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ESL Students' Perceptions of Web-Based Prewriting Activities

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Submitted in partial fulfillment
of the requirements for the degree of
Master of Education

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Abstract

Although much research has explored computer mediated communication for its application in second language instruction, there still exists a need for empirical results from research to guide practitioners who wish to introduce web-based activities into their instruction. This study was undertaken to explore collaborative online task-based activities for the instruction of ESL academic writing. Nine ESL students in their mid-twenties, enrolled at a community college in Ontario, engaged in two separate online prewriting activities in both a synchronous and an asynchronous environment. The students were interviewed in order to explore their perceptions of how the activities affected the generation and organization of ideas for academic essays. These interviews were triangulated with examples of the students' online writing, nonparticipatory observations of the students' interactions, and a discussion with the course instructor.

The results of the study reveal that a small majority of students felt that brainstorming in writing with their peers in an asynchronous online discussion created a grammatical and lexical framework that supported idea generation and organization. The students did not feel that the synchronous chat activity was as successful. Although they felt that this activity also contributed to the generation of ideas, synchronous chat introduced a level of difficulty in communication that hindered the students' engagement in the task and failed to assist them with the organization of their ideas. The students also noted positive aspects of the web-based activities that were not related to prewriting tasks, for example, improved typing and word processing skills. Directions for future research could explore whether online prewriting activities can assist students in the creation of essays that are syntactically or lexically complex.

Acknowledgments

I would like to thank my thesis advisor, Denise Paquette-Frenette. Her constructive involvement in my thesis never failed to clear muddy waters and point the way forward. Her sympathetic ear and hearty encouragement sustained and fortified me throughout the process. I was very fortunate in having such an advisor as Denise.

Dr. Michelle McGinn continued to serve on my thesis committee in spite of being on sabbatical. I offer her my heartfelt thanks for her generosity and commitment to my thesis. I also thank Dr. Glenwood Irons for his thoughtful contributions.

The students and instructor who took part in my study deserve recognition. They graciously devoted time and effort to provide me with valuable feedback. I greatly appreciate their good humour and acceptance of my intrusion into their writing class.

My husband, Victor, was a bastion of support throughout my thesis. He listened as I muddled my way through obscure points, patiently believed in me when I did not, and held down the fort so I could be free to concentrate on my work. I would also like to thank our children, Marcus, Nellwyn, and Sasha, for cheerfully enduring these past years.

This thesis would not have been possible without the involvement of these people. I am deeply grateful to them.

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CHAPTER ONE: INTRODUCTION TO THE STUDY

This study investigates the use of computer mediated communication (CMC) in English as a Second Language (ESL) instruction. ESL students enrolled in an intermediate level academic writing class at a community college participated in an online learning environment using Blackboard, a web-based course management system. The students engaged in online prewriting activities in two separate environments. Specifically, I employed both synchronous and asynchronous discussion forums of a course management system in order to examine how shifting the focus of interactive prewriting activities from a verbal to a web-based environment influences students' perceptions of their performance in prewriting tasks.

I interviewed the students in an effort to gain an understanding of their perceptions of their learning experience using web-based discussion environments for their prewriting activities. I analyzed the data generated from these interviews in order to explore students' perceptions of the online activities as contributors to idea generation and organization in academic writing. The results of this analysis may provide ESL instructors with an informative context for their decisions whether to integrate CMC into ESL academic writing classes. In undertaking this research, I hope to make a meaningful contribution to the current debate regarding web-based learning environments and CMC as educational facilitators in language learning.

Background of the Problem

Computer technology is fundamentally altering the way we teach as well as the way we learn. The field of second language acquisition (SLA), no less than any other, is sensitive to the implications presented by the introduction of computer technology into educational environments. SLA researchers and instructors explore the process of

learning a language in order to develop a sound theoretical background as well as solid application in practice. The advent of computer technology has added a new, dynamic dimension to this exploration as witnessed by the growing body of research regarding the potential of interactive computer technology to facilitate learning. In particular, the rise of the Internet has greatly broadened the scope of learning environments, introducing such new areas of potential as computer mediated communication (CMC), expanded distance education opportunities, and hypermedia. According to the Internet survey company, Nua (1998), the “Internet is the fastest growing communication medium of all time”(par. 1), allowing “access to a remarkable array of educational options” (Simonson, Smaldino, Albright, & Zvacek, 2003, p. 232). Nua (2002), which tracks online demographics and trends, estimates that as of September 2002, approximately 605.6 million people world wide have access to the Internet, with 182.67 million users in Canada and the USA (par. 1). As a result, there is a great deal of interest and speculation regarding the efficacy of the use of online computer technology in education, including the field of second language acquisition.

Any discussion of ESL education and the Internet is necessarily embedded in the larger context of postsecondary education. There is a sense of urgency in the relevant literature encouraging the exploration of CMC potential at this level. The Canadian Advisory Committee for Online Learning (2001) states:

Given the critical importance of learning to the competitiveness of countries and the success of both individuals and companies, research on learning (and learnware product development) should be a top priority for nations around the world. In the case of online learning, a new learning medium with enormous potential, the case for a serious commitment to research and development is even

more compelling. (p. 55)

Many educators and researchers see an opportunity to develop effective new learning environments using CMC and seek ways of examining their impact (Chapelle, 2003; Harasim, 1990; Harnad, 1991; Kern & Warschauer, 2000).

However, it is not only the needs of the institutions that fuel the development of web-based learning environments. Young adults in today's society are becoming increasingly fluent in the world of online communication and possess a concurrent growing interest in employing this technology in their learning experience (Council of Ontario Universities, 2000). An Angus-Reid survey of more than 10,000 international youths found that the "Internet is now as common and invaluable as the encyclopedia and school library were to earlier generations of students" (Ipsos-Reid, 2000, par. 1). As a result, there is a push by postsecondary institutions to include online learning in their curricula. A survey of 134 Canadian postsecondary institutions conducted in 2000 by Campus Computing International (Canada) found that 57% offered online courses. In addition, it revealed that these institutions offered a total of 2,943 such courses, many of them in distance education. Certainly this number has been increasing since then.

North American postsecondary institutions are placing a high priority on web-based learning environments because of their potential to create new revenue, improve teaching, and respond to the growing change in student demographics (Lai, 2004; Pittinsky, 2003). The English language is the lingua franca of the growing global economy, and there is a surge expected in international student enrollment in North American postsecondary institutions (Levine, 2003). For example, for the 2000-2001 academic year in the United States, 547,867 international students were enrolled in postsecondary institutions, the highest level since 1980 (Irvine, 2003). Many of these

incoming students will require ESL courses in order to be able to fully access the educational opportunities offered by their institutions. It is incumbent upon colleges and universities to respond creatively and proactively to the growing demand for quality ESL education using web-based computer technology.

Statement of the Problem Context

The focus for this research study is an exploration into ESL students' perceptions of web-based prewriting activities using Blackboard course management software. Many students who enter ESL programs at North American universities or colleges struggle with the academic writing component of their course. When these students are first faced with an academic writing course, they are often overwhelmed by the confluence of requirements placed upon them. They must generate logical and well-organized ideas regarding a topic, develop an argument according to discourse conventions that may be foreign to them, and be mindful of standards of syntax that they are frequently just in the process of acquiring. In addition to all this, they must also employ a lexicon that demonstrates an ability to marry the above requirements into a cohesive and coherent text (Carrell, 1982). As an instructor of academic writing, I have frequently witnessed the trouble these students have in negotiating this difficult terrain.

However, before any writing can occur, students must have a topic to write about. I have found that many students find the generation and organization of ideas for their academic texts particularly challenging. Although they may excel at multiple-choice questions, or the learning of discrete elements of the English language, they frequently find it difficult to state an opinion or argue a point in essay form. This is one reason why the discussion section of a prewriting activity is so important for ESL students. As an ESL instructor of academic writing, I am committed to exploring ways to facilitate the

difficult prewriting process for students. CMC presents one potential avenue by allowing students to discuss their topic in a written format.

Purpose of the Study

My personal experience in teaching academic writing has attuned me to the difficulty many ESL students have in determining what to say in their writing. My purpose in undertaking this study is to explore whether prewriting activities performed using the written environment of a discussion board forum provided by a course management system assist ESL students in the generation and organization of their ideas for their academic texts. In particular, I interview ESL students to examine whether they perceive prewriting activities have any heightened benefit for the generation and organization of ideas when done online, using CMC, rather than as verbal in-class discussions.

Questions to be Answered

The following two questions provide a conceptual springboard for my exploration of ESL students' perceptions of web-based prewriting activities.

1. How do students perceive the effect of web-based prewriting activities on the generation of ideas for academic texts?
2. How do students perceive the effect of their web-based prewriting discussions on the organization of their ideas?

Course Management Systems

In order to provide web-based courses, colleges and universities must equip themselves with online course delivery systems that allow the development of web-based learning opportunities. Increasingly, postsecondary institutions are investing in course management systems, lured by their potential to create new learning environments and

facilitate classroom management. In a study of online education in Canada conducted by Athabasca University, course management systems are defined as “server-based software supporting the development, delivery, administration and evaluation of online learning environments” (Belyk, Schubert & Baggaley, 2002, Abstract, par. 1). The study also identifies course management systems as “the largest category of online learning environments” (Belyk et al., 2002, Appendix 1). At the present date, the two leaders in course management systems are WebCT and Blackboard. Blackboard is used by more than 2,700 colleges in 140 different countries (Finkelstein & Pittinsky, 2003). WebCT has an even larger market share with 3.6 million student users in 97,000 courses world wide (Campus Computing International Canada, 2000). Although course management systems are currently being promoted for distance education, they can also greatly affect learning environments in loco.

According to the above-mentioned Athabasca University study, course management systems involve five characteristics: a learner-centered approach, content tools, collaborative tools, student management tools, and quiz and survey tools (Belyk et al., 2002, Course Management Systems section, par. 2). In this study, I will examine the first and third characteristics. Course management systems have, as part of their package, a discussion forum: text-based, group discussions that can occur either synchronously or asynchronously. These discussions can be student- or teacher-led and can involve formal threaded discussions or synchronous chat. I used the discussion board component in both a synchronous and an asynchronous environment within an ESL classroom in order to research students’ perceptions of whether this use of a course management system influences their learning of academic writing skills.

Rationale

Internet based interactive computer technology is increasingly being integrated into postsecondary institutions. Educators, educational researchers, and administrators alike have a vested interest in exploring the growing web-based learning opportunities made possible through the Internet. As early as 1991, the interactive possibilities of networked computers were touted as heralding a revolution in human communication (Harnad, 1991). Throughout the 1990s, as the World Wide Web made increasing incursions into educational environments, researchers searched for ways to exploit its potential as an interactive element in the collaborative and constructive creation of knowledge (Harasim, 1997). Today research continues into the educational implications of web-based learning to better direct its implementation as well as deepen our understanding of how this new technology can contribute to the education process (Salaberry, 2001). Statistics Canada (2001) noted that “the emergence of ICTs [information and communication technologies] in education has been so rapid that there exists a serious information gap regarding their role in reshaping education to respond to the knowledge needs and challenges” (p. 59).

This interest in CMC is shared by many ESL educators and researchers who regard it as having the potential to radically restructure how languages are taught. Although there have been many studies undertaken to explore the impact of CMC upon ESL learning, there still exists a need to operationalize certain elements, such as web-based CMC, in a task specific environment in ESL classrooms. “Both in the foreign language field and in TESOL (Teaching English to Speakers of Other Languages), there are a lack of rich instructional models and resources for integrating technology with language learning” (Butler-Pascoe & Wiburg, 2003, p. vii).

In addition, ESL students, who stand to gain the most, are a potentially valuable source of information regarding the use of this technology in the classroom. Not only are students central to any learning dynamic, but they also represent an increasingly computer literate demographic, with growing needs and expectations. As participants in their own learning, contemporary students take on active roles and are increasingly engaged in the creation of environments that facilitate this learning. As will be seen in the literature review, there is at present still a dearth of this kind of research available in the field of second language acquisition. As a result, there exists a need for more studies that address students' perceptions of whether specific computer mediated environments contribute to the internalization of a particular linguistic skill (Chappelle, 2003; Stepp-Greany, 2002).

Research into students' perceptions of a specific web-based ESL learning task can add to the growing body of knowledge about CMC in ESL education and contribute valuable data that can be used to inform decisions regarding the implementation and exploitation of this new educational medium. Web-based learning events and environments need to be integrated into ESL writing classes in order to assess their efficacy in facilitating the acquisition of English skills (Braine, 1997; Stepp-Greany, 2002). However, many instructors are hindered by a lack of computer knowledge, time and curriculum constraints, and technical support from their institutions (The Advisory Committee for Online Learning, 2001; Ingraham, Watson, McDowell, Brockett, & Fitzpatrick, 2002; Technology & Student Success in Higher Education, 2002). These instructors fail to effectively employ this technology and hesitate to incorporate it into their instruction, thus robbing themselves and their students of a potentially constructive new learning environment. Indeed, in a study on second language (L2) teacher use of

technology, Lam (2000) concluded that when teachers choose not to integrate a computer into their classroom it is because they “are not convinced of its usefulness” (p. 413). Lam faults institutions for their haste “in purchasing the latest technological innovations without considering the needs of both teachers and students” (p. 413). Lam further speculates that if L2 teachers “were to learn more about using computers and about integrating them into their teaching, they would be perfectly willing to use them” (p. 411). There is a clear need to explore CMC technology in a task-based environment in order to address these concerns.

In addition, questions still remain how CMC, in the form of web-based learning environments, can best contribute to the internalization of ESL skills, including academic writing (Biesenbach-Lucas, Meloni, & Weasenforth, 2000; Li, 2000; Murray, 2000; Salaberry, 2000; Warschauer, 2002b; Weasenforth & Biesenbach-Lucas, 2001). Greene (2000) recognizes the need for further research into ESL writing and CMC when he states “Design of a computer-mediated English writing course requires a juggling of methodological and technological alternatives simply because the theoretical underpinnings for such courses and the rationale for their development are in embryonic stages” (p. 239). There is room for further exploration of CMC in order to provide practical, empirical information on the use of this technology in the ESL classroom. Although there have been many studies regarding the use of CMC to foster communicative events, reduce anxiety, increase motivation, and alter interactive classroom dynamics (Beauvois, 1998; Gonzalez-Bueno, 1998; Sullivan & Pratt, 1996; Warschauer, 1996), there is still a need to explore whether and how CMC influences the actual learning of a specific skill such as academic writing.

Theoretical Framework

I have chosen to ground this study within the framework of constructivist learning theory (CLT). Constructivist learning theory is an extension of constructivism, which posits that reality is a construct of human experience and interpretation, created by individuals' engagement with the world around them. Constructivism has application in a variety of fields such as sociology, psychology, and education. Constructivist learning theory applies constructivist principles to knowledge building and sees learning as the creation of knowledge through social interaction (Bruffee, 1993). The ideas of CLT were first presented by Lev Vygotsky in the middle of the last century and provide the theoretical underpinning of many educational practices today. Constructivist learning theory is a particularly apposite framework for my study as I explore students' perceptions of the interactive prewriting activities in the emerging realm of CMC. I set out the precepts of constructivist learning theory and explore how it applies to my research in the Review of Literature in Chapter Two.

Scope and Limitations of the Study

The scope of this study was necessarily limited to issues surrounding a very narrow segment of computer assisted language learning (CALL). It applied CMC activities to a single skill area of ESL education, that is, academic writing. The results as such cannot necessarily be applied to different study conditions. Some information that was made available through the study was not analyzed. For example, the online texts generated provide fertile ground for research into specific syntactical and lexical elements, but it was beyond the scope of this study to address textual complexity as a discrete issue. In addition, there are significant sociocultural dynamics involved with CMC, such as many-to-many communication, anonymity of participants, affective factors, and aspects of

distance education that are of great interest to researchers, but they were not addressed in this study.

This study is subjected to various limitations. The students may not have engaged in the prewriting activities in a thorough enough way in order to provide meaningful insights or observations. The students had limited access to computer lab time during classes. Although the activities were not exclusively synchronous, this time restriction may have influenced the amount of writing they actually produced. Although the students were encouraged to use the open access computer lab in their free time and some students had access to computers at home, it was not possible to oversee student access to Blackboard outside class time. The variability of the composition of the cohort may also have limited the study. The participants demonstrated varying competence in CMC and academic writing. Further, it was impossible to control for extra curricular activities where the participants could engage independently in online discussion using Blackboard, thus potentially affecting the results.

The curriculum of the intermediate level Academic Writing Course was quite heavy. The students were expected to write two paragraphs and three essays during a 14-week period. However, this was the first time that some of these students had been asked to write a text according to English academic writing conventions. The web-based activities being explored in this study had to be adapted to the exigencies of the course. As a result of this, I had to adjust the study to the greater needs of the course. My goals in undertaking this study are independent of those of the course, and as such needed to take second place.

There were two essay topics in the study and it was difficult to determine to what extent topic bias may have affected the data. In addition, each essay written was an

exercise in a particular genre of academic writing, such as compare and contrast, or arguing an opinion. There may have been biases as a result of any strengths or weaknesses individual students may have had in mastering each specific genre.

Outline of Remainder of the Document

Chapter Two of this study is a literature review that explores the inclusion of computer mediated communication (CMC) in ESL education. It presents constructivist learning theory as the theoretical framework for the study and provides examples of research that have explored CMC from a constructivist perspective. In addition, Chapter Two describes issues in ESL academic writing and sets out the exploration of ESL students' perceptions as a valuable research tool.

Chapter Three describes the methodology used. The chapter presents qualitative research methodology and explains why qualitative methods are appropriate for the purpose of the study. The chapter sets out the research design as well as the procedures used to implement the study. Transcribed interviews provided the core of data for the study and Chapter Three describes how these data were collected and processed. Finally, assumptions, limitations, credibility issues, and ethical considerations are presented.

Chapter Four presents the findings of the study. The results of the initial interview are reported. Tables are included to describe demographic information. A description of the data gleaned from the exit interviews provides information regarding the online prewriting activities that, supported with transcripts from the student interviews and texts they created, allows new insights into how CMC influences the generation and organization of ideas for academic texts.

Chapter Five summarizes the study and discusses the findings presented in Chapter Four within a constructivist framework. Chapter Five explores the themes that

emerged from the data and draws conclusions that present implications for future research, practice, and theory.

Definition of Terms

A brief glossary of terms defining key words used in this study is included here.

Synchronous communication: a kind of computer mediated communication that occurs in real time through the Internet. Synchronous communication resembles a spoken conversation in that the participants are present, posting their comments on the computer monitor. The language of synchronous communication is informal and often involves written forms, such as abbreviations, that are particular to the medium.

Asynchronous communication: is online interaction that does not occur in real time.

Asynchronous communication can involve e-mail, message boards, or threaded discussions. The text produced with asynchronous discussion is more like a letter than a conversation as the information can be read at any time and is not dependent upon an immediate reply.

Prewriting activities: are exercises designed to assist students with the generation and organization of ideas for texts. Prewriting activities can include brainstorming, semantic maps, and outlines.

Brainstorming activities: seek to stimulate students to think about their topic in order to collect ideas for their texts. Frequently, brainstorming activities are verbal discussions where various aspects of the topic are explored.

The skill of academic writing: ESL instruction is frequently divided into distinct skill areas. Traditionally, these areas are grammar, listening, speaking, academic writing, and reading. Although academic writing involves a variety of skills, for the purpose of the ESL curriculum, it is considered as a single skill area (Reid, 1993).

CHAPTER TWO: REVIEW OF RELATED LITERATURE

In this study, I researched ESL students' attitudes and perceptions regarding the use of computer mediated communication (CMC) in the generation and organization of ideas for academic texts. The following literature review will explore existing research into the use of CMC technology in ESL education as a means of providing a theoretical and practical context. The inclusion of computers in SLA curricula must be grounded in a theoretical understanding that can serve to form the foundation for instruction. Any concept of second language acquisition is actually twofold. It encompasses both a general theory of learning and an understanding of the principles of applied linguistics (Brown, 1994). I have chosen constructivist learning theory and the concept of communicative competence (Hymes, 1972) as theoretical paradigms. The integration of these two concepts can provide a theoretical underpinning to an instructional methodology that includes the use of computers.

This literature review is divided into five sections. The first deals with constructivist learning theory and its application in collaborative learning methodology. The second section discusses second language acquisition from the perspective of communicative competence. The third introduces computer mediated communication as a valuable area of exploration for ESL educators and presents the issues surrounding the inclusion of this technology in ESL classrooms. This is followed by an exploration of issues in ESL academic writing and the inclusion of CMC. The last section presents an overview of the literature on the value of research that incorporates students' perceptions of learning and computer technology.

Constructivist Learning Theory

The latter half of the twentieth century has seen a paradigm shift in our

understanding of learning. Before this period, knowledge was seen to exist outside human experience, as a quantifiable entity that could be parceled and delivered to students as discrete packets of information that were to be somehow internalized. Young and Perkins (1995) refer to “traditional measurement theory [where] a learner was assumed to be a collector of facts and skills, each of which was added piecemeal to the learner’s repertoire” (p. 149). This process relied heavily upon rote memorization, standardized testing, and teacher-student relationships that were largely unidirectional, transactional, and authoritarian.

This way of thinking about learning was entrenched in a perspective that understood the acquisition of knowledge as a quantifiable, linear, and incremental process. It reflected the extent of then current knowledge regarding neurological functions in the human brain as well as the nature of human social relations. Indeed, in the first half of the last century, learning was regarded less as an independent mental process, with its own criteria and context, and more as the natural consequence of the systematic internalization of information. This mode of thinking assumed “a foundational (or cognitive) understanding of knowledge ...[as]... an entity that we transfer from one head to another” (Bruffee, 1993, p. 3). As the twentieth century progressed, these assumptions gradually gave way to a world view that sought to problematize the human experience of learning in an attempt to better understand the forces at play.

Developments in the sciences fundamentally altered our perception of reality and how we understand the world and our place in it. Einstein’s Theory of Relativity sounded the death knell to existing frameworks for interpreting reality, and Heisenberg’s Indeterminacy Principle, which states that the act of measurement ineluctably influences that which is measured (Everdell, 1997, p. 357), dealt the final coup de grâce.

Knowledge, indeed reality itself, was no longer considered as objective and solid, existing “out there,” independent of human experience, but as yielding to subjective perspectives and contingent upon the interaction of a confluence of forces: “the extent of the knowable...dwindles, and such intangibles as point of view and method of questioning permeate previously solid truths” (Lewis, Amini, & Lannon, 2000, p. 17). This perspective, where the status quo is not taken for granted and reality itself is subjected to critical scrutiny, has affected all areas of human existence, including the field of education. In problematizing the process of learning, theorists have developed new paradigms and integrated them with emerging knowledge about how the brain functions as well as how humans interact in society.

This understanding that reality is not purely objective and concrete, a solid world into which human existence has been thrust, but rather a construct of the interaction between the perceiver and what is perceived, has had fundamental implications. Human beings are now freed from the constraints of a world that imposed an objective reality upon them. Rather, they have become enmeshed in an intricate reciprocal relationship where reality is a creation mediated by the perceptions of individuals. Theories of learning have been no less affected than other areas by this shift in understanding. One that has gained particular prevalence is constructivist learning theory, influenced by the writings of Lev Vygotsky (1934/1986). His ideas have had a profound impact upon learning theory and the way education is currently understood and implemented in the West.

Vygotsky (1934/1986) investigated issues in developmental psychology that led him to formulate a concept of human psychology as essentially social in nature. In *Thought and Language*, Vygotsky explored the role of mediation in the development of

the human psyche. He understood mental activity to be divided into lower and higher order functions. Lower order functions such as “elementary perception, memory, attention, and will” (p. xxv) are transformed via mediation into higher functions, which Vygotsky saw as cultural. This mediation takes the form of a psychological tool such as gesture or language, or occurs in social interaction with another individual. In this way, natural mental activity becomes the means of higher, cultural, and social activity, the very essence of what defines us as human beings.

This sociopsychological concept can also be applied to learning, where basic mental skills are gradually transformed into higher forms. According to Vygotskian precepts, learning occurs through interaction among individuals; it is primarily a social event: “social interaction is not merely supportive of, but is an essential ingredient in, cognitive development” (Dimock & Boethel, 1999, p. 6). Psychologists and educators alike saw in this the framework for a new instructional paradigm, constructivism, where learning is perceived as a social event, with the student an active participant in the construction of knowledge, not merely a recipient of information. “Basically, constructivism proposes that knowledge or meaning is not fixed for an object, but rather is constructed by individuals through their experience of that object in a particular context” (Honebein, Duffy, & Fishman, 1993, p. 88).

