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STUDENT EXPERIENCES WITH COMPUTER MEDIATED CONFERENCING: A CASE STUDY

BY

KAREN B. CAMPBELL

A thesis submitted to the Athabasca University Governing Council in partial fulfillment of the requirements for the degree of

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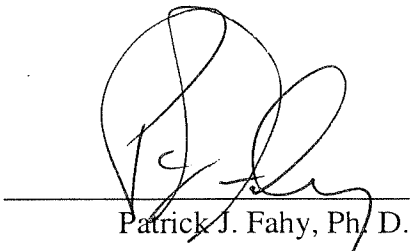
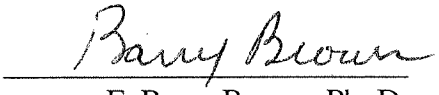
The undersigned certify that they have read and recommended to the Athabasca University Governing Council for acceptance a thesis "STUDENT EXPERIENCES WITH COMPUTER MEDIATED CONFERENCING: A CASE STUDY" submitted by Karen B. Campbell in partial fulfillment of the requirements for the degree of MASTER OF DISTANCE EDUCATION.



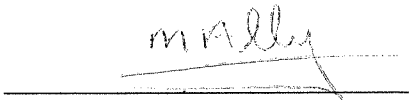
Patrick J. Fahy, Ph. D.

Committee Supervisor



F. Barry Brown, Ph. D.

Committee Member



Mohamed Ally, Ph. D.

Committee Member

May 2000

ABSTRACT

Computer conferencing provides students with the opportunity to interact with each other and with the instructor with greater ease and more flexibility than ever before. The literature indicates that conferencing was initially used as a supplemental form of interaction but is now a main form of teaching-learning activities in distance delivered post-graduate programs. For the purpose of this study interaction is assumed to be a critical component of the learning process. Despite the interaction that conferencing provides, conferencing experiences can be both positive and negative. The literature to date has not exhausted this area of inquiry.

This study utilized a single case study research design to investigate what students experience (both positive and negative) in computer conferencing and how their experiences may relate to instructor objectives. In addition to the specific course instructor, 8 subjects from a course of 22 students responded by completing questionnaires and participating in telephone interviews. Student subjects answered questions relating to both their positive and negative conferencing experiences and offered suggestions for conference improvement. The instructor answered questions relating to objectives for including conferencing as a component of the specific course, as well as the method that was used to determine whether the students had met the objectives.

Data analysis found that both of the instructor objectives were met and, despite the negative aspects of conferencing, all student subjects found conferencing to be an overall beneficial endeavor. In addition to a variety of opinions, student subjects gave

interesting and constructive comments and suggestions regarding the improvement of conferencing. Finally, limitations of the study are described and further research ideas are suggested.

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TABLE OF CONTENTS

CHAPTER I

INTRODUCTION

Background

In any classroom, virtual or face-to-face, it has been suggested by many that student-to-student interaction is an integral component in the process of "meaning making" (Garrison, 1990; Gunawardena, 1991; Taylor, 1998). With the advance of computer technology, a form of computer mediated communication has become possible for many distance learners. As with any classroom, however, not all students participate in discourse as much as instructors would like (or perhaps in the way instructors would like).

Distance learners, like their traditional classroom counterparts, are prone to varying levels of participation. Students may participate often or rarely and some students do not participate at all. Those participants who choose to read the comments made by others without themselves making contributions to the discourse are termed "lurkers" (Kaye, 1990). The rationale for making conference entries (or not making entries) is quite varied. Some reasons students give for low participation include not having enough time in the day (interference of work and family life) and their opinions having already been expressed by other students. Reasons expressed for participation include being motivated by the potential to earn marks, and authentically enjoying the experience (Taylor, 1998).

In light of the notion that interaction is a valuable component of the learning environment (but one which is sometimes resisted or denied by some participants when

conducted in the form of CMC), this study was designed to investigate more exactly what learners experience in computer mediated communication. Their responses will be compared to objectives of an instructor to assess the degree to which what an instructor might want students to obtain from conferencing is what the students perceive they actually do acquire from conferencing. It is important to keep in mind, however, that conferencing and interaction are not identical. What computer mediated conferencing can do, however, is provide the best one can get in the way of interaction in distance education to date.

The interaction conferencing provides could, in some instances, be superior to interaction in a face-to-face classroom since the anonymous nature of computer mediated communication provides otherwise shy students, students with speech impediments, etc., with an alternative medium and method with which to express themselves. In this sense, distance education is not seen as a "second choice" form of education rather an equal or better alternative to face-to-face instruction. As noted by Boettcher and Conrad, (1997), distance learning is often thought of as prepackaged text, audio, and/or video courses taken by an isolated learner with little or no interaction with a faculty member or other students. But this is a dated perspective. Today's information technologies allow a richly interactive distance learning experience which can, in some cases, surpass the interactivity of a traditional classroom.

Within traditional distance education pedagogy, interpersonal interaction amongst learners has been uncommon (Bates, 1990; Lauzon, 1992). In fact, the limited capabilities of communication media have resulted in restricted opportunity for interpersonal interaction (Nipper, 1989), consequently denying the benefits of interaction

to the distance learner. With the introduction of computer technology to the distance education process, however, the distance learner now has greater opportunity to interact with others (Taylor, 1998).

Purpose

The purpose of this investigation is to learn more about what students experience in conferencing, that is, what they perceive the benefits of conferencing to be as well as any non-beneficial experiences they have. The students' experiences will then be compared with the instructors' intended outcomes.

The Problem

Assuming that student interaction and discourse are indeed beneficial and desirable in educational encounters, the problem now becomes one of checking the degree to which the intended benefits of computer mediated communication (student interaction) are indeed what is experienced in distance education. Little empirical evidence exists in which students' experiences of conferencing (good, bad, or otherwise) are evaluated in the light of instructors' objectives.

If Garrison (1990) is correct in arguing that interaction with others concerning course content molds and provides real meaning to the content, then checking to see what students are (or are not) experiencing in the conference could be beneficial in helping providers adjust their practices. Furthermore, if what students are experiencing in conferencing relates to their participation rates (or lack thereof), then taking into account

student experiences may shed light on the effectiveness of computer mediated communication as a tool for interpersonal interaction (no participation, no interaction!)

Emphasis regarding the importance of interaction between learners is a main tenet in constructivist learning models. With the corresponding shift to constructivism (Jonassen et al., 1995) an emphasis on the interpersonal and social processes is believed to support the development of "real meaning" by allowing for discourse (with reflection), negotiation, and debate between conference participants. With this in mind, what do those students who participate minimally (or not at all) get out of the conferencing experience, if anything?

It is an expectation that, with the understanding of both what students are looking for in conferencing as well as what they are experiencing in conferencing, modifications and improvements can be made to better enhance student conferencing experiences. With respect to conferencing, comparing the perceptions of students and the objectives of instructors may help determine if conference design and management can be improved so that the conference is better able to meet the objectives of the instructor as well as ensuring that the students are experiencing what they need in order to meet these objectives.

Assumptions

As Taylor (1998) notes, much of the literature regarding the role and usefulness of learner participation and interaction in education is not empirical research. While this indicates that references to the importance of student interaction has intrinsic limitations, for this investigation it is accepted that student interaction and participation are important

in the learning process. This assumption, in addition to being supported by authors such as Shale, Garrison, Threlkeld, Brzoska, and Moore, (1990), is further reinforced by the ACCEL model. According to Boettcher and Conrad, (1997), the ACCEL model improves the probability of achieving effective learning outcomes by encouraging interaction. The following is a brief description of the ACCEL principles;

(A) Active: Learners participate in a learning program that requires thoughtful and engaged activity.

(C) Collaborative: Learners engage in discussions, activities and projects with fellow students.

(C) Customized and Accessible: The learning program is designed to fit the needs and requirements of students in terms of time, career goals, levels of preparation, and learning styles.

(E) Excellent Quality: Courses are designed with a learner focus, enabling learners to achieve desired goals and objectives. This learning generally includes communication with faculty members and other students, and it includes quick and easy access to high-quality instructional resources.

(L) Lifestyle-fitted: Interactive distance learning accommodates the lives of students, affording cost-effective educational opportunities anywhere, anytime, and at a reasonable speed.

Significance of the Study

It is hoped that information acquired through the exploration of student conferencing experiences will assist the providers of distance education in their use of computer

mediated communication by adding to the knowledge of factors that potentially promote or deter conferencing participation. Information relating to design issues may also help instructors determine how they may organize and run conferences. In short, any knowledge that will increase the effectiveness of conferencing is deemed significant whether it results in changes in the instructors' role, students' role, conference set-up or by a combination of the aforementioned.

Research Questions

The following are the "substantial" questions to be addressed by the analysis of the data resulting from subject questionnaires and interviews.

1. What positive experiences do students have in computer mediated conferencing?
2. What negative experiences do students have in computer mediated conferencing?
3. What are the intended outcomes that instructors would have students experience as a result of computer mediated conferencing?
4. Are the intended experiences from conferencing (instructor objectives) the actualized outcomes (student experiences) from conference participation?

Definitions

Experience. The effect on a person after personal involvement in or observation of events as they occur. In this study, experience is defined as the effects that computer conferencing has on course participants. Experience may be expressed as a change in behavior or a new or changed attitude.

Objectives. The intended aim or goal (implicit and/or explicit) of an event or series of events. The goal is often a condition perceptible to others besides the primary person/people involved. The objectives of conferencing are those goals that course instructors would have students achieve or experience.

Participation. To have, conduct, take a part in, or share with others in some activity. With respect to conferencing, participation would include reading and making entries to the computer conference. It is of importance to note that for this study, students who lurk (read only but make no submissions) will not be included as participants. They may be members of a group but without making their own submissions, they are not considered participating members.

- Conference Participation Rate. The total number of entries, by each respondent, in a computer conference.

- High Participation Rate. A participation rate exceeding the required number of entries for a conference.

- Average Participation Rate. A participation rate which complies with the minimum number of entries required for marks as outlined in the course outline. In this study the minimum number of entries per conference was two.

- Lurking. In this investigation lurking will be defined as making no conference entries.

Interaction. Participation and interaction, while they may be similar in definition, have one significant difference in this investigation. Interaction suggests reciprocal action between two or more individuals which often influences the pace and direction of

an action or event. In this case, interaction in the conference will include the concept of feedback.

Organization of the Thesis

The remainder of this thesis consists of four additional chapters. The second chapter is a literature review of current distance education information starting with basic terminology and concepts and continuing with prior conferencing experiences, instructor orientation to conferencing, design issues and learner attributes. The third chapter deals with the research method used including a discussion of design, instruments, and procedure. The fourth chapter analyzes the data collected from the subjects, and the final chapter discusses the findings (and related implications), concluding with suggestions for further study.

CHAPTER II

LITERATURE REVIEW

Students and Interaction

The experiences, positive and negative, that students have with respect to computer mediated communication do affect their level of participation/interaction. As noted in chapter one, interaction is assumed to augment student learning and as such, information relating to conferencing experience, design, and moderation (as they relate to participation) will be the main focus of this review. A brief discussion of distance education and computer mediated communication will precede information on factors assumed to affect participation rates.

Defining Distance Education

Referring to Shale (1998), Kirkwood notes that distance education is beset with a remarkable paradox - it has asserted its existence, but cannot define itself. To help with the onerous task of definition, one can start with a dictionary definition of education itself. To state it in its simplest form, education is the act or process of educating or being educated. While traditional education may often be associated with a geographic location (campus) and not the process, distance education, by nature, differs in this respect. Distance education is still education (the process) but this process is accomplished at a distance. A main strength of distance education is flexibility. Flexibility provides a whole host of options. By not requiring the student to be physically at the same location and on the same schedule as the instructor, distance education is able

to take advantage of information age advances and overcome some of the obstacles created by societal changes (Virtual University, 1997).

