly related to course material discussions or assignments. Similar CMC spaces such as, Cyber Café, Lounge, or Coffee House have been used in other online courses. The goal of offering this kind of space is to provide a virtual location for course members to get to know one another in a less academic setting.

The review of the number of postings by the research participants in this socializing/mingling space indicated that most of them did not make regular use of this virtual location. (Jerry was the one exception.) Table 4.4 shows the number of postings from the participants.

Table 4.4 Postings in Socializing/Mingling Space

Name	Number of Passages Posted
Agnes	1
Cathy	5
Jerry	40
Karen	1
Masahiro	3
Mitra	0
Nancy	2
Paree	14
Ping	0
Sali	0
Steve	4
Wendy	4

The participants had different perspectives of how and why a socializing/mingling space should be used for an online graduate course. Jerry posted forty messages, which was the highest number among the whole class. The average posing number from the research participants is six. Jerry believed having some fun through such a space was very important for his learning. He said,

> I think it's an important part, because it adds a human touch to the learning experience. I don't want to be so serious, because learning needs humour. ... however, in online learning, how can you use humour? How can you, the professor, use humour? How can you make learners think, "oh it's so funny," to lower the aspect of the filter, so socializing and chat to share a joke with each other. I think such a space is helpful for my learning. I was the one posting most of the time. Yeah, there needs to be an element to let us have fun a little bit. If all the talk is just about the course material it gets too dry to talk about, so there needs something different. (Jerry; Telephone interview)

Agnes only posted one message in this space, but she also thought such a space was helpful for learning. During our interview, Agnes said,

> I think that learning, no matter what your learning style or your learning preferences would be, it's never done in isolation. Learning happens as you interact with others. So I think that social component is very important whether you do it online or face-to-face. And I would definitely say such a space needs to be there. (Agnes; Telephone interview)

I asked her, "So even if you prefer to work on your own to complete a project, you still think that a social space is necessary?". Agnes emphatically responded,

> Absolutely. When I prefer to work alone, I mean I need silence in order to get information into my brain and be able to comprehend. But I always feel that the interaction you have with your classmates and your instructor, especially is extremely important, probably the most important thing for a student. (Agnes; Telephone interview)

Paree posted 14 messages, the second highest number in the group. She also thought it

was necessary to have a space for socializing on the course website, a place for people to go and have some fun when they had time. However, she preferred it to be used for postings about upcoming conferences, or for local people to make arrangements to meet face-to-face. She did not see the value of this kind of space for learning:

> It's good just to go and talk sometimes if you have time, make a joke or something, sharing your happiness, but I don't see it's something to help learning. (Paree; Telephone interview)

Cathy shared Paree's perspective of the value of a socializing/mingling space being a place where participants go to find postings about conferences or articles. She said,

> I looked there to see what was posted there but I didn't really go there. I think people, myself included, you come across something you feel you'll be interested in, and it relates, sort of, to the course, but not in any of the proper sections. So such a space can be used to post "Oh, by the way, there's a conference or an interesting article." So it's for people to share or introduce without messing up the discussion forum. (Cathy; Telephone interview)

Cathy, like many others, did not believe a socializing space was helpful for learning. Instead she understood the CMC spaces as a virtual location to form an online community. She pointed out,

> I don't know if it's helpful for learning. I think it's helpful to build a community online. Because you know you want to communicate with people, and it gives you an outlet for that, that needs to share with other people. But in terms of learning the course material, I don't know. Maybe indirect help, because it keeps me involved in the course. Some people say funny things there, so I think it helps them to get together. (Cathy; Telephone interview)

Karen, Sali, and Ping did not use the socializing/mingling space, because they did not think it was useful for their learning or for socializing. Karen did not use the space much

because she believed such a space was for people who were physically located in the same area to make arrangements to meet face-to-face. She said,

> Well, in the class I am taking now, it's almost never been used. And I haven't used it. I think I've read like two messages in there, and that's it. ... so usually I noticed that those tended to be used by people who would actually like to meet face-to-face. It wasn't really a cyber social place. It was a social place to decide where they would meet. (Karen; Telephone interview)

Ping said that she went to the socializing/mingling space to look for useful links. While there she read the peer postings, but she did not think such a space was useful for socialization. She felt it was "too virtual", which could be interpreted as meaning that an online communication space that connects people by text is not really useful for socializing. She said,

> I seldom use it. You see my learning style is assignment-driven, so even I go there, it's because I want to find links to resources for the course. As for social, I think it's too virtual, so I don't really go there often. I read almost all the postings in the discussion forums, though. (Ping; Telephone interview)

Most participants did not post many messages in this space. Nevertheless, during the interviews they told me that it was important to have such a space for course members on the website. While this seems like a contradiction, most said they wanted a space to contact their peers and ask questions that did not fit into any of the other discussion topics. Masahiro said such a space on the course website made him more comfortable to post "stupid" questions that he would hesitate to post in the discussion forum. He thought a social space might be even better if students were able to post their messages there anonymously. He acknowledged that then there might be a risk that someone might post a flaming message. He said,

> To me it's really important. Of course I didn't participate in that mingling space much, but when I needed it, it's really comfortable and it's really easy for me to post "stupid" questions. I would like to have such a space like social or cafe that is anonymous, but of course there's risk, because some people may post mean things, too. (Masahiro; Telephone interview)

The frequency with which CMC spaces were used by participants in this research depended on their cultural conditions and their perspectives of the necessity and value of participating in such spaces.

4.2.2 Participation and Communication Sharing Ideas and Negotiating Meaning

Participants used the online CMC spaces to share ideas and negotiate meanings about the course content. Their active and passive participation and communication was mediated through digital technologies, but they were also influenced by attributes of their cultural conditions (i.e., time, location, convenience, flexibility, control) and their preferred ways of learning.

Participation and communication for participants were not arbitrary decisions. For example, some participants preferred to read or respond to postings from specific peers based on the length of the message posted or the perceived value of previous peer participation. Mitra chose to read the messages she thought were from "key people" because of their active participation. She stated,

> I tried to recognize some names, and read their postings first, because they are kind of key people. ...They were the first people who responded to questions, and they had those big essays, so the essence of what others would say was really, I think, in their messages, and the kind of discussion that they had related to each other. ...When I saw a very small message, I knew that it must be a compliment or something, and I didn't really read them. (Mitra; Face-to-face interview)

Similarly, Ping first read the messages posted by active participants or by people she knew,

> I would first read the postings by those who I know. Also I would read the postings from those who are very active in responding to others' postings. I would first read the postings related to assignments. Those topics draw my attention first. My priority also goes to those postings asking questions. They might have the same questions as I did. (Ping; Telephone interview)

Paree also chose to first read the postings that she believed to be interesting and important. She also searched threaded messages to identify the passages that received a response from an instructor. From Paree's view, the instructor validated the value of a passage by merely selecting it. She said,

> Normally for the first two courses, I was just reading all the postings. Later on, I could find out the postings I am more interested [in]. So I would read those first and then if I had more time I was going to read others, but my priority is to get what they are saying. And again, sometimes I look and see that where the instructor's response to the postings I'll read that thread. It must have been interesting that the discussion is going on and it caught the instructor's attention. ...But sometimes when you are new to a class, you don't know many people. So most might go to the thread that had a lot of postings and there are more responses, so I thought that must be interesting, so I go. (Paree; Telephone interview)

Key people were peers who enhanced the value of the online experience for the participant. Because time, location, and convenience were so important, given the participants' specific cultural conditions, they looked for ways to manage and control these attributes associated with their particular ways of living. Reading "postings related to the assignments," postings that "caught the instructors' attention," and postings that captured the "essence of what others would say" provided participants the opportunity to cut through the large volume of

passages and focus the little time they had on their studies.

Participants' active or passive involvement and communication were also shaped by the amount of time required to read and compose messages as a result of their more limited English proficiency. Those participants for whom English was a non-native language spent considerably more time composing passages to post in the CMC spaces. For example, Masahiro used email with a spell check function and was diligent about proofreading his communication texts before posting. He relayed to me that he was worried that his peers might refuse to work with him in group activities if they judged his English proficiency as poor. Masahiro stated,

> Actually I usually use email that has spell checker. I don't write down my postings real-time. I always use those spell check editor, and then copy and paste, so it takes more time. Sometimes I ask my wife to check the grammatical stuff, but when I don't have time, I directly write. I always worry about my English writing. My writing is not so good so other people might don't [not] want to work with me, especially for group assignments. (Masahiro; Telephone interview)

Masahiro's concern was confirmed by Jerry in our interview, when he said,

> I've noticed that a lot is that the ESL students who take the courses, their postings are often short. Truly, they don't contribute much, and they basically ask questions instead of contribute ideas. That is my impression. You know, when you see their names, you are not excited about reading their postings. (Jerry; Telephone interview).

Jerry's comment strongly represents a perception that English proficiency can define one's intellectual worth as a valuable member of the course. It is worth noting here how Jerry's comments also switch from first person "I've noticed" to second person "you are not excited about" as the tone of the passage becomes pointed and judgemental.

Previous education or work experiences also played a role in influencing the way the

participants communicated with their peers and the instructors. For example, Ping and Masahiro were reluctant to argue with either their peers or the instructors because of their prior educational experiences and societal sets of cultural conditions. In the review of literature, I mentioned that in many Asian countries (e.g., Bates & Poole, 2003) the educational systems reflect a hierarchical authoritative structure of pedagogy. Ping and Masahiro had received their previous education in China and Japan respectively where a transmission approach to teaching and learning is still widely used and valued by teachers (Pratt, et al, 1999).

Working experiences also influenced participants' attitudes toward participating and communicating with peers. While some students tended to ignore postings of passages that were not structurally well written in English (Jerry, telephone interview), some participants with experiences working or living with speakers of non-English languages were more understanding. Cathy was an ESL teacher and her previous experiences with non-native English students taught her patience and enhanced her understanding of language use and difficulties of non-native English speakers. When asked about the postings of non-native speakers, she said,

> Because I've read so much in my life that I usually can get the point anyhow, first of all. Second of all, even native English speakers, I make a lot of mistakes in writing. When I make mistakes I feel very embarrassed. I could tell, actually I'm thinking about one person, who I worked with quite a bit in different courses. Because I knew what her first language was, and because of the way she wrote, it was kind of I could hear her speaking, because she was making the same mistakes everybody does in that language. But it makes me hear her speaking. (Cathy; Telephone interview)

Some participants prioritized reading or responding to postings in the discussion forums according to their interests. For example, Nancy did not want to read all the postings. She

first read the thread title to decide whether the topic was interesting to her before she opened and read a posting:

> I look at the thread title, the thread topics. In [course number] it was crazy, people type one line and they pick on one message straight away. They might follow a thread. At the beginning someone posts a topic. If I am interested in that topic, I'll follow that thread. Or I try to choose and read two thirds of all the discussions. (Nancy; Telephone interview)

Agnes said that when she was new to the online program, she read all the postings, but later she developed strategies to choose postings that seemed of interest. When responding to postings, she selected topics with which she was confident enough to share her opinion. She made a conscious effort to avoid any potential embarrassment if she felt she did not have enough knowledge of a certain topic. Agnes shared,

> When I first started I read everything. I mean I read the instructions, the technology forums, whatever was there because I was a new student. And if there was a class that was divided into section A B C, I would even read the other [sections]. I don't do that any more. But I do tend to read everything. I don't skim the titles or anything like that. ... how I choose to participate is, if it's not a topic I am interested in, then I don't participate. [As for responding to postings, I would respond to] anything I can have something to say without sounding I'm like a complete idiot. If I knew what the topic was and was being discussed sure I would be happy to participate. (Agnes; Telephone interview)

Masahiro first looked for postings related to his own post. He read a few lines of the passage and used this preview to identify if he would read more. He said,

> On display it just says the topic and the person's name. I have to check out the first few lines before I figure out what they are saying, so it's pretty difficult for me to go to all the postings. So I always figure out first the postings related to my postings. And if there are no postings related to my posting, I always pick the persons who are really 'smart'. And those people's [postings] stay in my head easily. ... I go through all of them, but I

> only read the first couple of lines, and if it's not interesting, I just skip it. But sometimes it's really important and interests me, I read completely. (Masahiro; Telephone interview)

Like Masahiro, Steve looked for postings that were of interest to him to read first. He also checked what others said before making comments to the CMC space. Steve said,

> I look for threads that fit with what I was interested in. I was looking for something I wanted. I was trying to build a comment on myself. I would look and see what other people have said about it, or the project I was working on, and I would like to see what other students put in that might be in the same content, so I would search for that type of content. (Steve; Telephone interview)

Jerry called himself a slow reader, but he read all the postings of his group and then some of those posted by peers in other groups as well. He was also an ESL teacher and thought that postings of non-native speakers should be read even though some of them did not really make much of a contribution to the discussion topics. When I asked Jerry how he selected which posts to read first, he said,

> I didn't select. I read them all. Basically if there was too much I would read my own section postings first because that's my obligation. I mean comment first, and reply first to my own section. And then I would read other sections' postings. Online learning environment is an equalizer is a fallacy because we are not equal actually online. Certain people get read or get responses more than other people, and there are some people seldom get responses. (Jerry; Telephone interview)

Karen professed that she read all the postings on the discussion board, although she prioritized which postings to read first. As a writing teacher and a writer, her interests were in sharing conversations with peers about the course content and in identifying how personalities are represented through written form. She shared,

> I am a perfectionist so I read all of them, but I don't reply to all. I only reply to the ones I think I have something to say, either add or to contradict. If I agree with them, then I usually don't bother posting. If someone says something I don't agree [with] then most likely I respond to them. ... of course I am looking forward to the postings of some people more than others, especially if I am probably misreading someone who is very conservative or, shall we say narrow-minded. Then I might kind of 'cringe' to see if they have a posting, but I'll still read it. It's very interesting how personalities are carried across in the writing. (Karen; Telephone interview)

Wendy said she read most of the forum passages in the chronological order in which they were posted. She said:

> I read chronologically, and I read about eighty per cent of the forums. There were really some interesting discussions, so I'd like to debrief everything. Lots of times I would look through conversations for specific forums because I use a lot of that in the papers that I wrote. (Wendy; Telephone interview)

Participants negotiated meaning through their communications in the CMC spaces. They raised issues and argued for particular points of view. The negotiation of ideas was a struggle over meanings and values. In the example below, Cathy and Mitra deliberate over their interpretation of "culture and cultural practices."