Constructivist learning theory has found practical application in the collaborative learning movement that has dominated the field of education in recent years. This is a fundamental departure from the traditional transactional teaching style of former years. The techniques of collaborative learning apply Vygotskian principles and stress social interaction as the key to learning. Students are encouraged to work in groups to discover for themselves an understanding of the subject matter. According to this understanding of

learning, when students interact, the more knowledgeable ones can act as facilitators or “scaffolds” to assist those who are less advanced, in the enactment of what Vygotsky (1934/1986) termed “the zone of proximal development” (p. 187). In this manner, knowledge is imparted from one group to another. In constructivist learning theory, the process of learning as a social event is considered as important as the actual product.

Bruffee (1993) promotes an understanding of learning as a transition from one knowledge community to another through a process of collaborative conversation. “Collaborative learning assumes ... that knowledge is a consensus among the members of a community of knowledgeable peers—something people construct by talking together and reaching agreement” (p. 3). This understanding of learning also has a fundamental effect upon the role of the teacher in the classroom. The teacher is no longer the source of information, whose role is to impart knowledge, but acts rather as a facilitator together with the student in the construction of knowledge. Drawing on constructivist ideas, Bruffee (1993) notes, “Knowledge is a socially constructed, sociolinguistic entity and ... learning is inherently an interdependent, sociolinguistic process” (p. 8). Collaborative learning, based as it is on a constructivist, social understanding of the human psyche, seeks to involve students in a relevant engagement with the world around them, and as such has resulted in a radical restructuring of instructional curricula. Indeed, collaborative learning cuts across the spectrum of all educational contexts and can be applied to all ages and learning environments. Concepts such as consensus building or the creation of knowledge, key terms in the constructivist educational paradigm, are equally relevant whether in a kindergarten story hour or university seminar. “According to the Vygotskian model, in difficult knowing situations, however ‘difficult’ may be individually defined, the adult reverts to child-like knowing strategies to control the situation and gain self-

regulation” (Frawley & Lantolf, 1985, p. 22). Informed by a constructivist understanding of education, collaborative learning can be applied to a broad range of subject matter, including second language acquisition:

In the case of learning theory, a general theory must apply for a heterogeneous assortment of linguistic and non-linguistic learning...Although there are clearly specific differences of domain among these learning phenomena, there is increasing consensus among cognitive psychologists that the *processes* involved in human learning in any domain are broadly similar. (Young & Perkins, 1995, p. 143)

Second Language Acquisition

Second language acquisition (SLA) research involves a dual thrust. First, there is a focus on the cognitive processes at work when a second or subsequent language is learned. The concept of interlanguage (Selinker, 1972), an interim linguistic system that the learner develops as the target language is learned, is one such line of inquiry. This research direction is important in order to understand how the learner accumulates knowledge of the structure of the second language and assists in informing various instructional approaches. There is, however, a second area of research that explores the communicative aspect of language as a means of understanding SLA. Unlike the cognitive approach mentioned above, this “theoretical principle of language behavior” (Brown, 1994, p. 226) presents language as inherently interactive and has a prime purpose to facilitate and foster communicative events. This research perspective explores second language acquisition within a social framework where the mastery of a particular linguistic system is subsumed within the larger goal of achieving communication in the target language. Seen in the light of these two separate but complimentary research

approaches, the acquisition of a second language (L2) is a cognitive process whereby linguistic knowledge is restructured and transformed through social interaction.

The concept of language as an intrinsically social and interactive act was delineated by Dell Hymes (1972) in his seminal article, "On Communicative Competence". He presented the interactive scope of human language ability as the negotiation of meaning. Hymes felt that language was not simply the sum total of syntactic structure and vocabulary; he saw language as accessing more than just grammatical appropriateness in its communicative function:

There are rules of use without which the rules of grammar would be useless.

Just as rules of syntax can control aspects of phonology, and just as semantic rules perhaps control aspects of syntax, so rules of speech acts enter as a controlling factor for linguistic form as a whole. (p. 278)

With Hymes' insight, language was no longer seen as an end in itself, encompassing the internalized accumulation of linguistic structure that a speaker achieves. Language was now seen as the means by which individuals interact and communicate with each other.

With the emergence of the concept of communicative competence, second language acquisition was no longer restricted to the laborious and often fragmented learning of linguistic structure; communication became the goal. Proper mastery of the forms of language could not occur outside meaningful interaction and communication with others. More and more, applied linguists saw the mastery of first and subsequent languages not as the dry internalization of formalized rules and vocabulary, but as the achievement of the ability to communicate, to negotiate meaning, to understand, and be understood. The acquisition of a second language increasingly came to be seen as the attainment of sociolinguistic and discourse competence in the target language. Language

acquisition is now frequently understood as a creative act that seeks interaction in authentic settings, where language is not isolated as an artifact but integrated into the social milieu for which it has evolved (Debski, 1997). Bruffee's (1993) emphasis on conversation in collaborative learning resonates with Hymes' (1972) concept of communicative competence. Both encompass a constructivist understanding of what constitutes knowledge and learning. They are each an emerging process where knowledge is negotiated and constructed through meaningful, collaborative, and social interaction. Merging the communicative principles of second language learning with those of constructivist learning can inform and direct how second languages are taught.

This constructivist perspective has been elucidated by a number of SLA researchers. Kitade (2000) states: "According to Vygotskian psychologists Newman and Holzman (1993), L2 development progresses through the process of social interaction where the learner is an active participant in the meaning-making process through which the learner acquires the L2" (p. 145). Kitade situates L2 classroom interaction within the context of collaborative learning and understands it as based on Vygotsky's (1934/1986) zone of proximal development. Ohta (1995) goes farther and applies Vygotskian theory explicitly to the arena of adult second language acquisition by understanding the zone of proximal development as "the difference between the L2 learner's development level as determined by independent language use, and the higher level of potential development as determined by how language is used in collaboration with a more capable interlocutor" (p. 96). SLA researchers have demonstrated the benefits of collaborative learning events in the acquisition of a second language (Fischer, 1996). Donato (1994) showed how linguistic knowledge was constructed through social interaction among L2 learners engaged in collective scaffolding. The ideas of constructivist learning theory are

particularly well suited to the field of second language acquisition. Indeed, there exists a serendipitous fusion of communicative and linguistic concepts with those of collaboration and learning in the constructivist emphasis on interaction. There is a direct link between Hymes' (1972) concept of communicative competence and Vygotsky's (1934/1986) understanding of the social dynamic of the human psyche. In this manner, ESL educational researchers have accessed collaborative learning with its underlying constructivist precepts and formulated a methodology that understands social interaction as central to the acquisition of a second language.

Computer Mediated Communication and ESL

In recent years, a new dynamic in the form of the computer has been added to the interactive paradigms of constructivist learning theory and communicative competence. Computer technology was once perceived as a tool that could facilitate language learning much in the way that a tutor could. In the initial stages of Computer Assisted Language Learning (CALL), students interacted directly with the computer through various software programs that prompted appropriate learning responses (Braine, 1997). The use of the term "interaction" is really a misnomer: the computer is not an interactive agent. It is a machine, run by a human-designed program. Kern and Warschauer (2000) note:

despite the apparent advantages of multimedia CALL, today's computer programs are not yet intelligent enough to be truly interactive...the learner... acts in a principally consultative mode within a closed system, and does not engage in genuine negotiation of meaning. (p. 10)

At the onset of CALL, the computer was a newly available technology whose use was justified within existing educational methods. Hence, early software programs for second language learning were frequently little more than glorified exercises and drills, activities

that imitated approaches already found in existing texts and curricula (Butler-Pascoe & Wiburg, 2003).

With the development of networked computer technology, in particular the rise of the Internet, the use of the computer as tool has broadened to embrace the concept of the computer as mediator and facilitator in a social, interactive environment. In 1997, Harasim recognized the “urgent need for educators to reconceptualize and transform the WWW from a generic publishing environment into an environment especially customized for effective education based on powerful new principles such as collaborative learning and knowledge building” (p. 7). In this way, computer use is no longer that of a technology justified, but of a technology problematized as a social phenomenon, an agent in the restructuring of human knowledge and experience of the world. The current view sees the networked computer as an interactive medium through which humans can enter into social engagement with an ever-expanding reality (Harnad, 1991). Employed in this way, computers offer students a unique opportunity for interaction, one that can transform the learning environment in a manner consistent with the precepts of constructivist learning. Computer mediated communication (CMC) is being explored by educational researchers for the interactive dynamic it brings to the learning environment: “Computer-mediated communication depends less on the specific technology, but on the individual participants, the roles the participants play on and off the screen, and the social interactions between them” (Hsi, 1997, p. 11). This new ability of networked computers, manipulated by the human mind as mediators of communication, can have a profound effect upon how languages are taught and learnt. In their capacity as facilitators of human interaction, networked computers fuse naturally with current SLA and constructivist learning theories. Fishman and Hoadley (1997)

assert that

the rise of collaborative and social theories of learning have emphasized interpersonal contact and the social context of learning. Computers are attractive for implementing collaborative learning, in part because computers allow students to interact with others in a way that traditional school settings would not. They are also attractive as a basis for collaboration, providing shared artifacts for students to discuss or work together on. (p. 1)

CMC is a new interactive realm where knowledge can be constructed. It is “the process by which people create, exchange, and perceive information using networked telecommunications systems... that facilitate encoding, transmitting, and decoding messages” (December, 2002, par. 2). CMC encourages a style of learning that is a radical departure from the linear, rote, and transactional kind of language learning that persisted until the latter half of the twentieth century. With computers, the individual has the potential to learn in a non-linear, heuristic, and iterative fashion. Harasim (1990) considers the possibility for online environments to act as a form of intellectual amplifier that “empowers our intellectual processes, to make us better thinkers, learners, and problem solvers” (p. 52). Within an educational paradigm that seeks “to place emphasis on the development of cognitive skills through learner involvement in tasks and projects, rather than on the mere shoveling of preorganized content at the learner” (Buell, 1997, p. 4), networked computers can provide an ideal environment for constructive learning. Under this post-Vygotskian understanding of what constitutes knowledge, “meaning is said to be socially appropriated; it is assumed to be embedded in social activities, even claimed by Vygotskians to be the source (rather than the outcome) of cognitive development” (Solomon in Fabos & Young, 1999, p. 226). With constructivist learning

as a framework, CMC shows great promise in its ability to broaden the scope of interaction. The classroom is expanded beyond the traditional teacher-student dynamic, even beyond the confines of physical time and space, to attain a global context, where interaction occurs in a truly networked fashion.

A wide range of studies point to the potential CMC has to facilitate second language learning. It has been demonstrated to result in improved motivation, increased student involvement in the learning process, greater self-confidence and autonomy, and more active processing (Shetzer & Warschauer, 2000; Stepp-Greany, 2002). Vance, Fitzpatrick, and Sackville (1997) found that e-mail, chat, and conferencing promoted communication and collaboration among students. In addition, the students involved in their study had an overwhelmingly positive response to the inclusion of CMC-based activities in their course and felt that they facilitated their acquisition of English language competence. Affective concerns, such as students' attitudes toward learning and motivation, have been shown to improve when students engage in interactive computer settings (Beauvois, 1998; Warschauer, Turbee & Roberts, 1996). CMC also has potential second language learning advantages in the areas of comprehensible interaction and collaborative learning (Kitade, 2000; Vance et al., 1997). Kern (1995) found that students' language production increased in quantity and variety when they engaged in synchronous CMC rather than face-to-face discussions. Researchers also report second language writing skills are improved by networked computer activities (Ayres, 2002; Chavez, 1997; Sullivan & Pratt, 1996; Warschauer, 1996, 2002b).

CMC, as a text-based medium, occupies a place of particular significance in constructivist learning. Warschauer (1997) builds a "conceptual framework" (p. 470) for CMC by exploring text mediation as a means of negotiating Vygotsky's zone of proximal

development in the collaborative creation of meaning (p. 471). Warschauer (1997) and Harnad (1991) each explore two functions of language as interactive (i.e., by employing speech), and reflective (i.e., through the permanent nature of the written text). It has been postulated that the act of composition together with the permanence of the created text can increase mental functioning by “allowing the ... writer to bootstrap his or her own thinking in a more powerful and intentional manner than is normally possible in speech” (Wells & Chang-Wells, 1992, p. 122). CMC provides a novel environment where both the interactive (spoken) and reflective (written) functions of language can merge in a new dynamic. With CMC, learners interact using text, and new opportunities for the construction of knowledge are made possible (Harasim, 1990). Warschauer (1997) recognizes the significance of this development when he states “for the first time in history, human interaction now takes place in a text-based form...The opportunities to freeze a single frame and focus attention on it are greatly expanded by CMC” (p. 472). In this, CMC is directly linked to constructivist learning concepts in a manner that serves to provide it with a strong theoretical underpinning that supports its use in the classroom.

ESL Academic Writing and CMC

Second language acquisition involves the conscious and subconscious processes of mastering a language after a first language has been established (O’Grady & Dobrovolsky, 1987). Subsumed within SLA is the acquisition of second language literacy-based skills such as reading and writing. In this study, I explored the use of CMC as a facilitator in the acquisition of the literacy-based skill of ESL academic writing. For ESL students, academic writing often provides the most difficult challenge (Otlowski, 1998), yet it is one of the most important skills to master if students wish to pursue further education in an English language postsecondary institution. For many ESL

learners, the study of English in their own country has been dominated by the rote learning of abstract grammatical rules with little attention paid to putting those rules into practice by writing academic texts:

Unfortunately, international or immigrant students in English-medium universities or colleges have few opportunities to learn and practice this particular discourse in their home countries, and this is often reflected by less than average performance in the beginning of their post-secondary experience. (Spiliotopoulos, 2002, p. 57)

In order for ESL students to enter into the larger university, they must conform to the expectations and criteria of its academic discourse community: “without access to scholarly ways of speaking, student writers cannot occupy scholarly positions, or use scholarly methods for producing statements, or speak to academic interests” (Giltrow, 2002, p. 10).

In a nutshell, this means that ESL students must learn various rhetorical styles of academic writing. One intention of the academic writing component of an ESL program at a college or university is to prepare the student for eventual integration into the mainstream institution. Many academic writing texts cue ESL students to strive to master specific expressive goals (Oshima & Hogue, 1997). Thus, academic essays are frequently categorized in genres such as supporting an opinion, cause/effect, or making a comparison/contrast. However, such genres are often foreign to ESL students and require unfamiliar skills that they do not easily understand (Johns, 1990a, 1990b).

ESL students need explicit instructions and constant monitoring to guide them through the difficult process of writing an academic text. In referring to L1 writers, Bereiter and Scardamalia (1983) acknowledge that writers

often face a capacity limit problem in planning an essay. They are aware of a

number of different variables that need to be taken into account and of numerous possible permutations of the material they intend to include, and they struggle vainly to hold all those things in mind at once. (p. 23)

Overlaid on top of these inherent difficulties are cultural and linguistic issues ESL writers bring to their writing that can potentially further complicate their task. For this reason, ESL students are encouraged to view academic writing as a process where meaning is discovered and approach a piece of writing as a document that emerges through repeated, ever expanding cycles rather than as a text that springs forth as a whole (Zamel, 1982).

This process is generally divided into the following parts: prewriting, first draft, revision, editing, final draft, and publication. The prewriting stage includes identifying audience and purpose, individual or group brainstorming, and research. This stage is largely conceptual and verbal, where students generate ideas for the text to be written. The prewriting stage also involves an initial outline where the ideas that have been generated in the brainstorming discussion and research are organized in a logical, rhetorical fashion according to the discourse conventions of academic writing. Then, this outline is developed into the subsequent stages outlined above until the final form is reached (Otlowski, 1998; Reid, 1993).

It must be noted here that prewriting activities, although generally taught at the beginning of writing instruction, are not restricted to this initial stage. The writing process does not proceed in a linear fashion, from idea generation to final draft. Indeed, prewriting, that is, the inventive generation of ideas, can occur throughout the composing process as just one aspect of the recursive and nonlinear act of text creation. Flowers and Hayes (1980) present a cognitive process model of writing. They emphasize the inner mental processes of the writer rather than the stages of composition. These processes

include the generation of ideas and “may occur at any time in the composing process” (p. 367). Bereiter and Scardamalia (1983) understand good writing occurs when knowledge is transformed in a nonlinear process where mental activity keeps “incorporating new relational considerations into the writing task and ... re-constituting the task at a higher, more complex level” (p. 26).

Perhaps the introduction of CMC into this recursive activity of text creation can contribute to the development of ESL students’ emerging writing abilities. In his article, “Networking into Academic Discourse”, Warschauer (2002b) returns to the discussion of CMC as a constructivist facilitator of learning, this time applying it directly to ESL academic writing. He explores whether online written communication contributes to the acquisition of this skill. He presents a case study of a postsecondary L2 academic writing class that employed CMC. In his discussion of his findings, Warschauer suggests that online communication allows for a “dialogic interpenetration of the social and the individual” (Conclusion section). Warschauer draws on his previous research to conclude that

Students need no longer choose between the advantages of speech (which allows rapid interaction) and of writing (which maintains a permanent record for reflection). Rather, using the speech-writing hybrid of computer-mediated discussion, their own discussion takes a written form, thus allowing students’ interaction to itself become the basis of epistemic engagement. (Conclusion section)

Otowski (1998) also makes a strong case for the use of computers in writing classrooms. He focuses on the ability of computers to facilitate the latter stages of process writing. He describes the composition process as “almost punitive” (p. 424) and explores

computer technology with the goal of easing students' pain. Specifically, he looks at hypermedia software and concludes that "with computers, the grueling and time consuming tasks of editing and rewriting have been substantially alleviated, with software that allows students to manipulate, edit, and review their texts with comparative ease" (p. 424).

However, my own experience in the writing classroom has often proved most "punitive" when students struggle with the prewriting stage, where students brainstorm and organize ideas for the essay topic. Prewriting activities can present particular difficulties for nonnative speaking students. Process writing presupposes an understanding that individual voice is a valid and accepted aspect of social discourse (Ramanathan & Kaplan, 1996). However, this is a culturally bound concept. "Key principles which originated in L1 classrooms such as personal voice, peer review, critical thinking, and textual ownership tacitly incorporate an ideology of individualism which L2 learners may have serious trouble accessing" (Hyland, 2003, p. 20). ESL students may possess an understanding of academic writing that is informed by their own culture and may also be at odds with the rhetorical structures of English writing. For these students, generating ideas may prove a daunting and unfamiliar task. "Not only do [ESL students] frequently come to the writing task having been socialized into structuring texts in different ways, but also they are often unfamiliar with the notion of presenting strong, individualized voices, or the need for such an approach" (Ramanathan & Kaplan, 1996, p. 26).

The linguistic and grammatical structures ESL students must also learn pale in difficulty beside the seemingly gargantuan task of deciding what to say and how to say it. In a study by Leki and Carson (1997), students in an ESL writing class felt that "the need

to come up with ideas on their own [was] an additional burden” (p. 56). For this reason, prewriting activities are of paramount importance. In face-to-face discussion, students have the opportunity to generate and organize ideas that will be incorporated into the written text. For students who find it difficult to form opinions or find supporting examples, the interactive nature of the discussion can provide useful information. Sometimes the students are divided into small groups to ease communication. The instructor acts as facilitator, mediating the discussion and providing direction where needed. Brillinger (1996) found that the majority of students who participated in her study on students’ perceptions of the writing process felt that brainstorming was “one of the most helpful and useful steps in the writing process” (p. 39).

There are, however, dynamics with face-to-face interaction that may hinder some students in expressing their thoughts. Some students find it difficult to speak out of shyness or embarrassment over the quality of their English. As in any discussion environment, there is always the risk that one or a few speakers monopolize the discussion, leaving the less aggressive students silent and unheard. Frequently, students do not participate because they may find it difficult to voice an opinion or develop an idea on the spot. In this environment, certain cultural dynamics, or race and gender issues, may also influence students’ participation (Beauvois, 1997; Braine, 1997; Chen, 2003; Sullivan & Pratt, 1996; Warschauer, 1996). In addition, the verbal context of the discussion is temporary and fleeting. Some ESL students may find it difficult to take notes, indeed they are frequently encouraged not to do so in brainstorming discussions, because it may interfere with their ability to attend to the discussion. Although this initial discussion period can be followed by the drawing of a semantic map or the creation of a list of ideas, it is possible that, for some students, the discussion has not helped much

with their topic development and they are essentially no further ahead than they were before the discussion began.

There is growing evidence that CMC, in the form of discussion forums, can alleviate some of the drawbacks of face-to-face prewriting activities. Discussion forums are

online tools that capture the exchange of messages over time, sometimes over a period of days, weeks or even months...The organization of the messages can be a simple temporal sequence or they can be presented as a threaded discussion where only messages on a specific topic called a thread are displayed in sequence.

(edutools, 2003, Course Management Systems Glossary, par. 15)

The discussions may occur in real time, that is synchronously, simulating the environment of a chat room, or asynchronously, at a time that is convenient for the student. In addition, discussion forums may also generate actual text for students from which they may draw when beginning the composition process. Beauvois (1998) found that more students participated in a networked computer discussion than in a verbal discussion because of reduced levels of anxiety. The unique hybrid quality of CMC language, where the interactive aspects of speech merge with the reflective quality of writing, offers students a comprehensive environment in which to develop their ideas. Warschauer (1996) posits that “the formality and complexity of language in electronic discussion suggests that it might be an excellent medium for prewriting work since it could serve as a bridge from spoken interaction to written composition” (Discussion section, par. 9). The interactive component of a web-based course environment may provide a potentially less stressful psychological context than prewriting face-to-face discussion sessions. Harasim (1990) states that computer conferencing “has proven

valuable for generating a rich, complex, and often informal web of ideas and information” (p. 56).

The asynchronous option of the discussion board allows students a forum to contribute their ideas and access other students’ opinions and feedback in a non threatening manner (Lapadat, 2002). The course management system program saves the discussion in an archive so students have a record of their ideas. Indeed, the instructor can even print the discussion as a hand-out for students so they can have a hard copy of the texts generated for reference when composing their essays.

Online interactive learning opportunities possess a largely untapped potential for ESL students and educators. There is access to hypermedia links such as online dictionaries, opportunity for reflective writing provided by the asynchronous environment, and the potential for a stress reduced social dynamic (Lapadat, 2002; Warschauer, 1997). Perhaps an interactive discussion board computer activity may provide some students with an environment more conducive to the generation and organization of ideas than verbal interaction in a classroom. This study will seek to explore this possibility by examining students’ perceptions of both a synchronous and an asynchronous online prewriting activity in an ESL academic writing class.

Students’ Perceptions of CMC

With the growing prevalence of the collaborative learning movement and the perceived crucial role of interaction in the acquisition of a second language, a learner-based approach to designing CMC educational tasks has recently gained favour. This approach focuses on the needs of learners and how CMC can facilitate acquisition of their academic goals:

A learner-based approach...starts with the particular users and an analysis of their

learning requirements. As far as language learning is concerned this entails an understanding of *why* the learners wish to learn a language, *what* purposes this learning will serve, *how* they best learn a language, *which* learning strategies they favour, and *when* and *where* they prefer this learning to take place. (Watts, 1997, p. 3)

In a learner-based approach, students are active participants in the creation of knowledge and as such can be valuable contributors to the design of a learning activity. It is particularly apposite to explore ESL students' perceptions of CMC because this is an evolving technology that has yet to be fully exploited in the classroom. In addition, learner goals, needs, and motivation need to be explored in order to be able to adequately assess the efficacy of a particular CMC task, "From a constructivist perspective... researchers should focus attention on how to better assess students' personal interests and goals and how to support those interests within the learning environment" (Lebow, 1993, p. 13).