While the aforementioned is one way to define and describe distance education, other basic definitions are very similar. The University of Wisconsin (Virtual University, 1997), for example, defines distance education as a planned teaching/learning experience that uses a wide spectrum of technologies to reach learners at a distance and is designed to encourage learner interaction and certification of learning. According to San Jacinto College (Virtual University, 1997), distance education is defined as instruction that can be delivered through various technologies to students at a distance from their instructors. As a final example, The Distance Learning Resource Network (DLRN) defines distance education as instructional delivery that does not constrain the student to be physically present in the same location as the instructor (Virtual University, 1997). Historically, distance education meant correspondence study. Today, audio, video, and computer technologies are more common delivery modes.

However one chooses to define distance education, there are three main attributes that characterize the concept. The first is a separation of the instructor and the student for a majority of the instructional process. The distance can be very small or very large - it makes no difference. The second attribute is the use of educational media to connect the instructor and the learner. The final aspect is the provision of two-way communication between instructor and student. This third aspect, which involves communication and interaction, is the aspect of interest for this study.

Attributes and definitions aside, Moore (1973) is one of the few scholars to develop a theory of distance education which falls in line, at least in part, with the

assumptions of this study. Moore identifies dialogue, structure, and learner autonomy as the key constituent elements of distance education (Chen & Willits, 1998). As Chen and Willits (1998) note of Kearsley and Moore (1996), communication gaps (relating to a large degree of transactional distance) must be overcome by teachers, learners, and organizations if learning is to occur. One factor that affects the degree of transactional distance between learners and teachers and among learners is a function of the extent of dialogue or interaction that occurs. Results from a study done by Bischoff, Bisconer, Kooker, and Woods, (1996), led to the conclusion that dialogue was inversely related to transactional distance (Chen & Willits, 1998). The more dialogue, the less transactional distance. The more dialogue, the more likely learning is to occur.

Regarding dialogue and discussion, as the size of the learning group increased, in-class discussion decreased and teacher learner transactional distance increased with resulting negative and indirect effects on perceived learning outcomes. In short, fewer students increased discussion (Chen & Willits, 1998).

The Importance of Communication

Much has been written on the provision of two-way communication in distance education. Keegan's work (1991) has been paramount in recognizing the importance of such provision. Dialogue, in essence, is fundamental. Garrison and Shale (1990) concur with the assumption that, fundamentally, education requires two-way communication, that it cannot occur without the negotiation of meaning and the prospect of mutual learning through dialogue and discussion. They also suggest that the quality and

effectiveness of education at a distance is directly attributable to the degree and kind of interaction between teacher and student, as well as between student and student.

Giving further credence to the importance of communication, Australian authors Evans and Nation (Crawford, 1995) contend that education is fundamentally a human, social activity, and that the critical function of education is the facilitation of students and teachers in developing meaning in the world around them. They argue that the important issue in all learning is that of dialogue between, and among, students and teachers. Providing an avenue for this dialogue can be addressed with various media and methods. The medium of focus for this study is the computer and the method is conferencing.

Computer Mediated Communication

Recently, distance education pedagogy has been afforded the ability to expand its communication repertoire to include computer mediated communication. Computer mediated communication may include e-mail, file transfers, access to databases, or computer conferencing (Virtual University, 1997). With respect to this investigation, computer mediated communication will be synonymous with computer conferencing.

Computer conferencing is an electronic system that sorts, organizes, stores and retrieves messages among a group of learners (Anderson & Haughey, 1998). The three main technical elements of computer conferencing include a computer, a system of connecting the computer to other computers or the internet (either by phone, cable, microwave or satellite), and software on the computer that will enable the student to access the conferencing system. Personal experience notwithstanding, it is not uncommon to experience technical difficulties when setting up the physical components

of a computer with the required software as well as difficulties with connections, etc., during the course of the conference. It is, therefore, important that adequate training and technical support be available to participants who may require it.

Despite difficulties that may be encountered through the use of computer mediated communication, there is a growing body of evidence that supports the continued use of computer conferencing systems. As noted by Kearsley, Lynch and Wizer (1995), computer conferencing is becoming a common component of higher education courses. While it (conferencing) was initially used as a supplemental form of interaction, it has now become the main form of all teaching/learning activities in complete degree programs. As its usage has increased, a large literature on its effectiveness and impact has developed.

Participation in computer mediated conferencing usually takes place asynchronously, that is, contributions by some participants may not be read or responded to by others for a few hours or days. Generally, multi-participant dialogue takes place at times that are convenient for each individual. Learners can participate in a variety of activities such as electronic discussions, question and answer exercises, or other group activities, for part or all of an applicable course. Students can also communicate privately with their instructors or other students if required (Annand & Haughey, 1997).

Computer conferencing, according to Burge and Roberts (1993), has a number of strengths. They say that computer conferencing can promote structured learning activities and feelings of group cohesiveness. Conferencing is convenient for people whose schedules make it difficult for them to attend classes at fixed times and learners can take time to reflect and think through a response. Computer conferencing may also

appeal to those individuals who like to be on their own physically but connected to others cognitively and emotionally (1993).

According to Anderson and Haughey (1997), research on professional education indicates that the capacity to support collaboration, reflection, and professional development, as well as to overcome barriers of time and place, makes the use of (conferencing) a potentially useful and cost effective innovation. However, in spite of this research, many still believe that face-to-face learning environments are still better than distance learning environments to support such collaborative learning processes. As with every debate, there are those individuals who take the opposite stance and believe that conferencing may promote a superior environment to traditional fact-to-face situations (Anderson & Kanuka, 1997; Berge & Collins, 1995).

Fundamentally, however, it may not matter what the research indicates as the best method for learning. What matters is whether or not the participants perceive conferencing as a valued process. If they do, they will be more likely to adopt it (Anderson & Haughey, 1997). To reinforce this idea, Kirkwood (1998) notes that it is not sufficient just to make communication possible: learners need to accept that educational benefit can result from their purposeful participation in networked activities.

So, while motivation to participate in and continue with conferencing depends, in some way, on the preferences of the students (and the preferences vary) some students will choose not to participate despite acknowledging the educational benefit. For these students there must be something in addition to the educational benefit that would compel them to participate. The nature of these positive experiences is something that this study wishes to explore.

Computer conferencing has a variety of design options to choose from. Most often, instructors envisage instructional conferences as equivalent to modules, units, or projects of classes (Anderson & Haughey, 1998). Each method of conference design has it own set of advantages and disadvantages, some of which will be elaborated on in following sections.

Conferencing as Learning Within "Community"

The online forum represents a complex learning environment in which group collaboration is practiced in a technologically mediated environment. The resulting interaction between individuals using different learning theories, styles and activities, and technologies can lead to the creation of vibrant communities of learners, (Kanuka & Anderson, 1998). The second domain of learning proposed by Habermas (1971) - the practical - emphasizes the construction of knowledge through relationships (or communities). Knowledge construction is a process by which we give meaning to our personal worlds through dialogue with others, and it is associated with the constructivist paradigm (Annand & Haughey, 1997). According to Kanuka and Anderson, this position is currently the most accepted epistemological position associated with on-line learning. In this view, the assumption is that knowledge is grounded in the relationship between the knower and the known. Knowledge is generated through social interaction and through this interaction we gradually accumulate advances in our levels of knowing (1998).

At this juncture it is important to note that constructivism can be broken down into four related but different perspectives. The first perspective, according to Henriques

(1997), is the information processing perspective. It assumes there are correct concepts and right answers to problems and therefore ascribes to absolute views characterized by the reductive, positivist and empiricist perspectives. The second and third styles, interactive constructivist and social constructivist, accept that different interpretations of common evidence are possible since the interpreters bring different perspectives and lived experiences to the task. Both perspectives, Henriques continues, expect that alternative interpretations would be critically judged for validity, but these deliberations are anchored in different canons. The interactive constructivist perspective requires evidence to influence the evaluations while the social constructivist would additionally allow cultural values, ethnic beliefs and social consensus to influence the evaluations. The last perspective, radical constructivism, accepts multiple culturally viable interpretations of phenomena. As Henriques (1997) notes of von Glasersfeld, the person holding a view may be asked how the view is true but "rightness" lies in the personal interpretative beliefs and standards.

After looking at much of the background literature it appears that social interaction is a vital component of conferencing and learning success. As conceptions of the distance education process have changed, some writers, according to Annand and Haughey (1997), have suggested that the ability of new telecommunication technologies to facilitate interaction among students and between students revolutionizes the nature of the educational transaction. Students are better able to exert control over their educational experiences and to construct shared meaning and group-based knowledge through the dialogue that ensues. What needs to be done, therefore, is to create a “community” which facilitates this learning.

As Comstock and Fox (1996) note of Senge, if organizational learning and group creativity are the keys to personal and organizational growth in the 21st Century, the technologies that mediate or enhance these learning processes deserve to be better understood and purposefully designed. This interest is related to the capacity of the computer to provide an interactive environment that creates an effective means for implementing constructivist strategies that would be difficult to accomplish in other media. The use of computer technology supports this social construction of knowledge while simultaneously creating an archive of this interactive process (the online transcripts) (Kanuka & Anderson, 1998).

The concept of a learning community is meant to guide the practitioner in the making of a better educational environment. The phrase "learning community" itself refers to intentionally created communities where the members' primary purpose and identification with the community is for their own and their colleagues' learning (Comstock & Fox, 1996). This concept of learning as a communal activity leads to a model of education that emphasizes the development of safe and supportive relationships and the encouragement of collaboration and teamwork in the learning environment. Thus knowledge is relational: it gets created, reinforced and modified through a process of inquiry and application with others. Knowledge is a social creation (Comstock & Fox, 1996).

As with many things in life, to fully appreciate the benefits of a learning community one must become actively involved. According to Comstock and Fox (1996) there are two main processes that contribute to the formation of community boundaries. The first process refers to membership and participation. All students in a course are

members of that course. No action is required. Participation, however, is different from membership as action is required. This becomes clear when a student fails to contribute or is absent for part of the course work. A community without much participation prevents relationship growth. Participation is not merely reading contributions - cooperative learning rests on active participation in the discussions of the community.

Integrated with the concepts of participation and membership is the notion of caring - a principle that Vella, according to Comstock and Fox (1996), calls key to adult learning. It brings the outside world of the members' personal and family lives into the learning community where they can learn about each other and attend to each others' lived experiences. In this way, members and relationships become more whole, multifaceted and complete. Learning in a community is thereby anchored in members' real lives instead of being a separate arena where only intellectual issues are discussed. It is suggested in some literature that without caring (trust and sharing), dialogue, discussion and critique are compromised.

The second process that contributes to the formation of community boundaries involves dialogue, discussion, and critical reflection. Within the paradigm of a learning community, dialogue results from students sharing an interest in comprehending something in their common experience - it is the social process of meaning making. It is hoped that dialogue will inspire a roving type of discourse among participants, which in turn will widen their present understandings and create new understanding in collaboration with their fellow participants. Dialogue requires thoughtful listening and responding. It is a time when participants collaborate and co-produce meaning (Comstock & Fox, 1996).

As Comstock and Fox note of David Bohm, (1996), discussion is different from dialogue. His concept of discussion is having one's own views accepted by the other participants as the valid understanding of an experience. While discussion may be investigative like dialogue, it rarely builds upon others' contributions. Contributions in discussion are more likely to be responsive or reactive than generative. While dialogues explore the ways to open up new knowledge, discussions explore the meanings that are already present in the group. In a discussion decisions are made, in a dialogue complex issues are explored. Discussions narrow the choices of meaning often by seeking common elements among diverse interpretations.