> *Message no. 274 [Branch from no. 265]*
> Posted by Cathy on Thursday, May 12, 2005 10:37
> Subject Re: What is Culture?
> Hi [Student name]
>
> I had pretty much the same reaction you did: I cannot strip communication away from culture.
>
> I think of culture as informing cultural practices. The kind of stuff Eno refers to, all that we do not have to do, to me, represents cultural practices, not culture per se. And because we live in groups, cultural practices are engagements with others. Communication is the conduit. As soon as communication occurs, cultural practices are activated (Hanna & de Nooy, 2003).

What are cultural practices? Just like what you said: communicating our name, our hobbies, how we look - all the thousands of decisions we make about how we communicate, these are cultural practices (in this case, a genre). In our intros, do we start with personal information or with professional information? Do we talk about our kids or even show their pictures? Or do we keep it strictly professional?

I'm interested in digging deep, discovering what informs those thousands of decisions that shape our practices and the artifacts we create.
all the best,
Cathy

Message no. 669 [Branch from no. 274]
Posted by Mitra on Tuesday, May 17, 2005 14:06
Subject Re: What is Culture?

Hi Cathy,
'because we live in groups, cultural practices are engagements with others.' I'm interested in how yorelate [sic] communication to culture. As you put it, cultural practices that I have known about are all practiced by groups of people. This is the sharing of ideas and points of views that initiates a common ground, which might lead to a cultiral [sic] practice. When I read your message for the first time I thought that there are some cultural practices that are individually pursued (like arts). But then I realized that if artists did not commuinicate [sic] about their craft their tradition would perish after their death. It is through training novice artists and showing their work to others that they keep their crafts alive. I hope some time during this term we can think about how different comminiation [sic] media affects our cultural practices.
Mitra

Cathy and Mitra engaged in a brief discussion around their own understanding of culture and cultural practices drawing on some of the course readings and adding their own perspectives. When responding to a peer's posting, students usually first indicated if they were in agreement with a passage before elaborating on the topic. However, when they did not agree or if they wanted to address a slightly different or related topic, they seldom directly stated their disagreement. For example, Wendy posted the following message to express her thoughts

about a peer's posting:

> *Message no. 591[Branch from no. 549]*
> Posted by Wendy on Monday, May 16, 2005 18:16
> Subject Re: What is Culture?
>
> hi [Student name],
>
> I find it interesting that Brian Eno is quoted. Has anyone listened to his music? Some of the albums I remember, 'Another Green World', and 'Taking Tiger Mountain' come to mind. He is quite counter culture himself and was considered 'alternative' in my listening days. In fact, at University weekend shindigs when we wanted people to go home, we would put Eno on. It never failed to clear the room. I love his stuff, but he was never top ten.
>
> You wrote, 'If we look at the Underground Railroad, we realize that the medium for the ability to survive (meet those basic core needs) was through the culture that the slaves had developed (Song, messages, etc).' This made me consider the conversations about youth culture in the discussion forums we are having. I am somewhat concerned about how negative our collective interpretation of youth 'tech' culture is sounding. The mainstream society of the day was not at all in favour of the Underground Railroad. Is it to[o] big of a stretch to wonder if our own views are perhaps biased in favor of the mediums and cultural norms of our generation?
>
> While donald [sic] Tapscott's ideas in 'Growing Up Digital' may be overly optimistic and idealistic they hold water. I think there is a lot of generalizing going on about youth. They aren't all that intolerant, impolite, etc...
>
> Cheers
> Wendy

Participants also posted messages on the CMC discussion board when they wanted feedback on their ideas and when they were not sure about their understanding of the course content. The following excerpt demonstrated how they negotiated meanings during their interactions on the CMC spaces.

> *Message no. 1257*

Posted by Steve on Thursday, May 26, 2005 17:56
Subject: understanding [author] Benjamin

I thought I would throw this out for feedback in my section to see if anyone else is using the post-test question about Benjamin's article and mp3 music.

Let me express what I think I understand. All the diatribe seems clear the role of Marx/capitalism/the proletariat/and art, and his expressed view that a good amount of time needed to pass to see the results of capitalism's self-destruction over allowing duplication of art. My question is really whether music, like the original art that provides authenticity, loses something to the same degree as a Van Gogh, for example. An artist who produces a great song, digitally, has the original. Or, do we say the original is, in the purist sense, existing only when the music is performed live? I'm asking this because it can determine how we answer the mp3 issue.

Appreciate comments,

Steve

Message no. 1479[Branch from no. 1388]
Posted by Cathy on Monday, May 30, 2005 15:34
Subject Re: understanding Benjamin
Hi Steve and everyone,

I agree with [Name of student] that digitally mastered music has aura and is authentic and I agree with this sentence from [Name of student]: 'one could argue the MP3 distribution technologies may have disrupted existing power relations within the music industry, in that unknown artists can record and distribute their materials to the same audience without relying on recording companies.'

I understand aura in how it's tied to existing power relations (ritualistic aspects from the past or the marketplace of today) and I'm not sure I understand aura beyond that. It's a culture that invests into art its uniqueness; mechanic reproduction challenges this assumption. Note how Benjamin calls it the 'concept of authenticity' - meaning that it is a concept, not a truth.

To me, he's more interested in what's going on in the transaction between artifact and the consumer: 'Above all, it (the reproduction) enables the original to meet the beholder halfway, be it in the form of a photograph or a phonograph record.'

What I sense many of us are getting tied up in is the notion of what B. calls the 'theology of art' where we look at art for its own sake, divorcing art from any social function it may have been created for.

Looking at MP3 technology and music in terms of social functions, to me, there is an essential question: is the music for the people or not? If not, then MP3 represents a dangerous threat to status quo power relations. If yes, then MP3 is beside the point - it's just another way for the people to "get" the music.

Read Lewis Hyde's <A HREF="http://www.southerncrossreview.org/4/schwartz.html" >The Gift:Imagination and the Erotic Life of Property.</A> ("a work of art is a gift, not a commodity") and check out this zaniness: Being authentic: Practice
Walter Benjamin's term "Verfall der Aura" (loss of aura)

http://www.transordinator.de/benjamin/Verlust_der_Aura.html
from http://www.transordinator.de/edition/

all the best, Cathy

Message no. 1494[Branch from no. 1479]
Posted by Steve on Monday, May 30, 2005 20:50
Subject Re: understanding Benjamin

A fascinating journey, Cathy! I experienced the fall of aura!

Thanks for your thoughtful comments about Benjamin's statements and ideas. I think I'm changing my views a little because of the input you and others are providing. So many musicians are using digital tools to create their own music --- in studios or at home --- that it has to be authentic. I agree, I think! There may also be the necessary 'aura" if we, the listening public, assign it. I really do think, as you do, that the culture is the determining factor for it. Think about the following concept and provide some feedback if you have some. You wrote:

'It's a culture that invests into art its uniqueness; mechanic reproduction challenges this assumption. Note how Benjamin calls it the 'concept of authenticity' - meaning that it is a concept, not a truth.'

The way mechanical reproduction challenges the assumption has a lot to do with mass

merchandising. Like clothing or the latest children's toys, music is not immune to clever music promoters who want to flood the market with a name they see potential dollars in. The commodification of culture is what it is all about. As a result of the commodification, unfortunately, our culture ascribes the "aura" and the "authenticity". I listened to the Beatles digitally mastered music the other day. I don't know...it seemed to lack the "aura" of the original "albums" with their noisy analog recordings.

Just some thoughts...old, Beatle-loving Steve

Participants shared ideas and negotiated meanings in the online CMC spaces based on different sets of priorities such as time, English language proficiencies, personal and professional interests, key people, active and passive participation, and information value. They prioritized their participation and communication with peers when sharing ideas by deliberating how their previous education, work experiences or written communication skills would be perceived by peers and the instructors.

4.2.3 Limits and Extensions of Participants' Preferred Learning Practices

The participants' preferred learning practices in the online learning environment of the course were limited and extended in various ways by their cultural conditions and the use of CMC spaces. In this section, I discuss some of the issues that emerged from the collected data concerning attributes of culture associated with English language proficiency and with time spent in the CMC spaces.

4.2.3.1 English Language Proficiency

Non-native English speakers required considerable more time and effort to read the course materials and to deliberate on the posted messages in the CMC spaces of the online learning environment. The majority of students in the course were from North America. The

CMC spaces were not designed to facilitate discussions based on the cultural differences of the participants. Unfortunately, the local knowledge of non-native English speakers outside of North America especially was viewed as less valuable than the knowledge of other course members. This perception also increased the time demand on some participants to actively participate and to deliberate on the discussion board postings. Ping talked about her difficulties understanding the passages from peers, especially the colloquial expressions. She stated,

> As a second-language student who lived in an English-speaking environment no more than a year, language difficulties restricted my ability to learn. The difficulties I faced to were my slow reading and writing speed and had difficulties in understanding the slang and idioms in other's posts as well as the meaning behind their posts. These difficulties made me busied [busy] in reading materials and my peers' posts so that I seldom responded to other's posts even if I had read them and had some ideas in my mind. (Ping; Email interview)

Mitra had confidence in her command of English but stated she still had difficulties communicating with peers on the discussion board about certain topics. A general familiarity with art, film, and other forms of commercial media was insufficient for her to understand some of the specific cultural conditions associated with particular concepts. She said,

> I couldn't make sense of the kind of conversation they are having. Yes, when they were talking about Star Wars, for example, for me, Star Wars is just a movie with lots of, I don't know, digital animations, but for them it's something related to their life. So I had problem communicating to them." (Mitra; Face-to-face interview)

Mitra's difficulty indicates that language, culture, and learning are inextricably connected with the ways participants can participate and communicate in CMC spaces. Their use of CMC spaces was not a linear process of communication where a sender sends a message

across the Internet and a receiver receives the message sent. The complexity of these processes was conditioned and mediated through how these CMC spaces were used by the participants and by the differing experiences they brought to these acts of communication.

4.2.3.2 Use of CMC Spaces

All participants brought their unique preferred learning practices to the online learning environment. The participants' cultural conditions affected their own learning and subsequently the learning of their peers. I interviewed participants to learn more about how the use of CMC spaces and their cultural conditions limited or extended their preferred learning practices. Time and work load were the two major issues mentioned by many participants that challenged and frustrated them in their use of the CMC spaces.

Some participants (for example, Nancy) claimed they spent eight to twelve hours per week on course-related activities which was the number of hours suggested for an online graduate course. Many participants professed to spend considerably more time. As non-traditional graduate students, most of them also had full-time jobs and family commitments. Time management was an issue that could either limit or extend a participant's learning as he/she struggled to learn using CMC spaces.

> I work full-time and also there are family responsibilities. It was hard to find time to be able to learn as much as possible from the courses as well as being to do the rest of the things properly. So I would say that time is a big challenge. I was able to manage it. But you know, it was kind of stressful and difficult to do this. (Paree; Telephone interview)

Karen concentrated best in her office at work. She decided to study regularly in her

office and on weekends to complete course assignments. She said,

> I spend between two to three hours a day, five times a week, on my online course work and an additional seven to ten hours for the readings, research, and note-taking; yet during the time a project is due, new technologies need to be learned, or a paper deadline approaches I have had to spend additional time at my office on weekends, about eight additional hours at such times. (Karen; Email interview)

Even though she needed to work away from home, the CMC space provided Karen a means to study course content when she made the time. Her ability to control this particular cultural condition of her life (when, where, and how) was an important attribute of the way she preferred to learn at this time.