A phenomenological understanding of human interaction underscores the constructivist stance that knowledge is created by the meaningful interaction of individuals. Schutz (1967 in Lincoln & Guba, 1985) states that phenomenology seeks to interpret "subjective meaning as found in the intentions of individuals" (p. 77). How individuals interpret reality contributes to how they attach meaning to their experiences. Many ESL students have traveled far distances, at great cost, in order to attend ESL courses in North America. They have invested a great deal in their English education and have solid ideas regarding the outcomes and goals of their courses. ESL students are an important source of information for their perception of the value of a particular task, particularly when novel methods of instruction are introduced. Sengupta (2001) asserts

“if practitioners are to determine [how to implement computer] technology, we need to understand the effects of Web-based pedagogy from the perspectives of the learners—especially ESL learners” (p. 103). By exploring students’ perceptions of CMC in an ESL writing classroom, I seek to access the valuable contributions ESL students can make in an investigation into this form of computer technology.

Although language learning and computer technology have been the focus of much research attention, many questions still exist as to the direction this research should take. Chapelle (2003) states

Despite the need for evaluative research on the effectiveness of technology for language learning, in general, questions of what kind of research should be conducted, and how the results of research should inform theory and practice remain the source of continuing uncertainty. (p. 69)

In exploring students’ perspectives, this study seeks to move beyond providing a justification for computer technology to exploring how to implement it. Chapelle posits that “the priority in the field should be research that addresses questions that can inform teachers and learners about the best ways to design and use technology” (p. 76). Chapelle suggests that research that is focused on the learners, such as an exploration into learners’ “perspectives as a means of explaining performance” (p. 90) can “contribute to a knowledge base” (p. 90) that in turn can provide the foundation for an effective application of computer technology such as CMC in language learning.

The most direct way to explore the question of computer technology in language learning is to ask the students themselves what their goals and interests are and how well they perceive a particular task has fulfilled these criteria. Merriam (1998) states that “research focused on discovery, insight, and understanding from the perspectives of those

being studied offers the greatest promise of making significant contributions to the knowledge base and practice of education” (p. 1). In this way, CMC technology can be operationalized in a manner that is responsive to learners, rather than imposed upon them.

University-level students are increasingly sophisticated in the ways of interactive computer technology and are coming to expect its inclusion in their courses. A report by Schönwetter (2002) of the University of Manitoba explores students’ attitudes toward technology. Ninety-seven percent of students had access to computers and 85 percent felt that it was important that professors increase their use of instructional technology in the classroom, including more online access. It is important for ESL educators and researchers to know what ESL students think about integrating CMC activities into their studies because students have a vested interest in their learning process in order to maximize their learning potential.

Web-based learning is still in the early stages. There is a great deal of interest and rhetoric surrounding its potential to alter existing learning environments. Web-based learning needs to be explored from as many angles as possible in order to be able to operationalize it effectively. Examining students’ perceptions is merely one such angle worthy of study.

Hence, the rationale for exploring students’ perspectives is clear. Their perceptions can provide information that can then be interpreted and analyzed, using a constructivist theoretical framework, to make meaningful contributions toward a practical application of interactive computer technology in language learning.

Summary

The interface of networked computer technology with the human ability to learn is a topic of great concern for second language educators and researchers. It is crucial to

subject the issue to serious scrutiny in order to constructively direct this technology in ways that benefit not only the instructors but also the students of a second language. Computers, constructivist learning, and second language acquisition dovetail in the arena of interaction and it is here that the greatest potential for educational gain resides. This discussion has sought to lay the groundwork and context for an informed understanding of the theoretical background underlying the use of computers in second language education. By interweaving constructivist learning theory with the concepts of collaborative learning and communicative competence, a conceptual place was sought for CMC that would harness its potential in a way that best facilitates the construction of knowledge in second language classrooms.

With this study, I hope to further CMC research already begun. It is in how the technology is used that its value will be realized. In this, the human element reasserts centrality and we are reminded that computers are merely machines, in and of themselves incapable of effecting change: “it is their *strategic use*, rather than the technologies themselves, that is of primary importance” (Council of Ontario Universities, 2000, p. 4). An understanding of the potential of interactive computer technology develops in tandem with its evolution. As the interactive capabilities of computer technology emerge, the humans at the controls are constantly evaluating, understanding, and creating contexts for its use. It is in the spirit of this exploration that this study critically examines interactive computer technology in one particular ESL learning environment in the hope of gaining a greater understanding of its educational potential.

CHAPTER THREE: METHODOLOGY AND PROCEDURES

Chapter Three outlines the research methodology, site and participant selection, instrumentation, data collection, and data processing. The area of research under investigation is the use of computer mediated communication (CMC) in a web-based learning environment. Toward this end, I conducted interviews with the participants both before and after the online activities. This chapter also addresses methodological assumptions, limitations, and considerations regarding credibility and ethical issues.

Research Methodology and Design

My primary area of interest in undertaking this study is ESL students' perceptions of a web-based prewriting activity. A student's experience and understanding of a particular task or learning environment can be a valuable resource in the design and implementation of instructional activities. In an educational climate that increasingly understands learning as student centered and knowledge as socially constructed, there is an increased need to develop instructional environments that are inclusive of student input. In light of this need, I chose to employ qualitative research methodology in this study as it is concerned with the exploration of subjective experiences.

Bogdan and Biklen (1998) list five characteristics of qualitative research. First, it occurs in a naturalistic setting. Second, the data are descriptive, such as interview transcripts or fieldnotes. Further, there is a concern with process; qualitative researchers ask "how" rather than "what." Data are analyzed inductively; they are used to formulate conclusions, not to support or disprove a hypothesis. Finally, qualitative researchers look for meaning in the perspectives of the participants and seek to accurately portray their experiences. Merriam (1998) adds to this list the centrality of the researcher. The instrument of data collection is not an inanimate tool, such as a computer program, but

the researcher, who can be “sensitive to underlying meaning when gathering and interpreting data” (p. 1).

One of the philosophical orientations of qualitative research is phenomenology, which emphasizes the subjective experience and understanding of phenomena. In tandem with this is the belief that “reality is constructed by individuals interacting with their social worlds” (Merriam, 1998, p. 6). Qualitative researchers are interested in how people construct meaning out of the events and interactions in their lives (Bogdan & Biklen, 1998). This research approach fits well with the constructivist paradigm of this study: that individuals create knowledge through interaction and reality itself is a social construction. If the researcher can understand the significance of a particular experience to an individual, then perhaps this understanding can be used to develop or alter the experience in a way that enhances its meaning and potential as a facilitator of learning.

Richards (2003) states that a “reason for adopting a qualitative approach is that it is above all else a person-centred enterprise and therefore particularly appropriate to our work in the field of second language teaching” (p. 9). Qualitative research is a valuable tool in education as it can get inside a particular phenomenon and provide new insights or uncover new meanings. However, there are various ways qualitative research can pursue this goal, employing such techniques as ethnographic, descriptive, or case studies. I used the basic or generic qualitative study, suggested by Merriam (1998) as the more common type for educational research. She identifies this kind of study as one that “seeks to discover and understand a phenomenon, a process, or the perspectives and worldviews of the people involved” (p. 11). In keeping with this approach, I undertook this study to describe, analyze, and interpret students’ perspectives of specific web-based learning activities by using data generated from interviews, fieldnotes, and the students’ academic

texts.

An important question regarding qualitative research is the extent to which interpretation plays a role in data analysis. Geertz (1973) suggests what he terms “a semiotic approach” (p. 24), where researchers can gain “access to the conceptual world in which our subjects live” (p. 24). The data are then described and analyzed in order to sort out “the structures of signification...determining their social ground and import” (p. 9). He echoes Merriam’s (1998) assertion of the centrality of the researcher in qualitative studies when he states “what we call our data are really our own constructions of other people’s constructions of what they...are up to” (p. 9). The information gleaned from such mindful interpretation and analysis of data can be used to reveal the underlying significance of certain phenomena (Strauss & Corbin, 1990), satisfy intellectual curiosity, or influence decision making (Charles, 1998). Informed by this understanding of the qualitative approach to data analysis as essentially interpretive, I conducted generic qualitative research for this study in order to elicit descriptive data. The data were then analyzed and interpreted for significant patterns or information that could contribute to an understanding of the relationship between students’ perceptions, academic writing, and CMC.

The primary source of data for this study was generated from transcribed interviews, conducted at the entry and exit points of the study. The interview is an important tool for the qualitative researcher; indeed, it is the practical application of the phenomenological orientation of qualitative research. Chen (2003) makes a case for interviews when she asserts that the “view of culture and the saliency of human interconnectedness demand more sensitive and in-depth studies that...regard individuals as single entities but also as parts of the whole human picture” (p. 261). Kvale (1996)

suggests that the “qualitative research interview attempts to understand the world from the subjects’ points of view, to unfold the meaning of peoples’ experiences, to uncover their lived world prior to scientific explanations” (p. 1). The choice of interview over a questionnaire was particularly apposite for this study when seen in light of Kvale’s further understanding that the interview reflects the “interdependence of human interaction and knowledge production” (p. 14); a constructivist understanding in keeping with the overall framework of this study.

A perceived drawback to qualitative research is that, although it provides rich data that can contribute greatly to an understanding of a particular phenomenon, it cannot be generalized. Another is that subjective perspectives resist quantification. The data that are generated by qualitative research are, therefore, considered “soft,” that is, less liable to be extrapolated into solid conclusions. However, the goal of qualitative research is not to create “hard” data, such as numbers or statistics that render definitive results. The qualitative exploration of subjective experience defies quantification, yet is nevertheless valuable as a descriptor of experience and indicator of significance.

In order to address the perception that data generated through qualitative research lack rigour, the qualitative researcher engages in triangulation to provide a context for the subjective experience of a study’s participants. Triangulation is “the use of multiple sources and types of data to support or contradict an interpretation” (Pitman & Maxwell, 1992, p. 758). In this manner, the researcher need not only rely on the word of the subjects, but can also reinforce or broaden the subjects’ input. For my research, in addition to the primary source of data, the interviews with the students, I have used triangulation by drawing upon fieldnotes that I took during nonparticipatory observations I made of the prewriting activities, a poststudy discussion with the course instructor, as

well as examples of the writing the students produced that comprised the final drafts of their academic essays.

Pilot Study

Before conducting the interviews with the participants I tested the questions for both the initial and exit interviews with an ESL student not participating in the study. As there was only one intermediate section during the research term, I chose an advanced level student who had been allowed to skip the intermediate level. This student's English language skills approximated those of the group in my research study. My area of main concern was that I had phrased the interview questions in a clear and uncomplicated fashion. I changed words or phrases that this student had difficulty understanding. Open-ended questions seemed to lead to confusion on the part of this student. This presented my initial dilemma. I wanted to make my questions as open-ended as possible, without inserting implied bias on my part. However, these questions seemed at times to overwhelm the student's limited language skills. She would get lost in the number and ambiguity of words.

In order to mitigate this problem, I decided to simplify my choice of words. For example, during the interviews, when I referred to the online discussions, I used the term "Blackboard." Similarly, I framed my questions as explicitly as possible and separated ideas into discrete segments. For example, one of my original questions was: "Which of the two prewriting activities did you prefer to use to get ideas for your writing?" I re-phrased this to:

You had two separate essays: the influences of TV and assisted suicide. Each essay had two separate activities. One was the talking brainstorm and the other was the Blackboard brainstorm. Which of these activities did you like better?

In addition to exploring the interview questions with an ESL student, I had also taught the intermediate academic writing class in tandem with another teacher during the previous winter semester. I was able to use Blackboard myself and experiment with different variables surrounding its application in the academic writing class. In this way, I was able to better understand the program and make informed decisions about the web-based prewriting activities I designed for the Blackboard activity.

Selection of Site and Participants

This study took place at a midsize community college in a small city in Southern Ontario. This college offers an English as a Second Language Program through its International Education Department (IED). The goal of this program is to prepare international students for further study in the regular college courses as well as other English speaking postsecondary institutions. The department offers courses in each of the following skill areas: reading, writing, listening, speaking, and grammar. Students are streamed into one of five levels based on their performance on the Michigan Test, a standardized placement test for English, as well as interviews conducted with instructors in the department. Level one is for beginners and level five for advanced students. The IED maintains small class sizes of between 10 and 16 students in order to allow for a small teacher to student ratio. The student population is culturally heterogeneous with Arabic, Asian, Central, and South American students most heavily represented. These students may choose to study for as little as one term or complete the entire program, depending on their goals. Many students go on to regular college or university courses while others seek to improve their English language skills for career purposes in their home countries.

I have taught periodically at this college as a part-time instructor since 1999. My

area of research interest arose out of my experiences as an ESL instructor of academic writing at this college and my interest in the potential CMC presents for language learning. When I approached the manager about conducting a study at the college, she was enthusiastic. The International Education Department had not previously been chosen as a site for ESL research, due to the proximity of a larger university with an ESL program of its own. I submitted a written request to the Director of the International Education Department and received permission to conduct my study.

Since I wanted to explore students' perceptions of online prewriting activities, I needed access to intermediate or advanced level students who would have the ability to respond to my interview questions with a certain degree of proficiency in English. In addition, the students needed to be able to write short essays. In the advanced level academic writing course, the students are taught the crucial research essay skills that are needed should the students wish to enter a mainstream college or university. For this reason, I felt that it would be more appropriate to use intermediate level students, as they would have a good command of the English language, as well as some writing skills, but not the added stress of a difficult course load.

I received the instructor's permission to address the students at the end of his class, approximately 3 weeks into the Winter Term, on February 06, 2004. The instructor left the room in order to ensure student anonymity. I introduced myself to the students as a former instructor at the college who was presently completing her master's degree. I explained the purpose of my study to them and requested participants. I handed out an information letter and a consent form to each student present. (These forms are found in Appendix A.) I went over both forms in detail with the students, changing words where necessary, in order to ensure that they fully comprehended what I was asking of them. I

gave them the opportunity to ask questions. I instructed the students to sign the consent form only if they agreed to take part in my study, but explained that I would be collecting them all, regardless of whether the students chose to participate or not. I included envelopes with the forms in order to provide maximum privacy. When I had finished my explanation, I gave the students the opportunity to sign the forms and put them into the envelopes. I collected all the envelopes once the students had finished. I then thanked the students and left the room.

Of the 13 students present that day, 10 returned signed consent forms, indicating that they agreed to take part in my study. Although I had originally expected to have between 6 and 8 students, I decided to include all 10 students in my study. Many students appeared enthusiastic about my study and were eager to take part. I wished to capitalize on their interest by including as many of them as possible. In addition, I was concerned that some students might drop out of the study once it had begun, negatively affecting the amount of data I would have. Indeed, this proved to be the case as one student who had agreed to take part in the study left the IED program before I began the initial interviews. This student is not included in the final tally. I notified the students individually by e-mail that they would be taking part in my study. At this time, I also reviewed the procedures of the study with them and indicated when I would be entering their class and arranging an interview.

In order to protect the anonymity of the students, I chose to use pseudonyms. I felt it was important to choose names that retained the students' gender and cultural identity. Research has indicated that gender and culture can influence how an individual learns another language (Beauvois, 1997; Jones, 1999). Although gender and culture were not specific areas of interest in my research, the informed reader may be able to derive more

information from the data by relating the responses to the gender and cultural background of the individual.

Instrumentation

The two main sources of instrumentation for this study are the initial and exit interviews I conducted with the student participants. I included further instrumentation in the form of nonparticipatory observation, where I sat in on the prewriting activities the students would be reporting on during the interviews. In addition, I conducted a poststudy discussion with the instructor of the course. I also secured access to the students' face-to-face and online prewriting, which were included in the final drafts of their essays. The fieldnotes I took, the examples of the students' writing, as well as the instructor's observations, allow for triangulation, which provides a broader informative context and support for the primary instrument, the student interviews.

Participant Interviews

I conducted two separate interviews with the participants chosen from the intermediate level writing class. The initial interview took place before the students engaged in the online prewriting activities and the exit interview occurred after their completion. The initial and exit interviews were self-developed instruments I designed following the guidelines of my initial research questions, which in turn arose from my interest in CMC and academic writing. These questions were not to be answered explicitly during the interviews but were intended to serve as a focus for the issues I wished to explore with the students regarding prewriting activities and CMC. I obtained the students' permission in writing to interview them regarding their perceptions of the online prewriting activities. This was accomplished in accordance with the guidelines set out by the Research Ethics Board at Brock University. The interviews were conducted

and audiotaped with each student individually.

The purpose of the initial interview was to establish demographic information as well as to explore the students' perceptions of academic writing, brainstorming activities, and their opinions regarding the use of computers in their writing class. This last concern was important in order to learn how the students felt about computers before they actually used them during the study.

During the exit interview, I explored the students' perceptions of the online prewriting activities. I asked specific questions designed to elicit as much information as possible from the students regarding their perceptions of how the activities influenced idea generation and organization for their academic texts.

The interview process is an interactive event between two or more individuals. Although the person being interviewed is the prime focus, interviewers bring their own perspectives and assumptions to bear on the topic. As interviewer, it was, therefore, inevitable that I interpreted the data according to the theoretical perspective I had set out in this study. Indeed, Kvale (1996) suggests that this be the basis for choosing how to analyze data: "the theoretical conceptions of what is investigated should provide the basis for making decisions of how —the method to be used for analyzing the content" (p. 180). The questions I chose to ask were informed by the constructivist theoretical framework of my study, where knowledge is created through social interaction among individuals.

Nonparticipatory Observation

In order to maximize the data that I intended to collect through the interviews with the students, I arranged with the instructor to sit in on the class as a nonparticipatory observer. (The information letter and consent form are given in Appendix B.) In this capacity, I was able to observe the students engaging in the prewriting activities they

would be reporting on during the interviews. I was able to take extensive fieldnotes. In keeping with the emergent process of my study, I incorporated questions into the interviews that arose out of my observations during the prewriting activities. In this manner, I was able to compare my observations with the students' reports of the activities and obtain contextual data that would deepen and inform my interpretation of the students' perceptions.

Records of the Prewriting Activities

In addition to the above instrumentation, I obtained the students' permission to view examples of the writing they produced during the prewriting activities. In this instance as well, I wished to use this material as an informative context and support for the observations I made and conclusions I drew from the results of the initial and exit interviews with the students. An excerpt from each activity, a synchronous chat exchange between 3 students, and a student's asynchronous posting, is found in Appendix C.

Instructor Discussion

Once I had completed the exit interviews, I had an in depth discussion with the instructor of the course regarding the online activities. To initiate the discussion, I posed the question "What were your perceptions of the students' involvement in the online brainstorming activities?" From this beginning, the instructor and I engaged in a free flowing conversation where we explored a wide range of topics. Among them were the official position of the department on the inclusion of computer technology, the necessity of serving students' academic needs beyond the specific requirements of a course, the particular issues and backgrounds nonnative speaking students bring to their ESL education, and the potential computer technology has to transform not only how we write but also how we communicate with one another. The instructor shared my interest in

developing meaningful interactive activities using CMC. His experiences and perceptions of CMC and academic writing broadened my own understanding of the study. The importance of integrating computer technology in ESL education was underscored, as well as the complexities in developing meaningful and effective online activities.

In summary, I chose to use a variety of data sources for my study. Through triangulation, I was able to cross reference information the students provided during the initial and exit interviews with my own observations, information from the instructor, as well as records of the students' writing during the activities. In this manner, I have made a strong effort to ensure an informed interpretation of the data.

Classroom Procedures

This study was conducted during a 10-week period from February to April 2004. It involved an academic writing skills class at the intermediate level. In order to avoid researcher bias, a separate instructor conducted the course and activities. The intermediate level academic writing class met four times a week for a total of 5 hours. The purpose of the course was to teach students academic writing skills. Following the course textbook, *Academic Writing* (Oshima & Hogue, 1997), the students progressed from writing paragraphs to essays. The course took a process approach to writing and the textbook explicitly addressed prewriting activities. Each chapter began with a section labeled *Prewriting*. The chapters were divided into topics for writing practice, such as supporting an opinion, narration, essay organization, and logical division of ideas. Each chapter addressed these topics using a subject to write about, such as *The Computer Revolution*, *Gender Differences*, or *Your Favourite Sport*.

At the introductory phase of the study, I presented the students with an overview and explanation of the study. The students were able to clarify any questions regarding

the activities at this time. Prior to the commencement of the study, the course instructor had engaged in extensive collaborative writing exercises with the students using the Blackboard course management system. However, he had not done any prewriting exercises or synchronous chat activities with the students. Hence, prior to the commencement of my study, the students had been exposed to asynchronous web-based discussion board forums and were able to have a context for that part of my proposed research.

The study was conducted over the course of two separate essay assignments. The study cohort followed the same course curriculum as the other class members. The first essay was written in the traditional face-to-face environment. The face-to-face prewriting activities occurred over a period of four classes, for a total of 4 hours. For the first class, the students brainstormed the topic “influences of television on children” in preparation for writing their first essay for the course. The instructor closely followed the brainstorming activity set out on page 115 in the textbook (Appendix D). He arranged the students in small groups ranging in size from three to five individuals. He instructed them to discuss together and make a list of the positive and negative influences, according to the instructions in the text. This activity lasted approximately 15 minutes. The instructor then asked certain students to write the lists they had made on the white board. The instructor then conducted a whole-class discussion on the topic. This discussion lasted approximately 20 minutes, until the class ended. The lists of influences were the extent of any writing the students did during this brainstorming phase of the prewriting process.

For the second and third hours of prewriting activities, the students incorporated the lists they had made during the previous class into an outline. The students worked largely independently of each other, or one on one with the instructor in order to

complete this task. In the last hour I observed the students, the students did a peer review activity where they shared their outlines with a partner.

Once the students had completed their essays on the influences of television, they began work on their second course essay, on the topic of assisted suicide. The prewriting activities for this assignment were conducted online, in both synchronous and asynchronous environments. Since neither the instructor nor the students had previously engaged in these types of prewriting activities, I met with the instructor prior to the classes in order to discuss the design of the online activity.

The prewriting activity in the textbook consisted of an essay about Dr. Jack Kervorkian, entitled *The Suicide Doctor*. This essay was followed by five questions intended to stimulate the students to think critically about the issue and decide whether they agree or disagree with assisted suicide. The instructor and I adapted this activity for web-based instruction. The instructor posted these five questions on the discussion board forum of the Blackboard CMS. He provided instructions for the students to conduct a synchronous online discussion in prearranged small groups (Appendix D). This initial brainstorming activity occurred in the computer lab, with each student seated in front of a computer terminal.

This synchronous chat activity lasted somewhat longer than the face-to-face discussions. One reason for this is that the act of writing is more time consuming than speaking and the students needed this extra time in order to complete the small-group and whole-class discussions. In addition, the students were still unfamiliar with using Blackboard, although this was not their initial introduction to it in the class. They required more explicit explanations and help to get online, find the correct page, and operate the chat function. Because of this, the class ended before the students could finish

the chat activity. They completed this activity during the next period, which lasted an hour. During this class, the online chat expanded from the small-group discussion to include a chat with the whole class. Although the instructor continued to troubleshoot difficulties the students had with the program, his role as mediator and director of the discussion was reduced as the students communicated online directly with each other. The students participated in this synchronous chat until the end of the class.

The next class was a double period, lasting 2 hours. I had arranged an asynchronous prewriting activity with the instructor. The students wrote their opinions on assisted suicide on the discussion board, using the information and ideas they had collected during the online chat. Once this was complete, the instructor assigned each student two other students' names. He instructed the students to read these postings and respond to their peers' opinions. I added this asynchronous component to the activity, which did not exist in the face-to-face environment, as I wished to explore how this aspect of CMC may influence brainstorming discussions. Although this part of the activity took place during class time, the students were not communicating directly with each other in real time.

The asynchronous activity could potentially occur outside class time, however, I chose to conduct it in class since this was a novel activity, with attendant difficulties, and the instructor could troubleshoot any problems that arose. In addition, not all students had access to computers at their residences or homestay families, which made it potentially difficult for the students to complete this assignment as homework. In addition, it was sometimes difficult for the students to obtain a computer in the open lab at the College. I also wished to observe the students as they performed the activity. Moreover, doing the activity during class time provided an aspect of control for my study, as students can be

lax when it comes to completing such assignments, which comprise a minor part of their assignment grade. Once the asynchronous discussion activity was complete, the students proceeded to organize their ideas into an outline on the computer.

Once the second essay was completed, I interviewed the students to explore their perceptions of the face-to-face and online prewriting exercises and the influence each had on the generation and organization of ideas for their topic. The data were then summarized, analyzed, and interpreted. The findings are presented in Chapter Four.