While dialogue and discussion are important, so too is critical reflection a core process of adult learning communities. When individuals reflect upon an action or belief, they are evaluating whether the action or belief is adequate, effective and consistent with their values. Reflection is a tool for people to understand fellow individuals' perspectives through the comparison and dissection of the perspectives. Reflection gives individuals in a group an opportunity to compare their circumstances with what others experience. Students look at values, assumptions, and interpretations and, with such a task, are subject to risk. To use critique to advance knowledge and committed action requires the engagement of whole persons who are willing to bring their personal values and their hopes for a better future into the learning community (Comstock & Fox, 1996).

For computer mediated communication to be most effective, a forum where individuals can build relationships (engage in discussion, discourse, and reflection), needs to be created. While the "prescription" may be simple, it is not easy. Having all

individuals in a conference be active participating members is not realistic. Suggestions to improve conferencing are to follow.

Previous Experience with Computer Mediated Communication

Dialogue, discussion, and critique rely on verbal communication and as such should be adaptable to computer conferencing. The conversion to a computer-mediated environment, as Comstock and Fox (1996) note, is not as straightforward as it might appear on the surface. With respect to membership and participation, it is not always easy to create a caring community where individuals feel sufficiently comfortable to contribute more than superficially. It is also difficult for students to know who is reading (or not reading) their entries. In short, the challenges of using a computer conference may be far larger than initially anticipated.

After analyzing various conference transcripts, Comstock and Fox (1996) found that collaborative learning processes, including dialogue, discussion and critical reflection, were not sustainable unless they first attended to relationships that build community. They no longer viewed personal chatting, social conversations and story telling as taking away from the "real business" of learning. They came to believe that collaborative learning was not possible unless a group of learners reached a level of personal familiarity and trust and as such they use conferencing not only for academic matters but for building personal relationships as well.

With respect to the sentiments of Kearsley, Lynch, and Wizer (1995), experiences with computer mediated communication indicate that conferencing works very well for graduate level education. They note that, when compared to traditional classes, student

satisfaction with online courses is higher; GPA and other measures of student achievement are the same or better; a higher level of critical thinking and problem-solving is reported, and there is usually much more discussion among students and instructors in a course. For example, instructors are able to provide an environment which allows students to easily communicate with others outside of the class group. One student in particular stated, "I'm shy and I normally would never ask a question in class or participate in class discussion" (Daugherty & Funke,1998).

On the negative side, concerns that Kearsley, Lynch, and Wizer have with online courses include hardware and software problems, low writing skills of some students, and slow response time from some instructors. Overall, however, students found that the use of computer conferencing enhances communication and learning despite the frustrations associated with hardware and software.

On the other side of the computer conferencing equation comes the conference moderator. Not all instructors/moderators choose to intervene as readily as others. In one study Thorpe (1998) noted that some tutors chose to be much more interventionist than others, and the very positive comments from students in one section of a course reflected the fact that their tutor had done more than others to ensure that conferences got started and achieved their goals.

Another common positive experience often stated in the literature is the ability to read comments from fellow students as well as others' reflections on one's own entries. As one student notes, being able to read others' reflections provided them with new perspectives from which to approach the study material. It made clear the difficulties others were experiencing and the processes that they felt would help address their

concerns. It also provided some feedback to students on whether they were in sync or alone in their opinions, which enabled them to gauge how hard they needed to defend their position (Naidu, 1997).

Unlike the previous comment regarding computer mediated communication, some students have indicated that discussions resulting from conferencing often lack fluidity. Social interaction and meaning negotiation can be restricted, which results in a nonfluid and nonsequential discussion. While there may be discussion regarding conflicting or inconsistent views, the existing paradigms appear to remain unchanged. When contradictory ideas were shared, according to Kanuka and Anderson (1998), the information did not appear to be assimilated in a distorted manner; rather, when many of the forum participants experienced information contradiction, there was a tendency to ignore it. It seems that the relative anonymity and asynchronous nature of online conversation makes it much easier to ignore conflicting information in online discussion than in conversational language.

Kanuka and Anderson (1998) note, however, that individual participants might be processing information internally in a reflective manner but not sharing these thoughts with other participants. The asynchronous nature of conferencing environments can be an effective stimulation to this type of internal knowledge creation. In fact, some students agreed that they tended to 'lurk' quite a bit but gained from considering others' thoughts (Naidu, 1997).

According to Annand and Haughey (1997), instructor opinions regarding computer conferencing varied widely. Some instructors felt that the discussion and dialogue that occurred in computer conferencing was less valuable because the associated

learning outcomes were indefinable or less important. Others considered interaction to be essential for learning to occur despite the limitations encountered through this form of interaction. While some instructors criticized individual participant entries in general as being perfunctory and uninformed, others considered postings as valuable means of student-to-student learning.

While information regarding computer conference experiences may not be abundant, it is clear that there are both positive and negative aspects of the endeavor, some of which may be unexpected and not related to the intended objectives of conferencing. As was noted by many participants in one study, the greatest value of the online forum was the ability to share and receive information, as well as to network - not to construct new knowledge (Kanuka & Anderson, 1998).

Instructor Orientation and Computer Mediated Communication

An instructor's attitude can have a dramatic effect on the outcomes of computer mediated communication. Comfort with the technology to understanding student learning styles influences conference design and implementation practices. As noted by Annand and Haughey (1997), while instructors perform a wide variety of tasks, a few select skills become relatively more important in the computer conference environment (for instance, meta-commenting, weaving, and socializing). The role of the instructor as subject-matter expert diminishes, and as such makes the medium more democratic. Such changes, in turn, alter the nature of the instructor-student relationship from an authoritative one to a more egalitarian one.

The view of education and learning held by an instructor can also affect the perceived usefulness of conferencing. If an instructor believed that dialogue and discussions with others after content analysis and reflection were needed in order to create personal meaning and have students validate their learning experience, then an acceptance of conferencing would show in the design of the course overall. If, on the other hand, an instructor did not believe that interaction was either necessary or sufficient with respect to learning, then the computer mediated interaction between students and instructor or among students would not be essential for the higher forms of learning. The interaction, while it may be desirable and may improve the learning experience, is not as important as the learner interaction with the content and assignments. For these instructors, according to Annand and Haughey (1997), the major function of computer conferences is to improve the quality of individually submitted assignments and to provide social and emotional support for students, in part because they consider the learning outcomes associated with most types of student-student interactions to be indefinable and immeasurable, and therefore of questionable value.

Despite the varied opinions regarding the usefulness of computer mediated conferencing, it is important that the instructor be aware of his/her bias and so limit any negative repercussions that may arise from his/her views. A well designed conference irrespective of one's opinion is bound to meet with better outcomes than a poorly designed one. The following section outlines some "do's and don'ts" of good conferencing.

Designing Effective Computer Mediated Communication

Computer conferences can be set up in a variety of ways. Instructors can set up a conference corresponding to each module in their course or they may run one conference for the entire duration of the course. They may keep all conferences open for the length of the course or impose closure dates on conferences if more that one conference is integrated into the course. Disadvantages and advantages come with each type of design implementation. If only one conference is run for the duration of the course, for example, students may find recall of previous interactions difficult, especially if there are hundreds of postings. If more that one conference is used in a course, having conference closure dates reduces some of the work students have in keeping abreast of discussions in each module or conference. According to Bullen (1998), with campus-based education, regular classes serve a pacing function that helps to keep students focused and on-task. Distance education completion rates increase significantly if substitute forms of pacing are used. In his example, pacing was achieved mainly by having regular online discussions with clear beginning and ending dates and specific deadlines by which students were required to contribute.

With whatever model an instructor uses, it is important to consider the learning objectives of the course and the particular orientation of the instructor before choosing the number, length, and sequencing of the conferences. Most often, there is also a parallel set of conferences for technical issues, most commonly asked questions, course administration, bibliographic references, additional resources or whatever is most suited to the course objectives of the learners (Haughey & Anderson, 1998). The literature also suggests that the interactive potential of computer conferencing will not be realized unless

designs are employed that require learners to respond and contribute to discussions and that require instructors to play a facilitative rather than a directive role (Bullen, 1998).

With respect to developing a learning community, one ritual that some instructors include in their conferencing is that of student introductions. It is useful practice but it is not sufficient to build a learning community by itself. Interaction must be promoted and fostered between students. According to Burge and Roberts (1993), the following are indicators of good use, which in turn, may help to foster increased and continuing conference participation:

* Have clear objectives for the interactions. People must feel that their online time is well spent.
* Plan a structure of subconferences that focus on specific topics; organization helps to keep messages linked.
* Keep your messages concise, on-topic, and preferably no longer than one screen or 10 lines. One idea per paragraph is the maximum.
* Negotiate an acceptable grammatical style (and rate of errors) at the outset of the course.

Critical social behaviors for teachers/moderators and learners are similar.

* Use informal and courteous responses, directions and questions; they read better than a staccato, formal style.
* Introduce yourself and the conference rationale.
* Have learners introduce themselves to each other.
* Encourage people to keep up with the messages. Information overload can be daunting.

* Use learners' responses constructively. Learners will feel respected and included.
* Model the appropriate writing style. In some subconferences it can be very informal, e.g., for socializing; in others it may have to be more formal and well argued, e.g., for substantive discussions about course content.
* Encourage people to talk across you to each other.
* Use humor when you know the group very well.

With respect to conferencing, Burge and Roberts (1998) also outline a list of indicators of poor use. When observing these indicators instructors or conference moderators can take steps to modify or correct conferencing activities and get the direction of the conference moving towards that of a learning community. The following are some of the indicators:

* Learners contribute messages that, however brilliant, have become out-of-sync with the class discussion.
* They lurk silently as read-only learners.
* The send long rambling messages that cannot easily be linked to others.
* The moderator loses control of the discussion, or abdicates some of the above responsibilities.
* Learners frequently seek technical help in using the software. Such requests are symptomatic of problems such as insufficient advance training or poor choice of software.

In short, effective computer conferencing requires planning and organization before the course begins so that the appropriate numbers and types of subconferences can be created. (Anderson & Haughey, 1998). Conference groups should be a manageable size for too many students mean large numbers of entries to sift through and reflect on. A clear purpose for using conferencing is also relevant inasmuch as it sets the tone for participation. While computer conferencing may be a simple idea to grasp, successful implementation may not be as easy as it first appears.

Learner Attributes and Computer Mediated Communication

Computer mediated communication, like some methods used in the traditional classroom, may not be ideal for every learner. According to Bullen (1998), learning style preferences and personality may help explain why some students feel more comfortable than others with computer conferences. From students who rely on visual and verbal cues when discussing issues to students who prefer a less competitive environment affording them time to compose responses to discussions, computer conferencing takes a bit of getting used to.

Whatever learning style the student has, students must be prepared to modify their activity to accommodate a non face-to-face experience. In one online course studied by Bullen (1998), significant demands were placed on students such that they found they were required to participate actively by making contributions to discussions where they were given the freedom to choose when to participate, from where, how frequently, and how substantially. Self-discipline was found to be an important factor with the online requirements.

Perhaps unlike its traditional counterpart, the online environment has been noted to promote an equalization among learners. According to Berge and Collins (1995), there is an emerging body of literature concerning the empowerment of persons with disabilities, physical impairment, disfigurement, or speech impediments, which hinder their equal participation in face-to-face encounters. These types of learner attributes may be better addressed, or rather their negative qualities nullified, through the use of computer mediated conferencing. As alluded to previously, conferencing has both positive and negative attributes associated with it. It is the task of the course designer and instructor, therefore, to reduce the negative and accentuate the positive as much as possible.

Summary

The options for distance educators to facilitate critical thinking via student-student interaction are somewhat limited with respect to the traditional correspondence style of distance education. While audio and video conferencing do provide for two-way communication they require that learners be available at the same time if not the same place as well. Computer conferencing, on the other hand, is a more flexible alternative as it is asynchronous and students may participate at a time and place convenient to their schedules. As Bullen (1998) notes, appropriately designed computer conferencing will facilitate interaction among students and between the instructor and students which would otherwise be more difficult in traditional distance education.