In the online learning environment, communication took place via CMC among the instructors and course members and among course members themselves. With asynchronous discussions, participants usually waited for a response to their postings. For some non-native English speakers, these communication delays produced nervousness, adding to their sense of apprehension in their own ability to contribute in a meaningful way to the course. Some assumed that if their posting did not get a response, then it might mean they did not express themselves clearly or the message was interpreted as offensive (Paree, Telephone interview). There was a sense of anxiety associated with using a CMC space for non-English language speakers. The challenge of using a CMC space meant that all participants had "to understand the diversity in the student populations and be prepared for unfamiliar social practices such as netiquette and online lingo" (Nancy, Email interview).

The need for time management required participants to have a high degree of

self-discipline and motivation to actively participate and communicate online. For some this meant changing their attitude in the ways that they used the CMC spaces. Nancy said,

> I guess there was a gradual change in my attitude from the beginning [of] the first course and now, like I'm half way through it. I think one of the challenges still I have is that I have to really make an effort to participate in discussion forums. I need to push myself really hard to be active in the course. It's mandatory to participate. That's why I guess there are participation marks for all the courses. ...I think that's the major challenge, be active and to participate. Especially if one is new in a course, like if I know nobody face-to-face. For example, I had met a classmate in a previous class, so we kind of in discussions I saw his name then I wanted to read his topics. But if there is no one to relate to, have that person in relationship with, it's hard, so I had to push myself to do it, to respond to some strangers, no matter who they are or wherever they are. (Nancy; Face-to-face interview)

In CMC spaces, participants do not occupy a physical location with other course members. Subsequently, some participants said that they experienced a feeling of being alone and a sense of frustration as a result of this disembodied experience. Mitra felt isolated when she first joined the class. When using the CMC spaces, it was apparent that many of her peers had taken other courses together prior to this one. She found it difficult to engage in communication because she had not identified someone or a group with whom to establish a social relationship or bond. She said,

> I think a moderator, someone you could turn into when you feel lost, could help me a lot. Or if I could find someone to talk about weekly assignments in another context rather than public discussion forums, I would be more self confident. (Mitra; Email interview)

Both the hardware and software technical infrastructure played a role in how participants used the CMC spaces as a part of the larger course management system (i.e., WebCT). The course management system had different layers of administration and content areas within the

online course and learning environment. Navigating these spaces was challenging for some participants to not only locate course materials, but to download files onto their computer through their local area Internet service provider. Wendy had access to only a phone line dial-up connection to the Internet that made downloading files time consuming. She elaborated,

> I think the biggest challenge was managing some of the mechanical aspects using the computers; that is, the technology, downloading the files. I am on dial-up up here, and you know the graphics and video programs are really time-consuming. Operating programs, reading all of that, moving through all the different layers of administrators' stages, the [University] library, and then the student services, it's kind of a big elaborate of other stuff behind what you are really doing. (Wendy; Telephone interview)

Even some participants with online learning experiences did not feel comfortable communicating with peers in the CMC spaces. Their lack of confidence or insecurity manifested itself in their passive participation with peers in chat sessions or discussion forums. Karen commented,

> The biggest challenge for me is not being able to see people's faces and, attempting to response debate without being able to read people's reactions or responses, or even their motives because there is no emotional concept except for, of course, the emoticons like smiling face put in text. I feel kind of uncomfortable arguing points because I didn't know if I was being perceived as combative or opinionated or, so worried not only that I was misreading but I was misread. (Karen; Telephone interview)

Steve said he liked joking with peers so that learning was more enjoyable. However, in CMC spaces there was always an uncertainty that peers did not understand the humor. He explained,

> The contact in text, well, there isn't the sort of relationship built. Normally it's a kind of nervous relationship because you are not sure that they understand the jokes when they

say something, you know, all those sorts of things. So there is a human element that's missing with the online course postings. (Steve; Telephone interview)

Mitra also expressed uneasiness about using CMC spaces, saying,

...the kind of communication you can have face-to-face when you look into someone's eyes and talk to them, it's very much different because when you are talking to people you can see the kind of the reaction, see if they are supportive or not. But in online setting, you say something, either you get some responses and you don't know what are the emotions behind it, or you do not get any response... we had this [sic] weekly chats, and I really felt insecure in those chats. When you are chatting face-to-face, within the class, the group, you have the time to kind of convey what you want to mean. You have the time; you have more means than just the written text; you can change your tone; you can ask questions. Facial expression is very important, so I sometimes decided to have less contributions, because I was scared... I couldn't find that rich interaction and support that we have in face-to-face in online environment. (Mitra; Face-to-face interview)

When asked to compare their online learning experiences and those in traditional face-to-face settings, the participants expressed mixed reactions. Some participants preferred using CMC spaces, while others found too many limitations for these online learning environments. Jerry professed,

I would still much prefer attending a face-to-face class, over a 100% online class. Blended courses are the best. When you have a question, you don't have to wait, just go to the class and ask the professor and they give you the answer. Online sometimes you ask a question and the professor doesn't answer, but in class, if I ask a question you cannot avoid me, you have to answer it. So I appreciate the immediate feedback in a face-to-face class. If it's online, the response has to be within 24 hours, because that's what is expected if you teach online. I don't expect a one-hour response, but at least it should be within 24 hours. So that's the big difference, I think. You want to feel that actually you have contact with a prof, in some courses I don't feel I have contact with a professor. There are many advantages of online learning. I am a shy person so I feel easier express myself online. I am more active in an online classroom. (Jerry; Telephone interview)

Cathy, an adult educator, believed that CMC spaces benefited adult learners. Her

studies in the online program were meant to not only obtain an academic degree, but to experience online learning for herself. Cathy said, "I am an adult educator, and I believe in adult education. I see the ability of online courses ...as a way of expanding opportunities for adult learners" (Cathy, face-to-face interview).

For some participants, online CMC spaces extended their ability to enroll in a graduate program that was otherwise unavailable due to their physical geographic locations. For some it was simply more convenient than having to leave their full-time job early or to commute to a distant university campus to study. For example, some participants were located in countries outside of Canada and the online learning environment made it possible for them to overcome geographic and time zone limitations.

Ping viewed CMC spaces as a more supportive learning environment than face-to-face classes. She commented,

> The good thing is in this current program I have received a lot of help I had not expected before. Before this program, I never thought much about the situations of students with difficulties and their needs. So I have very positive impressions of this multi-cultural communication environment. Instead of learning a different culture, you are exposed to different cultures. (Ping; Telephone interview)

Summary

Among the cultural conditions examined in this study, age, gender, language, and previous education, language was the most significant with regards to learning preferences and the use of CMC spaces in online learning environments. Similarly, concerning participation and communication, language was also the most significant cultural condition that limited or

extended the preferred learning practices of participants. Most of the non-English speaking participants commented on how their previous educational and life experiences outside North America limited their ability to participate and communicate online in this course. The non-native speakers of English also had learning preferences that were different from native English speakers, but these did not impede their use of CMC spaces as significantly as did the language issue.

Course members used the online CMC spaces to share ideas and negotiate meanings about the course content. Their active and passive participation and communication were affected by cultural conditions (i.e., time, location, convenience, flexibility, control). These cultural attributes are interconnected with the participants' preferred ways of learning. Participants struggled to manage their time and gain some control over how, when and where they used CMC spaces to support their preferred learning practices. For some the ability to control these conditions meant finding a location either at home or at work to study. For others the convenience of studying undisturbed was achieved by becoming more flexible with regards to family or work responsibilities or giving in to the inconvenience of studying late at night. A more thorough analysis and interpretation of these concepts will be the subject of the next chapter.

CHAPTER 5

INTERPRETATION OF RESEARCH DATA

This study investigated the relationships between graduate research participants' cultural conditions and their preferred learning practices as they engaged in computer mediated communication (CMC) spaces within an online distance education course. I was interested in knowing how a research participant's cultural conditions limit or extend his or her participation in an online distance education course. In this chapter, I focus on interpreting the two research objectives by discussing their relationships with some of the learning concepts reviewed in Chapter 2. Then I will interpret these research relationships in terms of online distance education. Next the limitations of the study will be addressed and I conclude with some suggestions for future research.

5.1 Interpretation of Data

Interpreting research data is somewhat like marking a blank surface for the first time. The mark, as well as the physical act of making the mark and selecting where the marking should be placed can both limit and extend the meanings and values associated with the mark as a form of communication. This is why, I believe, Bhabha (1994) argued that the translation of culture could be only partially understood. Communicating about culture and interpreting it lies in the human articulation of discourses in between social divisions as complex forms of language. The very act of communicating about culture simultaneously limits and extends these meanings and values. In order to map these moments of complex relationships (i.e.,

social and cultural meanings and values) I drew from conceptual research that articulated a circuit of culture (du Gay et al, 1997). I interwove some of these ideas below as they apply to interpreting the participants' cultural conditions and preferred ways of learning in CMC spaces.

5.1.1 Circuit(s) of Culture

Any circuit of culture is part of more complex systems of human relations. Stuart Hall (1980) called for pluralizing cultural studies to include people's ways of life. He adapted Raymond Williams' conception of culture, which "refers to social practices" and "the study of relationships between elements in a whole way of life" (p. 60). In other words, threaded through culture are social practices, which are the "sum of their inter-relationships" (p. 60). Culture is "the sum of the available descriptions through which societies make sense of and reflect their common experiences" (p. 59). du Gay et al (1997) reconceptualized the dynamic conditions of culture by introducing a "circuit of culture" that is articulated through the identification of moments in time and space associated with representation, identity, production, consumption, and regulation. The effect of any moment necessarily affects each of the other moments in this cultural circuit. The strength of this conceptual system is that it can help focus one's analysis, not only on these "moments" where power and culture meet, allowing meaning to be shared, but also on the links in between "moments", where culture is mediated. I will argue that it is not only a circuit of culture but multiple cultural circuits that influence people's daily ways of living. Circuits of culture should be understood as complex systems.

For example, in the analysis in Chapter 4, I discussed how Cathy and Steve's online

conversation extended their understanding of Benjamin's concept of authenticity in one of their CMC exchanges. Cathy wrote:

> I agree with [Name of student] that digitally mastered music has aura and is authentic and I agree with this sentence from [Name of student]: 'one could argue the MP3 distribution technologies may have disrupted existing power relations within the music industry, in that unknown artists can record and distribute their materials to the same audience without relying on recording companies.'
>
> I understand aura in how it's tied to existing power relations (ritualistic aspects from the past or the marketplace of today) and I'm not sure I understand aura beyond that. It's a culture that invests into art its uniqueness; mechanic reproduction challenges this assumption. Note how Benjamin calls it the 'concept of authenticity' - meaning that it is a concept, not a truth.

Steve answered Cathy's posting about culture, art and Benjamin's notion of aura. He wrote back saying,

> Thanks for your thoughtful comments about Benjamin's statements and ideas. I think I'm changing my views a little because of the input you and others are providing.... I really do think, as you do, that the culture is the determining factor for it.

During this study many of the research participants used the CMC spaces to negotiate meanings, raise issues, and argue over particular points of view. Their participation and communication were not a linear form of communication. Rather, the negotiation of these ideas was a mediated cultural process in which a struggle over meanings and values (politics) took place within continually evolving circuits of culture.

The interplay of participation and communication within these circuits of culture was identifiable in how some participants were deemed to be "key people" because they enhanced the value of the online experience for other participants. However, participation and

communication were also regulated by time constraints that prompted participants to first read "postings related to the assignments," postings that "caught the instructors' attention," and postings that captured the "essence of what others would say". Language was by far the most enabling condition of culture for native English speakers and restricting condition especially for participants for whom English was a non-native language. Most of these research participants spent considerably more time than their English-speaking peers composing messages to post in the CMC spaces.

These acts of communication were also connected within other circuits of culture. For example, Masahiro equated his own sense of identity and productivity with his ability to use the English language proficiently enough to communicate with his peers in the course. He wrote, "My writing is not so good so other people might don't [not] want to work with me." His statement indicated that he understood that his use of the English language partially represented who he was to peers in the context of the CMC spaces. His written messages (textual representations) ascribed meanings and values to him as a graduate student and peer perceptions had the potential to regulate (limit or extend) his ability to be productive in the course.

By analyzing relationships from this study, I identified space, time, flexibility and control, convenience, personal and social interest, previous educational experience, and language proficiency as seven attributes of culture that had a direct influence on how and why participants preferred to engage in particular learning and life experiences in the online course. In order to manage these changing cultural attributes, participants in this study used and

modified their preferred learning strategies in order to 1) feel comfortable, 2) locate study space, 3) communicate effectively, 4) work independently and in community, 5) balance studies with family, employment, and social responsibilities, and 6) build confidence and maintain focus and commitment to actively participate in an online CMC learning environment. I do not believe, however, that these are isolated concepts associated with only CMC systems or online learning environments. Instead, these attributes of culture emerged from the possibilities presented when people's ways of living were challenged by the introduction of graduate studies and the use of CMC spaces as learning environments. It is the interactions of these various educational, cultural, technological, and political forces that provided the contextual conditions for these attributes of culture to form and become visible and identifiable. In the section below, I will discuss these attributes of culture in greater detail and indicate why I believe they are important for instructional designers and instructors to consider when designing and teaching within online distance education CMC spaces.