This study is not intended to be a comparison of face-to-face prewriting discussions with online discussions. I chose to include the face-to-face activities in order to provide a context for the students' perceptions of the online prewriting activities. Face-to-face prewriting activities are the traditional and accepted form of preparing to write a text in ESL academic writing classes. However, the rise of CMC has raised questions regarding how this technology may be included in ESL education and where it may be most beneficial. For this reason, I was not concerned with possible order effects resulting from the sequence of activities, or that the face-to-face and online activities closely approximate each other. It was important that the face-to-face activities proceed along traditional lines. The online activities were designed to maximize the experience the students had with CMC technology. For this reason, I included both a synchronous and an asynchronous activity, wishing to explore CMC in the broadest possible manner as a potentially alternative way of conducting prewriting activities for ESL academic writing.

Data Collection and Recording

The data that I collected for my study came from several sources. This section describes each type of data as well as how they were collected and recorded.

I conducted both an initial and exit interview with each of 9 participants. I

arranged with each student individually to meet at a time that was convenient. The IED made private rooms available to me where I could conduct the interviews. Since the students frequently gathered in the IED to check on notices or meet with instructors or other students, this location was a convenient and central site for the interviews.

I had originally intended to conduct the initial interviews before the students began the face-to-face prewriting activities. However, I experienced a delay beginning my study as the arrangements with the instructor to enter his class took longer than I had anticipated. For this reason, the academic writing class was set to begin the face-to-face prewriting activities for the first essay when I was finally able to address the students.

The initial interviews occurred over a 5-day period between March 15 and 19, 2004. (A sample of initial interview questions is found in Appendix E.) The students had midterm exams immediately upon completion of their initial essays, so it was not possible to interview them before this time. The student to be interviewed arrived at the prearranged time in the IED. We exchanged greetings and I explained how the interview would proceed. I sat across from the student at a small desk in a private office. The tape recorder was positioned between us. The initial interview lasted approximately 30 minutes. As each interview progressed, I also began transcribing. I wished to submit the interviews to the students for a member check as soon as possible, before they began the online activities. Issues surrounding transcription are discussed in a separate section below.

This procedure was repeated for the exit interview several weeks later, after the students had completed the online prewriting activities. These interviews took place over 6 days from April 15 to 20, 2004. (A sample of exit interview questions is in Appendix E.) As with the initial interviews, these interviews were transcribed immediately and

given to the students for a member check in order to verify that I had accurately transcribed their perceptions.

I also collected data in the form of fieldnotes that I took during the time I engaged in nonparticipatory observation of the prewriting activities. These notes were written during two separate periods between February 12 and March 25, 2004. The initial nonparticipatory observations took place during the face-to-face prewriting activities, which began on February 12, 2004. The second observations occurred toward the end of March, 2004, while the students completed the online prewriting activities. I hand wrote my observations during class time and then copied them into the computer at home.

In order to provide for triangulation, I obtained access to the final drafts for the students' essays. These drafts included the online synchronous and asynchronous discussions, the outlines, and first drafts of the essays. My initial intent was to review the texts with the students in order to explore whether they perceived any element that could be attributable to the prewriting brainstorming activities. This proved to generate little useful data as the students had difficulty expressing their writing process. However, the online brainstorming sessions provided a useful context for my analysis of the data obtained during the interviews. Any excerpts from the students' discussion that may elucidate my findings are included in Chapter Four.

The final source of data that I collected came from the discussion I conducted with the course instructor. This discussion occurred approximately 5 weeks after the study was complete, in June, 2004. We met in a meeting room that I was able to arrange at the local University, as the College was some distance from our residences. We spoke at great length about the prewriting activities and I was able to include some of the instructor's insights in my own analysis. Table 1 presents a time line of the study.

Table 1

Timeline of the Events of the Study

February 04, 2004:	Presentation of study to the class
February 12, 2004:	Face-to-face prewriting activities begin. Nonparticipatory observations conducted.
March 15-19, 2005:	Initial interviews held
March 15-23, 2004:	Transcription and member checks
March 22, 2004:	Synchronous online chat prewriting activity begins. Nonparticipatory observations conducted.
March 24, 2004:	Asynchronous discussion prewriting activity begins. Nonparticipatory observations conducted.
April 15-20, 2004:	Exit interviews held
April 15-26, 2004:	Transcription and member checks
June 2, 2004:	Interview with course instructor

Data Processing

This section describes how the data were processed and analyzed. The study generated four types of data: the initial and exit interviews, the fieldnotes taken during my nonparticipatory observations, the texts the students generated as part of the prewriting activities, and my discussion with the instructor. These latter three forms of data provided support for the responses the students provided during the interviews. I did not analyze or interpret the texts the students generated during the online sessions beyond looking for support for statements the students made during the interviews. As the primary source of data, the initial and exit interviews needed to be transcribed for analysis. Transcription is an area of research that has recently become a subject of research in itself. A brief exploration of the issues surrounding the process of transcription follows.

Transcription Process

A transcription is necessarily a distilled rendering of the interview, and as such is susceptible to the subjective interpretations of the transcriber. Kvale (1996) has discussed transcription as an “impoverished basis for interpretation” (p. 167) since it cannot render the complexity of a live event with all its contextual cues. The transcriber must render a spoken event, with its attendant visual and gestural context, into a written format. In so doing, the transcriber can only approximate the interview, never fully recreate it. However, this does not mean that the data generated from an interview are somehow diminished. In recognizing the problematic nature of the transcription process, Tilley (2003) asserts that

researchers can strengthen claims of trustworthiness of data by making visible the complexity of transcription work, acknowledging the interpretive reality of data constructed, and providing insight into the ways in which they specifically

address issues of trustworthiness in their research practices. (p. 771)

According to Lapadat and Lindsay (1999), transcription is not merely a rendering of an event, but a process of analysis that “facilitates the close attention and interpretive thinking that is needed to make sense of the data” (p. 82). By recognizing that transcription is not a neutral process that exists outside analysis, but an integral part of analysis, the researcher can make the transcription process transparent, acknowledging that it is a rendering, not a re-creation of an event. In so doing, transcription can become a rich source of analytical engagement with the data.

Aware of the complexity of the transcription process, I chose to transcribe the interviews myself. In so doing, during the transcription process, I was able to recall certain gestures that some students made while responding to my questions that provided me with more information regarding their observations. The transcriber must be sensitive in determining how to select and process information in a manner that is a faithful rendering of the experience of the person being interviewed. For example, the students often hesitated when giving their responses to my questions. I chose to indicate this in the transcriptions by a series of periods. In addition, I included any repetitions and words such as “mmm” or “ah.” I also chose to retain the students’ syntax and vocabulary, in spite of obvious errors. Where appropriate, I have included students’ kinesic signals as part of the transcription. In order to strengthen the trustworthiness of the transcription, I chose to sit in on the activities that were under scrutiny during the interviews. In this way, I could refer the participants’ comments during the interviews to my own observations, providing a context for interpretation.

The accepted difficulties with transcription were compounded by the fact that I was interviewing ESL speakers. Their pronunciation and accents could potentially

provide another transcriber with some difficulties. Since I was also conducting the interviews I transcribed, I was able to rely on my memory of the interview and visual cues the speakers gave in order to decipher obscure sections.

In order to address the above mentioned concerns over the complexity of transcription, I began transcribing the interviews immediately after each interview session began. The transcriptions were submitted to the students for a member check in order to give the students the opportunity to provide input into how I represented their opinions and responses during the interviews. Apart from some minor clarifications regarding demographic information, all students agreed with my representation of their responses and accepted the transcriptions. During the initial interviews, I sometimes did not receive clear responses from some students regarding certain attitudinal information. With the member check, I included written questions that would provide me with this information and asked the students to respond in writing. These responses were returned with the member check and included as part of the data.

The decision to transcribe the interviews myself had potential ramifications. A single transcriber may limit the interpretation brought to bear on the data and, therefore, may potentially affect the validity of the transcription. As the sole transcriber, there is also the risk that transcriber fatigue can affect the transcription. I sought to minimize this by transcribing the interviews in an iterative fashion. Mishler (1986) suggests that the researcher should subject the interview to “repeated listening” (p. 49) in order to achieve as high a degree of accuracy as possible. Although I was limited by time constraints related to the progression of the academic writing course agenda, I listened to each audiotaped interview three times in order to ensure I had as accurate an interpretation as possible.

By acknowledging that a transcription is only an approximation and a rendering of an event, detailing how I transcribed the interviews, and ensuring that each interview received a member check, I have fulfilled Tilley's (2003) recommendations for creating trustworthy data.

Data Analysis

Once the interviews had been transcribed, I began to analyze them in accordance with recommendations set forward by Bogdan and Biklen (1998). They suggest the researcher should reread the data several times, develop coding categories (p. 171), and use visual devices (p. 167) to assist both with organizing and analyzing the data. At subsequent stages in the analysis, I triangulated the data that emerged from the two sets of interviews with data from my fieldnotes, the students' online texts, and the discussion with the course instructor. This section describes the process of data analysis in order to inform the reader how patterns of significance in the data were revealed, developed, and interpreted.

I assigned coding categories to the data, for example, "academic writing" or "idea generation." I originally thought that this was a simple procedure of identifying significant information and slotting it under a single code. Any response or comment a student made during the interviews that related to one of these codes was organized under the appropriate code. However, as the analysis progressed, I discovered more detailed and particular information in the students' responses than anticipated. Each reading of the interviews uncovered more data that I felt were significant, either by elucidating existing information or revealing new understandings. I sometimes felt as if I had inadvertently pulled the cord of a rubber dinghy and was desperately trying to stuff it back into its pocket as the dinghy of data kept swelling to unwieldy proportions. As a result, I needed

to introduce levels of subcodes that differentiated data within each code. The number of levels depended upon the amount of detail I was able to uncover. I termed these subsequent levels “themes” and “subthemes.” In this way, I could consolidate the students’ responses into manageable packets of information, based on a hierarchical ordering of data from most general (codes and subcodes) to most specific and detailed information (themes and subthemes). At this point, I could analyze the coded data for patterns that I felt were significant.

The initial and exit interviews were analyzed separately, using slightly different codes. One purpose of the initial interview was to uncover demographic information regarding the students. I numbered the questions and corresponding responses that elicited demographic information on each hard copy of this interview. In this manner, I was able to collate each student’s answer and arrange these data into tables in order to present a clear visual depiction of the age, gender, cultural, and academic background of the students. I found this to be a helpful way to discern any patterns that emerged in the demographic profile of the students.

The initial interview was also devised to uncover existing attitudes the students had about academic writing, prewriting activities, and computers. For these data, I initially applied the same numerical coding procedure. However, I quickly realized that I required explicit codes that would identify the focus of the analysis. Therefore, I gave a context code to each topic of “academic writing,” “prewriting activities,” and “computers.” Context codes are descriptive statements subjects make regarding the topic being explored (Bogdan & Biklen, 1998). The coding for this section was revised in the iterative process where codes, subcodes, themes, and subthemes emerged over several readings of the interviews.

For example, I asked the students what was the hardest part about beginning to write. Eight of the students indicated some aspect of idea generation. However, the students signaled different difficulties. Therefore, the coding for this section was revised in an iterative process where I first assigned a context code to “academic writing” and pasted the relevant responses from the interview. After analyzing these responses for patterns, I devised subcodes, for example, “hardest part of beginning to write” and searched for themes and subthemes relating to areas of difficulty the students experienced. An example of a theme for this subcode would be “getting ideas.” I then rearranged the students’ responses under the appropriate theme. Finally, in bold type, I added my observations and interpretations that I considered pertinent to the analysis. Where possible, I also re-presented the coded data in a table in order to give a visual synopsis.

The initial interview was intended to provide background information and a framework for the second interview I conducted after the completion of the CMC exercises. For this reason, my analysis of the data from the initial interview was primarily descriptive and provided an understanding of the context of students’ experiences.

For the second interview, I asked more open-ended and probing questions in order to explore the students’ perceptions as deeply as possible. It was not feasible to use the context codes I had followed for the initial interview. Instead, I used perspective codes. These codes delineate the subjects’ attitudes and ways of thinking (Bogdan & Biklen, 1998). I chose three perspective codes for the most general ordering of data. Two codes referred directly to my research questions: “idea generation” and “idea organization.” I used a third perspective code, “face-to-face versus CMC” that took into consideration the context of the students’ experience with prewriting activities. In order to delve as deeply

as possible into the students' perceptions of the web-based activities, it was necessary that comparisons would be made between the face-to-face and web-based prewriting activities during the interviews. I proceeded to organize the data under these codes. This required repeated readings of the hard copies of the interviews. I colour-coded the appropriate data with highlighters for easy identification: pink for idea generation, green for idea organization, and blue to indicate students' responses that referred to the comparison of face-to-face with online activities.

I then began to organize the coded data into subcodes, themes, and subthemes. However, this was not a simple process. I originally separated the first level of subcodes into "interactive" and "reflective dynamics." I chose these two subcodes as they referred directly to research I had explored in the literature review (Harnad, 1991; Warschauer, 1997). However, I struggled to relate the students' responses to the categories of interactive and reflective dynamics. First, these topics proved to be too broad; indeed they deserve a thesis on their own. Second, I discovered that I was pigeonholing the data into predetermined codes. I had to rethink my analysis and choose a new approach, one that responded to, rather than directed, the students' perceptions. I subsumed the concepts of interactive and reflective dynamics within the observations the students made. For example, I originally grouped the synchronous activity under the interactive dynamics subcode. However, the students experienced nuances of interaction, such as affective, cultural, and text messaging issues, that resisted such simplistic ordering. I redirected my analysis of interactive dynamics to an exploration of the nature of the students' interaction, to which I assigned the subcode "participation." This provided me with a much deeper and responsive analysis than one afforded by a simplistic division of codes into interactive and reflective dynamics.

Once I had resolved this coding dilemma for the second interview, I developed levels of subcodes and themes as I had done for the initial interview. As the data for the second interview were more complex than those of the initial interview, I created tree diagrams to indicate the level of subcodes, themes, and subthemes in order to have a visual presentation of the hierarchy of data as well as to delineate the intricacies of the students' observations, tease out detail, and manage the data. Through this schematic rendering I was able to examine the data in parcels of significance that greatly facilitated my analysis.

I adapted these tree diagrams for my written analysis through the use of levels of headings that corresponded to my coding system. The number of levels of headings varied depending on the number of themes I discovered within each code. The first level of heading corresponded to the original three perspective codes. Each became the working title of a section of analysis. The subcodes "synchronous activity" and "asynchronous activity" were the second level of heading within each section. Under each of these headings came the third heading level, for example, the subcode of "participation." Then I added the fourth heading level for a theme, such as "participation inhibited." Finally, in this instance, there was a fifth level of heading, the subthemes of "lack of social cues" or "typing issues." I then pasted in all the correctly referenced excerpts from the interviews that dealt in any way with the subthemes in the fifth level of heading. As with the initial interviews, I wrote my interpretation and understanding of the data at the end of each coded section.

In addition to the interview transcripts, I also analyzed my fieldnotes, the students' online texts, and the observations the instructor made during our discussion. These data were used for triangulation with the main interview data and were analyzed to

provide information that would support, refute, or expand the themes that emerged out of the exit interviews. In the text of my analysis, I indicated for each subtheme whether data for triangulation existed with a reference to the appropriate document: fieldnotes, online texts, or instructor discussion. The analysis of the data for triangulation occurred at different stages. Once I had coded and analyzed the interviews, I explored my fieldnotes for relevant information. This was a straightforward process as I searched my notes for data that either supported, contradicted, or expanded the students' perceptions.

The online texts the students produced proved to be more complicated. The students' use of language online was extremely interesting in its variety and register. I had to be careful to maintain the focus of my analysis on the students' perceptions of the web-based activities and not turn the texts into a separate research topic.

I analyzed the data from my discussion with the instructor after I had written up my findings from the students' interviews. I explored the instructor's comments for similarities and divergences from my analysis of the students' perceptions. This was a form of intrasubjective analysis where I checked my interpretation of the data and looked for differences in how the instructor and I perceived the activities. I found the instructor's impressions particularly relevant when it came to making recommendations and determining implications for practice in Chapter Five.

Mindful of the *cul de sac* that resulted when I sought to slot the data into the subcodes of interactive and reflective dynamics, I was careful throughout my analysis not to impose themes that revealed any biases or preconceptions on my part. I endeavoured to allow themes to emerge from the students' observations. I believe that this provided me with a rich analysis that was led by the students rather than imposed by the researcher. The analysis took several concurrent and parallel paths as I read the interviews, studied

the data, sought to reduce redundancies, and tried to make informed decisions about which perceptions were significant. This recursive process, where the analysis was built up through successive segmenting of the data into ever more intricate detail, was crucial to developing my understanding and subsequent interpretation of the students' responses. This process of analysis continued throughout the writing of the thesis and contributed greatly to refining how the data were presented, the choices I made regarding what elements of the data I highlighted, and why I considered the data significant in terms of their implications.

Methodological Assumptions

An important assumption when using interviews as part of research is that the information gained from the participants is an accurate portrayal of their experience. The researcher must assume that the interviewee is presenting a true, albeit subjective, impression. In the case of ESL participants, there are difficulties in comprehension on the part of both the interviewer and interviewee due to pronunciation or misunderstandings that can arise from the students' emerging ability in English. As a researcher, I had to prepare for any difficulties in comprehension as best I could but, beyond a certain point, I had to assume that the students and I accurately understood one another. The students in this study came from diverse cultures where the relationships between students and instructors can be formal and transactional. I had to assume that these students would be comfortable and forthcoming in the interviews, in spite of my position as a past instructor at the college. In addition, many of these students had never been interviewed before. I assumed that their lack of experience with interviews would not affect their responses.

Limitations

There are several limitations that may potentially weaken the findings of this

study. The interview questions that I chose to ask the students emerged out of my experiences as an ESL instructor of academic writing as well as my observations during the prewriting activities. For this reason, the questions are not standardized. However, the questions are informed by my reading of previous research into face-to-face and online communication (Beauvois, 1998; Chun, 1994; Warschauer, 1996, 2002b).

In addition, as a result of comprehension difficulties on the part of the students during the interviews, I was sometimes required to reframe my questions in a less open ended form. This narrowing of the parameters of the questions perhaps inadvertently led to question bias, where the phrasing of the question can direct the participant to a desired response. Due to the same considerations, I also chose simplified language in order to communicate with the students. For example, although the actual course management system, Blackboard, was not under investigation in this study, I frequently referred to the online prewriting activities as “the Blackboard discussion” or “on Blackboard” in order to simplify the questions for the students.

Topic bias may also have limited the credibility of the research. The students found the topic for the initial essay less challenging than that of the second essay. Some of them had addressed the issue of the influences of television on children in previous ESL classes. Indeed, this topic is frequently addressed in the media and is part of social discourse in different cultures. For this reason, all of the students had a previous degree of awareness about the topic before approaching it as an essay. The topic of assisted suicide, however, was quite difficult. For some students, it was an entirely new concept, one that involved deep religious and cultural issues. For this reason, some students may have viewed the online activity as more difficult or in a negative manner because of their perception of the topic.

The interviews were taped. This also may have inhibited some students from responding, or perhaps even coloured their responses in order to comply with what the students thought I might want them to say. However, my relationship with the students in no way involved any form of assessment of their performance in class. In addition, I ensured that the students were aware that their identities remained confidential, so that they could give confident and confidential replies.

I did not tape the face-to-face prewriting discussions, so have a less thorough source of data for this activity than I have for the online activity. This could perhaps be considered another possible limitation. I was able to record excerpts of conversations among the students in my fieldnotes. My entries about the face-to-face discussions in my fieldnotes are limited to who I could hear and what I deemed significant at the time. Because of this limitation, my observations of the face-to-face activities are less thorough than those of the online activities, as I had access to the printouts of the online discussions to support my fieldnotes. However, I was not interested in exploring the students' perceptions of face-to-face prewriting activities. Their perceptions of these activities served only as a reference and counterpoint to their descriptions of the online activities, my true area of focus. In addition, as I was interested in the students' perceptions, and was not exploring the actual interaction among the students, I did not feel that the fact that I had not taped the face-to-face activities was necessarily limiting to the study.

Establishing Credibility

Establishing credibility is a crucial aspect of any research study. Throughout the study, I sought to maintain a high level of credibility. Triangulation was integral to the design of the study. The primary source of data, the initial and exit interviews, was

contextualized and broadened by relating the findings to nonparticipatory observations as well as the texts that the students generated during the prewriting activities. In order to further solidify the credibility of my findings, I referred to the impressions of the course instructor to verify my interpretations of the results. Each interview was submitted to the students for a member check, in order to ensure that I had transcribed their perceptions as accurately as possible. Finally, I have sought to maximize transparency by presenting a detailed explanation of my analysis of the data.

Ethical Considerations

This study was conducted in accordance with the rules and guidelines set out by the Research Ethics Board at Brock University. I submitted a summary of my thesis proposal, information letter, and consent forms to the Research Ethics Board in August, 2003. This study received ethics clearance from them on October 8, 2003. I have included a copy of the Ethics Approval in Appendix F. I made every effort to follow the high ethical standards set out by the Research Ethics Board and avoid any negative effects my research may have had on the students. In addition, I endeavoured to protect the privacy and integrity of the study cohort at all times both during and after the completion of the study.

Restatement of the Purpose

The purpose of the research undertaken in this study was to explore students' perceptions of two online prewriting activities. These activities required the students to engage in CMC in order to brainstorm and organize ideas for an academic essay. I was interested in exploring whether students perceived that prewriting activities using the written medium of CMC assisted them in their idea generation and organization. I devised two online prewriting activities that occurred in both synchronous and

asynchronous online environments. I conducted two separate interviews with the student cohort, before and after they engaged in the online activities, in order to explore their perceptions of the online prewriting exercises. I transcribed these interviews and triangulated them with fieldnotes from nonparticipatory observation, printouts from the online discussions, and a discussion with the instructor in order to render data that allowed for rich interpretation. The results of the data are presented in the next chapter.

CHAPTER FOUR: PRESENTATION OF RESULTS

This chapter presents the results of my investigation into ESL students' perceptions of online prewriting activities. Following a qualitative methodology that employs a phenomenological paradigm, I collected data gleaned from interviews with the students, fieldnotes from the researcher, a discussion with the course instructor, as well as excerpts from the online texts that the students produced. The data were collected over a 3-month period from February to April, 2004. During the data collection period, I joined the academic writing class as a nonparticipatory observer while the students performed prewriting activities in face-to-face, synchronous, and asynchronous online environments.

I conducted an initial interview with the students to gain an understanding of their perceptions of prewriting activities, academic writing, and the use of computers to learn English. This interview occurred after the students had completed the face-to-face prewriting activities but before they began the online activities. Certain demographic information that may serve to inform the more experiential results was also collected at this time. After the online prewriting activities were concluded, I conducted an exit interview with the students in order to explore their perceptions of the prewriting activities in which they had engaged.

This chapter is divided into sections according to the initial and exit interviews. The results of the initial interviews are presented first to provide background information regarding the study cohort. The sections on the exit interviews describe in detail the results of the investigation and present these results as they relate to the major themes that emerged from the study.

Setting the Context

This section presents demographic information about the students, information regarding the students' attitudes toward academic writing and prewriting activities, and the students' general attitudes regarding computers. These data are provided in order to set a background and context for the more in-depth description of the data that resulted from the study itself.

Demographic Profile of the Participants

During the initial interview, I asked the students questions to elicit demographic information as well as information about their English studies. A summary of these findings is given below.

The study cohort comprised 9 students. They were young adults, with an average age of 23 years. The students were registered in the intermediate level of a college ESL program. Two participants came from Saudi Arabia. The remaining participants each came from China, Korea, Taiwan, India, Mexico, Yemen, and The United Arab Emirates.

All of the students started their English course shortly after their arrival in Canada. Three students had been studying English since the beginning of the current term, for about 3 months. Three students had completed 10 months of their first year in the program. One student had been with the college for a year and another had begun studying 15 months prior to the commencement of this study. This student had studied English for 7 months at another institution before moving to the college.

Two women and seven men made up the study cohort. It is worth noting that the number of female students in the study (26.6%) closely reflects the overall percentage of female ESL students enrolled during the winter term at the college, which was 28.5%. Therefore, the participants were fairly representative of the gender make up of the

program as a whole. There were 3 other students in the class who chose not to participate. They engaged in the same activities as the participants. However, I did not collect data from them.