Exploiting the positive attributes of computer mediated communication is not a simple task. Instructors must use appropriate design, implementation, and facilitation

techniques in addition to adequately preparing both the students and themselves in the use of conferencing systems. The concept of a "learning community" is also a significant part of successful conferencing. Social connections between students facilitate dialogue and online participation (Comstock & Fox, 1996; Bullen, 1998). Online participation works best if it is at least marginally valued by students. As Bullen (1998) notes of computer conferences, if it (conferencing) is viewed as busy work that they (students) do only in order to get the participation marks, then it is unlikely that meaningful discussions will result. Having students work collaboratively online to complete one or more assignments and then participate in an online discussion on these assignments, using the record of the discussions as a basis for an assignment, or having students moderate their own discussion, are suggestions for making online activity integral to the course.

When instructors take into account, to the best of their ability, the learning styles and needs of students, coupling that with proper methodology and pedagogy, the positive conferencing experiences of students can outweigh the negative. While it is not possible to please all learners all the time, improving the probability of achieving conferencing objectives is a worthy endeavor. Looking at the experiences of students is one way to approach this task. By learning what students value and dislike, with respect to conferencing, one may develop an understanding of how to improve and sustain student participation.

CHAPTER III

METHOD

Design

This investigation employed a case study research design (which included the use of questionnaires and telephone interviews) to learn about the experiences that students have with respect to computer conferencing and to examine whether there is a relationship between these experiences and those which course instructors intend them to have.

Case study research design, as cited by Taylor (1998), is defined as non-experimental as it does not include any manipulation or control, is inductive, and does not seek to predict. Rather, its aim is to offer an explanation or description of events or phenomena, as they are, in response to the questions how and why. It is particularly regarded as a useful method to gather basic information when little is known about the phenomenon of interest (Merriam, 1988).

At present, published information concerning student experiences of conferencing "pay-offs" and how these experiences relate to the outcomes intended by the instructor is limited. Thus, in order to obtain initial information about student experience with respect to computer conferences, a case study design was selected as the most appropriate technique. This investigation is an exploratory inquiry of the experiences that conferencing provides students (and how their experiences relate to instructor objectives) through a single group of self-selecting subjects.

Subjects

The subjects for this study were students registered in a specific graduate level course (distance delivered) in the fall of 1999. This course is one of the optional courses from the Master of Distance Education (MDE) program and the Advanced Graduate Diploma in Distance Education (Technology) (AGDDE[T]) program offered at Athabasca University. The AGDDE(T) program is a six course (18 credit) program which encompasses a subset of skills and experiences contained in the MDE program. After successful completion of the AGDDE(T) program, students may apply to the MDE program and, if accepted, have the six courses applied to the MDE requirements.

There are also some individuals who are taking MDE or AGDDE(T) courses but are not in the MDE or AGDDE(T) program. These non-program students can apply for acceptance into one of the programs at a later date. At the time of this study there were 109 non-program students, 21 AGDDE(T) students and 240 MDE students eligible to enroll in the aforementioned graduate level course. In addition to the students, the specific course instructor was included as a subject.

Students taking MDE or AGDDE(T) courses are adult learners with a variety of occupational backgrounds. All students in the program require an undergraduate degree or its equivalent for admission and all students in this investigation were taking their courses at a distance from a variety of geographic locations throughout Canada. All were registered as program students at varying levels of program completion. The last subject, the course instructor, is an employee of Athabasca University and has been teaching for 3.5 years at the university, 15 years overall.

Instruments

Student Computer Conference Participation Survey. For this investigation a 28-item survey, using 5-point likert-type responses, was developed in addition to two questions regarding demographic information. (Please see Appendix A). Based on information obtained from advisors, journal articles, websites (the internet), books, and other literature, questions were developed and refined. The questions developed queried student opinions on their personal experiences - both beneficial or otherwise.

Computer Conference Instructor Survey. Open-ended questions along with an 11-item survey using 5-point likert-type responses was developed for this investigation (Appendix B). Once again, information obtained from advisors, journal articles, educational texts, and other literature helped to generate the questions found in this survey.

Computer Conference Telephone Interview. Each student participant was interviewed between one and two weeks after completing the initial survey. This was done in order to enable the participants to elaborate on their responses as well as provide any new information that may have been overlooked in the initial survey.

Testing of the Questionnaire. Prior to implementation, the student questionnaire was taken through one-on-one testing. The theoretical foundation for this type of assessment was based on Kirkpatrick's levels of evaluation. Information gleaned from this testing provided insight which resulted in editing of the questionnaire for improved clarity.

Procedure

Approval to proceed with this investigation was granted by the Ethics Review Committee of Athabasca University.

Subject Selection. The eight subjects in this investigation were included based on their enrollment in the aforementioned graduate level course. Students do not usually enroll in this particular course as one of their initial courses, thus it was assumed that most students would already have some prior experience with computer mediated conferencing. Having prior experience with conferencing, specifically learning the system and encountering inevitable technological problems, should help reduce frustration as a negative aspect of their experience which may have otherwise biased the results of the investigation. As it turned out, the participants' previous experiences with conferencing ranged from having taken one to thirteen other courses prior to their enrolment in the aforementioned graduate level course.

To make possible the comparison between the intended outcomes of the instructor with the actualized experiences of the students, it was necessary to include the specific instructor of the course as a subject in this investigation.

Distribution of Student Questionnaires. An e-mail letter of request (Appendix D) was sent to each student in the graduate level course via the course instructor. The letter of request introduced the researcher and explained to the participants the goals, activities, intentions of the study and the expectations of the subjects. Subject privacy and anonymity was assured and the individuals were given the choice to participate or not as they wished. Each participant was also informed that, as a respondent, they would be welcome to a copy of the report upon completion of the study. If a student agreed to

participate, he or she informed the researcher by e-mail. After receiving e-mail from the subjects showing that they understood what they were agreeing to, a copy of the questionnaire was distributed, once again by e-mail, to each student volunteer.

Participants in this investigation were asked to complete and return the questionnaires within a few days. Approximately ten days after the initial contact, those students who had volunteered but not yet returned the questionnaire were sent a second reminder e-mail. No third reminder e-mail was required.

Telephone Interviews. After returning their questionnaires, participants were contacted by e-mail to set up interview times. Subjects indicated in their return e-mail which dates and times they would be available. The researcher then selected the dates and sent return e-mail for confirmation. On the agreed days and times the researcher called each subject. Interviews lasted between 15 and 45 minutes, the average interview was 25 minutes. The researcher read the same interview questions to each individual and informed them that notes would be taken (many verbatim). During each interview the researcher paraphrased the comments back to each subject to ensure understanding and accuracy. Within ten days of receiving the last survey all telephone interviews were completed. Of the twenty two students enrolled in the graduate level course, eight agreed to participate. All eight subjects completed the questionnaire and all eight participated in the telephone interview.

Instructor Questionnaire and Follow-up E-Mail. Upon receiving the last of the student questionnaires and completing the last telephone interview, the instructor was approached to complete his questionnaire and interview. An e-mail letter of request (Appendix E) was sent to the instructor along with the questionnaire. No reminders were

necessary as the questionnaire was promptly completed and returned the next day. Two subsequent e-mail questions were sent to the instructor. The first question requested clarification of terminology and the second requested quantitative data.

Conference Participation Requirements. This graduate level course required students to submit at least two entries per conference in order to earn full credit. The instructor for the course allotted 10% for meeting the conferencing requirement. The instructor generally moderated the conference but did not intervene if a student was identified as a low participator. There was no overt enforcement of the participation requirement by the instructor. In this study, monitoring the conference was not assumed to be enforcement.

CHAPTER IV

DATA ANALYSES

Research Questions #1 and #2

The student computer conference questionnaires and the telephone interviews were employed in order to obtain information on how students perceived conferencing, specifically to determine what positive and/or negative experiences they had. In addition to their experiences from this course, students also made comments on prior conferencing experiences. The questionnaire contained 28 likert-type questions that offered subjects a choice of five response options. Two initial questions regarding subject location and previous conferencing experiences preceded the likert questions and an area for comments was provided at the end of the questionnaire.

With respect to the initial questions, previous experience with conferencing ranged from having participated in only one other course with a conferencing component to having previously taken thirteen other courses with conferencing. Overall, the subjects indicated that the more conferencing they did, the more at ease with the medium they felt. The geographic range and relative isolation of the students also varied greatly. Subject locations include towns, cities, acreages near small communities, as well as remote northern areas of the Northwest Territories. Location, however, was not cited as a major impediment to conference participation and, except for one individual, little difficulty was attributed to connection or hardware problems.

Free response comments offered by subjects from the returned questionnaires proved to be insightful. Both negative and positive experiences were elaborated on in

this section. Some of the impediments students described dealt with design and methodology issues ranging from having too many participants in a conference or being frustrated with conference moderation and student participation. Please refer to Appendix F for a complete review of student comments.

The telephone interview gave students a chance to elaborate on the items from the questionnaire as well as address any issues that were not included in the survey. Details expressed in the interview, which elaborated on questionnaire items, will be noted in the following analysis and others issues will be addressed subsequently. A tabulated breakdown of all the questionnaire responses is found at the end of this section. All references to the results can be found in this "master" table.

Technological Difficulties: As was noted previously, most of the subjects did not find that technological problems played a significant role with respect to their conference participation. The exception to this was a subject whose internet connection was slow and who found it time consuming to wait for the next message to show up. This person indicated that the previous conferencing system used by Athabasca University (CoSY), while less sophisticated, provided some advantages with respect to message downloading - specifically being able to print off all unread messages and then read them off-line with much less difficulty. Please refer to questionnaire item 1 in the master table.

Conferencing Experiences: Questionnaire items 2, 3, 4, 24, and 25 refer to positive and negative conferencing experiences. All but one subject, who indicated indifference, noted that they had many positive experiences and few negative experiences. In the telephone interviews, however, all subjects stated that conferencing was a positive experience overall, although for some subjects conferencing did not help

much with their acquisition of content knowledge. Many students gave suggestions for improvement which will be discuss later in detail.

Skimming Conference Entries: Reading each conference entry thoroughly is not something the majority of the students do. Reasons for not reading thoroughly include not having enough time in a day due to other obligations and being overwhelmed by the number of conference entries to read if they have not logged on to the conference for a few days. Subjects also indicated that they may skim-read entries if the comments are addressing the same question. They note that they do not wish to read the same material stated in twenty slightly different ways.

Conference entries which are posted by students known to be overly verbose and "academic" are also often skim-read as are long postings with little "white space". Many subjects suggested that posting etiquette be reviewed before each conference begins. See questionnaire item 5 in the master table for subject responses.

Conference Content: With respect to finding the content of conference entries useful, half of the subjects agree that they are useful and the others were, for the most part, indifferent. When asked to elaborate about this in the telephone interview, subjects said that the benefits they received from conferencing were not always related to the content itself but to others facets of the conferencing experience in general. Many students noted that the content itself was just a re-hashing of the course material and/or talk about only partially related issues. Non-relevant issues, however, were not necessarily seen as a negative aspect of conferencing. Questionnaire item 6 and 9 show that students did not find 'too many' non-relevant entries in the conferences.

Quantity of Conference Entries: As was alluded to previously, some subjects felt overwhelmed by the number of conference entries posted if they, for some reason, were not able to login every day. For some students the need to login everyday was declared a good motivator for keeping focused. It was also noted by others, however, that having to login everyday was a detriment to their enjoyment of the course. About half of the subjects, however, appeared to be unaffected by or indifferent to the number of conference entries as is illustrated in questionnaire item 7.