5.1.2 Cultural Conditions and Preferred Learning Practices

The research participants enrolled in the online course needed to find ways to maintain a balance between their study and work while juggling their commitments with family, social life and online learning. They used different strategies, or preferred learning practices, to deal with the challenges they faced in their online learning experiences and made adjustments to their learning conditions to optimize their learning. Looking back at the findings in the previous chapter, below I offer my interpretation of these findings regarding the two research objectives.

Space. In this study, most participants chose to study at home, although Steve was able to complete his online learning tasks anywhere by accessing the Internet. A few studied at work because that was where they had access to the Internet, or the time and space they could use to concentrate. For example, Karen did most of her online learning tasks at work because she had to devote time to her son and husband while at home. She had an office where she could concentrate and where her work schedule allowed her to study for a certain number of hours. Steve also studied at work because he thought the post-graduate studies were related to his teaching job. Masahiro had a very busy work schedule, so he decided to study at home, when the rest of the family was asleep. All of the participants selected locations where they could concentrate on their learning tasks. In order to balance their studies with family, employment, and social responsibilities, research participants arranged to find the time and location that best fit their own social living situations.

Time. Time is integrally connected with people's rhythms of everyday life. It is a dynamic multidimensional condition that intersects culture, learning, and CMC spaces. However, participants interpreted concepts of time in many different ways. Menzies (2005) writes,

> The standardization of time didn't just happen as a deterministic consequence of invention. Rather, being on time - standardized clock time, that is - took hold because it fit with the general constellation of developments that came to be known as modernity. These ranged from ideas, techniques and technologies associated with modern science to the ideals of efficiency and rationality. These, in turn, harmonized with and jelled into a philosophy of progress as expansion, speed and material wealth, not just for nation states but for nations defined as aggregates of individuals free to maximize their upward mobility year after year. Physicist Isaac Newton's notions of time, as both separate from space and a measure of motion or duration, lent legitimacy and even privileged authority to the clock. Similarly, the clock helped to advance new sciences such as it

> offered a medium for managing abstract laws like supply and demand through production and delivery plans. (p. 23)

The research participants held different conceptions of how time limited or provided opportunities for them to manage their course studies in a graduate program. Most participants actively sought ways to manage time by adjusting their cultural conditions so as to optimize their learning. Some employed specific strategies to reduce challenges or overcome difficulties. Many believed that online CMC spaces were learning environments that provided equal opportunities for all course members to share their ideas. But in practice, a participant's cultural conditions influenced how, where, and when he/she could use CMC spaces. For example, those who did not have fluent English language proficiency struggled to read the assignments and make sense of the learning tasks. In the discussion forums, they also struggled to compose their written contributions, read peer contributions, and respond to peers and the instructors. Their participation and communication were also more often perceived as less valuable, and many of their postings were ignored or received very few responses. Agnes, Ryuya, Ping and Sali just wanted to use their available time to get the course assignments done, while Jerry and Steve enjoyed socializing.

For most people, I assume, time is an obvious condition of culture, learning, and CMC spaces. But its importance should not be minimized in this context since it is so "harmonized with and jelled into a philosophy of progress as expansion, speed and material wealth" (Menzies, 2005, p. 23). Harvey (1996) wrote, with the compression of time and space, "The central value system . . . is dematerialized and shifting, time horizons are collapsing, and it is hard to tell

exactly what space we are in when it comes to assessing causes and effects, meanings or values" (p. 298).

The production and use of online digital technologies in education generally have produced a compression of time and space. In other words, the pace of life sometimes seems to collapse inwards upon itself, because these information and communication technologies appear to make it so easy to overcome tremendous geographic spatial barriers (Harvey, 1996). For example, Agnes and Ping who both lived in Canada, enjoyed the presence of other people while using the synchronous CMC chat and felt it offered a feeling of community. But Masahiro, who resided in Japan,saw the seventeen-hour time zone difference as a major obstacle that excluded him completely from attending chat sessions. Yet the general perception of the research participants was that the CMC space provided an equalizing learning environment for all course members. I cannot help but agree with Menzies (2005) when she stated,

> With e-mail, cellphones and the Internet, staying in touch, staying involved, dropping in to check something out, to make new deals, is suddenly so conveniently at one's fingertips. Yet all this contact can quickly be fragmented, becoming mere moments of connection, bits of involvement here, there, and everywhere, leaving us with only a vague sense of coherence" (pp. 1-2).

An important future research objective will be how the compression of time and space influences one's preferred learning practices and conditions of culture within CMC spaces.

Flexibility and Control. While CMC spaces provided research participants the flexibility to adjust their family, work, and social schedules in order to meet academic and professional interests and values, many of the research participants indicated that they wanted more control over when, where and how they participated in an online course in order to manage their

changing cultural conditions and in relationship to the ways that they preferred to learn. Agnes stated, "The biggest challenge is just finding the time to study. There's always a time issue with a family. So that's just the rule of the game." Paree pointed out, "Working full-time and taking two courses each term have been really challenging and I just want to finish the program as soon as possible." Participants wanted flexibility and control over their learning situation primarily to maintain their family and social relationships. These were some of the most frequently cited conditions during interviews that affected participants' online learning. Their commitment to earning a graduate degree took a lot of time away from their family obligations and responsibilities. These commitments extend beyond some participants' immediate children or spouses to parents and even grandparents. Receiving the understanding and support of family members provided some participants with the much-needed support for them to focus on their learning. Some research participants did not only receive support from their families, but they also involved their children in their online learning process. Wendy believed her studies could also be mutually beneficial academically and emotionally for both herself and her children.

Convenience. Some participants chose certain ways to learn because it was more convenient or efficient given their living situations. They also selected communication methods (i.e., chat, discussion forum) and certain people to talk with about assignments based on the ease of learning something new or being able to access them at a particular time. Some participants chose to print the course materials rather than read them on the computer screen.

This provided them a means to read the text anywhere and anytime rather than having to be connected to the Internet. Some participants believed they studied more efficiently in the morning, while others chose to work late at night. A few participants found it difficult to schedule any quiet time while their families were awake Although it was not their preferred time, these people studied late at night, which was the only time available.

Personal and Social Interests. Some participants' preferred learning practices were related to their personal and social interests. There were those who called themselves "experiential learners" who enjoyed solving problems (e.g., using software package they had never used before) by themselves before they communicated with peers or before asking for help. One participant called herself a "morning person". She completed her online learning tasks in the early morning when she was better able to concentrate. This individual did not have family obligations or commitments (i.e., taking care of small children) so she was able to go to bed or rise early or late if she preferred.

For this research, the male and female sample size was too small to be significant in relationship to age or gender. However, it is interesting to note that some male participants suggested that more formats of multimedia should be used for the course content delivery, and there should be more CMC spaces available for student-to-student communications, while some female participants stated that they were overwhelmed with too many CMC spaces employed in the course. Cathy expressed that one of the biggest challenges for her was that there were too many forms of communication used in the course.

Previous Educational Experiences. Previous educational experiences often influenced how participants engaged in certain preferred learning practices. Those who had positive experiences in socializing online tended to be more interested in using CMC spaces than those who had not used them much or had not found them useful for their learning. Both Ping and Masahiro had negative attitudes toward using the socializing/mingling communication area because it was not closely related to the course content they wanted to learn. Ping had studied for her first Master's degree in a face-to-face setting, and she felt a closer relationship to peers in that venue. She was not accustomed to socializing online and thought that a learning space was not a social space. Masahiro said the socializing space was important even though he did not make much use of it. He preferred to use anonymous postings because he was afraid that his postings might sound "stupid". Masahiro lacked confidence and did not feel comfortable sharing his personal life with his peers. Both Masahiro and Ping also stated that in their previous educational experiences if they agreed with a peer's opinion they were not motivated to respond. Both were also reluctant to argue with peers in a public forum if they did not agree with somebody's opinion. Biesenbach-Lucas (2003) observes that "non-native speakers, particularly students from Asian countries, consider it far less appropriate to challenge and criticize ideas, and in addition, they may not know how to express disagreement appropriately in English" (p. 37). This research supports Biesenbach-Lucas' assertion.

Depending on their access to the Internet and the availability of technologies, some participants found the socializing space of the course website and synchronous conferencing

more useful than others. Interests in using such components of the course also depended on participants' previous experiences and personal preferences. Those who had had positive experiences in online chatting and socializing tended to be more interested in using them than those who had not used them much or had not found them useful in the past for their learning.

Language Proficiency. English language proficiency was one of the most important cultural conditions related to the participants' preferred learning practices. Those who were not very confident of their English proficiency preferred to read others' postings first, instead of initiating a message about the assigned readings. Some preferred to have somebody proofread their drafts before they were posted on the bulletin board. For example, as Masahiro believed he was a slow reader, to save time he preferred to read short postings in the discussion forum. But in order to communicate, one of the strategies he used was to write a long response to one or more postings from others and ask someone (wife or colleague) to proofread the draft before he posted it. While some research participants preferred to skip or postpone the reading of poorly-written posts, those who had experiences living or working with non-native English speakers were more understanding or flexible. Among native English speakers, those who had experiences teaching English as a Second Language (ESL) tended to be more patient with the non-native English speakers. Synchronous chat sessions provided opportunities for participants to share their opinions in real time. But some non-native English speakers expressed their preference for using the asynchronous discussion forums as it gave them more time to think about the discussion topics or to figure out the meaning of others' postings. This

CMC space was preferred because of the convenience it provided to the participants and the control to manage their represented identity. The fact that non-native English speakers were less active in synchronous and asynchronous CMC spaces suggests that language proficiency affected their participation and communication in course discussions. Language limited opportunities for them to fully engage in the online learning environment. If CMC spaces use only the language of the host institution then these learning environments will remain unequal for all participants. The democratic dimensions of CMC spaces, learning, and culture will be an objective of future research.

Guided by social constructivist learning theories, this online course included collaborative assignments that required participants to work in small groups of three or four and engage in discussions on more than one project. Although participants acknowledged the importance of collaborative learning during the research interviews, some participants, especially non-native English speakers, did not participate in topic discussions as actively as their native English-speaking peers. I believe that the formers' communication and learning practices were conditioned by their previous educational experiences and English language proficiency. Personal interests might be an explanation for some participants' passive participation in course CMC spaces, but for non-native English speakers the degree of their activity was based on their language proficiency and ability to control their communication practices in the online learning environment.

Research participants with different cultural conditions perceived collaborative learning

differently. The participants who had limited North American educational experiences tended to think that other course members were more knowledgeable. This belief inhibited their confidence to freely express their thoughts in English. Most were unwilling to engage in CMC spaces and negotiate course issues with other group members.

5.1.3 Ways a Research Participant's Cultural Conditions Limited or Extended His or Her Participation in Online Distance Education Course CMC Spaces

In this section, I interpret the findings around some of the ways that the research participants' cultural conditions limited or extended their participation in an online distance education course. In particular I examine some of the attributes of culture that had a direct influence on how and why participants engaged in the online course CMC spaces. I will discuss these attributes of culture in relationship to social presence, cognitive presence, and teaching presence.

According to Garrison, Anderson, and Archer (2000), educational experiences can be enhanced through computer mediated communication (CMC) within a community of inquiry constituted by three domains of human interactions: social presence, cognitive presence, and teaching presence. These interactions are further influenced by the social relationships developed in the online distance education setting, the selection of course content, and how discourses support the participants' engagement and communication. Briefly, social presence is the ability of learners to project their personal characteristics into the community of inquiry. Cognitive presence is the extent to which the participants in any particular configuration of a

community of inquiry are able to construct meaning through sustained communication. Teaching presence includes the design, facilitation, and direction of cognitive and social processes for the purpose of realizing personally meaningful and educationally worthwhile learning outcomes. In this research, I argued that conceptions of social presence, cognitive presence, and teaching presence need to be understood as part of the contexts of the participants' cultural conditions.

Social Presence. When examining the social presence of participants in CMC spaces, I identified and described the representational moments of personal connections they brought to their learning. At the beginning of the term, all members of the course were asked to complete a biography page in order to introduce themselves to one another. Because there were no required face-to-face meetings, they were only able to establish a social presence in the course by participating and communicating within the CMC spaces. The participants' social presences were formed as they used various media to represent their self-identities and social identities.

In an online distance education learning environment, it is perhaps easier for a course member to maintain a greater degree of anonymity than in a face-to-face course. However, the course designers and the instructors created the CMC spaces as a way to encourage course members to participate and communicate with one another. For example, the socializing/mingling space was supposed to be used by course members to share information or ideas that were not closely related to course content. Many research participants said it was

necessary but they seldom used the space. Male participants visited it more frequently to share jokes, while females basically used it to share conference information or seek information that might be useful for learning course content. Some research participants said they decided not to use it because they did not have the time to visit such places virtually or in real life.

For some of the research participants this was their first educational experience in a course in the online program. These participants indicated that they struggled to communicate with peers during the first few weeks. Some of the participants had already taken other online courses in the program and knew some of their peers. Course members who knew each other had a tendency to dominate the discussions in the CMC spaces.