I also questioned the participants about the level of their postsecondary education. Five of the students had completed their postsecondary education in their home country. Two had interrupted their postsecondary education at home in order to study English in Canada. Two students had completed high school and were studying English prior to commencing their postsecondary education. All of the students had had some English instruction in their home country. Six students had studied English at the postsecondary level for periods ranging from 3 months to 3 years.

In addition, I asked the students their reasons for choosing to study ESL in Canada. Table 2 depicts this information. Seven of the participants elected to improve their English in order to fulfill career or academic goals. These students intended ultimately to return to their home countries. One student had immigrated to Canada and needed to improve his English skills in order to enter the Canadian work force. The remaining student wished to stay in Canada temporarily and obtain work, as our workforce receives better remuneration than in this student's home country. The significance of these data is that 7 of the 9 participants required English academic writing skills in order to fulfill their career and academic goals. As noted above, the remaining 2 participants required English skills that would allow them to function more effectively in the Canadian workforce.

The demographic information I received from the interviews provided me with general background information regarding the participants. The 7 male and 2 female students presented a heterogeneous cultural profile but were all relatively close to each

Table 2

ESL Students' Reasons for Studying English

Reason for studying English	No. of Participants
Career goals	3
Further study	4
Immigrate to Canada	1
Work in Canada	1

other in age. The students had all had some previous English instruction in their home countries. All participants commenced their English studies in Canada shortly after arriving and 7 had significant motivation to become proficient in academic writing. Seven of the nine students intended to return to their home country upon completion of their studies in Canada, and two wished to remain, one permanently and the other indefinitely in the underground workforce. In addition, I found this demographic information gave me a greater understanding of the ESL students' English ability. The information presented in this section provides a general picture of the cohort as a group of young, well-educated adults who are motivated to learn English in order to fulfill certain life goals.

ESL Students' Attitudes About Academic Writing: Initial Interview

During the initial interview, I explored the students' attitudes toward academic writing. All the students believed academic writing to be an important skill to learn and cited both academic and career advancement as reasons for this opinion. All the students mentioned that they had never been taught writing as an explicit skill in their native country. Prewriting and brainstorming were unfamiliar activities to all students prior to beginning their ESL course in Canada and one student had never written an essay before.

Four students felt that academic writing was the hardest of their courses. When I asked which of their courses was the easiest, none of the students chose academic writing. One student rated writing and reading as equally hard and another chose both listening and speaking as the hardest. These choices are represented in Table 3.

The students were less clear about whether or not they liked academic writing. When I asked the students to name their favourite course, all but one was able to choose. However, they had more difficulty identifying their least favourite course. Perhaps the

Table 3

ESL Students' Choices of Hardest and Easiest Courses

Hardest Course	No. of Participants	Easiest Course	No. of Participants
Reading	2	Reading	2
Writing	4	Writing	0
Speaking	2	Speaking	4
Listening	1	Listening	2
Grammar	2	Grammar	1

students were reluctant to admit not liking a course to a stranger. Moreover, I was interested in a particular course, academic writing. Some students may have been sensitive about admitting their dislike of a course in which I was involved. Rather than address what they thought of the course, some students responded with how much they liked their instructor. One student said he recognized that academic writing was important but not interesting. Some students seemed bemused by my question. As one student said: “I am ESL student....I have to do it. I don’t like, dislike, I do it” (Int:1)¹. Table 4 summarizes the students’ responses.

Only 2 of the 8 respondents chose writing as their favourite course. In contrast, of the students willing to identify their least favourite course, writing was the only one that garnered more than one respondent. Tables 3 and 4 present a perception among the students that academic writing is a difficult and unpopular course.

In order to explore students’ perceptions of an online prewriting activity it was important to isolate which difficulties the students had with prewriting. My observations as an instructor of academic writing had led me to conclude that idea generation was particularly difficult for ESL students, but I was curious to know if my observations were shared by the students. To this end, I asked the students what they found hardest about the prewriting phase (Table 5). Although all of the 8 students who replied had a different way of expressing their difficulty, all but one answer involved some aspect of idea generation. The one exception was a student who found no difficulty in the prewriting phase.

Similarly, I asked the students what was easiest about prewriting. Only one student’s answer involved some aspect of idea generation, that of sharing opinions with

¹ Throughout the text the source of the comment is indicated in parenthesis by the abbreviation “Int” for interview and the numbers “1” for the initial interview and “2” for the exit interview.

Table 4

ESL Students' Choices of Favourite and Least Favourite Courses

Favourite Course	No. of Participants	Least Favourite Course	No. of Participants
Reading	2	Reading	1
Writing	2	Writing	2
Speaking	4	Speaking	1
Listening	-	Listening	1
Grammar	-	Grammar	1
N/A	1	N/A	3

Table 5

The Hardest Part of Prewriting

Hardest	No. of Participants
Getting ideas for the topic sentence	1
Getting ideas for supporting details	1
Brainstorming ideas	1
Getting ideas	4
Nothing is hard	1

other students. Predictably, the same student who expressed no difficulty with prewriting also indicated that all aspects of prewriting activities were easy. As shown in Table 6, the remaining 7 students' responses indicate that they did not find prewriting activities easy at all. They signaled the next stage of writing as easy, when the actual composition of the text begins.

From the initial interviews, I was able to draw a general understanding of the students' perceptions of academic writing. Although all students acknowledged the importance of academic writing in learning English, only 2, or one quarter, of the students stated that it was their favourite course. Four students, or twice as many who cited any other course, regarded writing as more difficult than any other course they were required to take. In addition, my own observations regarding idea generation were confirmed by the students: a majority of 7 students felt that this task was the most difficult part when they first approached a writing assignment.

Students' Attitudes Toward Face-to-Face Prewriting Activities: Initial Interview

It emerged during the initial interviews that all the students had been unfamiliar with the practice of brainstorming ideas before beginning their English language studies. However, the students had all engaged in face-to-face brainstorming in their present and previous ESL academic writing classes. Yet there still persisted among the students a lack of knowledge regarding prewriting activities. Indeed, when I initially used the term "prewriting," none of the students knew what I meant. As one student put it:

Jin: Oh, sometimes I don't know what he [the instructor] want us to do. But, but when I finish I know why he ask us to do it this way.

Kate: So at the beginning you think: "Why am I doing this?"

Jin: Yeah. I was shock. But when I write my first paragraph, I know, oh, he want us to

Table 6

The Easiest Part of Prewriting

Easiest	No. of Participants
Beginning to write	2
Writing body paragraphs	1
Writing all the beginning	1
Writing the supporting details	1
Writing the thesis statement	1
Writing the topic sentence	1
Sharing opinions	1

do this.

Kate: How do you feel at the beginning?

Jin: Not bother, just confused, why, why? (Int: 1) ²

Although one student admitted that he found prewriting activities dull and a lot of work, he echoed the sentiments of the other students when he admitted that they helped generate ideas and organize their essays.

José: It's like boring sometimes, it's boring...or like not boring but a lot of work to do.

But it's important, because there are many steps to get to the finished part and that part you can think many different things. (Int:1)

All the students felt that prewriting activities were important and valuable. However, an activity can be valuable yet difficult for a student to perform. I was curious to find out whether the students felt comfortable with face-to-face activities. Previous research has indicated that face-to-face discussions can be stressful for some ESL students. Gender and cultural issues come into play; shyness and concern about pronunciation or accent are also cited as factors influencing students' output in face-to-face brainstorming discussions. It has been speculated that CMC activities, by removing these stressors of face-to-face interaction, can help shy students increase their output (Beauvois, 1997; Sullivan & Pratt, 1996; Warschauer et al., 1996). I wanted to discover if this were true of the students in my study. Contrary to what some researchers have indicated, none of the students expressed significant reservations or shyness about speaking. Indeed, as one student said,

Jamal: Me, I don't have any problem to speak in front of students. I don't feel that unconfident. I don't have...like...stress. (Int:1)

² When an excerpt from an interview is quoted, the interviewer is indicated by the name, "Kate" and the interviewee by a pseudonym. The source of the excerpt is indicated at the end of the quote.

All students said that they experienced little or no difficulty in understanding the instructor's directions and felt comfortable asking him for clarification. They also did not feel that any difficulty they had understanding the other students interfered with brainstorming. Jin indicated that she had been reluctant to speak at the beginning of the term, "because I still have to change my brain to speak English" (Int:1) but that she now felt comfortable. Another student, Fariq, preferred to speak for short periods because "you have to prepare for that and nobody want to be talk and stop and think more and what I'm going to say." (Int:1)

Six of the students felt that they participated a lot during brainstorming discussions. Even those who felt they did not participate a great deal stressed the importance of brainstorming in getting ideas:

Fariq: So you get more different ideas from the other students or the teacher. (Int:1)

Amir: It's really good. It's help me because sometimes, I figure out how to get the idea because for me it's hard to get the idea so I can't....there's a lot of people they give a lot of ideas so I develop, can think it's good or not and I can put it in my essay then I can think about more. (Int:1)

My own observations of the students' participation are presented in the section, Overview of the Investigation.

In addition to their perceptions of the brainstorming discussions, I wanted to explore what the students were listening for in the discussions. One aspect of my research is concerned with discovering whether the introduction of CMC at the prewriting stage of academic writing, traditionally a face-to-face activity, influences the organization of ideas into the text of the essay. I am curious whether the earlier introduction of written text into the idea collection process of brainstorming encourages idea development and

organization. In order to explore this idea, I asked the students which was more important when they spoke during the brainstorming discussions, their ideas or using correct grammar. Five students felt that their ideas were more important. I then asked what was more important when they listened to others, their peers' grammar or ideas. In this instance, 6 students felt that ideas were more important, one student saying that he paid attention to both words and ideas.

Kate: When you're talking in class, what's more important for you, getting out your idea or saying the words correctly?

Amir: Mmm, I think getting the idea.

Kate: When others are talking in class and you're listening to others speak, what are you paying attention to? What's important for you?

Amir: I listen to the idea, I don't correct them.

Kate: Do you hear the mistakes?

Amir: No, I don't hear exactly the mistakes, I'm listening what he means. (Int:1)

During the initial interviews, the students gave an overall impression of enjoyment regarding face-to-face brainstorming activities. Any discomfort was minimal and not perceived by the students to have a deleterious effect on their ability to participate in the discussions. All the students felt that the activities were helpful in the generation of ideas. It seemed that grammar concerns were not considered important by the students as they focused primarily on the ideas presented during the discussions. Face-to-face prewriting discussions, therefore, were perceived by the students as a valuable way of gathering ideas in preparation for writing their texts.

Students' Initial Responses About Computers

During the initial interviews, I also asked the students about using computers in

their academic writing class. Their instructor had already been using the Blackboard course management system for some collaborative writing exercises, but they had not done any online prewriting activities. I felt it was important to discover what the students thought about using computers before they began the activities. This would provide an informative context to their responses when we came to the second post-CMC interview. All the students were familiar with using the computer in an interactive manner. They all had participated in chat rooms and regularly e-mailed friends and family. Three students expressed difficulty with the English keyboard because of the unfamiliar script. Kyon's comment sums up the feelings of all three.

Kyon: Typing on the computer is hard for me because we have totally different characters. (Int:1)

The students were generally open to the idea of using computers in their academic writing class. Three students expressed little enthusiasm for them, but were not averse to using computers. One of these students, Amir, said that he sometimes got frustrated with the glitches that can arise when using computers: "It's sometime bother me" (Int:1), but also said that using computers is "O.K. for me" (Int:1). Another of these students was ambivalent, stating that his feelings about computers depended on the topic about which he was writing.

Kate: How do you feel about computers in the classroom?

Mark: Sometimes it's interesting and sometimes boring.

Kate: When?

Mark: If I'm writing interesting things it's O.K. (Int:1)

Six students expressed more enthusiasm for incorporating computers into their writing class. One student liked to chat and practice his typing skills:

José: For me it's better than write because I think that when you communicate like with chatting, that you can express in typing. I'd like to be good in both, like typing and writing. For me it's good to work with the computers. (Int:1)

Adil also mentioned typing as a reason why he liked using computers:

Adil: I think it's good because I like typing better than writing. I can type fast. (Int: 1)

Another student appreciated the spell and grammar check functions of the computer programs he used:

Jamal: You know we have a lot of mistakes in spelling and in grammar and the computer so fast...you write and he correct and you don't need to look to dictionary. (Int: 1)

Kyon also liked using computers. She appreciated the flexibility it gave her to do her work independently: "it's very useful because I can do at home, school." (Int:1)

Seven students felt that using computers could help them learn English. Two recognized that English is the dominant language on the Internet and using the Web can facilitate individuals' language learning.

Adil: Yeah, because maybe you want to figure out something with the computer, research something, you must use English. So if you start from now, it give you like idea how to use it. (Int: 1)

John: We can look for information using the Internet. (Int:1)

Amir felt that chat lines were helpful:

Amir: Sometimes I talk in English with other people. They know English. (Int:1)

One student who did not agree that computers could help in language learning was the one who liked the spell and grammar check features on computer programs. He cited them for why he felt that computers were not helpful in learning English.

Jamal: I think it's not useful, because you know I don't care about spelling when I write

in computer...just the nearest form, like, O.K. after the computer correct. (Int: 1)

These results describe a participant cohort that is generally open to using computers, in spite of some having difficulty using the keyboard. Three of the 9 students expressed some ambivalence but were willing to use computers if required. With the exception of 1 student, all the students who were asked this question felt that computer use can facilitate learning English.

In summary, the results from the initial interviews provided me with a profile of the demographic makeup of the cohort. In addition, I was able to explore the participants' existing attitudes about academic writing, prewriting activities, and computers. This information was valuable when it came to analyzing the results of the exit interview. It provided a context for the students' perceptions of the online activities that served to enrich my analysis of their responses. Moreover, by recording the students' perceptions before they engaged in the online prewriting activities, I could observe any shifts in attitudes among the students once they had completed the exercises.

Review of the Prewriting Activities

The study was conducted over the course of two prewriting environments for separate essay assignments in an intermediate level ESL academic writing class. The first activity took place in a traditional face-to-face environment where the students brainstormed their ideas in verbal discussions. For their second essay, on the topic of assisted suicide, the students engaged in prewriting discussions using CMC. This meant that they were required to write out their ideas on the discussion board forum of the Blackboard course management system. CMC is an interactive written medium that functions in both synchronous and asynchronous environments. I wished to explore both environments to see if there were any differences in the students' perceptions of the effect

of these activities on the outcomes of the prewriting activities, namely, the generation and organization of ideas. The students initially engaged in a synchronous online chat. For the asynchronous exercise, the students had to post their opinions online as a threaded discussion assignment. Then, they responded to at least two other students' postings. In this way, I could explore the students' attitudes towards the online prewriting activities in both synchronous and asynchronous environments. Table 7 illustrates the brainstorming activities undertaken for each essay.

Overview of the Investigation

The exit interviews with the 9 participants elicited rich and varied responses. In spite of some difficulties expressing their opinions and thoughts in a second language, the students were very interested and engaged in conveying their impressions of the prewriting activities. I will provide support for their observations through triangulation with my nonparticipatory observations as well as the record of the texts created during the online brainstorming sessions. In addition, I conducted a poststudy discussion with the course instructor. His observations will also inform the description of the data. The results of the investigation are presented in two sections. The first describes the students' attitudes toward the face-to-face prewriting activities after the students had completed the web-based activities. Although this study is not an examination of the face-to-face environment, it is valuable to present the characteristics of this type of activity in order to provide a context for the data I collected regarding students' perceptions of the online activities. The second section presents the findings regarding the students' perceptions of the web-based prewriting activities.

Students' Attitudes About Face-to-Face Prewriting Activities: Exit Interview

Traditionally, brainstorming activities for academic writing have occurred in a

Table 7

Brainstorming Activities for Each Essay Assignment

Face-to-Face Activities:	Web-based Activities:
influences of television on children	assisted suicide
Small group discussion	Synchronous chat discussion
Whole class discussion	Asynchronous threaded discussion

face-to-face environment. There are some obvious and intrinsic advantages to this type of activity. During the exit interviews, the students were quick to point these out. For example, 3 students commented on how social cues such as visual contact can facilitate comprehension and introduce affective elements in a face-to-face discussion:

Jamal: You see body language, see if you believe your opinion by how you speak. But if I'm using Blackboard, I delete all this emotion, just I'm writing. (Int: 2)

José: I dislike [Blackboard] to share information because you're not, like look into others person's eyes...like maybe you can change other person's opinion if we are talking. (Int: 2)

Amir: Sometimes, if I speak more, as I speak I can explain more. Sometimes with body language you can explain for him. (Int: 2)

In addition, 2 students felt that the immediacy of the verbal environment was a positive element in discussions. They appreciated the ease of interaction when speaking:

Jamal: When I speak... spoke, in class, my brainstorm, my work, goes fast. Not like in Blackboard. In Blackboard a little bit slowly. (Int: 2)

Mark: Speaking, if we say something to each other...if we make any grammatical mistake, as soon as we make it we can improve it. (Int: 2)

Another student concurred, stating that it was easier to understand and be understood in a face-to-face setting because clarification can occur immediately:

José: If I speak I can tell all my points faster too and I think all the people that are listening to me, they are going to understand more than writing. If they have a question they can ask to me. (Int: 2)

The students found the face-to-face activities to be more engaging than the online brainstorming sessions, partly because the group setting relieves boredom:

Jamal: What I didn't like in the Blackboard...what I said to you, everybody have to work alone and sometime it slowly or bored...because you know, you're sitting in front of the screen and just you type and kind of bored. But like in speaking, we speak and sometime we go off the side of the topic a little bit but we come back in...that make it more interesting. (Int: 2)

One student remarked that speaking encourages students to express and develop their ideas in an active manner. He felt this promoted the exchange of ideas:

Amir: Because people can say maybe one idea a little bit wrong, so you can develop it and make it right and you can add this idea to yours. When you speak you can understand. He can explain and develop. It's more active. (Int: 2)

Indeed, the general perception of the students was that the verbal brainstorming was easy to perform:

Fariq: When we talked about the subject and discuss... I think it's easier than the other one, to take other ideas and to write down. (Int: 2)

Amir: I think that the [face-to-face discussion] is easier than computer group discussion. I can understand easier than when they write it down on Blackboard. (Int: 2)

Turn-taking issues, which have been shown to be a mitigating factor (Epp, 2004) in the success of face-to-face brainstorming, were not mentioned as a problem by 7 of the students. Indeed, Fariq felt that many voices contributed to feeling connected and engaged.

Fariq: I like to discuss about the topic because more information...discussing, different opinion. All the class talk together with the teacher, more active. (Int: 2)

Perhaps one reason these students did not mind being interrupted is that interruptions, so prevalent in face-to-face interaction, may be important in promoting the feeling of

connectedness and engagement. This feeling may create a stimulating and interactive environment that may facilitate comprehension for ESL learners. This feeling contributed to their ability to complete the task at hand:

Jamal: Mmm...in speaking... like... I can catch more idea from other student and this make it easy for me to make outline. (Int: 2)

One student commented that the instructor was more involved in the activities during the face-to-face discussion. This student felt that the instructor could contribute ideas or assist the students in formulating their own:

Mark: I liked speaking activities because when we say our idea, the teacher gives some more idea or he understand what we are going to say so it is good for that and um...we share ideas with teacher. If he has any ideas then they can share with us too. (Int: 2)

This student's perception that the instructor was hands on during the face-to-face activities was borne out by my own observations.

However, there are aspects of face-to-face brainstorming that may impede, rather than stimulate, the generation of ideas and subsequent composition of text. Previous studies (Beauvois, 1997; Sullivan & Pratt, 1996) have noted factors of face-to-face interaction of ESL learners that may inhibit participation. These impediments include turn-taking issues, inhibitions about speaking out in public, and heightened anxiety. The participants in my study touched upon these difficulties during the interviews. In the initial interviews, no students admitted to any significant difficulty with face-to-face discussions. In the exit interview, this changed slightly: 2 students felt that the difficulties were significant enough for them to prefer online discussion.

Jin recognized that comprehension difficulties inhibited her from participating in

the face-to-face discussions. Rather than ask for clarification when she did not understand what another student said, Jin remained silent. Indeed, she did not contribute at all during the whole-class face-to-face discussion.

Jin: Sometimes the other ones say the idea...maybe we don't get it and then I didn't say anything. (Int: 2)

One student who expressed a degree of discomfort with the face-to-face dynamic acknowledged feeling shy and inhibited about expressing her opinions in class. She had a negative reaction to the “noise” of the other students and preferred the calm of working online. Her reaction describes a student who has difficulty with the interactive environment of face-to-face discussions and responds well to the reflective act of writing.

Kyon: I speak something, my opinion, in front of student, they against me, it's immediate. I just say this! (*Kyon shows how she feels uncomfortable when others protest. She behaves as if on the defensive*) On Blackboard, I just calm down and make my idea complete and organize very well. I don't need to hear the other students' noise. (Int: 2)

Kyon feels that she is competitive. My observations of her contributions during the verbal discussions bear out her feelings. She contributed very little to the conversations, both in her small group and in the whole-class discussion. Here is an excerpt from my fieldnotes of the whole-class face-to-face brainstorming activity:

Kyon yawns. Does not contribute.

John and Fariq add the items on board to their own lists in text. Do not take part in discussion.

Mark speaks in sentences.

José contributes very little.

Amir speaks a little more than José and in more complete sentences: “I prefer to stay inside.”

Kyon plays with the markers. (1st observation session)

However, a review of the online discussion transcripts for the initial synchronous chat reveals that Kyon also did not contribute a great deal to this activity either. She was one of 6 students who contributed the least number of postings to the synchronous discussion, namely, five entries. Perhaps she does not seek nor require the communicative dynamic of a discussion, be it verbal or online, in order to compose her thoughts:

Kyon: We just talking with our classmate, we just spoke, “What I think about that” ... that is sometimes confusing, sometimes it’s not too necessary for me, I want just to think. If I need information I just search on Internet. (Int: 2)

A second student also preferred online brainstorming over the face-to-face activities. He found that the kinetic nature of a verbal discussion made it difficult to think of ideas. In particular, he noted comprehension difficulties nonnative English speakers can have as well as turn-taking issues.

Adil: Because in a discussion, it’s like interrupt, maybe one of your classmate want to say something, you want to say something, same thing or maybe different, you don’t have chance to discuss, but if you write on your Blackboard, you’re just lone and just think. You can just type.

Kate: So would you say when you’re talking in class you may be interrupted...?

Adil: Yes and sometimes we don’t understand each other.

Kate: And when you’re writing?

Adil: Well, because we have to write, when you write you just read it, no discussion, interruptions, you can think about it more. (Int: 2)

He too, expressed some discomfort with speaking in class and was concerned with expressing himself clearly in another language:

Adil: When you speak in front of your class you sometimes may be nervous, it's not coming out maybe clear...but when you write, you can think more and just relax and comfortable, just type. (Int: 2)

With the exception of Kyon and Adil, the students overwhelmingly expressed pleasure with the typical elements of a face-to-face discussion. They enjoyed the active dynamic of a verbal discussion and did not find the fact that they were all speaking in a second language to be an impediment, although they did acknowledge having some difficulty understanding the discussions. Overall, they appreciated the speed and ease of a face-to-face discussion, even when some of them admitted that they got more ideas during the online discussion than from the face-to-face activities.

The ESL students' perception of face-to-face discussions as easy and fast is significant in that it persists in spite of the communication difficulties I saw during the face-to-face brainstorming sessions. I observed the students to be struggling with the language, both production and comprehension. The students repeatedly used their electronic dictionaries to either translate a word that was spoken to them, or find one they wanted to use. Indeed, during the initial brainstorming session, in spite of the instructor's direction to discuss the topic in small groups, there was a general quiet as the students worked largely independently. When they did speak, they used single words or incomplete sentences, punctuating their speech with gestures and pointing to words in their dictionaries. Their verbal exchanges were frequently awkward. At least one student did not contribute at all to either the small-group or whole-class discussion. During the whole-class discussion, the students who spoke used largely isolated words or phrases,

often ignoring grammar in order to get their idea across.

A description of the initial face-to-face brainstorming activity serves to illustrate the problems that can arise. The instructor put the students in small groups of three or four and asked them to discuss the positive and negative influences of TV on children and make a list to share with the class. Although this was supposed to be primarily a discussion activity, many, if not most, of the students proceeded to simply make a list without talking with their partners. Here are excerpts from the fieldnotes I took during the first brainstorming class:

José et al. read the instructions and look at the page. There is also no talking.