Grammar and Spelling: It appears that poor grammar and spelling really annoy some subjects while others seem to be most accepting of less-than-perfect conference submissions. Those subjects who are distracted by grammatical and spelling errors do not indicate that it is enough of a detraction to prevent them from at least skimming the content itself. These types of errors seem to be a mere annoyance rather than a negative conferencing experience. Please see item 8 in the master table.

Mark Allocation: The questionnaire contained many items that referred to the allocation of marks for conferencing (questions 9, 12, 14, 17, 20, 21, 22, and 28). While all respondents understood that a main objective of conferencing was student-student interaction, not everyone said they would continue to participate if participation was not worth marks. Some subjects seemed indifferent to participation in a not-for-marks conference while others said they would continue to participate regardless whether marks were involved or not. Only one respondent noted disliking required conferencing and would not participate if it was not worth marks. This individual explained that conferencing should be optional. It is of interest to note that there was an option provided to students in place of the conferencing component. Despite indicating a dislike

of conferencing this individual, in fact all 22 students in the course, opted for the conferencing component instead of the alternative activity.

Conferencing was worth 10% of the overall mark in this graduate level course. When asked if an increase in marks would increase participation, only two subjects indicated that it would. If, on the other hand, marks were decreased, the majority of the subjects indicated that they would indeed participate less. The subjects indicated that having too little value on conferencing made the effort of reading and responding too great. The costs in terms of time and effort outweighed the benefits. Because conferencing is seen as a positive part of their courses, however, students believe that it is of value to place a reasonable amount (between 10% and 15%) of marks on participation. The interaction is valuable and so should be recognized with marks.

Half of the respondents believe that if too many marks are allocated to conferencing, the quality of contributions may suffer as a result of people making entries for the sake of making entries. Students in the course used for this investigation were to make two entries per conference to fulfill the requirement. While many students in the course made more than the required two submissions, some respondents feared having even more entries to sift through, on any given day, if the mark allocation increased. If marks were to be changed, as was asked in item 22, it should relate to more group work or project work which utilizes conferencing in a slightly different way. In short, a few individuals would find that more marks would be reasonable if more was required from using conferencing with more small group and collaborative activities.

Entry Composition: Questionnaire items 10, 11, and 13 deal with conference entry composition. Half of the respondents noted that when reading others' entries they

often realize that their own opinions were being expressed. Some subjects, when this happened, indicated that they would personalize their comments to reflect their individual experiences. Others, however, admit to "making-up" entries in order to fulfill the conferencing requirement. With respect to having one's opinion already being stated, much frustration was expressed when fellow classmates would jump ahead into the next conference, before the conference start date, to post their comments. When this happened it was more difficult to be original and resentments began to surface.

Finally, some subjects admitted entering comments simply to fill the course requirement. Lurking, they noted, (item 27), could be quite thought provoking in itself. Apart from making the required two entries, subjects have noted that they sometimes preferred to simply read and learn. In any conference there will be certain individuals that love to write. Without these individuals and other contributors, lurking would be impossible.

Conference Design and Moderation: With respect to conference design and moderation, most subjects indicated that they were happy with the way the conference was setup in MDDE 621. Moderator control over non-relevant topics was not particularly required and feedback was noted as prompt and insightful. Students knew the instructor was attentive to the conference but not so much as to be obtrusive. These student reflections are further supported by information from the instructor questionnaire. On average the instructor logged-on to the conference five times per week and posted his own entries an average of three times per week whether it be to provide new information, ask a question, or to respond to previous postings. The instructor also indicated reading

each conference entry thoroughly which corroborates student accounts of “feeling his presence”.

Regarding other conferences students have been in, one design issue that was voiced regarded group size. All subjects did not want to see larger conferencing groups. Most indicated that conferencing would be made better with smaller groups - that it would be easier to form bonds and not to repeat each other if groups never exceeded 20 students. A few respondents suggested that sub-groups could be formed from the main group for at least part of the conferencing experience. It was noted that with a face-to-face group of twenty, not all twenty students participate fully, if at all. Conferencing with twenty individuals is no different. It was expressed that with a group of five or six one is more likely to have all students participate to a greater degree. Refer to items 15, 16, 18 and 23.

Concept Attainment: As noted previously, the benefits derived from conferencing are not isolated to concept attainment. Some students argued that they could learn the material just as well without conferencing. What they did like about conferencing, however, was the interaction and connection with others - the reduction of feeling isolated. The majority of respondents (about two-thirds) did indicate, however, that concept attainment was augmented through conferencing experiences. Please see item 26 in the master table.

Table One (Master Table): Results of Student Questionnaire

SD: strongly disagree **D:** disagree **N/A:** neither agree nor disagree
SA: strongly agree **A:** agree

Item	**SD**		**D**		**N/A**		**A**		**SA**	
	n	%	n	%	n	%	n	%	n	%
1. Difficulty accessing the web-board due to technological problems was very frustrating.	3	38	3	38	1	13	1	13	-	--
2. I had many positive conferencing experiences.	-	--	-	--	1	13	2	25	5	63
3. I had many negative conferencing experiences.	4	50	3	38	1	13	-	--	-	--
4. Overall, my view of conferencing was positive.	-	--	-	--	1	13	1	13	6	75
5. I always read each conference entry thoroughly.	-	--	5	63	1	13	2	25	-	--
6. I find the content of conference entries useful.	-	--	1	13	3	38	4	50	-	--
7. I feel overwhelmed by the number of conference entries that are posted.	-	--	2	25	3	38	2	25	1	13
8. I am distracted by poor grammar and spelling in the conference entries.	2	13	3	38	-	--	1	13	2	25
9. I would continue to participate in conferencing even if no marks were given.	-	--	1	13	2	25	2	25	3	38
10. When considering making my own conference entries I find that what I want to say has already been previously stated.	-	--	2	25	4	50	1	13	1	13
11. I participate not necessarily because I have something to contribute, but to fill the course requirement.	2	25	3	38	-	--	3	38	-	--
12. I dislike required CMC participation.	5	63	1	13	1	13	-	--	1	13
13. If I don't have something new to contribute to a conference I try to make up an entry to fulfill the conferencing requirement.	1	13	3	38	-	--	3	38	1	13
14. I see value with having some marks allocated to CMC participation.	-	--	-	--	-	--	4	50	4	50
15. I would like to have more moderator control over non-relevant entries.	-	--	3	38	4	50	1	13	-	--

Table One Continued (Master Table): Results of Student Questionnaire

Item	SD		D		N/A		A		SA	
	n	%	n	%	n	%	n	%	n	%
16. I think the conference is too big - there should be fewer students in each conference.	-	--	3	38	-	--	4	50	1	13
17. I would prefer to have participation be optional - not for marks.	2	25	3	38	1	13	1	13	1	13
18. I believe more guidance should be given by the instructor regarding the direction of the discussion.	1	13	6	75	1	13	-	--	-	--
19. I find that there are too many non relevant conference entries.	1	13	5	63	2	25	-	--	-	--
20. I think that increasing the allocation of marks for CMC participation would increase participation.	-	--	4	50	2	25	2	25	-	--
21. I think that decreasing the allocation of marks for CMC participation would decrease participation.	-	--	1	13	1	13	6	75	-	--
22. I like the CMC structure as it is and I would make no changes to the allocation of marks.	-	--	2	25	2	25	3	38	1	13
23. I am happy with the feedback given by my instructor regarding my conference entries.	-	--	-	--	1	13	4	50	3	38
24. There were more positive aspects to conferencing then negative aspects.	-	--	-	--	1	13	1	13	6	75
25. I believe that conferencing helped me to learn the course content better than if there was no conferencing.	1	13	1	13	-	--	-	--	6	75
26. I understood the concepts better because I was able to explore them with fellow students.	-	--	2	25	1	13	2	25	3	38
27. I believe I would experience beneficial learning outcomes from reading entries even if I didn't contribute to conferencing by making my own submissions.	-	--	-	--	1	13	6	75	1	13
28. I think that too many marks allocated to conferencing will reduce the quality of contributions.	1	13	1	13	2	25	4	50	-	--

Summary of Positive Experiences:

The following list summarizes the positive outcomes that students reported (from the questionnaire and telephone interview) of their conferencing experience in both the specific graduate level course and in general. Please see Appendices C and F for more detail.

a. learned from others and their experiences through dialogue;

b. experienced a large variety of perspectives and opinions;

c. ability to reflect then comment at any time of day or night;

d. connections and out-of-class e-mail relationships were formed;

e. felt less isolated;

f. helped one stay on-top of course work - a good motivator;

g. appreciated being able to share thoughts and perceptions with others.

Summary of Negative Experiences:

The following list summarizes the negative outcomes that students reported (from the questionnaire and telephone interview) of their conferencing experience in both the specific graduate level course and in general. Please see Appendices C and F for more detail.

a. some student-student conflict;

b. having too many conferences active at one time;

c. having no sense of a learning community;

d. having some students with no sense of "netiquette" (no white space, long entries, etc.);

e. slow connection time;

f. not getting feedback from others

g. too many postings to read;

h. having people work ahead and post in conferences that were not even started yet;

i. not having anything to say because others have already posted similar opinions;

j. not having an alternative to conferencing in other courses (the course from which subjects were obtained did have an alternative).

Research Questions #3

To answer the third research question, "What are the intended outcomes that instructors would have students experience as a result of computer mediated conferencing?" a questionnaire was sent to the course instructor. The questionnaire consisted of three closed-ended questions, four open-ended questions, and 11 likert-type questions that offered the instructor a choice of five response options. Additional space below each likert-type item was provided for the instructor to elaborate on the response if required.

According to the data obtained from the questionnaire, there were two main purposes for including conferencing as a part of the course in question. The first reason given was to increase student-student interaction. Students were informed that conferencing would be optional and that an alternative to conferencing would be provided if requested. All of the students, however, decided to participate in the conference. Just as it is in face-to-face situations, students were free to participate a lot or

not very much. The instructor made sure that all students understood the participation criteria (two entries per conference) but did not prompt students for participation. The level of student participation was entirely the choice of the student.

The second reason for including conferencing was to provide an alternative experience to reading and assignment writing. Because all twenty-two students in the course opted to participate in conferencing, one can assume that they appreciated having this option. Distance education, in the not too distant past, was not afforded the ease of student-student interaction that is becoming more and more prevalent in developed countries. If one has the technology, why not use it for all it's worth!

Research Questions #4

To answer the fourth research question, "Are the intended experiences from conferencing (instructor objectives) the actualized outcomes (student experiences) from conference participation?" data from the instructor questionnaire was once again used. If a student opted for the conferencing alternative (and all did) a value of 10% was assigned to successfully fulfilling the requirements. To determine if student-student interaction did take place, the instructor monitored conference participation.

Differing somewhat from the definition used in chapter one, interaction, to the instructor, was used in a very general way to refer to communication among and between students and as such the instructor gave a great deal of latitude with respect to entry content. The instructor looked for people "talking" to each other, acknowledging each other's comments, answering each other's questions, etc., and whether they did this at

length or minimally. Comments that could be construed as "off-topic" were not penalized but the instructor did note if the interaction was respectful and business-like.

Pertaining to the concept of a learning community, off-topic respectful communication is a necessary component of relationship building which is fundamental to creating a learning community. A "general" conference was setup by the instructor specifically for such interaction and/or non-course related "chat". With respect to the objective of increasing student-student interaction, even non-related communication could be considered partially fulfilling the course requirement. In short, any conference participation by students would be meeting the objective of increasing interaction for, without conferencing, traditional text-based distance education does not readily provide for such connection. When looking at the primary reason for conferencing (increased interaction) and the criteria for fulfilling the requirement (active participation) one can ascertain that this objective was successfully met.