Some participants had previous educational experiences outside of a North American region and found the expectation of creating an online social presence to be personally troubling. Some of the non-native English speaking participants said that they were reluctant to engage with other course members in the socializing/mingling space because they could not figure out what the others were talking about. Most of these participants only minimally engaged in CMC spaces to negotiate course issues with other group members. Some of these participants were more often than not "invisible" online or "lurkers", who did not seem to be participating as often as others. Beaudoin (2002) believed that these students "feel they are still learning and benefiting from this low-profile approach to their online studies" (p. 147). I suspect that their previous cultural conditions "nurtured" them to be listeners rather than active speakers in class. Active listening in CMC spaces is not a course requirement or a measure of participation.

Cognitive Presence. The cultural conditions of the research participants had a direct influence on their cognitive presence in CMC spaces of the course. During the term, the participants were required to work together in small groups of three or four and communicate through CMC spaces about course topics. The purpose of this collaborative group work was to enable course members to construct meaning through sustained communication.

Although participants acknowledged the importance of collaborative learning during the research interviews, the non-native English speakers did not participate as actively in these discussion forums as their native English-speaking peers. The research indicated that their communication and learning practices were conditioned by their previous educational experiences and English language proficiency. Personal interests also might account for the passive participation of some participants in the course CMC spaces. Non-native English speakers' engagement was directly related to their ability to control their communication practices in the online learning environment.

Time restricted most of the participants from engaging in meaningful group work or collaborative assignments. Each of the research participants talked about the benefits of having peers to work with and to ask questions about assignments. But the amount of time required to organize a group meeting added another responsibility onto an already packed schedule for most course members.

The notion of cognitive presence is predicated on collective learning experiences through a community of inquiry. CMC spaces provide a convenient online environment for

supporting these kinds of human interactions. However, the use of these spaces is complicated by the conditions of culture associated with the participants' everyday lives and by their preferred ways of learning.

Teaching Presence. This online course used a learner-centered design. The instructors acted as facilitators; the teaching presence included collaborative assignments guided by social constructivist learning theories. Some participants who were new to this constructivist learning environment struggled with understanding the purpose of self-directed learning. These research participants who mostly had prior educational experiences outside of North America continued to rely on and sought the instructors' guidance when they had a question.

The majority of the research participants attended most of the chat sessions. This CMC space was perceived as valuable for building a sense of connectedness with peers because it indirectly provided motivation for learning. However, only some of them thought participation in this space really helped their learning. Participants said that the format of this CMC space made it hard to type while simultaneously reading peer postings. The synchronous communication did not allow enough time for thinking and reflecting.

There was also a space called "Tech Difficulties" created by the instructors on the course website for course members to get help with technical troubles. Beside instructors, some course members with technical expertise provided extensive assistance for help seekers. Even though this space was available for problems related to technical difficulties, some research participants did not make use of it. Instead, they posted their questions about technical

difficulties in the discussion forums for course content discussions.

In a face-to-face class, instructors usually distribute the course syllabus or course outline during the first session. They also offer to answer questions about the course requirements, outline, and grading. In an online course, however, course members rely on the syllabus posted on the course website. If they have questions, they must contact the instructor by email or post questions in the discussion forum for clarification. In order to create a climate of trust that supports social constructivism and self-directed learning in an online course, the course syllabus needs to provide sufficient detail to minimize ambiguity. Course information on the website should create a climate where course participants not only understand what, why, and how they will be learning, but also see the benefits of taking risks and solving problems through collective engagement and self-directed learning.

Most of the research participants were studying part-time and often had to juggle commitments between their studies and a full-time job and/or family. Most thought the instructor should provide detailed instructions for course assignments so they could efficiently use their time to learn. They did not value having the "flexibility" to select from multiple assignments because it meant spending too much time and energy in the decision-making process. They suggested that a combination of structured procedures and flexible learning was preferable. They appreciated course procedures that guided them even if they were more accustomed to a transmission approach to learning.

Early in the term it became evident that teaching presence was negatively affected by the

large class size and contributed to some confusion for course members. Additionally, the large course population meant members had to spend a lot of time reading the postings. The instructors decided to divide the course members into groups of fewer than twenty as a way to alleviate some of the pressure to actively participate, i.e, read such a large number of messages. Consequently, participants were only required to read and respond to the postings in the discussion forum from their own group members. Those who chose to read and respond to postings in the others groups could, but that was an option rather than a requirement.

5.2 Implications

In this study, the research participants had different perspectives of course content (Driscoll, 2000; Gayeski, et al., 2002; Moshinskie, 2001), and different learning preferences (Smith, 2001). The CMC spaces in the online distance education course were not designed specifically to serve course members' diverse cultural conditions. In this section I recommend that distance education course designers and instructors address cultural differences in course design and delivery. I anticipate that the findings of this study will help provide some direction in the design and delivery of online courses to effectively serve online distance education course users with different learning preferences and different cultural conditions.

5.2.1 Time / Workload

Research on workload of online teaching and learning indicates that online courses require more time than face-to-face courses, but these studies mostly focused on the workload of instructors rather than learners (e.g., Palloff & Pratt, 1999; Ragan & Terheggen, 2003; Sheridan,

2006). Participation and communication in this online graduate course was affected by participants' cultural conditions. Most of them had daily commitments to family, children and career. Time and workload were among the most commonly mentioned cultural attributes that challenged the research participants' daily living situations, because the time needed to participate and communicate was much heavier than they expected. Research participants stated that they had to spend much more time on their online learning tasks than they had thought prior to coming to the course.

Some measures can be taken to help course members manage time in an online course. For some course members accessing files from the course website was time-consuming because of their Internet connections. The development and distribution of media need to address both broadband and narrowband connections. Many participants stated that they spent a lot of time reading and responding to a large number of postings in the discussion forums. Participants were required to post a specific number of messages in the discussion forums to meet the graded participation requirement. They also had to schedule time for group projects. Course member interactions need to be managed by creating small collaborative groups for course discussions to reduce the number of postings to read and respond to by course members. It is possible to design an online course and manage the teaching presence so that assignments and procedures do not become a burden on the user or stifle the flexibility within the course CMC spaces.

5.2.2 Language Proficiency

English language proficiency was one of the most important cultural attributes that limited or extended course members' participation within the CMC spaces. Admission into graduate studies at the university requires all non-native English speakers to score 550 or above on the TOEFL (Test of English as a Foreign Language). In the past, the TOEFL was used to indicate if prospective students would be able to handle the language requirements of attending a face-to-face course. However, this minimum TOEFL score might not be appropriate for admission of students to online distance education programs. In this study, some of the research participants who met only the minimum TOEFL score found it difficult to complete and maintain a minimum level of participation. For example Masahiro's TOEFL score was 580 and he said his Canadian wife helped him with reading and writing English. But he still had difficulties completing the course assignments and engaging comfortably with online discussions. I believe that raising the English language proficiency requirement for graduate admissions into online programs might be in order because the text-based communication in a CMC space requires interpreting messages without non-verbal cues.

5.2.3 Flexibility

Flexibility has been cited in research as one major advantage of online distance education (e.g., Burge, 1994; Everhart, 2000; Jacobson, et al., 1996). Online distance education courses are supposed to allow learning anytime and anywhere. McLoughlin and Oliver (2000) stated that flexibility was a significant design principle for developing culturally

inclusive online distance education environment. Three of their ten design principles referred to some aspect of flexibility.

In this study participants reported that their cultural conditions sometimes restricted their ability to make choices for participating and communicating within the course CMC spaces. For example, the synchronous communication was not very useful for participants in different time zones. Some research participants stated that it was difficult to manage their work schedules to meet the different schedules of peers. They generally perceived their chat session experiences as being of low value for learning.

Some of the research participants said they preferred to have the course content in multiple forms of media. They enjoyed having the option of learning through audio, textual, and video formats when possible. Online CMC spaces can incorporate various kinds of multimedia. Jerry and Masahiro stated that they enjoyed the opportunities to employ a variety of ways to read, write, and complete course assignments using alternative formats. That is to say, some research participants preferred completing assignments in alternative formats other than only writing papers. Flexibility does not necessarily mean more. More choices for a course member can also be restricting when the course participants are trying to manage their studies in the context of very busy life obligations and responsibilities. On the other hand, providing course members with the choice of studying in their native language would be a welcome change. This technology cannot be developed fast enough to meet the growing demand for online distance education.

5.2.4 Sharing Experiences

In this study the course members resided in different geographic locations. A portion of the population lived in the area where the course-offering institution was located. I believe that in order to strengthen the social presence among the course members it may be helpful for local course members to meet for an orientation at the beginning of the term. Those who cannot attend the face-to-face orientation the instructor can contact individually by personal email or by telephone as a way to expand his/her teaching presence and invite them to participate and communicate within a community of inquiry. When I was teaching an online course a few years ago, some course members commented in telephone conversations that they felt they knew me better after hearing my voice. They said that later in the term they felt more comfortable communicating with me by email and in the CMC spaces.

A research participant who was new to the program found it intimidating communicating with their peers when they first joined the course because others had already taken an online course in the program. It was also evident that these continuing course members tended to dominate discussions in the CMC spaces. During the interview, Mitra, who was new to the graduate program, recalled the frustration she experienced in the first two weeks of the course. She did not know what they were talking about in some of the CMC spaces and felt like an outsider because most of the course members had met each other online in previous courses.

Some research participants mentioned that they were encouraged to include a photograph in their self-introduction. Most of them uploaded one or more photographs of

themselves and of their families. They said these pictures helped them get to know each other more easily. Some of the research participants said that they were more likely to have conversations with those whose pictures they had seen.

The research literature I reviewed indicated that course members need to share personal experiences in order to enhance their motivation to participate and learn. But the formation of social relationships can function either to include or exclude course members from a group. The course climate needs to be monitored by the instructors to insure that all participants have an equal opportunity for learning. Course members should also be informed as to the purpose of particular course assignments meant to strengthen the social presence of their participation and communication.

5.2.5 Previous Educational Experience

This research generally indicated that the CMC spaces of this online learning environment were contested educational landscapes. Virtual spaces are connected to real life cultural conditions of the enrolled course members. Some research participants were reluctant to engage in course discussions because they were not sure what they could contribute. They were not from North America and lacked certain background knowledge. They understood that their textual communications partially represented who they were. One research participant in particular was afraid that his peers and the instructors would perceive him as "stupid" based on his English language proficiency. The course members with strong English language proficiencies tended to dominate the discussion forums. Knowing that an online

course can enroll members from different parts of the world with different educational life experiences, course designers and instructors have a responsibility to develop course content and mediate CMC spaces to accommodate the cultural conditions and preferred learning practices of these diverse populations.

5.3 Limitations of the Study

When I was granted access to the course website, the instructors assigned my role as a Teaching Assistant, which was a function of the WebCT course management system. Even though I was not involved in any teaching or grading in the course, it was still possible that some participants' responses were influenced as a result of this designation during the interviews. I did not encounter any evidence to indicate that this possible perception among the research participants created any undesirable consequences in their behavior or responses (Bryman, 1990).

Additionally, this study was designed as exploratory research and involved only twelve participants. Therefore, I want to caution readers not to over-generalize the results. The descriptions and interpretations of the participants' cultural conditions and preferred learning practices are offered here to guide perceptions, rather than formally forecasting future affairs (Eisner, 1991), to provide additional information of these issues beyond that in the existing literature. The expectation is that future research will develop further these insights into the interactions between cultural conditions and preferred learning practices.

Social aspects of culture such as age and gender play roles in the development of one's

learning preference (Pinheiro, Campbell, Hirst & Krupa, 2006), but because of the imbalance of the number of male (N = 3) and female (N = 9) participants, and the small sample size, the analysis of issues related to age and gender was by no means adequate in this study. In the future, I hope to conduct a study with a more balanced number of male and female participants so as to investigate how occupational and leisure time activities affect learning expectations, perspectives and preferences in an online learning environment.

5.4 Suggestions for Future Research

This study examined the cultural conditions and preferred learning practices of a group of adult participants in an online graduate program. Palloff & Pratt (1999) suggested that online education "also attracts students in residence on campuses who may also be attending traditional face-to-face classes. They are younger and may be attracted to these classes for very different reasons" (p. 164). I was unable to look at these issues in this study and suspect that these students' cultural conditions may be quite different for how they affect the participants' preferred ways of learning. I suggest that future research should examine K-12 and undergraduate students who are enrolled in online distance education courses or programs.

The focus of this study was on how cultural conditions affected participants' preferred learning practices in an online learning environment. During the research analysis, I grew to appreciate the complexity involved in looking at the relationships between the research participants' cultural conditions and their preferred learning practices. It was also clear that CMC spaces do not necessarily make a learning environment that is equal for everybody. I

was challenged by the findings that cultural conditions had such a strong influence on the research participants' learning within CMC spaces. I have come to believe that in such spaces, diverse populations continue to struggle for a voice. Democratic processes should be designed into the teaching presence, social presence, and cognitive presence of online learning environments and mediated so that they are not taken for granted. I anticipate that the democratic dimensions of culture and CMC spaces will be the topic of some of my future research studies.

REFERENCES

Alavi, M. (1994). Computer-mediated collaborative learning: An empirical evaluation, *MIS Quarterly 18*(2), 159-174.