The instructor approaches and José explains to him that kids can learn bad behaviour.

Kyon sits with her hands in her pockets and observes the others of her group writing. There is no talk.

Jin refers frequently to her electronic dictionary and writes without talking at all.

Kyon and José discuss the topic. She uses a punching gesture to explain the meaning of the word *violence*.

Mark, John, and Adil work without much talking.

The students seem to have difficulty coming up with enough ideas on their own.

The instructor asks them questions to get them thinking. John seems to have particular trouble with this. The students have some trouble making themselves understood.

Kyon and John refer to their dictionaries frequently.

The students, while not engaging in a lot of talk, seem committed to the task of getting ideas. They speak in single words or incomplete sentences, using gestures

and pointing to words in their dictionaries. There is some awkwardness with speaking. (1st observation session)

Overall, the students were respectful and relaxed with one another. None seemed ill at ease with the activity, and their observations during the interviews that face-to-face brainstorming was “easy,” in the sense that not a lot of effort was expended, were borne out by my own observations.

Indeed, the students appeared to be heavily reliant on the instructor in order to complete the task. During the small-group discussion the instructor circulated, asking questions in order to elicit ideas. The discussion became predominantly transactional when it moved to the whole class as the instructor conducted and directed the discussion. My observations of the face-to-face activities revealed a learning environment apparently more problematic than the students perceived in the interviews. Despite the reduced language, strong reliance on the instructor, the frequent use of dictionaries and gestures, and difficulties of communication, the students preferred the face-to-face activities seven to two over the online brainstorming.

Students' Perceptions of the Web-based Prewriting Activities

This section describes the students' perceptions of the CMC activities that emerged from the exit interviews. The distinct characteristics of the synchronous and asynchronous environments as well as characteristics common to both online environments are described. These descriptions are limited to a presentation of how the students experienced the activities, rather than the students' perceptions of the activities' outcomes in terms of idea generation and organization for academic writing. These issues are described separately under the heading Outcomes of the CMC Prewriting Activities. During the exit interviews, four major themes emerged from the students' observations

regarding the outcomes. I have categorized these themes as follows: students' perceptions of the effect of the earlier introduction of grammar during the online brainstorming activities, the effect of each online activity on the generation of ideas, the effect of the activities on the organization of their ideas, and finally, the nonlinguistic outcomes of the online activities.

Characteristics of the Synchronous Online Chat Activity

For some students, the synchronous online activity contributed to a feeling of isolation from the other students. This affected the students' commitment to the task:

Amir: On computer I was not really involved with the students. I typed and read what they wrote. (Int: 2)

This sense of isolation also contributed to the students' perceptions that they were not truly interacting with each other online. Although they were indeed interacting, albeit through a synchronous online chat, this seemed not to constitute interaction to these students at all. Indeed, for at least one student, brainstorming is synonymous with verbal exchanges.

Jamal: In Blackboard we didn't do brainstorm. (Int: 2)

Another element of face-to-face brainstorming that was absent during the synchronous online sessions were social cues such as visual, aural, and gestural cues. In particular, the students mentioned the lack of visual signals. Many students felt that this made them think harder and pay more attention to their writing in order to make their opinions clear. One student who felt that this was a positive aspect of synchronous chat said:

Jin: I have to think to describe my opinion. Maybe I can type some vocabulary, but the people can't see me, they just see my idea. And one word, no sentence, they

can't understand. (Int: 2)

However, the need to write more and pay more attention to their choice of words and use of grammar contributed to the difficulty of the synchronous activity for some students. One student felt that the crux of this difficulty lay in his concern that he write well, an issue he felt was absent from speaking:

Fariq: I think because it's writing, because when you write you want to write something perfect...something good, not like you speak. (Int: 2)

The students felt that the written environment of the online chat required them to take more time to compose their thoughts. Some students commented that this extra time was helpful:

Adil: When I type I have time to think about it and you can say, "oh, maybe I have a mistake" and you can delete. But when you talk it's gone...the word. (Int:2)

José: Mmmm...maybe if I write I have more time to prepare my opinion than if I'm speaking. I feel more sure that I'm in the correct way with writing. (Int: 2)

However, not all students agreed:

John: You know, for just spoke in the class we just think about something and speak it. I don't need to consider a long time for speaking. For writing I need to consider a long time. So I feel not comfortable for writing my idea. So that's why I enjoy the talking brainstorming. (Int: 2)

One student felt that the difficulty of composing ideas into a written form made some students reluctant to contribute. He postulated that a student may not want to exert the effort that writing requires to present his opinion, revealing the tendency some students can have toward a kind of intellectual laziness when completing assignments:

Jamal: Some student don't want to write a lot. Maybe he want to say for me, like...

uh...his opinion, but it's too long... he's like lazy to write it and OK he write some word...like "I disagree with you" and he never say, like, why. (Int: 2)

Another stumbling block for some students during the online synchronous sessions was the lack of immediacy to the exchanges. Although the students were in a synchronous chat, the small delay in replies as the comments were sent and read seemed to be sufficient to cause a negative reaction. It may be that ESL students process the English language more slowly than native English speakers and so the immediacy of synchronous chat is not only lessened, but adds a problematic element to online synchronous interaction.

José: For me [Blackboard] is more difficult because the ideas that you read are only sentence and I can't ask why. Speaking, you can check the information. (Int: 2)

This student's observation was echoed by others. Checking for comprehension proved to be a roadblock for several students during the online synchronous sessions. For example, if the students needed clarification, they had to send a message back and then wait for the reply.

Jin: Sometimes I can't understand the other one's meaning so I have to respond again um... don't like this. (Int: 2)

Perhaps the single largest observation the students made about the online synchronous chat was regarding participation in the activity. Six students felt that they participated more during the online activity while 2 students felt that they participated more during the face-to-face activity and 1 student felt that there was no difference. The reasons the 6 students gave for their perception that they contributed more to the online synchronous discussion indicate that CMC can indeed remove certain inhibitory factors in face-to-face interactions. For example, 2 students felt that it was easier to be silent in

face-to-face discussions, whereas in the online discussions, a student's absence was more noticed.

Mark: In Blackboard everybody has to keep their idea and in speaking if somebody will not speak in class it doesn't matter. (Int: 2)

Jamal: [I participated more] writing in the Blackboard. Because I need to know my idea before I came, nobody helping me. But sometime, if I'm talking, discussing by speaking in the class, sometime I just sit down and hear some idea. (Int: 2)

Adil felt he participated more online because he felt "more comfortable" (Int: 2).

As a result of the feeling of isolation, the absence of social cues, the need to pay closer attention to vocabulary and grammar, as well as the time delay in responses, 7 of the 9 students felt that the online synchronous activity was uninteresting and difficult and they preferred face-to-face discussions.

Mark: Blackboard activity is just you write it, that's it. It wasn't interesting. (Int: 2)

These 7 students found the exchanges to be time consuming and awkward, creating an air of tedium to the synchronous discussion. In spite of the difficulty of the exercise, two thirds, or 6, of the students felt that they participated more during the synchronous online activity than during face-to-face discussion. This did not necessarily mean that a majority felt that the activity was successful. There appears to be an inverse relationship between participation and enjoyment of the face-to-face and synchronous brainstorming activities.

The synchronous online prewriting activity was not perceived to be successful by 7 of the students. Although 6 recognized that they participated more than during the face-to-face activities, the overall impression the students had was that the activity was not an effective brainstorming method because of the feeling of isolation, time delay, and the need to consider grammar. These points contributed to the difficulty of the exercise.

These 7 students perceived that the effort it took to engage in this type of discussion was excessive for the amount of benefit they received from it.

Characteristics of Asynchronous Threaded Discussion

The students' perceptions that the online synchronous activity was difficult and not worth the effort it took to participate did not persist when it came to the asynchronous discussions. The asynchronous activity was generally perceived by the students to be more successful than the synchronous activity. Using the results of the synchronous brainstorming activity, the students had to post their opinions on assisted suicide on the discussion board forum provided by Blackboard CMS. They then responded to at least two other students' postings. These students were assigned in order to ensure that each student received at least two responses to his or her posting.

The students overwhelmingly preferred the asynchronous activity over the synchronous chat. Several students mentioned that the asynchronous online brainstorming sessions had an advantage because they generated a record of the discussion to which they could refer when they had to compose their outline and essay. Apart from the lists the students made, the face-to-face activities generated no such records and the brevity of the synchronous online exchanges did not create a useful database for the students. With the archive of the asynchronous threaded discussion, the students were less likely to forget what had been contributed during the prewriting discussion.

José: Your information is all together and you're not going to forget something if you write. So, it's more easy to remember things. (Int: 2)

Kyon: I read that sentence, "Oh, they think like that." I can get idea from reading them. (Int: 2)

Jamal: On Blackboard, they helping to remind me...old idea, maybe I have before. (Int:2)

Fariq: I print all the students who agree and I use it and analyze all the different point and use it to brainstorm the point and after that organize. (Int: 2)

Adil: You just think what you want to write, sometimes you need something to write... maybe you think of ideas so you just open your Blackboard and check your classmates' ideas, you say, "ah, maybe I got something here." But if, like, in talking discussion in class, everything go so fast it's difficult to remember. But in Blackboard it's good. (Int: 2)

The students also +appreciated being able to compare their writing style and grammatical knowledge to the other students'. The asynchronous activity provided an opportunity for the students to critically examine their writing as well as the writing of the other students while compiling their ideas for their essays:

Kyon: It's so useful for me because you know, I realize, the others students better than me. *We laugh.* Their sentence better than me...my sentence so simple. The other students can see mine, so I just want to make it good. I'm competitive. It makes me better, work harder. I can't explain, I have to write very well. I want to show my writing to the students very well.

Kate: So could you learn...

Kyon: Yeah, yeah, sentences and ideas...sentence structure...yes...supporting detail.

This was good for me. (Int: 2)

The asynchronous activity generated postings that were longer and more detailed than the synchronous activity. The students were able to take the time to prepare their ideas at their own speed and in their own time. Although they were given no instructions regarding the length and detail for what they were to post, the students were more likely

to write in complete sentences during the asynchronous activity than during the synchronous chat.

Characteristics Common to Both Synchronous and Asynchronous Online Activities

Perhaps the greatest difficulty with the online discussions, both synchronous and asynchronous, had to do with the act of typing. Indeed, for some students it was a significant factor in how they perceived the online activities. There were several ways this manifested itself. Some students were unfamiliar with the English keyboard. Others had had limited previous exposure to using the computer, typed at a slow speed, and produced many typing errors:

Amir: I'm not good in technology, like I write half brainstorm...I press something and pffft, brainstorm is disappeared. (Int: 2)

Mark: It affects [my grammar and structure] bad because I made a lot of [typing] mistakes. (Int: 2)

John: I don't want to type. Sometimes you're typing and you spell some words... always have a mistake. (Int: 2)

At the idea generation stage of prewriting activities, many students are eager to express their opinions. The necessity of typing their ideas contributed to the difficulty of the activity for some students:

Amir: Blackboard, it's much harder because I typing. (Int: 2)

In addition, for some students, typing itself became an additional task to perform at the prewriting stage. One student found that the act of typing interfered with his ability to generate ideas. His solution was to circumvent the keyboard by writing out his ideas by hand and then typing them into the computer:

Jamal: Writing on the paper for me make me control my idea. Not type and think and

type and think and type. I'm typing slowly and I'm thinking, I'm typing...it's too much. So I say OK, I'll write it on the paper and after that I'll type. (Int: 2)

In addition to typing problems, some students' postings in both online environments were syntactically and lexically convoluted. It was difficult at times even for me to understand what the student was trying to say. For example, in the following excerpt from a synchronous posting, the student employs both singular and plural pronoun referents and appears to contradict himself:

Amir: i am not going to advice him or her to kill him/her self because i want to be guilty and feel sorry because i tell them to kill themselves. (SOS)³

Difficulty with typing appeared to be a large factor in the negative perceptions many students had of both online activities. The unfamiliarity with the English keyboard and inexperience with typing both interfered with the ability of several students to participate in the activity.

Outcomes of the CMC Prewriting Activities

Prewriting activities are devised in order to assist students with the generation and collection of ideas for their academic texts as well as the initial organization of these ideas in preparation for an academic essay. This section describes the students' perceptions of the success of the synchronous and asynchronous online activities in delivering these goals. The section also describes the prominent themes that emerged from the exit interviews: grammatical elements, idea generation, organization, and nonlinguistic elements.

Description of grammatical elements. In the synchronous and asynchronous brainstorming activities, the students were required by the very nature of the medium to

³ The students' written comments from the online sessions are indicated by the students' pseudonyms and the descriptor SOS (synchronous online session) or AOS (asynchronous online session).

employ grammatical structures that were not always necessary in their verbal discussions. Warschauer (1996) has postulated that this earlier introduction of grammatical structure into the brainstorming process through CMC activities may facilitate the creation of academic texts. In my own academic writing class, I had observed that students would frequently make single or two-word contributions during face-to-face brainstorming discussions. Although these few words were frequently sufficient for the speaking student to be understood, they did not provide the grammatical and lexical support ESL students need to elucidate their ideas. I was interested in exploring how the students communicated online in order to provide a context for my inquiry into their perceptions of the CMC activities.

Traditionally in process writing classes, grammatical structure is not explicitly taught or addressed by the instructor until after the prewriting brainstorming phase is complete. By devising an online brainstorming exercise that required the students to write, grammatical elements could be introduced earlier into the prewriting phase of composing an academic text without explicitly being taught.

As previously described, I observed the students communicate with difficulty during face-to-face prewriting activities. They employed reduced language and truncated sentences. In addition, they relied heavily on their dictionaries and used gestures to express themselves. Here are examples from two separate nonparticipatory observation sessions I recorded in my fieldnotes:

Mark: Destructive minds

Instructor: What does that mean?

Mark: Not right way. *He gestures with his hand.* (1st observation session)

Kyon: If I don't read books, what have?

Fariq: I don't understand.

Kyon: No reading books....influence....why? (4th observation session)

Compare this type of interaction with the following exchange from the synchronous chat:

Amir: I think Dr. Kervorkian really cares about ending the suffering if terminally ill people because he try hard to help ill people to take their life away and finish the pine of ill people. (SOS)

José: NO WAY HE IS A MURDER, I DON'T KNOW HO IS HE FREE, HE HAS TO BE JUDGE FOR THE CRIMES THAT HE DID, I DON'T CARE IF THE PEOPLE ASK HIM TO KILL THEM, BUT HE IS THE REAL PERSON WHO KILL THEIR PACIENTS. (SOS)

Amir: I thank that the doctor respect the patient and understand their pain. Also the doctor belives that every people has a right to choose their life to live or to die. (SOS)

This exchange was much more developed in grammar, vocabulary, and sentence structure than exchanges I observed during the verbal discussion. In spite of the typographical errors, these postings are well developed, with often complex syntax, not like the gestured and disjointed phrases of the spoken environment.

An interesting comparison of the two activities can be seen with John, who demonstrated limited verbal skills during the face-to-face activities. Here is an example from my fieldnotes of a face-to-face discussion on the initial essay topic between John and Fariq:

John: I like watch TV. Maybe violent, maybe Mother say no. *He refers to his electronic dictionary and shows Fariq a word.*

Fariq: What ...? *He doesn't understand him.*

John: Violent bad, but I want.... (2nd observation session)

The conversation is laboured and stilted. The sentences are clipped and John went on to repeat his words in an effort to explain himself. John used even more reduced language in the whole class face-to-face discussion. He contributed single words and phrases such as “violent” and “bad people.” During our interviews, John frequently responded to my questions with minimal language:

Kate: You know when I’ve heard you speak in class, you’ll use just one or two words.

You don’t speak a full sentence.

John: Yes.

Kate: And when you wrote on Blackboard did you...

John: Complete sentence.

Kate: You used complete sentences. So that would be a difference.

John: Mmhm. (Int: 2)

Here is one of his synchronous postings:

John: In my opinion, he did not care about ending the suffering of terminally ill people, because that is his job, he is a suicide doctor. He strongly believe that physician should be able to help terminally ill adults end their lives with self-respect, and his goal is to make assisted suicide legal. (SOS)

In spite of the typing and grammatical errors, John created a highly legible and syntactically complex text. He employed the conjunctive adverbial, “In my opinion,” a use of English that was wholly absent from his verbal exchanges during the face-to-face discussions. In addition, he used accurate pronoun reference, “adults end their lives,” and employed articles in a manner that seemed beyond his abilities in the verbal realm. John’s example supports other research (Chun, 1994; Kern, 1995) that

demonstrates that students may use more complex forms of English when communicating online than when speaking.

However, not all students contributed detailed postings. Some students kept their opinions to the bare minimum of words, perhaps in order to avoid the embarrassment of having written so poorly:

Jamal: because mission of marcy as he call it (SOS)

Mark: he mustn't continue this thing (SOS)

In their asynchronous postings, the students were more likely to employ grammatical forms such as conjunctive adverbials like “however” (Adil: AOS) or “on the other hand” (Amir: AOS) than during both the face-to-face and synchronous discussions. These forms were largely absent from the face-to-face discussion and infrequently used in the synchronous chat, perhaps because the students were able to pay more attention to grammatical structures in presenting their ideas during the asynchronous discussion.

This need to concentrate more on grammar resulted in texts that were syntactically complex. The students employed certain grammatical structures that were wholly absent from their verbal exchanges. Their overall output was also increased during the online exchanges. Most students demonstrated a greater facility with the English language online than when they spoke. The students' perceptions of how this earlier introduction of grammatical structure influenced their idea generation and organization will be discussed in the next sections.

Students' perceptions of idea generation. One of the central questions of my study was how students perceive the effect of web-based prewriting activities on the generation of ideas for their academic essays. In order to answer this question, I needed to explore whether engaging in online brainstorming tasks would help students in the

initial collection of their ideas. The synchronous brainstorming activity was designed as an initial brainstorming session where the students could discuss the topic. The asynchronous threaded discussion would introduce the new element of a sustained text-based discussion into a brainstorming activity. This section describes the students' perceptions of the impact of both online activities on the quantity and quality of the ideas generated during the online activity.

One finding that emerged from the interviews was that there was a distinction among some students between their enjoyment of the face-to-face activity and its efficacy in generating ideas and structuring text. As was demonstrated earlier in this chapter, 7 of the 9 students preferred the face-to-face discussions over the online activities because the ease, speed, social context cues, and interactive dynamic of the verbal environment induced a feeling of connectedness and encouraged comprehension among the students.

However, a student's preference for a particular task does not necessarily mean that it is also more effective. Three of the 7 students who preferred face-to-face brainstorming recognized that they got more ideas from the online brainstorming activities and that these ideas had more detail. These students' perceptions indicate that a majority of 5 students recognized that the online exercises were more successful in assisting in the generation of ideas than the face-to-face activities.

Jin was one of the students who preferred face-to-face brainstorming but got more ideas online. Her comparison of the two activities provides a succinct description of the main difference between the two activities. She recognized the value of the online exercises in encouraging her to think deeply about the topic:

Jin: I think they have different advantages for me. The first one I can get idea very quickly, but I didn't think a lot...I didn't get a lot of information. But this one in

Blackboard I always tried to make my idea clear, so I think a lot, because I have to let the other one know what I mean. (Int: 2)

Jin's experience bears further examination because she revealed the kind of complex factors that may influence a student's perceptions of prewriting activities. Jin is a quiet young woman from Korea. She stated that she preferred the face-to-face brainstorming exercise over the online activities. However, during the small-group face-to-face activity, I observed her to be heavily reliant on her dictionary. She filled out her list of positive and negative influences of television independently, without engaging her partner in discussion. She did not participate at all in the whole-class verbal discussion. At one point during the face-to-face exercise, she worked alone with the instructor, completely avoiding the social environment a face-to-face activity is meant to create.

In contrast to her silence during the face-to-face activities, Jin contributed 10 postings to the synchronous CMC chat activity. This was the highest number of postings of all the participants. During the exit interview, Jin stated she felt more comfortable using Blackboard but preferred the face-to-face activities because they were "easier" (Int: 2). She found the online activities difficult and time consuming, but admitted that she participated more.

When given the choice in the future to take an academic writing course using CMC brainstorming or one that used traditional face-to-face brainstorming, Jin chose the former. She made this choice because she found the online activities "exciting" and felt that becoming proficient at the computer would be helpful for her in her other studies.

Jin: I will do it again. I need it and I have to learn. It's technology. (Int: 2)

Indeed, she alone of all the students in the study took the initiative to register in an online business course at the college. She said that my study gave her the idea.

The 4 students who felt that the face-to-face activities gave them more ideas than the online activities provided several reasons. First, they expressed that they felt isolated during the online chat and did not have access to other points of view:

Jamal: Blackboard comes, everybody do like his job alone. Not like everybody share his idea, sometimes, it make it so difficult. I liked the talking discussion, it make me think like about different side of the topic, because maybe I'm looking for one side for this topic. (Int: 2)

Mark: I couldn't get lots of thought about the topic when I was writing on Blackboard. Because I remember that day when [the instructor] give us topic for brainstorming the TV topic, he put us in groups so we discussed what we going to write about this essay. The Blackboard site I have to write and we didn't have any clue and so we just wrote what we understand. (Int: 2)

Fariq: You're not going to find many different points like when we talk together. Just your opinion and other student reply to you. It's not going to be active. (Int: 2)

For the only time during the entire period of data collection, the issue of cultural differences presented itself as another reason these students preferred face-to-face brainstorming for the generation of ideas. One student believed that people from different cultures use different writing styles. He felt that this contributes to difficulty in comprehension.

Fariq: Each student has different style to write, different structure because you know we're coming from different countries so different language. So the way they write it's.... hard to understand when they're writing but if you talk with him if you can't understand you can ask him, "I think I can't understand you." (Int: 2)

Another student stated that different ways of thinking among cultures made it difficult for

him to understand what the other students wrote online:

Amir: It's different culture or opinion. I came from different thinking than here so maybe it's... when I speak with my friends or I write something to my friends, even if it's wrong grammar they can understand me because it's same language. But for another language I think it's different. (Int: 2)

The difficulties these students had in understanding the other students online limited their ability to brainstorm with their peers.

All the students who preferred face-to-face brainstorming felt that the interactive nature of the verbal discussions contributed to their ability to get more ideas:

Mark: When we discuss we can get more and more ideas about the topic. (Int: 2)

Amir: I can catch more ideas from other students. I think they explain more when they speak...they explain more than when they write. (Int: 2)

One of these students felt that writing restricted the number of ideas and limited the amount of information students could express:

Amir: But in writing he can write just one idea that's all...I can't see all what he's thinking. It doesn't give more information. (Int: 2)

The students gave varied responses regarding the influence of earlier introduction of grammatical elements on the generation of ideas. In addition, there was a marked distinction between their perceptions of the synchronous chat activity and the asynchronous threaded discussion.

Most students felt that the necessity of writing text during the synchronous online chat was not a positive experience. The necessity when writing to compose an idea into a grammatically legible form proved daunting for some students in the synchronous environment. John expressed the feelings of the other students who preferred face-to-face

discussions when he stated “Grammar is not important for brainstorming.” In other words, grammar is not important as long as the idea is expressed. Many students were frustrated by having to give their ideas grammatical substance; they were impatient, or bored.

Jamal: Writing...grammar, grammar, grammar. *We laugh.* (Int: 2)

Concerns about the quality of their work inhibited some students because they were unable to correct their grammar before posting their comments. During the synchronous online activity, both John and Mark stated that they felt shy about posting their responses.

Two students felt that the early introduction of grammar into the synchronous brainstorming chat impeded communication. They felt that they not only had to decipher the other students’ opinions, but they also had to unravel the sometimes convoluted grammar and sentence structure as well.

Mark: When I read my and everybody’s brainstorming, there was a lot of grammatical mistake and some student didn’t understand what is the topic. (Int: 2)

Amir: Writing, I think grammar...yeah I think grammar makes it difficult and our grammar is different from this grammar so it makes it difficult. (Int: 2)

My observation during the face-to-face discussions that students would call out their opinions reduced to one or two words, seemed for many to be an important way to get their ideas out, unfettered by grammatical concerns:

Fariq: When you speak you can say anything, you can talk, you can give your opinion, you don’t have to think about it... how I’m going to write it, grammar. (Int: 2)

Five students perceived that the online brainstorming sessions (both synchronous and asynchronous) helped them get more ideas. The earlier introduction of grammar was

one reason these students gave. In the synchronous brainstorming session, the need to present their ideas in a written form caused some students to make a greater effort to express themselves grammatically.