The second reason for including a conferencing component was to provide an alternative to reading and assignment writing. As was mentioned above, because all students chose to participate in conferencing, it would appear that they appreciated having this option. In fact, despite some students' dislike of conferencing, all students said that conferencing was beneficial and the overall experience was worthwhile. This finding is supported in the literature as students have noted that they appreciate being able to read others' reflections and engage in dialogue (Naidu, 1997). To reiterate from chapter two, conferencing can enhance interaction that may not have been possible in a traditional classroom. As one student notes, "I'm shy and I normally would never ask a question in class or participate in class discussion" (Daugherty & Funke, 1998). In short,

the literature suggests that there are positive and negative experiences relating to conferencing - similar to what was expressed by the subjects in this study.

While it is not surprising that some students would prefer not to participate in conferencing, what is surprising is that when given an alternative to conferencing they did not choose it. It would be expected that if an individual does not like an activity and has an alternative to that activity, that they would chose the alternative. In this study one individual disliked conferencing but still chose to participate in conferencing. Perhaps this student, like others, realized that conferencing had beneficial elements and chose to participate even though they disliked some of the aspects pertaining to the activity. Perhaps their motivation can be compared to the individual who does a little exercise and eats healthier foods even though they might prefer the "alternative". Perhaps this type of individual realizes that learning is the primary goal and, as Chen and Willits note (1998), the more dialogue, the more likely learning is to occur. On the other hand, perhaps this type of individual feels the greatest value of online forums is the sharing and receiving of information and networking, not the construction of new knowledge, (Kanuka & Anderson, 1998). In any case, these students chose conferencing over the alternative activity, whatever their motivation may have been.

Chapter Summary

Despite the fact that there were more negative than positive experiences delineated, the overall view of conferencing was positive. (The positive aspects of conferencing did outweigh the negative). The main themes regarding negative conferencing experiences related to conference design issues, "netiquette," lack of

learning community, and having too many postings to read in each conference. Positive themes were related to interaction, learning from others' experiences, feelings of connection, increased motivation, and the convenience of asynchronysity.

Subjects in this study also provided suggestions for conferencing improvement. From design issues to having a consistent conferencing system throughout the MDDE and AGGDE(T) programs, students suggested ways to improve conferencing or noted how problems negatively affected them. As for the instructor objectives and if they were met, increased interaction between students was a main objective and through conferencing, increased interaction between students was achieved. The second reason for including conferencing was also fulfilled. All students were given the option to participate (as an alternative to reading and assignment writing) and all students chose the option.

Relating to the constructivist theme, the dialogue that ensued from conferencing offered multiple perspectives from which students could reflect on and integrate or reject depending on the issue at hand. Real world relevance was important to many of the subjects so that integration of the knowledge would have "real" meaning not just shallow overtones. The concept of a learning community was referred to a few times by the subjects. From feeling less isolated and more connected, students were better able to clarify and express their ideas by reading postings and making entries. A few out-of-class e-mail friendships also developed from the conferencing interaction. To reiterate, the positive experiences did outweigh the negative experiences of conferencing.

CHAPTER V

DISCUSSION, IMPLICATIONS AND SUGGESTIONS

Summary of the Study

Interaction has a history of being perceived as a vital component in the learning process (Taylor, 1998). It is said that interaction provides real meaning to course content (Garrison, 1990). With the relatively recent application of computer conferencing in distance education, the educational benefits of interaction can be more readily realized. Many educators ask if distant students learn as much as students receiving traditional face-to-face instruction. Research comparing distance education to traditional face-to-face instruction indicates that teaching and studying at a distance can be as effective as traditional instruction, when the method and technologies used are appropriate to the instructional tasks, there is student-to-student interaction, and when there is timely teacher-to-student feedback (Gottschalk,1995).

This study investigated what experiences students had with conferencing and if the instructor objectives for using conferencing were being met. According to the instructor, conferencing was primarily used to promote interaction. Subjects of this study were aware that this was the main purpose of conferencing. By exploring student experiences one can look at whether students are getting what they need to maintain participation/interaction. By exploring what students are noting as positive aspects of conferencing and negative aspects, one can learn how to make conferencing a more rewarding experience.

In this study four research questions posed were:

1. What positive experiences do students have in computer mediated conferencing?
2. What negative experiences do students have in computer mediated conferencing?
3. What are the intended outcomes that instructors would have students experience as a result of computer mediated conferencing?
4. Are the intended outcomes from conferencing (instructor objectives) the actualized outcomes (student experiences) from conference participation?

Discussion of the Findings

Limitations of the Study. There are a number of conditions that must be attended to when discussing the results of the study. Utilizing a case-study design, this investigation is limited because only one group of subjects was examined. With respect to generalization, the results from this type of query, by design, are limited as the issues that present themselves may not be readily transferred to other situations. Limitations do not mean, however, that generalizability is impossible. A case study does elucidate how the other members of the class might respond or react because they share attributes and qualities in common. Generalizations simply need to be made with care.

According to Merriam (1988), the primary criticisms with a case study deal with the internal validity, external validity, and reliability. Internal validity is an issue of whether the research findings reflect reality - if the results show what is really there. One must keep in mind that all experiences are viewed and interpreted by an individual who

is, by nature, a subjective person. In this regard, Merriam (1998) indicates that experiences are not self-explanatory and must, therefore, be reasoned out by individuals. In this investigation where experiences of students were explored, the experiences are assumed to be valid because the students are the ones who are interpreting the experience. In qualitative research such as case studies, it is the obligation of the researcher to present the perspectives and experiences of the participants as they are reported (Merriam, 1988).

Because the researcher in this study was also the recorder, notes were taken from the phone interviews and then paraphrased back to the subjects to help ensure accuracy and understanding. The fact that the researcher had previous experience with conferencing did not play a significant role in gathering and recording the information from the subjects for personal bias did not distort verbatim recording of the subjects' responses. The subjects were not made aware of the researcher's personal preference for or against conferencing and the possibility of "leading" the subjects with respect to "desired" responses was reduced due to questionnaire and phone question design and presentation. The open-ended nature of the phone questions as well as the "comment" section on the questionnaire enabled students to express themselves without external pressure. With this in mind, student comments arising from the questionnaire have been transcribed, word for word, in Appendix F. Information arising from the interviews, while not solely verbatim, can be found in Appendix C.

In a case study external validity may also be compromised for case studies are like snapshots of one point in time. The information gathered from a case study does not necessarily depict what the data would be like if gathered from a larger population and

therefore inferences about the larger population cannot be drawn. With this in mind, however, the data gathered from the study may be generalizable to some extent. Besides increasing interaction, motivating students, etc., suggestions were given for improvement that may indeed be applied to a broad scope of conferencing situations.

Reliability is also a concern with this type of study. If reliability refers to replicability and if human behavior is said to be dynamic, then each reader must, after looking at the process and background of an investigation, formulate their own opinion regarding reliability. To address this issue, details concerning the background of the study, how subjects were selected, the instruments used, etc. have been provided.

Apart from the constraints of design, this investigation is also limited by the sample itself. The subjects were individuals from a student population in one of two programs (MDE or AGDDE[T]) who chose to reply to the initial request, individuals who had an interest in the topic and, in essence, were self selecting. This sample was not random in any way. As with any questionnaire, the characteristics of the individuals who did participate may not be similar to those who did not participate and with this in mind, any attempt to draw conclusions without acknowledging this and other limitations may be inaccurate.

Regarding the subjects who chose to respond, the researcher had a belief that subjects fell into two main categories: i) students who liked conferencing a great deal and wanted to express their views; and ii) students who disliked conferencing for the most part and wanted to let the researcher know why. In fact, most of the subjects did seem to fall into these two categories. As for the individuals who did not respond, they may have been indifferent to the whole conferencing experience or too busy with day-to-

day life. They may have had strong feelings, either positive or negative, but for whatever reason, chose not to participate. With respect to individuals who did not respond, it is doubtful that they would differ significantly from those who did respond for like the subjects of the study, one would expect a range of opinions and preferences. In any event, this inclination to view subjects in this way was acknowledged so that the researcher could take any possible distortion into account so that it would not affect the results inadvertently by understating or overstating either the positive experiences or negative experiences of conferencing (or both!)

Despite the constraints regarding the potential benefits of the data, the findings are interesting and informative. The current literature has not exhausted itself with research regarding student conferencing experiences and as such this study does contribute to the growing body of knowledge in this area. The information gathered in this investigation may help instructors in the development of a better understanding of how computer conferencing affects their students - all of their students not just those who are similar to those who responded.

Research Questions #1

What positive experiences do students have in computer mediated conferencing?

As with most activities in life, conferencing affords its participants both positive and negative experiences. Exploring these experiences is an important first step in determining how well conference objectives are being met, as well as if and how the positive aspects of conferencing can be enhanced and the negative aspects of

conferencing can be reduced or eliminated. Starting from the assumption that interaction is indeed vital to higher learning, then providing avenues for interaction is good methodology.

Kearsley, Lynch, and Wizer (1995) note that experiences with computer-mediated communication indicate that conferencing works very well for graduate level education and that when compared to face-to-face classes, student satisfaction with online courses is higher as is GPA, critical thinking, and problem solving. Discussion, they note, is usually greater as well. Other positive experiences the literature included being able to share one's views as well as learn from the views of others. Making "connections" was also seen as a positive outcome of conferencing. "Positive," in this context, refers to anything constructive that occurs as a result of an experience. Constructive occurrences contribute to the satisfaction of the individual, but the contributions are not necessarily related to specific learning outcomes. Certain experiences are viewed as positive because something beneficial is derived from the experience which may or may not relate to the course directly at all. From the data collected it was inferred that many of the positive experiences derived from conferencing were indirectly related to content (for example, increased motivation) and while the interpersonal interaction is significant, it is not always the core beneficial experience of students.

With respect to this investigation, the students' positive experiences of conferencing included learning from others (their experiences and perspectives), being able to reflect then comment at their convenience, feeling less isolated, making connections with others ("in and out-of class"), and having conferencing as a motivator to keep on top of one's studies. In short, conferencing, despite the negative aspects, was

viewed overall as a positive part of the educational experience for the participants of this study. This affirms what has been stated in the literature to date (Kearsley, Lynch, & Wizer, 1995; Naidu, 1997; Daugherty & Funke, 1998; Kanuka & Anderson, 1998). It is not a far reach of the imagination to think that the suggestions for improving conferencing given by the subjects would also improve other conferencing situations.

Research Question #2

What negative experiences do students have in computer mediated conferencing?

In the literature negative experiences ranged from a lack of learning community, to hardware and software problems, a lack of fluidity, low writing skills of some students, and slow response time from some instructors. Fortunately the students in this study did not express that a lack of fluidity or that hardware and software were problems although a slow connection time was reported by one subject. Negative experiences that the students did experience included a lack of learning community, having too many conferences open at one time, having other students work ahead, student-student conflict, poor "netiquette," lack of feedback from students, having too many postings to read, and not having anything to say that hadn't already been said.

In addition to the above negative experiences, one student indicated that they did not appreciate not having an alternative to conferencing in other courses (the course used for this study did have an option to conferencing). Like this subject, the literature alludes to some individuals who see conference participation as a "task" that needs to be performed. A task in which they do not have any real interest or investment in the

interaction. Perhaps these individuals' indifference or dislike of computer conferencing stems from a dominance of one of the eight ways of knowing that does not stress interaction. According to Lazear, (1998), two of the eight intelligences, intrapersonal and interpersonal, do integrate or use all of the intelligences and, in normal people each of the eight intelligences do not operate in a relatively isolated way, independently from each other. If a person is not dominant in intrapersonal or interpersonal, however, but dominant in body-kinesthetic intelligence, for example, they may have decreased interest in conferencing and may, as a result, have more negative experiences and fewer positive ones. For these students the best that instructor and conference designers can do is reduce as many of the "annoyances" or hindrances to conferencing in order to maximize participation and overall conference satisfaction.