Andrews, D.H., & Goodson, L.A. (1991). A comparative analysis of models of instructional design. In G. J. Anglin (Ed.), *Instructional technology, past, present, and future* (pp.133-155). Englewood, CO: Libraries Unlimited. (Reprinted from the *Journal of Instructional Development, 3*(4), 2-16).

Annand, D. & Haughey, M. (1997). Instructors' orientation towards computer-mediated learning environments. *Journal of Distance Education, 12*(1/2), 127-152.

Astleitner, H. & Detlev, L. (2000). Designing instructional technology from an emotional perspective. *Journal of research on computing in education, 32*(4), 497 – 510.

Aviv, R. (2001). Educational performance of ALN via content analysis. *Journal of Asynchronous Learning Networks, 4*(2), 53-72. Retrieved September 14, 2005 from http://www.aln.org/publications/jaln/v4n2/pdf/v4n2_aviv.pdf

Aviv, R., Erlich, Z., Ravid, G., & Geva, A. (2003). Network analysis of knowledge construction in asynchronous learning networks. *Journal of Asynchronous Learning Networks, 7*(3), 1-23.

Bampton, R. & Cowton, C. (2002). The e-interview. *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research* [On-line Journal], 3(2). Available at: http://www.qualitative-research.net/fqs/fqs-eng.htm [Date of access: July 23, 2004].

Banathy, B.H. (1987). Instructional systems design. In R. M. Gagné (Ed.), *Instructional technology: Foundations* (pp. 85-112). Hillsdale, NJ: Lawrence Erlbaum Associates.

Banks, J. & Banks, S. (Eds.). (1993). *Multicultural education: Issues and perspectives* (2nd ed.). Boston: Allyn and Bacon.

Barker, A. (2002). A case study in instructional design for Web-based courses. *Nursing Education Perspectives, 23*(4), 183-186.

Barron, B.J.S. (1998). Doing with understanding: Lessons from research on problem- and project-based learning. *The Journal of the Learning Sciences, 7*(3,4), 271-311.

Bates, A.W., & Poole, G. (2003). *Effective teaching with technology in higher education: Foundations for success*. San Francisco, CA: Jossey-Bass.

Beaudoin, M. (2002). Learning or lurking? Tracking the "invisible" online student. *Internet and Higher Education, 5*, 147-155.

Bernard, R., & Lundgren, K. (1994). Learner assessment and text design strategies for distance education. *Canadian Journal of Educational Communication, 23*(2), 133-152.

Bhabha, H. (1994). *The location of culture*. New York: Routledge.

Biesenbach-Lucas, S. (2003). Asynchronous discussion groups in teacher training classes: Perceptions of native and non-native students. *JALN, 7*(3), 24-46.

Bird, C. (2004). Sinking in a C-M sea: A graduate student's experience of learning through asynchronous computer-mediated communication. *Reflective Practice,52*(2), 253-263.

Bonk, J., & Reynolds, T. (1997). Learner-centered web instruction for higher-order thinking, team work, and apprenticeship. In B.H. Khan (Ed.), *Web-based instruction* (pp. 167-178). Eaglewood Cliffs, NJ: Educational Technology Publications, Inc.

Bostock, S. (1997). Designing Web-based instruction for active learning. In B.H. Khan (Ed.). *Web-based instruction* (pp. 225-229). Eaglewood Cliffs, NJ: Educational Technology Publications, Inc.

Bottery, M. (2006). Education and globalization: Redefining the role of the educational professional. *Educational Review, 58*(1), 95-113.

Boudourides, M.A. (2003). Constructivism, education, science, and technology. *Canadian Journal of Learning and Technology, 29*(3), 5-20.

Bourdeau, J., & Bates, A. (1996). Instructional design for distance learning. *Journal of Science Education and Technology, 5*(4), 267-283.

Brandon, D. & Hollingshead, A. (1999). Collaborative learning and computer-supported groups. *Communication Education, 48*, 109-126.

Brown, J., Collins, A., & Duguid, P. (1989). Situated cognition and the culture of learning. *Educational Researcher, 18*(1), 32-42.

Bryman, A. (1990). *Quatity and quality in social research*. London: Unwin Hyman.

Bullen, M. (1997). *A case study of participation and critical thinking in a university-level course delivered by computer conferencing*. Unpublished doctoral dissertation, University of British Columbia.

Bullen, M. (1999). Collaborating in the virtual learning environment: Problems, practicalities and potentials. Paper presented at *Primera Jornada Regional de Informática Educativa y Enseñanza Virtual*, San Jose, Costa Rica.

Bullivant, B. M. (1993). Culture: Its nature and meaning for educators. In J. A. Banks & C. M. Banks (Eds.): *Multicultural education: Issues and perspectives* (2nd ed., pp. 29–47). Boston: Allyn and Bacon.

Buragga, K. (2002). An investigation of the relationship between cultural context and the use of computer-based information systems. In F. Sudweeks and C. Ess (Eds.), *Proceedings cultural attitudes towards communication and technology* (pp. 467-483). Université de Montréal, Canada

Burge, E. (1994). Learning in computer conferenced contexts: The learners' perspective. *Journal of Distance Education, 9*(1) 19-43.

Burgoon, J., Buller, D., & Floyd, K. (2001). Does participation affect deception success? A test of the interactivity principle. *Human Communication Research 27*(4), 503–534.

Burke, L., & Miller, M. (2001). Phone interviewing as a means of data collection: Lessons learned and practical recommendations. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research* [On-line Journal], 2(2). Available at: http://www.qualitative-research.net/fqs/fqs-eng.htm [Date of access: July 18, 2004]

Cagiltay, K. (2000). Culture and its effects on human-computer interaction. Retrieved February 23, 2004, from http://php.indiana.edu/~kursat/ed-media/ed-media.html

Candy, P. (1991). *Self-direction for lifelong learning: A comprehensive guide to theory and practice*. San Francisco, CA: Jossey-Bass Publishers.

Cennamo, K., Abell, S., & Chung, M. (1996). A "layers of negotiation" model for designing constructivist learning materials. *Educational Technology, 36*(4), 39-48.

Chafe, A. (1998). Computer technology and cooperative learning. Retrieved June 25, 2005 from

http://www.cdli.ca/~achafe/maj_index.html

Chen, A., Mashhadi, A., Ang, D., & Harkrider, N. (1999). Cultural Issues in the Design of Technology-Enhanced Learning Systems. *British Journal of Educational Technology, 30* (3), 217-230.

Chyi, H. & Lasorsa, D. (1999). Access, use and preferences for online newspapers. *Newspaper Research Journal, 20*(4), 2-13.

Collis, B. (1997). Supporting project-based collaborative learning via a World Wide Web Environment. In B.H. Khan (Ed.). *Web-based instruction* (pp. 213-219). Eaglewood Cliffs, NJ: Educational Technology Publications, Inc.

Cooper, P. (1993). Paradigm shifts in designed instruction: From behaviorism to cognitivism to constructivism. *Educational Technology, 33*(5), 12-19.

Corno, L., & Mandinach, E. B. (1983). The role of cognitive engagement in classroom learning and motivation. *Educational Psychologist, 18*, 88-108.

Creswell, J.W. (2003). Research design: *Qualitative, quantitative and mixed methods approaches.* Thousand Oaks, CA: Sage.

Davis, B. & Sumara, D. (2002). Constructivist discourses and the field of education: Problems and possibilities. *Educational Theory, 52*(4), 409-428.

Davis, B., Sumara, D., & Luce-Kapler, R. (2000). *Engaging minds: Learning and teaching in a complex world.* Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

DeMar, G. (n.d.). *Surviving college successfully: A complete manual for the rigors of academic combat.* Retrieved October 20, 2002 from http://www.forerunner.com/forerunner/X0497_DeMar_-_Behaviorism.html

Dick, W. & Carey, L.M. (1996). *The systematic design of instruction.* New York: HarperCollins.

Dowling, C. (2000). Social interactions and the construction of knowledge in computer-mediated environments. In D. Watson & T. Downes (Eds.), *Communications and networking in education: Learning in a networked society: IFIP TC3/WG3.1/3.5 Open Conference on Communication and Networking in Education, June 13-18, 1999, Aulanko, Finland* (pp. 165 - 174). Norwell, MA: Kluwer Academic Publishers.

Driscoll, M. (1994). *Psychology of learning for instruction.* Boston: Allyn and Bacon.

Driscoll, M. (2000). *Psychology of learning for instruction.* Needham Heights, MA: Allyn & Bacon.

du Gay, P., Hall, S., Janes, L., Mackay, H., & Negus, K. (1997). Doing cultural studies: The Story of the Sony Walkman. Thousand Oaks, CA: Sage Publicastions.

Duarte, D., & Snyder, N. (2001). Mastering virtual teams: Strategies, tools, and techniques that succeed. San Francisco, CA: Jossey-Bass Inc. Available: http://www.netlibrary.com/Reader/ [Date of access: September 25, 2004].

Duffy, T.M., & Cunningham, D.J. (1996). Constructivism: Implications for the design and delivery of instruction. In D.H. Jonassen (ed.), *Handbook of research for educational communications and technology* (pp. 170-198). New York: Simon Schuster Macmillan.

Duffy, T.M, & Kirkley, J.R. (2004). Introduction: Theory and practice in distance education. In T. Duffy & J. Kirkley (Eds.), *Learner-centered theory and practice in distance education: Cases from higher education* (pp. 3-13). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Eisner, E. (1991). The enlightened eye: Qualitative inquiry and the enhancement of educational practice. New York: Macmillan Publishing.

Everhart, R. (2000). Enterprise systems and distance learning: Creating services for connected learners. *Syllabus, 13*(9), 48-51.

Fiske, A.P. (1992). The four elementary forms of sociality: Framework for a unified theory of social relations. *Psychological Review, 99*(4):689-723.

Fung, Y.Y.H. (2004). Collaborative online learning: Interaction patterns and limiting factors. *Open Learning, 19*(2), 135-149.

Gagné, R.M. (1965). *The conditions of learning* (1st ed.). New York: Holt, Reinhart and Winston.

Gagné, R.M. (1977). *The conditions of learning.* (4th ed). New York: Holt, Rinehart & Winston, Inc.

Gagné, R.M., Briggs, L. J., & Wager, W.W. (1988). *Principles of instructional design* (3rd ed.). New York: Holt, Reinhart and Winston.

Garrison, R. (2000). Theoretical challenges for distance education in the 21st century: A shift from structural to transactional issues. International Review of Research in Open and Distance Learning, June, 2000). Available: http://www.irrodl.org/content/v1.1/randy.html [Date of access: November 24, 2005].

Garrison, R., Anderson, T., & Archer, W. (2000). Critical inquiry in a text-based environment: Computer conferencing in higher education. *The Internet and higher education, 2*(2-3), 87-105.

Gayeski, D., Sanchirico, C., & Anderson, J. (2002). Designing training for global environments: Knowing what questions to ask. *Performance Improvement Quarterly, 15*(2), 15-31.

Geelan, D. & Taylor, P. (2004). Embodying our values in our teaching practices: Building open and critical discourse through computer mediated communication. *Journal of Interactive Learning Research, 15*(4). 375-401.

Geertz, C. (1973). *The interpretation of cultures.* New York: Basic Books.

Gilbert, N.J., & Driscoll, M.P. (2002). Collaborative knowledge building: A case study. *Educational technology research and development, 50*(1), 59-79.

Grabinger, S. (2004). Design lessons for social education. In T. Duffy & J. Kirkley (Eds.), *Learner-centered theory and practice in distance education: Cases from higher education* (pp. 3-13). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Gredler, M. E., (1997) *Learning and instruction: Theory into practice.* Upper Saddle River, NJ, Merrill.

Grooms, L. (2003). Computer-mediated communication: A vehicle for learning. *International Review of Research in Open and Distance Learning,* 4(2). Retrieved June 2, 2004 from http://www.irrodl.org/index.php/irrodl/article/view/148/384

Gunawardena, C., Walsh, S., Reddinger, L., Gregory, E., Lake, Y., & Davies, A. (2002). Negotiating "face" in a non-face-to-face learning environment. In F. Sudweeks and C. Ess (Eds.). *Proceedings cultural attitudes towards communication and technology* (pp. 89-106). Université de Montréal, Canada

Hall, S. (1980). Cultural studies: two paradigms. *Media, Culture and Society 2*, 57-72.

Hall, S. (1990). Cultural identity and diaspora. In J. Rutherford (Ed.), Identity: community, culture, difference (pp. 222-237). London: Lawrence and Wishart.

Hall, S. (Ed.). (1997). *Representation: Cultural representations and signifying practices.* Thousand Oaks: CA: SAGE Publications, Inc.

Hancock, J., & Dunham, P. (2001). Impression formation in computer-mediated communication revisited: An analysis of the breadth and intensity of impressions. *Communication Research, 28*(3), 325-347.

Hanlis, E. (2004). Application of an instructional design model for industry training: From theory to practice. In A-M. Armstrong (Ed.), *Instructional design in the real world: A view from the trenches* (pp. 29-52). Hershey PA: Information Science Publishing.