Kyon: When I make brainstorming on Blackboard I'm more concerned to write grammar and sentence structure. Because write, I have to make complete sentence.

Speaking is easy, as long as we can understand each other, it's done. Grammar doesn't matter. In Blackboard, if I mistake one sentence in the grammar, maybe the other students can't read my sentence. (Int: 2)

In contrast to those students who found the online texts difficult to understand, other students felt that the need to pay attention to grammar and write in complete sentences facilitated comprehension during the synchronous discussion.

Kyon: I can get a complete sentence also what another student wrote. Speaking, you know, I just said one word, one word not enough for understand, but if...when I see another student's sentence with idea, it was a sentence, not a word, so I can understand easier. (Int: 2)

Away from the stress of composing in a synchronous environment, the advantages of writing their ideas that the students had acknowledged during the synchronous chat became more apparent. They recognized the centrality of grammatical structure in making themselves understood in a written format and made a greater effort to express themselves in a coherent way in the asynchronous discussion.

Jin: In Blackboard I have to pay attention to my grammar so they can understand.

Maybe something wrong in grammar the meaning change. (Int: 2)

They also felt that the asynchronous activity improved their grammar as they were writing for an audience in a communicative context.

Fariq: I think when I write [online], yeah, I feel more concerned [about grammar].

Because I think when you speak, nobody going to find your mistakes, it's OK and it's no big deal, not like for writing. In writing I pay more attention to grammar for sure...it's writing, it's not like speaking. (Int: 2)

It appears the students perceived that the asynchronous prewriting activity had a more positive effect on use of grammar and vocabulary than the synchronous activity.

In contrast to the student who found reading difficult, 1 student felt that reading the other students' ideas assisted her in getting ideas:

Kyon: I just read the other student and I know what they think so it's very useful for me I think: "Ah, I missed that point." It gave my ideas more detail. So when I finished reading other students I just realized, wow, they got same idea but they have some good point but I didn't know that before but now I know. (Int: 2)

She elaborated on this point later in the interview. It seems that the fact that the students were more likely to express themselves in complete sentences when writing was a factor in getting ideas.

Kyon: Getting ideas... yes it is easier than speak. I can see another student ideas and it is complete sentence and it is easy to get ideas. (Int: 2)

Another student agreed and indicated that the online asynchronous brainstorming created a record that helped him to collect more ideas:

Adil: [Blackboard is] helpful in many things. Because the first thing...before like maybe you need more ideas. You can check for your classmate's ideas. (Int:2)

In addition, the fact that more students participated in the online activities than during the verbal discussion simply created a larger database of ideas for the students to draw from.

Adil: When you read your classmate opinion you can get more ideas. In discussion, maybe your group...maybe they don't have enough ideas. On Blackboard you can read all the opinions. There in the talking discussion you have maybe just two students. (Int: 2)

José: You are reading the ideas of all those people and maybe your way to think is going to change. You are going to see somebody ideas that you even don't think about. (Int: 2)

One of the students who preferred the face-to-face brainstorming agreed that having a record of the brainstorming was helpful in gathering ideas.

John: Blackboard is wrote but talk just you need to remember it. (Int: 2)

Using web-based technology allowed the students to access the Internet in order to search for more ideas and information on their topic The instructor put a link on the discussion board to a related site on assisted suicide. The students were able to go to this site to get more information about the topic and follow further links to obtain more information. The students greatly appreciated this ability and some even went on their own web-based searches for more information during their own time. Indeed, this was the only advantage Mark was able to see to the online activities.

Mark: We are writing on Blackboard so we can see another site to get more knowledge about the topic. (Int: 2)

Two students mentioned that they liked having a visual representation of the ideas presented during the online brainstorming sessions. The second student agreed that being able to see the ideas, as opposed to hearing them, helped him get ideas.

Kyon: I see another student's sentence with idea, so I can understand easier. (Int: 2)

Kate: Did you get more ideas when you were speaking or when you were in

Blackboard?

José: Maybe in Blackboard because you're watching all the ideas together. (Int: 2)

This same student also felt that he was better able to support his ideas in Blackboard than in verbal discussions due to the extra time he could spend thinking about his ideas without interruptions.

Kate: So you're saying Blackboard is very helpful but it's not fast.

José: Yeah...and in speaking you can have an idea but maybe you can't support very good but if you write you can support very good. I can see all my ideas together.

Kate: Why is that?

José: Why? I don't know.... maybe because... you know, you're writing and thinking and you have more time to think, nobody interrupt. (Int: 2)

Kyon agreed.

Kyon: It gave my ideas more detail. (Int: 2)

In summary, according to the findings from the exit interview, 7 of 9 students preferred face-to-face brainstorming to generate ideas for their academic writing, but 5 students felt that the online activities actually were more helpful and resulted in more ideas than the face-to-face activities. The reasons given for this perception were the visual representation of the ideas, the fact that the students had time in the asynchronous activity to think deeply about their ideas, and the database of ideas that were created during the online activities. The fact that the ideas were presented in complete sentences rather than in single words or phrases was also perceived to contribute to the greater success these students had in generating ideas using CMC. Another reason was that the students could read rather than hear the ideas.

The students who felt the face-to-face discussions gave them more ideas than the

web-based activities opined that the isolation they felt during the activities impeded the generation of ideas. The actual act of writing was also a factor. One student's difficulty with typing hindered him from generating ideas. In addition, cultural differences, for the only time during the entire study, were mentioned as a mitigating factor in understanding other students' ideas and, therefore, created a barrier to brainstorming.

Although some students felt that grammar was not important at this stage of the writing process, the students did allow that the earlier attention to grammar in both the synchronous and asynchronous activities caused them to have more detailed support for their ideas because they had to explain themselves more fully, rather than with disconnected words. They did not all agree that this was important or helpful.

In spite of these benefits to the exercises, a majority of 7 students found it difficult to communicate and understand the online synchronous chat discussion. The asynchronous activity, where they could take time to decipher the postings, or compose their own with more thought, was much more successful in the opinion of these students.

These findings indicate that the generation of ideas can be facilitated by judicious use of CMC. The timing of the online activity is important. The benefits of CMC prewriting activities are lessened when introduced too early in the prewriting process as a replacement for face-to-face brainstorming.

Students' perceptions of idea organization. Prewriting activities for academic writing have two distinct outcomes. The first is to generate ideas for academic writing assignments. For the second outcome of prewriting activities, students refine their ideas by adding supporting details and arranging them into a point form outline. In this manner, ideas are organized in preparation for the creation of an essay.

In conducting my study, I wished to explore whether students perceived the

online activities had any heightened benefit in the organization of their ideas for their essays. The asynchronous online activity was devised to introduce organizational and structural elements into the brainstorming process in a natural, noninstructional manner. Rather than address organization as a discrete activity, the necessity of writing out ideas naturally introduces grammatical, organizational, and lexical elements into the brainstorming process. The asynchronous activity extended the brainstorming process for the students, requiring them to take more time to think about and discuss their ideas in a written form. Where the synchronous activity sought to take a face-to-face discussion online, the asynchronous brainstorming activity introduced a new extension of brainstorming in order to take advantage of the interactive written medium that CMC allows.

None of the students felt that the synchronous online chat contributed to the organization of their ideas for their essays. Any benefits that they perceived from this activity resided strictly in the realm of idea generation. However, 6 students preferred the asynchronous threaded discussion over the face-to-face activities for organizing their ideas, while 2 demurred and 1 student stated that there was no difference between these two activities.

Being able to have a visual representation, stated by 2 students as a reason that they got more ideas, was also cited as a way to facilitate the development of ideas in the essays:

José: I can put my ideas in order. And if I see all my ideas together I can see what I'm going to say. And I feel more confident. (Int: 2)

Conducting at least part of the prewriting activity in the asynchronous written medium seems to assist some students in organizing their ideas. By combining the two

activities of brainstorming with organizing through the medium of CMC, some students seemed better able to organize their ideas for their essays.

Kyon: When I make brainstorming on the Blackboard, it's more organized than speak. If I get idea, I have to make sentence, but speaking just say one word. So it [the essay] is more organized in Blackboard. (Int: 2)

Of the 6 students who felt that the asynchronous online activity was more helpful than the face-to-face activities, 2 appreciated the correction functions of the computer program as educational tools.

José: If I'm writing on the computer it's going to say me that there is a mistake. It's good because I learn how to spell, how to write words. (Int: 2)

Jamal: Blackboard so easy...like it facilitates...I can delete any time. Sometimes it corrects my spelling...correct my grammar. (Int: 2)

However, another student demurred on this point. Although he said that the online activities were beneficial to him in organizing his essay, he felt that the correction functions did his work for him.

Amir: Because this one doesn't teach me more on writing. If I write on the paper I can practice the spelling, I can practice how to write it...but if the program do everything for me I don't need to learn how to write essay. (Int: 2)

This same student felt that the visual presentation of the ideas on the computer screen facilitated his organization. In addition, he felt that he could use the easily accessible formatting keys of the computer keyboard to help him organize his ideas. For his asynchronous posting, he could present his ideas and immediately begin organizing them on the screen.

Amir: [It's more organized in Blackboard] because you can see the ideas and put it

in support, details and when you write [by hand] you don't focus how to organize your ideas. But when you type your ideas in a computer, you can make space between each others so you can...like see the difference. I had my ideas already written down, it's that. (Int: 2)

The most frequent answer the students gave for why they thought that the online activities were more helpful than the face-to-face activities in organizing their writing was the attention the medium required them to pay to grammar and sentence structure.

José: I can see what I'm writing and I'm checking all the time so I can see more easily my mistakes. (Int: 2)

Jamal: It make it better I think because when I write in Blackboard I have to use correct grammar. I don't worry about it when I'm talking. (Int: 2)

Adil: When you speak you just speak, but when you write, you can read it again and you said "oh, I made mistake here. (Int: 2)

Some students perceived that writing can also improve grammar:

Kate: Did the Blackboard chat brainstorm for assisted suicide affect your grammar and sentence construction?

Amir: Yeah, I think a little bit. Speaking doesn't improve my grammar...not as much like writing.

Kate: How does writing improve your grammar?

Amir: I think because when you write one word is wrong...one sentence, you can see. But when you're speaking no one can correct it...there is no correct grammar when you're speaking. But when you're writing you have to pay attention to grammar. (Int: 2)

One student felt that the necessity to pay attention to sentence structure earlier in

the prewriting process helped to make her second essay more organized than the first essay.

Kyon: First we start brainstorming, I made sentence, not the word, not only one idea word, whole sentence and whole detail sentence so after that it is more organized.

(Int: 2)

The students also repeated the fact that the asynchronous brainstorming activity generated a record of ideas. This made it easy for them to mold the ideas into an organized essay format.

Kate: So after you've gotten your ideas, which activity, Blackboard or speaking, did you find more helpful in organizing your ideas?

Amir: Honestly, Blackboard...yeah. The ideas is already written down for me and I can just add more information and I can put it in my essay but speaking I have to memorize what they saying and write it down you have to really focus what they saying about. (Int: 2)

Adil: When you put ideas or classmate's ideas, you can check any time and you already have everything there. You can open your classmate and you can see how they did it, ideas...you can see everything. But with discussion, it's gone, what you talk, you just forget. You don't see everyone. But sometimes maybe at night you can go and just you open, see your classmate, how they did and get ideas how to do it. (Int: 2)

Another observation that the students repeated at this point as a reason why they felt the asynchronous activity was more helpful for organizing their ideas than the face-to-face activities was that they could compare their writing to other students.

Kate: Would you say that using Blackboard has helped you or not to learn the skill of

academic writing?

Jamal: Uh....yeah it's helped.

Kate: How?

Jamal: Mmmmm.... I know the format for the essay.

Kate: So it helped you understand essay format better?

Jamal: Yes.

Kate: How did it do that?

Jamal: I was able to see the other students'.

Kate: So do I understand what you mean is: speaking is important for getting ideas but after that...

Jamal: Blackboard is helpful to organize. Make your idea first, organize your idea on Blackboard. (Int: 2)

Two students preferred the verbal exercises and found them more helpful than the web-based discussions for organizing their ideas. One student felt that writing by hand gave him control over the organization of his ideas.

Fariq: I like to speak and write down and organize everything by your hand, I think it's easier. I think because you can see everything. (Int: 2)

Another student had a similar preference because he still felt unfamiliar with the Blackboard CMS program.

Mark: It affects bad because I made a lot of mistakes. Because I'm not familiar with Blackboard. (Int:2)

Once the students had completed their second essay, I asked them which essay they thought was more successful. Five of the 9 students felt that their second essay, written after the online prewriting activities, was more successful. Three students

preferred their first essay, written after the face-to-face brainstorming sessions, and 1 student felt that both essays were the same.

One student appreciated how easy using Blackboard CMS made the writing process.

Kyon: Blackboard is convenience and it is useful. And I wrote a better paper. (Int: 2)

The students who felt their CMC essays were more successful than the essays written after the face-to-face activities felt that the asynchronous activity helped improve the structure of their writing.

Kate: So how do you think using Blackboard in this way has affected your writing?

José: A lot. Because I'm used to write many works but I didn't have the structure in my works. My works were not very good. I think my structure is better and my works are going to be good. (Int: 2)

Another student felt that the necessity in both the asynchronous and synchronous environments of paying attention to structure from the beginning of the brainstorming process contributed to the success of her second essay.

Kyon: When I finished the essay, I realized my essay is more organized than the other one. And my sentence is more complete than the other one. I think, first time I make the sentence..from the beginning I made sentence, not just one word. (Int: 2)

The 3 students who felt that their first essays, written after the face-to-face activity, were better than their second essays did not feel that it was due to the way they brainstormed their ideas. All indicated that topic bias was the determining factor in their belief that their first essays, on the positive and negative influences of television on children, were superior to the second essays on assisted suicide. During one interview, a student revealed that she and some of the other students had already written about the

topic on television in the beginner level writing class. For some students, this may have decreased the level of topic difficulty and facilitated their brainstorming process and subsequent essay development.

The topics for each essay were vastly different in terms of complexity and familiarity to the student. Many students struggled with the topic of assisted suicide for a number of reasons. Assisted suicide was an issue that challenged the students as a difficult moral and cultural dilemma. Some students from nonwestern cultures had not previously been aware of the issue of assisted suicide.

Kate: Do you feel that your writing on the second essay changed from the other assignment, like the one on TV, as a result of using Blackboard.

Mark: Sure.

Kate: How so?

Mark: Because first of all because the topic was strange. I didn't know about the topic.

(Int: 2)

Fariq: The first essay has many information to write down, lots of ideas. It was easier topic than the second one. (Int: 2)

Jin: I think the second topic was more difficult for me. (Int: 2)

Although the instructor had used the Blackboard course management system in his class previous to the study, one student still felt unfamiliar with Blackboard and believed this contributed to his difficulty with the exercises and his perception that his first essay was better.

Mark: I guess I wasn't familiar with Blackboard. (Int: 2)

Mark had the most negative experience with the online activities. He found very little to like or appreciate in them. Of all of the participants in my study, he was perhaps

the student with the most at stake in attending the ESL program at the college. Mark was in his late twenties, the second oldest in the cohort. A newcomer to Canada with a young family to support, Mark was eager to complete his ESL studies so he could enter the mainstream college and study in his field.

The results from the exit interviews indicate that the students perceived that there is some value in conducting CMC brainstorming activities for both idea generation and organization. The students cited the greater attention they had to pay earlier in the writing process to grammar and sentence structure, the record of ideas that provided them with a database, and the ability to compare their writing with other students as contributors to the improved organization and their perception that their second essays were more successful than their first. Two students felt that their first essays were more organized than their second. One found it easier to organize his ideas by hand than on the computer. The other student was unfamiliar with the program and felt that this, along with his poor typing skills, impeded his ability to effectively organize his ideas. He was not the only student to encounter typing difficulties. I address these concerns in the next section.

Nonlinguistic Aspects of the Web-based Activities

An unexpected finding that emerged from the exit interviews involved non linguistic aspects of the online activities. This study was concerned with exploring a very specific aspect of the writing process, that of prewriting activities in synchronous and asynchronous online environments. However, during the exit interviews, some students indicated that they appreciated benefits of using CMC that were unrelated to the task of academic writing. There were some drawbacks as well to the activities, which I will explore in this section.

One unanticipated consequence of the online activities was the practice the

students got in using CMC and computers. Many students greatly appreciated the opportunity to practice their typing and computer skills. Although not part of my original research design, it became clear during the interviews that some students felt the computer practice they got equally important as the prewriting activities. Many students expressed a great desire to learn to communicate using computers, master the English keyboard, and feel at ease composing text on computers. They felt that since it was an inevitable necessity in their professional and academic careers, it was better to learn to use computers integrated into their course load, accomplishing two tasks at once:

José It's going to help me in the future and I can make my work more easily. I get a chance to practice. (Int: 2)

Jin: Well I think it's very important now for computer discuss with each other...like you use it in normal life, like MSN. (Int: 2)

John: For my future, I think I need to practice on the computer. That's better. I don't like but I have to. (Int: 2)

The functions of the word processing program seemed to increase the enjoyment of some students with the prewriting tasks. They could change the size and look of the font, introduce colour, and organize their writing on the page for a visual presentation. The ability to cut and paste was of great help to some students. In addition, the instructor allowed some students to listen on headphones to an online music site during the online activities. All these so-called “bells and whistles” contributed to the feeling of commitment, pleasure, and engagement some students had with the online tasks and added to their perception that their essays were more organized as a result. As Jamal put it, they made him “feel good” (Int: 2).

Traditionally, peer review is a discrete activity that occurs generally after the

students have completed their outline. It is an assigned activity that can be difficult for some students to perform. During the asynchronous threaded discussion, some students engaged in spontaneous peer review, not only correcting spelling and grammar errors but also providing positive feedback. This kind of interaction was absent during the face-to-face prewriting discussions.

Amir: I agree with you, my opinion are about law and family. I think your idea is good.

(AOS)

José: Thank you so much I think you idea is good and it make sense. (AOS)

In this manner, the students engaged in spontaneous scaffolding.

Not all students enjoyed using the computer. On the contrary, some students' sense of self-esteem seemed to be undermined. For example, Mark, who has been previously mentioned as having the most unhappy time with Blackboard, felt he performed poorly as a student during the exercise and that the quality of his essay suffered as a result. The activity made him feel "not good" (Int: 2).

The students who were less familiar with using computers and CMC than others had a less positive experience. For example, Amir, who had particular difficulty with typing, felt frustrated and incompetent as a result of the problems he encountered with the program. For example, he accidentally erased his postings more than once and felt his typing speed hindered him from fully taking part in the synchronous online activity. Amir's difficulty with the keyboard seemed to be a persistent problem, as he had mentioned it before beginning the online activities.

During the initial interview Mark, John, and Amir had expressed ambivalence about using computers. These 3 students' perceptions of computers remained consistent throughout the activities and perhaps contributed to their preference for the face-to-face

activities as well as Mark and Amir's feeling that their first essays were more successful than their second.

Another unanticipated aspect of using computers concerned the course management system, Blackboard, which provided the platform for the online activities. Both the instructor and the students encountered technical difficulties. Apparently, the technical support department at the college had been periodically upgrading the system without informing the instructors of the changes. So a keystroke or icon that had at one point performed a specific function ceased to do so. This resulted in a high level of frustration for both instructor and students. Indeed, some students lost their entire postings as a result of one false tap. This problem caused some students to abandon Blackboard altogether when it came time to write their essays and use Microsoft Word. Not only were they more familiar with this word processing program but they were more secure in knowing that it would not change unexpectedly.

José: When you make a mistake [on Blackboard] and you click one icon and you erase all your work. I prefer to use Word and then paste to Blackboard. (Int: 2)

Mark: I have more facility on that Word. I'm more comfortable. (Int: 2)

These nonlinguistic aspects had a mitigating effect on how the students perceived the online activities. Most students appreciated the opportunity to hone their typing and computer skills. Even John, who did not like the online activities, recognized the importance of learning how to surf the net, use CMC, and type. Mark's negative reaction to the online activities was perhaps a result of affective issues associated with the feeling that he was not performing well. For some students, like Amir, typing and technical difficulties were sufficient for them to dislike the online activities and perceive that they were unhelpful in the generation and organization of ideas.

Summary

This chapter presented the findings from the initial and exit interviews with the participants. There was a significant difference between the prewriting activities the students liked and those that were more successful in fulfilling the prewriting goals of generating ideas and organizing them in preparation for an essay. Seven students preferred the face-to-face activities, but 6 admitted that they got more ideas in the online exercises than in the face-to-face activities. In order to explore this perception, I presented the students with a hypothetical situation. I outlined an academic writing class that engaged in an initial face-to-face brainstorming whole-class discussion that would be followed by an asynchronous online activity similar to the one the students engaged in for my study. I then asked them which course they would take: one that followed the traditional face-to-face format or the hypothetical one I had outlined. Eight students stated that they would take the course with the online prewriting component. It appears that these students perceived that online prewriting activities, in spite of their greater difficulty, can facilitate idea generation and organization and lead to improved essays.

However, the application of CMC cannot be introduced wholesale into the academic writing class. There are significant factors, such as the differences between synchronous and asynchronous activities, that need to be considered carefully. The findings described in this chapter will be discussed in Chapter Five in terms of their significance in integrating CMC into prewriting activities for academic texts.

CHAPTER FIVE: DISCUSSION AND IMPLICATIONS

The motivation for my research emerged from my experiences as an ESL academic writing instructor. I had observed how my students struggled with the prewriting phase of the writing process, in particular generating and organizing ideas. At the same time, I was intrigued by the potential of CMC as a facilitator in ESL learning opportunities. I felt that a need existed to examine CMC in a practical, task-based context in the academic writing classroom. According to Salaberry (2001), “One of the major concerns of future research will be the analysis of the use of technological resources in the wider framework of educational activity” and “it is possible that the most important challenge posed by technology-assisted language learning will be the identification of the pedagogical objective that technology based teaching is intended to fill” (p. 50). In response to Salaberry’s call, I investigated students’ perceptions of two online prewriting activities, in synchronous and asynchronous environments, to examine whether the students perceived that the activities assisted them in brainstorming and organizing ideas for their academic texts.

As a theoretical framework for my study, I chose constructivist learning theory, which explains learning as a social activity where knowledge is built through meaningful interaction among individuals. I employed a generic qualitative study, informed by a phenomenological orientation, to explore the students’ experiences with online prewriting activities. In this way, I hoped to develop meaningful activities that fulfill the goals of prewriting exercises and provide a template for ESL instructors who wish to include CMC in their instructional arsenal.

Summary of the Study

I devised two prewriting activities using the discussion board feature of

Blackboard, a course management system that the college had purchased. First, the students engaged in an in-class synchronous web-based brainstorming chat, much like MSN messenger, discussing the topic of the essay they were to write. Then, the students had an asynchronous online prewriting activity. They posted their opinions on the topic on the discussion board. Each student also responded to at least two other students' postings in a threaded discussion. These activities provided the basis of their idea generation and organization.

I interviewed the students twice. The initial interview, conducted prior to the online activities, sought to gain an understanding of how the students perceived brainstorming activities, the skill of academic writing, computers, as well as to establish certain demographic information. The second interview took place after the online activities were completed and explored the students' perceptions of the two online learning environments in an effort to glean valuable information regarding the use of CMC in the acquisition of the skill of academic writing.

I looked for comments the students made during the interviews that revealed how they experienced the online activities and how this experience may have influenced their idea generation and organization. Through analysis of the transcribed interviews, triangulated with my nonparticipatory observations, a discussion with the course instructor, as well as copies of the online drafts the students produced, I sought to tease out the students' perceptions of factors in online communication that may influence the generation and organization of ideas.

The results of my study lend support for the judicious use of online prewriting activities. A small majority of 5 students felt that they garnered more ideas which had more detail in the online exercises than in the face-to-face activities. In spite of this, 7

students preferred face-to-face brainstorming for idea generation. For the question of idea organization, there was a marked distinction between which online activity, synchronous or asynchronous, the students preferred. None of the students felt that the synchronous activity was helpful in organizing their ideas. However, the majority ($n=6$) of the students preferred the asynchronous discussion for idea organization and found it more helpful. In addition, 5 students felt that their essays written after the online prewriting activities had more ideas and that these ideas were more detailed than their previous essay. They also felt that the structure of their second essays had improved. A few students felt that their initial essay was better, not as a result of the influence of the online activities but because the topic for the second essay was more difficult. A discussion of these outcomes of my study is given below.