To reiterate, the overall student view of conferencing was positive despite the fact that many negative experiences were noted. This is reflective of what is reported in the literature to date (Comstock & Fox, 1996; Kearsley, Lynch, & Wizer, 1995). In this study, the subjects did not simply express their dissatisfaction, however, they gave suggestions for improvement. (Student suggestions for conference improvement were not readily identified in previous literature). These suggestions are to follow.

Research Question #3

What are the intended outcomes that instructors would have students experience as a result of computer mediated conferencing?

Conferencing was included in the selected graduate level course for two reasons. The promotion of interaction between students was the first objective and students had a

choice in how much or how little they chose to participate. As with traditional face-to-face classroom situations, not every student participates to the same extent. Computer conferencing is no different. All students in the course, not just the participants in this study, fulfilled the conferencing requirement and many exceeded the requirement. At this point it is important to note that although marks were allocated to the conferencing component of the course, students were given an option to do an alternative assignment. The students were not obligated to participate in conferencing unless they chose to do so.

The second objective relates to variety. As an alternative to reading and assignment writing, conferencing was included to give students another means of learning and expression. Relating to the eight ways of knowing, the more options one has to chose from, the more likely one is able to capitalize on a form of learning and expression that works for them. Because feeling connected is important to many students, conferencing can provide a way of interacting that was previously unavailable in the field of distance education before the availability of computer technology.

Research Question #4

Are the intended outcomes from conferencing (instructor objectives) the actualized outcomes (student experiences) from conference participation?

Without a doubt computer conferencing does increase student-student interaction. Many factors affect the degree to which students participate as was identified in the questionnaire. These impediments and incentives will be discussed in the following section. As for providing students with another option in their studies, this too was actualized as each of the 22 students opted for the conferencing component. Not a single

student chose the alternative assignment. Despite the reservations regarding conferencing that some students had, the reservations were outweighed by the positive aspects of conferencing. Why a student would chose conferencing over an alternative activity when he or she has reservations and/or frustrations regarding conferencing is somewhat perplexing. The surrender, if you will, to an activity which is distasteful in some way despite having an alternative activity lends credence to the overall benefit of conferencing. The positive trade-off of the alternative activity was not sufficient to overcome the draw or positive pay-off of conferencing.

This positive "pay-off" of conferencing may be due to subjects feeling less isolated and more connected. From the telephone interview, many subjects indicated that they liked to be "heard" and have their opinions read. While it did not seem to matter if other students agreed with their views, just having others read their posting made them feel like they were a part of a group and valued. Perhaps this emotional support and feeling of connectedness, whether acknowledged openly or only on a subconscious level, is the draw of conferencing. As two subjects indicated, social beings need social contact, and a good learning community will foster such contact.

Implications and Suggestions for Further Study

As some students noted, interaction for the sake of interaction does not give one much satisfaction. Some subjects indicated a need for the development of community through short biographies, smaller groups, simple "chit-chat," etc., reporting that when comfort levels have increased so too can relevant interaction. The findings of this study did more than outline the positive and negative experiences of students. The subjects

gave practical suggestions that would improve the conferencing experience for them. Keeping in mind that what might improve the conferencing experience for the participants of the study, one may not assume that the suggestions are entirely generalizable to all of the 22 students of selected course. What one individual may like, another may find to be a hindrance in conferencing.

Notwithstanding the cautions above, certain themes or suggestions came up consistently within the sample group. Besides creating a learning community, issues regarding conference design were noted for improvement. From restricting the number of students in a conference to preventing students from jumping ahead into future conferences, students felt that small changes in design would increase their positive experiences. Having small groups work together expressing experiences relating to their own reality was suggested as a replacement of a larger group reiterating the same answers to the same questions.

Issues regarding "netiquette" were also consistently brought up. Having conference entries that are too long, overly verbose, and "academic" prompted subjects to skim read or avoid reading the posting altogether. For some, proper spelling and grammar as well as a lack of "white space" distracted students enough to skim instead of thoroughly read an entry. To address these issues students suggested having a mini-course on netiquette when they enter the MDE or AGDDE(T) program as well as having the course moderator speak to "problem" students in a private e-mail when necessary.

This investigation looked at the experiences of students participating in computer conferencing as well as instructor objectives for conferencing. It is agreed by both sets of subjects (students and instructor) that interaction is a key component of conferencing.

Through the accounts of student experiences, both positive and negative, one can better ascertain if students are getting what they need to maintain conference participation. Good conference moderation and small group size are seen as two important issues regarding conferencing satisfaction. Since this study is limited and there are many other avenues that require exploration, future research may include the following:

1. the ideal class size/range for optimal conferencing experience and the impact of differences in group size;
2. the importance of netiquette in computer conferencing;
3. students' responsibility for conference moderation; and
4. impact of lurkers in a learning community.

This list of ideas is by no means comprehensive. There are many other possible questions of interest for the inquisitive investigator. On a final note of interest, none of the subjects in the study chose to finish their masters degree via the thesis or project route. Why they all chose the course based route is yet another topic for inquiry.

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APPENDIX A

STUDENT COMPUTER CONFERENCE PARTICIPATION QUESTIONNAIRE

Part A: Respond to the following two questions.

1. How many courses, including this course, have you taken that have used conferencing? _____

2. What is the size of your community? (city/town/village/farm/other) _____

Part B: Using the following scale, select one of the responses that best describes your experience or feelings and enter the corresponding number beside the question.

Strongly Agree	Agree	Neither Agree or disagree	Disagree	Strongly Disagree
1	2	3	4	5

EG: I think that I am a nice person __1__

1. Difficulty accessing the web-board due to technological problems was very frustrating. _____

2. I had many positive conferencing experiences. _____

3. I had many negative conferencing experiences. _____

4. Overall, my view of conferencing was positive. _____

5. I always read each conference entry thoroughly. _____

6. I find the content of conference entries useful. _____

7. I feel overwhelmed by the number of conference entries that are posted. _____

8. I am distracted by poor grammar and spelling in the conference entries. _____

9. I would continue to participate in conferencing even if no marks were given. _____

10. When considering making my own conference entry I find that what I want to say has already been previously stated. _____
11. I participate not necessarily because I have something to contribute, but to fill the course requirement. _____
12. I dislike required CMC participation. _____
13. If I don't have something new to contribute to a conference I try to make up an entry to fulfill the conferencing requirement. _____
14. I see value with having some marks allocated to CMC participation. _____
15. I would like to have more moderator control over non-relevant entries. _____
16. I think the conference is too big - there should be fewer students in each conference. _____
17. I would prefer to have CMC participation be optional - not for marks. _____
18. I believe more guidance should be given by the instructor regarding the direction of the discussion. _____
19. I find that there are too many non-relevant conference entries. _____
20. I think that increasing the allocation of marks for CMC participation would increase participation. _____
21. I think that decreasing the allocations of marks for CMC participation would decrease participation. _____
22. I like the CMC structure as it is and I would make no changes to the allocation of marks. _____
23. I am happy with the feedback given by my instructor regarding my conference entries. _____
24. There were more positive aspects to conferencing then negative aspects. _____
25. I believe that conferencing helped me to learn the course content better than if there was no conferencing. _____

26. I understood the concepts better because I was able to explore them with fellow students. ___

27. I believe I would experience beneficial learning outcomes from reading entries even if I didn't contribute to conferencing by making my own submissions. _____

28. I think that too many marks allocated to conferencing will reduce the quality of contributions. _____

COMMENTS:

APPENDIX B

INSTRUCTOR COMPUTER CONFERENCE PARTICIPATION QUESTIONNAIRE

Part A:

Please respond to the following questions which relate to your instructional activity with the selected graduate level course during the fall semester. Please note that "conference" refers to the www-board messages for one section of your course, ie, either one module or one unit of your course.

1. How often (on average) would you log-on to the conference in one week?

2. How often (on average) do you submit your own entries to the conference each week?

3. In the blanks beside each item, please rank how you would classify most of your entries. Assume that 1 is the greatest number of entries per week and 5 is the least number of entries per week.

   _____ as providing new information

   _____ asking a question

   _____ analyzing previous information

   _____ reacting (either positively or negatively) to previous information presented

   _____ other (if required) _____

4. What is your purpose (objective) for using computer conferencing?

5. Do you feel your purposes for CMC are different from your colleagues or the MDE department? Explain.

6. What do you look for to determine if the objectives of conferencing are met for each student? Overall?

7. Do you prompt non participating students to make entries? Why or why not?

Part B:

Using the following scale, select one of the responses that best describes your experience or feeling and enter the corresponding number beside the question. Please use the space below each question for any comments you wish to share or to elaborate on your answer.

Strongly Agree	Agree	Neither Agree or disagree	Disagree	Strongly Disagree
1	2	3	4	5

EG: I think that I am a nice person __1__

1. I always read each conference entry thoroughly. _____

_____

_____

2. I feel overwhelmed by the number of conference entries that are posted. _____

_____

_____

3. I often skim read conference entries. _____

_____

_____

4. I am distracted by poor grammar and spelling in conference entries. _____

_____

_____

5. I find that there are many non-relevant conference entries. _____

_____

_____

6. I think that increasing the allocation of marks for CMC participation would increase participation. _____

_____

_____

7. I think that decreasing the allocation of marks for CMC participation would decrease participation. _____

_____

_____

8. I think that it is important to moderate a conference diligently. _____

_____

_____

9. If I notice that there are some students who are not fully participating, I try to encourage their participation. _____

_____

_____

10. I believe that student "lurkers" can still derive benefit from the conference. _____

_____

_____

11. I don't think that students debate ideas and raise arguments very often. I believe that they talk "past" each other much of the time. _____

WOULD YOU LIKE TO PARTICIPATE IN A TELEPHONE INTERVIEW? _____

Or

WOULD YOU LIKE TO ADD OTHER COMMENTS HERE?

APPENDIX C

TELEPHONE INTERVIEW QUESTIONS:

STUDENT RESPONSE NOTES (in random order)

1. **What are some of the positive outcomes that you got out of conferencing in the selected graduate level course and/or in general?**

* Learned from others (from their contributions and experiences).

* Felt that conferencing opened up a broad mosaic (eg: having students from across Canada and around the world) and therefore provided a much larger variety of perspectives than would otherwise be found in a fact-to-face situations. Also appreciated the fact that one can connect at any time and make a contribution. One constraint of face-to-face interaction is a "poverty of ideas" at the time of interaction. CMC provides an avenue of participation when ideas strike, when ever that may be.

* Liked to have the personal interaction - to be able to bounce ideas off of others and to read about their experiences. Appreciate the diversity of the group and don't mind when small arguments occur - the resulting dialogue is beneficial. Making personal out-of-class e-mail connections and networking is also a positive outcome. Really appreciated Athabasca's pre-conferencing orientation. Also enjoyed reading the biographies of fellow classmates.

* Felt less isolated because of conferencing. Enjoyed classes where the conference questions were requesting personal experience and perspective instead of being based on “regurgitation” of the text.

* Enjoyed reading about and learning from direction of thought that differs from my experience. Appreciate the fact that conferencing requires one to keep current with course readings and conference postings. It is hard to get too lazy about doing the work because you know you will get swamped with conference entries if you don’t stay current.

* Enjoyed the interaction. Enjoyed learning from those in different geographic locations. Conferencing is a good motivator - you think about it every day.

* You have opportunity to express your ideas and get feedback regarding the validity of your opinions. You get to hear others’ experiences and feed off of their opinions.

* Motivation is a great side-effect as it encourages one to keep up with readings, etc. My good experiences involve good conference questions that relate to me instead of having everyone answer the same three questions. It is also good to hear how course content relates to others work experiences.

2. **What are some of the negative aspects that you experienced from conferencing in the selected graduate level course and/or in general?**

* Having some students make negative comments about others (not in 621) and having too many conference active at one time.

* Had no sense of learning community. Some students were long-winded and pages of text can be overwhelming. I have made comments when I don't feel like it just to get the marks. Some conferences had too many entries and this, coupled with a slow connection, make it a painful experience.