Hannafin, M. (1989). Interaction strategies and emerging instructional technologies: Psychological perspectives. *Canadian Journal of Learning and Technology, 18*(3), 167-179.

Hannafin, M., Land, S., & Oliver, K. (1999). Open learning environments: Foundations, methods and models. In C.M. Reigeluth (Ed.), *Instructional-design theories and models, VolumeII: A new paradigm of instructional theory.* Mahwah, NJ: Lawrence Erlbaum Associates.

Harasim, L. (1989). On-line education: A new domain. In R. Mason & A. Kaye (Eds.), Mindware: Communication, computers and distance education (pp. 50-62). Oxford, UK: Pergamon.

Harasim, L., Calvert, T., & Groeneboer, C. (1997). Virtual U: A web-based system to support collaborative learning. In B.H. Khan (Ed.), *Web-based instruction* (pp.149-158). Eaglewood Cliffs, NJ: Educational Technology Publications, Inc.

Harasim, L., Hiltz, S.R., Teles, L., & Turoff, M. (1995). *Learning networks: A field guide to teaching and learning online.* Cambridge, Massachusetts: The MIT Press

Harrison, N., & Bergen, C. (2000). Some design strategies for developing an online course. *Educational Technology, 40*(1), 57-60.

Harvey, D. (1996). Justice, nature, and the geography of difference. Cambridge MA & Oxford UK: Blackwell Publishers.

Hausfather, S. J., (1996) Vygotsky and schooling: Creating a social contest for learning. *Action in Teacher Educatio,*. 18, 1-10.

Hedberg, J. & Harper, B. (1997). Creating Motivating Interactive Learning Environments. *Keynote Address, EDMEDIA,* Calgary, Canada.

Hiemstra, R. & Brockett, R. (1994). *From behaviorism to humanism: Incorporating self-direction in learning concepts into the instructional design process.* Retrieved November 11, 2002, from http://www-distance.syr.edu/sdlhuman.html

Hofer, B. (2002). Personal epistemology as a psychological and educational construct: An introduction. In B. Hofer & P. Pintrich, Ed., *Personal epistemology: The psychology of beliefs about knowledge and knowing* (pp. 3-15). Mahwah, NJ: Erlbaum.

Hung, D. (2001). Theories of learning and computer-mediated instructional technologies. *Educational Media International, 38*(4), 281-87.

Hyslop-Margison, M.J. (2004). Technology, human agency and Dewey's constructivism: Opening democratic spaces in virtual classrooms. *Australasian Journal of Educational Technology, 20*(2), 137-148.

Jacobson, D. (1999). Impression formation in cyberspace: Online expectations and offline experiences in text-based virtual communities, *JCMC 5*(1). Retrieved July 12, 2005 from http://jcmc.indiana.edu/vol5/issue1/jacobson.html

Jacobson, M. J., Maouri, C., Mishra, P., & Kolar, C. (1996). Learning with hypertext learning environments: Theory, design, and research. *Journal of Educational Multimedia and Hypermedia, 5*(3/4), 239-281.

Johnson, R., & Onwuegbuzie, A. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher, 33*(7), 14-26.

Jonassen, D.H. (1999). Designing constructivist learning environments. In C.M. Reigeluth (Ed.). *Instructional–design theories and models, Volume II: A new paradigm of instructional theory* (pp. 215-239). Mahwah, NJ: Lawrence Erlbaum Associates.

Jung, I. (2001). Building a theoretical framework of web-based instruction in the context of distance education. *British Journal of Educational Technology, 32*(5), 525-534.

Kanuka, H. (2005). An exploration into facilitating higher levels of learning in a text-based

internet learning environment using diverse instructional strategies. *Journal of computer-mediated communication, 10*(3), article 8. Retrieved October 20, 2005 from http://jcmc.indiana.edu/vol10/issue3/kanuka.html

Kenny, R., Zhang, Z., Schwier, R., & Campbell, K. (2005). A review of what instructional designers do: Questions answered and questions not answered. *Canadian Journal of Learning and Technology, 31*(1), 9-26.

Kiesler, S. (1986). The hidden messages in computer networks. *Harvard Business Review, 64*(1), 46-60.

Kirchner, G. (2005). Towards cooperative learning in elementary school physical education. Springfield, IL: Charles C. Thomas, Publisher, Lt.

Kirkley, J. (2004). Using theory-based approaches to architect online collaborative problem-based learning: Lessons learned from Monterry Tech-Virtual University. In In T. Duffy & J. Kirkley (Eds.), *Learner-centered theory and practice in distance education: Cases from higher education* (pp. 321-339). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Kirschner, P., Carr, C., & van Merriënboer, J. (2002). How expert designers design. *Performance Improvement Quarterly, 15*(4), 86-104.

Kizlik, B. (2004). How to write effective behavioral objectives. Retrieved September 14, 2004, from http://www.adprima.com/objectives.htm

Knowles, M. (1970). *The modern practice of adult education.* New York: Association Press.

Krathwohl, D. (1998). *Methods of educational and social science research: An integrated approach* (2nd ed.). New York: Addison-Wesley Educational Publications, Inc.

Krug, D. (1998). Electronic learning communities and art education. *Arts and Learning Research: The Journal of the Arts and Learning SIG, 14*(1), 23-44.

La Follette, J. (1986). Experiential learning and the instructional design process. *Canadian Journal of Educational Communication, 15*(4), 251-267.

Lather, P. (1991). Getting smart: Feminist research and pedagogy with/in the postmodern. New York/London: Routledge.

Lave, J. (1996). The practice of learning. In S. Chaiklin & J. Lave (Eds.) *Understanding practice: Perspectives on activity and context.* Cambridge, England: CambridgeUniversity Press.

Lave, J. & Wenger, E. (1991). Situated learning: Legitimate peripheral participation. New York: Cambridge University Press.

Lea, M., & Spears, R. (1995). Love at first byte? Building personal relationships over computer networks. In J. T. Wood & S. Duck (Eds.), *Understudied relationships: Off the beaten track* (pp. 197-233). Newbury Park, CA: Sage.

Lebow, D. (1993). Constructivist value for instructional systems design: Five principles toward a new mindset. *Educational Technology Research and Development, 41*(3), 4-16.

Lee, D. (2004). Web-based instruction in China: Cultural and pedagogical implications and challenges. *Educational Technology Research and Development, 52*(1), 101-105.

Matlin, M.W. (1994). *Cognition.* Fort Worth, TX: Harcourt Brace College Publishers.

Mayer, R.H. (1999). Designing instruction for constructivist learning. In C.M. Reigeluth (Ed.). *Instructional–design theories and models, Volume II: A new paradigm of instructional theory* (pp. 141-159). Mahwah, NJ: Lawrence Erlbaum Associates.

McLoughlin, C. & Oliver, R. (2000). Designing learning environments for cultural inclusivity: A case study of indigenous online learning at tertiary level. *Australian Journal of Educational Technology, 16*(1), 58-72.

Menzies, H. (2005). Stress and the crisis of modern life: No time. Vancouver: Douglas & McIntyre Ltd.

Merriam, S. (1988). *Case study research in education: A qualitative approach.* San Francisco, CA: Jossey-Bass Inc., Publishers.

Merrill, M. D. (1983). Component display theory. In C.M. Reigeluth (Ed.). *Instructional–design theories and models: An overview of their current status* (pp. 279-333). Hillsdale, NJ: Lawrence Erlbaum Associates.

Mesher, D. (1999). Designing interactivities for Internet learning. *Syllabus, 12*(7), 16-20.

Mirsha, S. (2005). Learning from the online learners. *British Journal of Educational Technologies, 36*(3), 569-574.

Mishra, S. (2002). A design framework for online learning environments. *British Journal of Educational Technology, 33*(4), 493-496.

Mobley, M. & Wilson, M. (1998). Cultural aspects of Internet usage: A preliminary inquiry. *Educational Research and Development, 46*(3), 109-113.

Morrison, G.R., Ross, S.M., & Kemp, J.E. (2004). *Designing effective instruction.* Hoboken, NJ: John Wiley & Sons.

Morse, K. (2003). Does one size fit all? Exploring asynchronous learning in a multicultural environment. *JALN, 7*(1), 37-55.

Moshinskie, J. (2001). How to keep E-learners from E-scaping. *Performance Improvement, 40*(6), 28-35.

Moursund, D. (1999). *Project-based learning using information technology.* Eugene, OR: International Society for Technology in Education.

Murphie, A., & Potts, J. (2003). *Culture and technology.* New York: Palgrave Macmillan.

Nathan, M., & Robinson, C. (2001). Considerations of learning and learning research: Revisiting the "media effects" debate. *Journal of Interactive Learning Research, 12*(1), 69-88.

Neuman, W. (2003). *Social research methods: Qualitative and quantitative approaches.* Boston, MA: Allyn and Bacon.

Nicol, D.J., Minty I., and Sinclair, C., (2003). The social dimensions of online learning. *Innovations in Education and Teaching International, 40*(3), 270-280.

Oren, A., Mioduser, D., & Nachmias, R. (2002). The development of social climate in virtual learning discussion groups. *International Review of Research in Open and Distance Learning, 3*(1). Retrieved March 31, 2004, from http://www.irrodl.org/content/v3.1/mioduser.pdf

Palloff, R.M., & Pratt, K. (1999). *Building learning communities in cyberspace: Effective strategies for the online classroom.* San Francisco, CA: Jossey-Bass Publishers.

Panitz, T. (1996). A definition of collaborative vs cooperative learning. Retrieved September 14, 2004 from http://www.city.londonmet.ac.uk/deliberations/collab.learning/panitz2.html

Patton, M.O. (1990). *Qualitative evaluation and research methods*. Newbury Park, CA: Sage.

Peters, O. (2002) *Distance Education in Transition*. Oldenburg, Germany: Bibliotheks-und Informationssystem der Universität Oldenburg.

Pinheiro, M., Campbell, K., Hirst, S.P., & Krupa, E. (2006). Creating appropriate online learning environments for female health professionals. *Canadian Journal of Learning and Technology, 32*(1), 51-76.

Polichar, V., & Bagwell, C. (2000). Pedagogical principles of learning in the online environment. *Syllabus, 13*(9), 52-56.

Postmes, T., Spears, R., & Lea, M. (2000). The formation of group norms in computer-mediated communication. *Human Communication Research, 26*(3), 341-371.

Pratt, D.D., Kelly, M., & Wong, W.S.S. (1999). Chinese conceptions of "effective teaching' in Hong Kong: Towards culturally sensitive evaluation of teaching. *International Journal of Lifelong Education, 18*(4), 241-258.

Ragan, L. & Terheggen, S. (2003). Effective workload management strategies for the online environment: A report funded by a grant from the Alfred P. Sloan Foundation to the Pennsylvania State University World Campus. The Pennsylvania State University. Retrieved from February 4, 2007 from http://www.ed.psu.edu/ACSDE/Workload_Man.ement_Strat_5.pdf

Ramirez, A. Jr., Walther, J., Burgoon, J., Sunnafrank, M. (2002). Information-seeking strategies, uncertainty, and computer-mediated communication: Toward a conceptual model. *Human Communication Research 28*(2), 213–228.

Reigeluth, C. M. (1983). *Instructional-design theories and models: An overview of their current status*. Hillsdale, NJ: Lawrence Erlbaum Assoc.

Reigeluth, C. M. (1999). What is instructional-design theory and how is it changing? In C. M. Reigeluth (Ed.). *Instructional–design theories and models, Volume II: A new paradigm of instructional theory* (5-29). Mahwah, NJ: Lawrence Erlbaum Associates.

Reigeluth, C.M. & Stein, F.S. (1983). The elaboration theory of instruction. In C.M. Reigeluth (Ed.). *Instructional–design theories and models: An overview of their current status* (pp. 335-381). Hillsdale, NJ: Lawrence Erlbaum Associates.

Reushle, S., & McDonald, J. (2000). Web-based student learning: Accommodating cultural diversity. *Indian Journal of Open Learning, 9*(3), 351-359.

Rheingold, H. (1993). The virtual community: Homesteading on the virtual frontier (1st HarperPerennial ed.). New York, NY: HarperPerennial.

Ritchie, D., & Hoffman, B. (1997). Incorporating instructional design principles with the World Wide Web. In B.H. Khan (Ed.). *Web-based instruction* (pp.135-138). Eaglewood Cliffs, NJ: Educational Technology Publications, Inc.

Rovai, A. & Barnum, K. (2003). On-line course effectiveness: An analysis of student interactions and perceptions of learning. *Journal of Distance Education, 18*(1), 57-73.

Scheuermann, F., Larsson, K., & Toto, R. (2001). Designing collaborative teaching and learning in virtual environments for large scale international participation. *Proceedings of ED-Media 2001 World Conference on Educational Multimedia, Hypermedia & Telecommunications*, Finland, 1655-1660.

Schuman, L. (1996). Perspectives on instruction. [On-line]. Available: http://edweb.sdsu.edu/courses/edtec540/Perspectives/Perspectives.html [Date of access: July 23, 2004].