* Disliked expressing my opinion and not getting any feedback from others.

* Too many comments/postings. Don't like to miss a day because of volume issues. Some people write "mini-novels" which is annoying. A few technical problems, but this is not due to the course or the university.

* Large courses with lots of postings make it difficult to keep up. I found that if you didn't get your comment into the conference early, then you were left with nothing to say. Some people jumped into other conferences ahead of schedule and this was very frustrating.

* Dislike having conference participation as a course requirement - it stilts conversation. One student was aggressive and that was a negative experience.

* Conferences have been too active. If you miss a few days you have too many messages to catch up on. Also disliked having people jump ahead in conferences before they were due to begin.

* Some participants were irritating with respect to netiquette. Found some individuals hogged the discussion with a "look at me" type of intellectualizing - going so far as to post messages in a conference before the conference start date. I don't like being able to get into conferences before the scheduled starting date.

3. **What do you think the purpose of computer mediated communication was for in the selected graduate level course?**

* Interaction.

* To become aware of different perspectives and to be able to communicate with others.

* To provide an avenue for interaction between students.

* To increase interaction between students and between students and the content.

* To promote sharing and discussion.

* To motivate the student and reduce the loneliness that many distance students feel. It also helps the participants get a feel for how to undertake conferencing in their own occupations.

* To be able to interact, debate with, and learn from other students. The instructor may include conferencing so to more easily assess whether students are actually reading content and debating ideas (reduces the "fudge factor").

* Learning is a social activity and interaction is critical in a graduate level courses. Conferencing helps one apply concepts through discussion.

4. What would increase your participation, in general, if anything?

* More feedback regarding my posted comments (either by the instructor or students) may increase my participation.

* More marks. A very good moderator can inspire me to contribute more.

* If I got private e-mail from the instructor asking for a more detailed explanation of something I would then increase my participation.

* If there was a specific topic of interest I would participate more.

* Increasing personal interest in the conference through various means (peer groups, team approach, setting up debates, etc.,) would increase my participation.

* Nothing in particular would increase my participation.

* Smaller conferencing groups (even sub-conferences of the whole class) would increase my participation. For example, a class of 28 can be organized into seven mini-groups.

* If I really relate to my classmates I may participate more.

5. What would decrease your participation, in general, if anything?

* If there are too many inappropriate comments directed at me or other students I would participate less. If my ideas were "knocked down" a lot I might reduce participation. Lastly, if there isn't a lot of instructor feedback regarding if we are "on the right track" then I might not participate fully.

* Nothing comes to mind.

* If all the students had to answer the same questions and all you do is read the same stuff over and over, I would loose interest.

* If the conference topic was boring I would not participate as much. If I had other assignments due then conferencing would take second place.

* I am not sure.

* If there were little interaction - all "one-way" postings where no one commented on the material and people didn't share and relate and debate.

* Too many people making too many entries (especially really long entries) would discourage me and I may participate less.

* If the required questions have academic answers then the conference becomes boring as you read the same thing 20 different ways.

6. Is there anything you would change about conferencing in the selected graduate level course? In general?

Note: all subjects indicated that MDDE 621 was well set-up and that they were happy with its organization.

* Have the instructor privately e-mail students who are dominating the discussion and somehow tactfully ask them to reduce the volume so to let others participate. Also prevent students from entering conferences before the starting date. Have a set of netiquette suggestions sent to each students prior to starting the conference. Also make sure that there is at least minimal instructor feedback so that we know if we are progressing in the right direction. When you set up the conference with questions, make the questions higher up in Blooms Taxonomy.

* Have a consistent conferencing system so that students aren't taking time learning the system for each course (EG: WEBCT vs WebBoard.)

* No changes - like the variety of conferencing experiences.

* Foster a learning community. Have students get to know one another - perhaps mini-conferences with 3-6 people per group. Lurking in other groups would be fine, but restrict comments to your own learning group.

* Make conferencing optional. Don't assign marks to conferencing.

* No changes come to mind.

* Reduce the number of participants - between 10 and 12.

* Prevent students from jumping into conferences early. Explain to people the concepts of "white space" and short entries without quoting an entire chapter.

7. Did you value the comments made by other students on your own reflections in the selected graduate level course?

* Yes, very valuable.

* Yes and no.

* Not always. Many comments were simply agreeing with mine - how valuable is that? Many comments were those related to "social care-taking" - there was limited higher order thinking and little disagreement. Sometimes I like an argument.

* Yes.

* Yes. I found the feedback to be very important. I would prefer, however, that the comments be more immediate and spontaneous rather than planned.

* Yes.

* Sometimes. If my entries didn't receive comments I would wonder if I was behind the class or "off base."

* Yes.

8. Did you believe that collaborative learning did occur (i.e., we helped one another understand and learn.) in the selected graduate level course?

* No.

* Yes - I learned from others.

* Yes.

* Yes - especially through shared experiences.

* Yes overall, but not as much as in other courses. Generally there was little generation of knowledge or ideas as there were no collaborative projects assigned. In other conferences, when we critiqued an article, as opposed to describing it, more collaborative learning occurred. I may not add collaborative conferencing assignments without taking something else out of the course - it is a lot of work.

* Yes. I asked questions and I got responses. I like to hear others' experiences.

* No.

* Yes. I learned from others situational experiences.

9. Were you happy with the way the conference was moderated in the selected graduate level course? In general?

* Yes.

* 621 was great. The moderators participation was just right. In some of my other courses I had no idea if the instructor was around. This isn't necessarily a bad thing if the group has formed bonds, but if they haven't, then it can become a detriment.

* Yes. The facilitator was great. You felt safe and felt his presence without being overwhelmed. It would become irritating if a moderator responded to everything.

* Yes.

* Yes. He did not over-moderate but we still knew he was there. He attended to our questions promptly.

* More or less. I would have liked to have had the moderator encourage people to refer to readings, not jump ahead, and leave "white space" in their responses.

* Well moderated. Feedback was good. Good response time. In other conferences, I've had the good, the bad, and the ugly. This conference was good.

* Yes. Comments were focused.

10. Are you happy with the mark allocation for conferencing in the selected graduate level course? In general?

* 10 % was good. I was sometimes surprised at lurkers who dropped in to make the required two comments, but other than that, it was OK.

* Marks were good. I think that if you had conferencing worth more marks, then it would be hard to make quality entries. If it was worth less, then you might have less participation.

* 10% is good. It can vary, however, depending on instructional objectives. If there is more required discussion, then the conference can be worth more, and vice versa.

* 10% is just right. Two posting per conferencing is fair to get full marks.

* The mark allocation was appropriate.

* For the amount of work involved, (reading entries, reflecting on entries, and constructing entries) 10% seems low.

* I think that if there were no marks, then many people wouldn't not participate. I would like conferencing to be an option - with no marks being allocated to participation.

* 10% is fine. Even though I may think conferencing is an effort overall, I think that is should be used. I need the connection and without conferencing, I wouldn't have the connection.

11. Other comments …….

* Some people may not like chit-chat in conferences, but I think that it is part of the experience. You can also develop e-mail connections through conferencing experiences.

* I like smaller conferences. When a conference gets too big, it reduces the quality of interaction.

* I like conferencing because of the variety of people you interact with. Instructor guidance can make a big difference in conferencing satisfaction.

* I'd like to see less "verbal diarrhea" when reading conference entries.

APPENDIX D

LETTER OF REQUEST TO PARTICIPANTS

December 20, 1999

Dear MDE Student:

I am a student in the Master of Distance Education program at Athabasca University, and am currently working on the thesis component of the degree requirement. The focus of my thesis is student experiences of computer mediated communications (CMC) and how they relate to instructor objectives.

As computer conferencing becomes more popular, it is of interest to learn more about how students view their experiences of conferencing. Their opinions and suggestions may increase the effectiveness of this learning methodology. Information in this area is crucial to assessing whether the intended purposes of computer mediated communication are, in fact, realized.

As a participant in a course utilizing computer conferencing, I would like to ask two things:

1) that you complete and return a short online questionnaire, which I will send you shortly after you agree to participate (it will take less than ten minutes to complete);

2) that you participate in a short telephone interview (20-25 minutes) after completing the survey.

You may be confident that your privacy will be protected. Access to all data will be restricted to my thesis supervisor and myself, nothing you say in either the survey or the interview will be associated with you, and you will not be identified in the thesis as a participant.

Participation in this study is completely voluntary. You are free to participate or not participate as you wish, and you may withdraw or terminate your participation at any time. If you agree to participate, you will receive the survey by e-mail, and I will phone you at a pre-determined time acceptable to both of us for the interview.

I am confident that increased understanding in this area of distance education is also important to you and it is in this context that I ask for your assistance. As a respondent to this study, you are welcome to the results upon completion. Thank you for your attention to this request.

APPENDIX E

LETTER OF REQUEST TO COURSE INSTRUCTOR

January 10, 2000

Dear Instructor:

My name is Karen Campbell and, as a graduate student in the Master of Distance Education program at Athabasca University, I am currently working on the thesis component of the degree requirements. The area of interest to me is related to computer mediated conferencing (CMC.) Computer technology has afforded distance educators a greater opportunity to have students collaborate and share ideas broadening the scope of traditional distance learning. With this in mind, some instructors have integrated into their courses a conferencing requirement.

My specific interest relates to student experiences of conferencing, especially as they relate to the intended outcomes that instructors desire. To investigate my topic I require, and humbly request, that you complete a short questionnaire (it will take approximately fifteen minutes to complete) as well as participate in a short telephone interview if required.

Please be assured that your anonymity and privacy will be protected. Should you have any questions, please do not hesitate to contact me by phone, e-mail, or fax. Thank you for your time and consideration.

Yours truly,

Karen B. Campbell

APPENDIX F

SUBJECT COMMENTS ARISING FROM QUESTIONNAIRE

* Conferencing can be a positive experience, but not as it is currently presented. I equate it to having a discussion with 20-30 people, which, in my case, I wouldn't even attempt (I would probably not get a word in edgewise). Instead we are expected to have a meaningful discussion with this large number. Groups of four to six (maybe even less) people (definitely no more) would be much more beneficial. Conferencing is intended, I believe, to emulate a F2F situation where small groups could bounce ideas off one another. It should not be the conveyor of information - that should be the job of the readings.

* What better way to learn about distance education than by distance education. We are able to better understand the design and delivery challenges associated by being on the receiving end of the material and relating our own frustrations/complements!

* Not all conferences are created equal. Some are excellent; a good group, whatever, and I would participate marks or not. Others are not so good, and at those times I admit it is the marks that make me get on there. Good moderator skills are important. There are times I think I would like to see the moderators be a little more hands-on. EG: one course I was in, some people went ahead to each of the conferences for the whole course (the instructor had pre-posted discussion questions) and given responses. Clearly, this

student was just after the marks. I know we are supposed to honor all learning styles, but on the other hand, we are also part of a learning community. When someone misuses the conferences, or doesn't participate, it compromises * my * learning.

* I scan for entry content before I read. Sometimes I find students just regurgitate content from the text or do a lot of intellectualizing that I don't find helpful - students who do this regularly influence my behavior negatively, in some cases encouraging me to do little more than a quick scan of their contributions.

* Regarding marks and participation, perhaps make some conferences optional EG: contribute in six of eight. My hunch is that increasing marks would increase the quality of participation however, there will always be some who contribute marginally anyway. Here the manner in which marks are allocated can influence respondents. For example, this fall I adapted a method of marking used by a CIM (AU) instructor and rated quality and quantity of contributions. It seemed to work well, benefiting those who took conferencing seriously and offered thoughtful contributions.

* "Read only's" (lurkers) are not visible to other students so I think that contributions should be required - it forces students to interact with the materials/ideas and interact - I think more learning comes from the discussion.