Seels, B., & Glasgow, Z. (1998). *Making instructional design decisions* (2nd ed.). Upper Saddle River, NJ: Merrill Prentice Hall.

Sheridan, R. (2006). Reducing the online instructor's workload: Tips on designing and administering online courses can save faculty valuable time while producing high-quality content. *EDUCAUSE QUARTERLY, 3*, 65-67. Retrieved February 4, 2007 from http://www.educause.edu/ir/library/pdf/eqm06311.pdf

Slavin, R.E. (1995). *Research on cooperative learning and achievements: What we know, what we need to know*. Retrieved on November 7, 2002 from http://www.successforall.net/resource/research/cooplearn.htm

Smith, P. (2001). Technology student learning preferences and the design of flexible learning programs. *Instructional Science, 29*(3), 237-254.

Southwest Educational Development Laboratory. (1995). Building an understanding of constructivism. Retrieved April 15, 2004 from http://www.sedl.org/scimath/compass/v01n03/2.html

Spiro, R.J. & Jehng, J. (1990). Cognitive flexibility and hypertext: Theory and technology for the non-linear and multidimensional traversal of complex subject matter. In D. Nix & R. Spiro (Eds.), *Cognition, education, and multimedia: Exploring ideas in high technology* (pp. 163-205). Hillsdale, NJ: Erlbaum.

Stacey, E. (1999). Collaborative learning in an online environment. *Journal of Distance Education, 14*(2), 14-33.

Stahl, R. (1994). The essential elements of cooperative learning in the classroom. ERIC Digest. Retrieved May 25, 2005 from http://web111.epnet.com/citation.asp?tb=1&_ug=sid+97C886CF%2D5A25%2D4FA7%2D9456%2DFFA05F72BC0D%40sessionmgr6+dbs+eric+cp+1+D493&_us=sel+False+frn+1+sl+%2D1+hd+False+hs+False+or+Date+ss+SO+sm+ES+mdbs+eric+dstb+ES+mh+1+ri+KAAAGEJB00052087+0268&_uso=hd+False+tg%5B2+%2D+tg%5B1+%2D+tg%5B0+%2D+st%5B2+%2Dstahl+st%5B1+%2Dlearning+st%5B0+%2Dcooperative+db%5B0+%2Deric+op%5B2+%2DAnd+op%5B1+%2DAnd+op%5B0+%2D+0981&fn=1&rn=6

Stahl, G. (2005). Group cognition in computer-assisted collaborative learning. *Journal of Computer Assisted Learning, 21*(2), 79-90.

Stake, R.E. (1995). *The art of case study research.* Thousand Oaks, CA: Sage Publications, Inc.

Stites, R. (1998). *What does research say about outcomes from project-based learning?* Retrieved on November 12, 2002 from http://pblmm.k12.ca.us/PBLGuide/pblresch.htm

Tanis, M. & Postmes, T. (2003). Social cues and impression formation in CMC. Journal of Communication, December, 676-693.

Thayer, S. & Ray, S. (2006). Online communication preferences across age, gender, and duration of Internet use. *CyberPsychology & Behavior, 9*(4), 432-440.

Thomas, J.W. (2002). *PBL: An overview of project based learning.* In Buck Institute for Education. Retrieved on November 17, 2002 from http://www.bie.org/pbl/pbloverview/toc.php

Tidwell, L.C., & Walther, J. (2002). Computer-mediated communication effects on disclosure, impressions, and interpersonal evaluations: Getting to know one another a bit at a time. *Human Communication Research, 28*(3), 317-348.

Toumasis, C. (2004). Cooperative study teams in mathematics classrooms. *International Journal of Mathematical Education in Science and Technology, 35*(5), 669-679.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes.* M. Cole, V. John-Steiner, S. Scribner, E. Souberman (Eds.). Cambridge, MA: Harvard University Press.

Waggoner, M. (1991). A case study approach to evaluation of computer conferencing. In A.R. Kaye (Ed.), *Collaborative learning through computer conferencing* (pp. 137-146). Berlin: Springer-Verlag.

Walther, J. (1993). Impression development in computer-mediated interaction. *Western Journal of Speech Communication, 57*(4), 381-398.

Walther, J. (1996). Computer-mediated communication: Impersonal, interpersonal, and hyperpersonal interaction. *Communication Research, 2*(31), 3-43.

Walther, J. & Burgoon, J. (1992). Relational communication in computer-mediated interaction. *Human Communication Research, 19*(1), 50-88.

Wedman, J., & Tessmer, M. (1993). Instructional designers' decisions and priorities: A survey of design practice. *Performance Improvement Quarterly, 6*(2), 43-57.

Wenger, E. (1998). Communities of practice: Learning meaning and identity. London: Cambridge University Press.

Wild, M., & Henderson, L. (1997). Contextualizing learning in the World Wide Web: Accounting for the impact of culture. *Education and Information Technologies, 2*(3), 179-192.

Willis, J. (1998). Alternative instructional design paradigms: What's worth discussing and what isn't? *Educational Technology, 38*(3), 5-16.

Willis, J. (2000, January/February). The maturing of constructivist instructional design: Some basic principles that can guide practice. *Educational Technology, 40*(1), 5-16.

Wilson, P. Nolla, A., Gunawardena, C., Lopez-Islas, J., Ramirez-Angel, N. and Megchun-Alpirez, R. (2002). A qualitative analysis of online group processes in two cultural contexts. In F. Sudweeks and C. Ess (Eds.), *Proceedings Cultural Attitudes towards Technology and Communication* (pp. 51-68), Murdoch University, Perth, Australia.

Woods, R., & Keeler, J. (2001). The effect of instructor's use of audio e-mail messages on student participation and perceptions of online learning: A preliminary case study. *Open Learning, 16*(3), 265-278.

Yin, R. (2003). *Case study research: Design and methods* (3rd ed.). Thousand Oaks, CA: Sage Publications, Inc.

Ziegahn, L. (2001). Considering culture in the selection of teaching approaches for adults. ERIC Digest, 231. Retrieved April 10, 2004, from http://www.cete.org/acve/docs/dig231.pdf

Ziguras, C. (2001). Educational technology in transnational higher education in South East Asia: the cultural politics of flexible learning. *Educational Technology & Society, 4*(4), 8-18.

APPENDIX A

Online Survey

Please answer the following questions and then hit the "Submit" button:

1. Name:

2. Gender

- ☐ Female
- ☐ Male

3. Age range:

- ☐ 20 - 29
- ☐ 30 - 39
- ☐ 40 - 49
- ☐ 50 +

4. Online learning experience

- ☐ This is my first online course
- ☐ This is my second online course
- ☐ I have taken three or more online courses before this one

5. English language proficiency

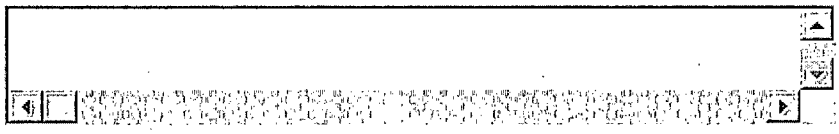
☐ English is my native language

☐ English is not my first language but I've been using English since secondary school

☐ English is not my first language, but it was my major in college/university

☐ I started to use English for academic purposes since I came to Canada (or another English-speaking country)

☐ Other. Please explain:



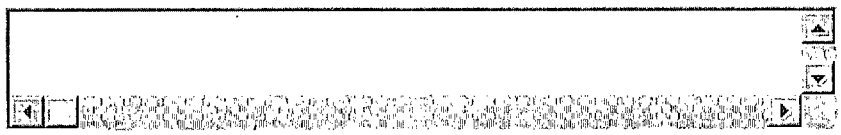
6. Education background

☐ This MET program is my first Master's program

☐ This is my second Master's program

☐ I'm enrolled in this course just for credits for another program

☐ Other. Please explain:



7. Life experience in North America

☐ I was born and grew up in Canada / USA

☐ I came to Canada / USA ten or more years ago

☐ I've lived in Canada / USA for three or less than three years

☐ Other. Please explain:

8. Internet access from home

☐ Dia-up

☐ ADSL/Cable

☐ No access from home

Submit

APPENDIX B

Email Interview Questions

1. Describe your learning in an online environment. Please include the following: physical setting, amount of and use of time, influence of family life, work, or other aspects of your social situations. In particular describe how these social conditions enhance or restrict your ability to learn.

2. Describe ways that you modify your social situations to enhance your preferred ways of learning in an online environment. Please take into consideration the same social conditions mentioned above.

APPENDIX C

Sample Telephone / Face-to-face Interview Questions

1. Preferred learning Practices
   a) What was the biggest challenge for you in this online course? Why?
   b) What strategies did you use to deal with the challenge?
   c) How would you describe your learning style (preferred learning practice)?
   d) How did you select which postings to read first? Why?

2. Relationship of Cultural Background to Preferred Learning Practices
   a) Describe differences do you notice between the education system you had and that you had in the online course you were enrolled.
   b) Describe how your MET online experiences were similar and or different from your past educational experiences.
   c) What do you think of the socializing/mingling space on the course website? Do you think such a space is helpful for your learning?
   d) Can you tell me why you chose to study in the online program?

3. What suggestions would you like to give for an online course (design and delivery)?

APPENDIX D

Request letter for Data Collection

January 25, 2005

Dear [Program Coordinator],

I am a Ph.D candidate with the Department of Curriculum Studies and I am writing to ask for permission to collect data from a course in the [Online graduate] program for my dissertation research.

Details of the request are:

Time: Jan 4, 2005 to December 31, 2005
Course: [Course Names and Numbers]
Sections and Instructors: instructors who are interested

I would like to have full access to these course sections for the data collection, which includes the privilege of reading course content, student bios (self-introductions), and instructor and student postings to the discussion board. When the access is granted from the [Online graduate program] administration, I will contact the instructors in person and show them the details I include in my ethics review application form. The instructors who agree to work with me will send out an email message to their students to ask for permission. The instructors who get permission from their students will send out a letter on my behalf asking those students who would like to participate in the study to contact me by email.

The data collected from the course sections will be kept confidential and I will share my research findings with the instructors and participants upon request.

Thank you very much!

Sincerely,

Zuochen Zhang

APPENDIX E

Contact Letter

An Inquiry of How Students' Cultural Diversity Influences Their Preferred Learning Practices in an Online Distance Education Environment

May 11, 2005

Dear Colleagues,

With the globalization of learning, online distance education courses are experiencing increasing enrolments of students from diverse backgrounds. T o better understand the learning of diverse student populations, I am examining the relationship between students' preferred learning, communication practices, and the social and cultural contexts related to online distance education. The purpose of this study is to better understand these social and cultural contextual conditions of online learning environments. This research is for a Ph.D. dissertation, and the implications for the research are to enhance the design of online courses to serve diverse learners more satisfactorily.

The information collected for this study will be used to explore the relationship between forms of online learning and the cultural contexts that influence student learning in online environments.

The data collection will include the use of questionnaire, monitoring postings on the discussion board, email interviews, and telephone or face-to-face interviews.

As a participant in this study you will be asked to provide a written reply to a series of questions in advance of a recorded interview where you will be encouraged to elaborate on your statements. A synthesis of your responses to the questions and statements made during the interview will be made available to you to read, change and omit information collected. The initial interview question review and response should take you no longer that 60 minutes, the interview will be limited to 90 minutes, and your review of interview data should take no more than 60 minutes for a total commitment of approximately 2 - 3 hours on your part.

Should you wish to participate in this study, please respond by email and I will send a participant consent form. My email address is: Zuochen Zhang

As a participant in this study, you will have an opportunity to contribute to this examination of how the cultural diversity influences a student's preferred learning practices in online distance education. It is hoped that through your participation you will also benefit from the opportunity to reflect on the emergence of online distance education. You will be informed of the dissertation when it is completed and provided with a summary of the study.

Please contact me at : if you have any questions

about this letter. I look forward to hearing back from you.

Regards,

Zuochen Zhang

APPENDIX F

Letter of Clarification

Dear colleagues:

Thank you very much to those who volunteered to participate in my study, which aims to improve online courses for students with diverse cultural backgrounds. I am looking for 10 more participants, especially L2 students, and I am afraid some of you didn't volunteer because I didn't make it clear enough in the Contact Letter that Steve and Franc sent to you on my behalf about the procedure of participation. I received some email messages asking me to clarify some statements. Here are a few things I am writing to make clear:

1. The questionnaire is designed to get demographic and infrastructure information. It includes one fill-in and 7 multiple choice questions. The questionnaire is hosted at a secure site and I will send the URL to participants in early July;
2. The first interview will be done by email. I will start sending out questions to individual participants towards the end of the course and I hope you can get back to me within a week;
3. The second interview will be carried out by phone or in person a week or two after this course is over, which will start in mid August. If you live outside of Lower Mainland of British Columbia, we will arrange a time convenient to you for me to call you on the phone. If you live in the Lower Mainland area, then we can arrange a time to meet in person for the interview. Of course, if you live in Lower Mainland but still prefer to be interviewed over the phone, we can also do that.

Please send your mailing address to me at by the end of June and I will send you the consent form to get your signature. Thank you.

Regards,

Zuochen Zhang