Discussion

This section discusses the results of the investigation as they relate to the study's two central areas of interest: the students' perceptions of the influence of the web-based activities on idea generation and organization. In a separate section, I discuss the findings within the framework of constructivist learning theory. In addition, implications for practice are put forward and avenues for further research are explored.

Students' Perceptions of the Influence of the Online Activities on Idea Generation

Online brainstorming required the students to express their ideas in a written form. This had several positive influences on the process of idea generation for 5 of the students. First, the students were encouraged by the written medium to employ a more formal and complex register than spoken language. The importance of grammar in creating intelligible ideas was fronted, as the students tried to be as explicit as possible. In addition, the students were aware that they were writing for an audience of peers and

were stimulated to express themselves as best they could. Although some students cited the lack of social cues for their dislike of the online activities for brainstorming, it was evident that the absence of these cues actually encouraged some students to strive to create accurate and legible texts, which they perceived facilitated idea generation.

This finding lends support to the idea presented by Warschauer (1996) that CMC can be an effective tool in the prewriting stage. As previously presented in the literature review, Warschauer (1997, 2002b) discusses the unique quality of online communication as a hybrid of spoken (interactive) and written (reflective) language. The students' perceptions of the web-based activities demonstrate that this hybrid language can indeed support the generation of ideas.

The interactive aspects of both the synchronous and asynchronous activities created a social climate for the students where they were encouraged to express their ideas as thoroughly as possible in order to engage in the online discussions. This need to communicate to an audience caused them to think deeply and, therefore, generate more ideas. The reflective aspect of text creation required the students to use syntactical and lexical elements that they could forego in a verbal situation. In this manner, the more complex language of a written text provided them with a grammatical and lexical framework that supported idea generation. However, the written text seemed to do more than merely provide support for ideas. The students were able to give their ideas more breadth by delineating their position for their peers in a written form. It does seem that the merging of the interactive environment, where the speaker is communicating with an audience, with the reflective, where the writer engages in composition, had a positive effect on the generation of ideas for some students in this study. The use of complex and formal language to express their ideas online seemed to assist the students when it came

to generating their ideas.

Another aspect of reflective language is the permanence of the written text. For a majority ($n=5$), of students, the exchange of ideas during the online activities was meaningful and useful because they could literally see their peers' ideas and refer to them as an archive; they did not have to rely on memory to retrieve information. The expression of their ideas in a concrete, written form perhaps also allowed the students to pay more attention to the formulation of their ideas. This noticing may assist students in solidifying their comprehension of ideas, syntactical, and lexical structure. Smith, Alvarez-Torres and Zhao (2003) state that "CMC may allow for greater noticing than that afforded in oral communication as input is made more salient, thus creating favorable conditions for eventual 'integration' into the learner's language system" (p.708).

The synchronous environment, which prioritized the interactive aspect of the task, was not perceived by the students to be as helpful for idea generation as the asynchronous task, which fronted the reflective side. This may be because the immediacy of the synchronous activity did not allow the students enough time to adequately formulate their ideas. The asynchronous environment, where the students could take time to think about their ideas as well as revise and edit their contributions before posting them, was seen by the students as much more conducive to idea generation than the face-to-face activities.

Brainstorming activities are devised to use social interaction to help students garner ideas for their essays. However, in a verbal discussion, ideas can be ill expressed, misunderstood, or even forgotten. The simplified lists of ideas that the students create as a result of the verbal discussion must then be written into complete sentences in a separate activity. The online activities dovetailed the spoken task of idea generation with the written task of compilation. In the interactive environment of CMC, the students

presented their ideas in a written form, with attention paid to grammatical and lexical elements, thus eliminating the step required to turn a spoken idea into a written text. For 5 of the students, this process of dovetailing, or merging the spoken with the written, resulted in more ideas.

In addition, these students, aware that their contributions were being read by their peers, wished to write as correctly as possible. The instructor noted that the students tended to stay more focused on task when they were brainstorming online than during the face-to-face brainstorming sessions. He felt that the students were less likely to engage in private, off-topic conversations, knowing that their postings were being read by all their peers. The formality of written language, employed in the interactive environment of CMC, combined with the reduction in social cues that would have been available in a face-to-face environment, stimulated the students to stay on task, concentrate on composing their opinions, and use language that was increased in quantity and complexity when compared to their output in a verbal environment. Consequently, these students felt that they were able to formulate ideas online that were more developed than those they generated during the face-to-face activities. This is an example of Harasim's (1990) "intellectual amplifier" where online communication "empowers" students to become more critically engaged with their task.

The web-based activities also encouraged the students to participate. In face-to-face discussions, when students can be concerned about comprehension or their quality of language, it is easier for them to sit quietly and simply not contribute to the discussion. However, online, the students felt a greater requirement to participate. The volume of text generated by the online activities allowed for a broader resource of ideas for the students.

The online activities also altered the nature of participation. In the poststudy discussion with the instructor, we discussed how the CMC activities extended students' interaction beyond the borders of the classroom environment and time. The instructor had noticed that during face-to-face discussions, the students tended to gravitate to their friends, or those who spoke their language, in this manner limiting their interaction to a few peers. CMC encouraged the students not only to access a broader idea base but also to interact with others whom they may have excluded in a face-to-face environment. In addition, the students could access the archive of ideas created through the online discussions at any time, from home or at the college. Therefore, the online prewriting activities achieved a permanence that allowed the students to engage with the ideas of their peers beyond the confines of the classroom.

An interesting finding regarding idea generation that emerged from my study was that, although a majority of students ($n=5$) recognized they got more ideas during the online activities, 7 students preferred speaking in order to brainstorm their ideas. Quite apart from the prewriting goal of gathering ideas for an academic text, the students found face-to-face discussion to be a lively, pleasurable, easy, and interesting experience in a way that they felt could not be replicated online. Indeed, the visceral quality of real life interaction in real time cannot be underestimated as a positive element of brainstorming.

The lack of face-to-face interaction was a central factor for the 4 students who did not find that the online activities were helpful in gathering ideas. For them, Warschauer's (2002b) hybrid language of online communication introduced problematic features. These students did not feel that the online activities were truly interactive and felt disconnected from their peers. In particular, during the synchronous activity, the time delay it took for the students to communicate online as well as the reduced social cues

contributed to their feeling of isolation. Walther, Anderson, and Park (1994) point out this limitation of CMC when they state “due to cue limitations of CMC, the medium cannot convey all the task-related as well as social information in as little time as multichannel face-to-face communication” (p. 465).

Language is first and foremost a communicative act. Human beings are hard wired for speaking and the satisfaction that results from constructive social interaction in a verbal environment resonates at a gut level. The majority of students needed to talk with each other to brainstorm, even though many of them found it a less effective method than the online activities to garner ideas. Support for the need to include talk in brainstorming activities comes from the hypothetical prewriting exercise I outlined for the students, where they would engage initially in a face-to-face discussion followed by an asynchronous threaded discussion. All but one student felt that this would be their preferred method of brainstorming: the best of both worlds.

Two of the 4 students who did not consider the online activities helpful mentioned that cultural differences in writing interfered with their comprehension and hindered their brainstorming. This finding adds a new dimension to other research that suggests cultural differences may be an inhibitory influence during face-to-face discussions (Jones, 1999). It may be that some ESL students in this study felt that during a face-to-face discussion, they were “all in the same boat” with the difficulty of expressing themselves in another language and cultural differences in communication were not significant. Perhaps online communication can amplify cultural differences in expression sufficiently to interfere with comprehension, as these 2 students appeared to believe.

Warschauer et al. (1996) has referred to the “democratizing effect” of CMC that levels the cultural and linguistic playing field for students by reducing “dynamic social

cues, such as frowning and hesitating, which can intimidate people” (p.5). This can allow students to participate online in a more equitable manner, removing affective inhibitions such as shyness as well as the above mentioned cultural differences. Indeed, for Adil this seemed to be the case, as he felt at ease communicating online. However, for 3 students, CMC simply introduced new inhibitions, substituting those evident in a face-to-face situation with ones arising from the written environment of CMC. For example, typing was a significant impediment for at least 2 students. One student, who lacked the typing skills to communicate his ideas well and negotiate the Blackboard program, found the activities frustrating and ineffective. Another student felt that the task of typing interfered with his ability to think of ideas. During face-to-face brainstorming, students may be able to hide any syntactical or lexical weaknesses by speaking in truncated phrases, single words, or not contributing at all. When writing, although accent is no longer a concern, the students may feel that their linguistic weaknesses will be exposed. Three students, instead of being stimulated by the act of composing a written text online, were concerned about the quality of their writing ability. For these reasons, these students were inhibited by the online activities, were reluctant to participate, and developed a negative perception of them as brainstorming tasks.

The 4 students who did not feel that the online activities were beneficial also believed that the complex language they were required to use as a result of writing interfered with their brainstorming, forcing them to pay attention to syntactical and lexical elements that they considered unimportant at the early brainstorming stage. It was important for these students to separate the task of idea generation from the task of writing. It seemed that they were better able to generate ideas when the two activities were kept separate. Perhaps some ESL students approach the English language as a task

with a subset of skills. For these students, each skill is a discrete element that requires separate mastery. Combining two separate skill areas of brainstorming with writing seems to be a problematic exercise for some students among the participants. Perhaps the writing and grammar skills they were required to employ were introduced too early in the brainstorming process, forcing them to conflate what were for them two separate activities: thinking about the topic and composing grammatically complex phrases. These students became overloaded with the combined tasks of generating ideas and writing and could not produce.

Students' Perceptions of the Effect of the Online Activities on Idea Organization

The students did not perceive that the synchronous activity yielded any benefits in idea organization. This may be because the synchronous nature of the activity lent itself more to the interactive act of communicating ideas rather than the more independent task of organizing. The texts the students created during the synchronous discussion were not as sustained as the asynchronous texts, with many voices contributing opinions in real time. The asynchronous activity was designed to give the students the opportunity to reflect on their ideas, present their opinions in a written form, and concentrate on fewer voices in an in-depth manner. The act of writing in an asynchronous environment may slow down the brainstorming process, allowing the students to reflect more on the topic than during face-to-face brainstorming activities. Therefore, it was more conducive to idea organization than the synchronous activity. The students responded to each environment accordingly, appreciating the synchronous activity for the ideas they got and the asynchronous activity for both idea generation and organization.

Six students perceived that the online prewriting activities were helpful in organizing their ideas in preparation for writing an academic essay. Several of the reasons

the students gave are the same as those for idea generation, but have a different focus and outcome.

For some students, the visual display of the asynchronous texts on the page presented their ideas in a way that facilitated organization. In my own experience, when I write by hand, my script is often sloppy, I have arrows and asterisks to indicate how I intend to arrange my ideas, and I sometimes need to cross out words and squeeze new text onto a line. This results in a text that is messy and difficult to decipher. Text typed into a computer gives a tidy presentation. New words can be inserted or added without interfering with the legibility of the existing text. In addition, the cut and paste function of word processing programs allows for instant editing. All this gives an overlay of organization to the presentation of ideas that is not possible in a face-to-face discussion. The students felt that the fleeting nature of a verbal discussion was not conducive to the activity of arranging ideas for academic texts.

As with idea generation, during the asynchronous activity, the dovetailing of the two tasks of presenting ideas with writing was perceived by the students as streamlining the process of organization. The earlier attention the students were required to pay to syntax and vocabulary provided them with a springboard for organization. The texts the students created for the asynchronous activity could easily be inserted into their outlines, or indeed the body of their essays. Although it required more initial effort on the part of the students to write out their opinions online, rather than discussing them face-to-face, they benefited from the asynchronous activity when it came to organizing their ideas.

Again, as was the case with idea generation, the students appreciated being able to compare their texts to their peers. However, in this instance, rather than discovering what their fellow students thought about the topic, they could study how the ideas were

syntactically and lexically presented and thus gain insight into their own organization. This ability to view other students' work introduced a kind of spontaneous peer review without the potentially stressful requirement of giving or receiving critical feedback in a peer review assignment. Peer review is a popular and effective technique frequently used in ESL academic writing. However, it can be problematic as some students are sensitive to perceived criticism of their work (Reid, 1993). In addition, some students are reluctant to critique their peers' work for fear of offending, or lack the skills to give effective feedback (Brillinger, 1996). The asynchronous activity created a database of texts that all the students could access. They could analyze each others' writing and receive feedback on organization simply by retrieving a text from the archived discussion and comparing texts, without having to go through a potentially difficult peer review.

In an asynchronous environment, students are obliged to create text away from the mediation of the instructor. Research has demonstrated (Beauvois, 1997) that face-to-face discussions can contribute to a transactional relationship between the instructor and the students, where an instructor inadvertently may take over or intervene too much in a discussion. Online discussions have the potential to alter instructors' roles, placing them in a supportive, rather than directive position. In this way, students are empowered (Jonassen, 1994) to think more critically about the task and "assume ownership of their knowledge, rather than reproducing the teacher's" (p. 6). Despite the apparent pedagogical advantages in taking charge of their own learning, some of the students in this study felt cut off from their instructor, unable to access him for input or direction. This may have influenced their performance in the prewriting activities. Nevertheless, the majority of students felt that they wrote better papers as a result of the online activities. Perhaps, in spite of themselves, the students were indeed empowered by the reduced role

of the instructor in the online environment.

Summary

For a small majority of the students in my study, the use of CMC for prewriting activities facilitated the generation and organization of ideas. The online activities fostered an instructional environment where interactive and reflective language merged to create opportunities for the students to pay more attention to their task, think deeply, engage more actively in the activities, and employ strategies that resulted in their perceptions that online communication can be beneficial in prewriting activities. Another benefit the students perceived from the online activities accrued from the fact that writing encouraged them to employ more syntactically complete sentences than they would if they were speaking. According to these students, these benefits appeared to seep throughout the entire composing process, resulting in essays that they considered to have improved structure and well developed ideas. This perception of improved quality was echoed by the instructor, who felt the web-based prewriting activities contributed to essays that were more organized, clearer, and had better grammatical structure. He also felt that after the online brainstorming, the students demonstrated an improved understanding of how to write an academic essay.

However, it is significant that 7 of the 9 students preferred face-to-face brainstorming over the online activities. When queried, all of the students stated that they would prefer to have at least some verbal discussion at the earliest stage of the brainstorming process. The synchronous activity, although more interactive in real time than the asynchronous activity, appeared to give the students more problems and be more difficult without giving the advantage of assisting the students with the organization of their ideas. Therefore, the results of my study support the use of CMC prewriting

activities in an asynchronous environment as a follow up to an initial face-to-face brainstorming session.

Implications for Practice

It is important for ESL instructors to understand evolving technologies and integrate them in an effective manner into their educational practices. At present, there exist few guidelines that inform ESL instructors how to develop meaningful, task-specific CMC activities. Like many teachers, ESL instructors have heavy work loads and limited preparatory time. In spite of their desire, it is often too complicated and time consuming for ESL educators to explore new instructional methods using CMC, particularly when the instructors themselves may be novices in the area.

As with any activity, a balance must be struck in the classroom between effort and enjoyment. Instructors must carefully choose how to use CMC as a facilitator for academic writing. In so doing, the students' enjoyment and engagement in learning is maintained and they do not reject a potentially valuable instructional tool. This section presents implications of prewriting CMC activities for ESL instructors of academic writing who may wish to explore this tool in their own teaching. In this way, I hope this study makes a meaningful contribution to research regarding the inclusion of CMC into ESL education.

The synchronous prewriting activity was unsuccessful, particularly as a substitute for face-to-face brainstorming. The students perceived that they participated more online than face-to-face. However, increased participation in the activity did not make it a successful one. In general, the students found the online chat less enjoyable and more difficult than face-to-face discussion, which they perceived as pleasurable and easy. The pleasure the majority of students expressed with the face-to-face discussions adds a

mitigating element to claims of the affective benefits of online communication. The reduction of the inhibitory factors of face-to-face discussion in CMC, as explored by researchers such as Chavez (1997) and Warschauer (1997), did not necessarily result in these students' acceptance of the synchronous activity. The lack of enjoyment the students experienced with this activity was sufficiently significant that I would not recommend it in spite of its demonstrated help in generating ideas for a small majority of the students. Perhaps synchronous chat could be included after an initial verbal discussion. However, since it proved to be of no help to the students with idea organization, I would suggest that synchronous chat would not be an effective method for brainstorming.

Perhaps synchronous chat would be a valuable activity for a task with a less specific goal than generating and organizing ideas. A synchronous activity that seeks to encourage output, without the requirement of a specific task objective, might be more successful. Such a task may open the door to a free flowing discussion where the participants can take pleasure in interaction without feeling that they must restrict their contributions to a specific topic or achieve a predetermined goal.

It is important for instructors to maximize the benefits of the activities they choose. The positive aspects of the online prewriting activities, such as the greater attention paid to grammar and structure, the archive of ideas, and the social interaction, were not intrinsic to the real time situation. These factors were present in both synchronous and asynchronous environments. Indeed, the extra time the students had in the asynchronous environment to compose their ideas was a positive aspect not present in synchronous chat. Therefore, I would recommend a prewriting activity that would begin with an initial face-to-face discussion, followed by an asynchronous threaded discussion.

Another recommendation would be to include computers in the general ESL curriculum in order to assist students with their typing and word processing skills. Typing problems directly contributed to the negative experience with online prewriting activities for several students. Although the ESL curriculum in postsecondary institutions can be intense, it would be apposite to make room for explicit instruction in word processing and typing on an English keyboard. At present, there is little such instruction available. In order to carry out my study, the college where I teach had to specially book computer lab time, and in a nearby university, the ESL department is isolated in a separate building, at a remove from the main campus, with no computer labs on site.

The instructor of the course, in concurring with this assessment, felt that in addition to learning how to type, being able to compose on the computer screen was also an important skill for students to learn for their academic and professional careers. He expressed a desire to teach academic writing solely using the computer, not only for the online prewriting activities but throughout the composition of the text, to assist students in becoming more proficient writers.

Most postsecondary institutions no longer accept hand written essays or reports from students. It would be responsible for ESL programs to teach typing, perhaps as an optional course or as part of the academic writing component. Word processing programs have editing keys, such as the cut and paste function, that are also important for students to master. In addition, postsecondary institutions must provide their international students with easy access to computers, both inside and outside class. With attention paid to developing the English typing and word processing skills of ESL students, CMC activities would not present the sometimes formidable challenge that they did for some students in my study.

There was an aspect to the activities I had not anticipated that an instructor could consider when deciding whether to incorporate online computer activities in their academic writing class. These are the nonlinguistic implications of the exercises. The students in my study appreciated the opportunity to hone their computer skills in a classroom setting. Many of these students do not have easy access to computers either in residence while they are studying or in their home countries. The opportunity to complete a course assignment while practicing computer skills serves the whole student. By integrating computers in a meaningful way into the classroom, instructors can expand the learning opportunities for their students beyond the specifically pedagogical realm. All students, including ESL students, must master computer technology in order to be full participants in their own learning as well as to prepare themselves for the workforce.

One area of difficulty for both the instructor and the students in the study had to do with updates to Blackboard that were initiated by the technical support department. Indeed, according to the instructor, this was the single largest problem with Blackboard. He felt that both students and instructors lose interest with computer based activities if they have to relearn mundane tasks such as keystrokes. In addition, he pointed out that his ESL students interpreted their difficulties as personal mistakes instead of correctly attributing them to program changes emanating from the technical support department. The students thought that they had perhaps misunderstood the instructor's directions. This feeling of being at fault when the computer does not operate as it should can directly impact students' self-esteem and ability to engage in the task.

For online activities to be effective, it is important that the instructors and technical support departments have an open line of communication. Changes to any programs that an instructor may be using must be relayed quickly by technical support in

order to avoid frustrating confusion when the program does not function as expected. Another possibility may be to undertake any updates to the program between terms in order to avoid the negative impact these changes may have on students and instructors during the course. Perhaps ESL departments in postsecondary institutions can set up a liaison person with technical support in order to keep current with new developments in the computer programs that they use.

Another implication for practice that emerged from my study is the need for instructors to plan and design activities in order to take full advantage of the features course management software can offer, such as links to relevant websites and enhanced peer interaction. By building structured interaction between learners into the discussion activity, instructors can maximize the potential for interaction and encourage students to engage with their peers in a democratic manner. Another recommendation would be for instructors to adapt online prewriting activities to the essay topic. Students who are grappling with new or complex issues may find it easier and more productive to engage in face-to-face, rather than online, prewriting activities.

Finally, during our discussion, the instructor of the course noted that there is no instruction offered by the college on how to use Blackboard as an educational tool. According to Lai (2004), “many educational institutions have attempted to technologize their campuses...without much detailed planning before computerizing their schools” (p. 1). At present, most computer workshops focus on explaining their course management system for administrative purposes only. It would be beneficial for postsecondary institutions to offer their instructors explicit instruction in how to conduct CMC activities with their ESL students. Unless instructors are assisted in some way in learning how to use CMC, they will not be motivated to explore it. A valuable opportunity to access new

and constructive means of teaching ESL skills will be lost.

Implications for Theory

CMC, as a more recent addition to communication technologies, is still searching for its place within the framework of constructivist learning theory. My study sought to add to the growing research on CMC in ESL by applying a constructivist perspective to students' perceptions of the use of CMC in a specific goal-oriented environment: prewriting in an academic writing class. The results of my study confirm the basic tenets of constructivist learning theory. The online prewriting activities created a collaborative learning environment, where the students were able to construct knowledge through social interaction (Bruffee, 1993; Donato, 1994). As well, CMC can foster task-oriented and authentic activities where students are actively engaged in knowledge building. The asynchronous activity was particularly successful in encouraging students to become active participants in the class discourse instead of remaining passive recipients of information. For ESL students, the added processing time provided by the asynchronous nature of threaded discussions provides a safe environment in which to try out and practice more active roles (Weasenforth, Biesenbach-Lucas, & Meloni, 2002, p. 76).

Scaffolding is a central concept of constructivist learning theory that postulates that social interaction among students of different competencies can facilitate less advanced learners in the construction of knowledge (Vygotsky, 1934/1986). Indeed, the students in the study manifested scaffolding behaviour in a variety of contexts during the exercises.

Peer review, an explicit scaffolding activity, occurred spontaneously during the asynchronous online discussions. In face-to-face discussions, I have rarely heard students make the effort to compliment other students' contributions or correct their language. The

students' concentration seems to be all on output and comprehension of the spoken word. Perhaps when speaking, students may limit their language to the pressing task of expressing their ideas in an open and free flowing discussion where they must jockey with other students to be heard. In addition, correcting a peer in front of others may be interpreted as an interruption in the flow of discussion, or even rude.

During the asynchronous online activity, several students took the opportunity to give their peers positive feedback on their contributions. In addition, some students pointed out grammatical or spelling errors. In this manner, they engaged in spontaneous scaffolding. The written format of the activity allowed the students to focus on the contributions of the other students beyond the ideas being presented, contributing to the knowledge base of their peers.

Scaffolding was evident in another manner, between students and text. Mindful that their contributions were being read by their peers, the students paid greater attention to the creation of their texts, engaging critically with their composition. In addition, as the students read the contributions of their peers, they were able to interact with the text, examining it for ways it could help them complete their task. In this way, CMC acted as a mediator of social interaction. The texts the students produced during the threaded discussion acted as agents of interaction for both the students composing and those receiving the text, contributing to the construction of knowledge. The results of my study confirm Warschauer's (2002b) assertion that CMC allows for "epistemic engagement" (Conclusion section). CMC creates an environment where students can focus on their output and that of their peers by slowing down social interaction. In this manner, opportunities for learning in a constructivist framework can be created.

CMC can broaden the scope of interaction. The manner of participation changed

as the students turned to their peers for input and feedback instead of relying on the instructor. Weasenforth et al. (2002) state that “asynchronous communication realizes constructivist tenets in that it changes the role of instructors and extends the classroom in time and space” (p. 59). The students perceived that they participated more during the online activities than face-to-face. Increased participation implies that social interaction commensurately increases, allowing greater opportunities for knowledge building. This is in keeping the constructivist belief that social interaction is an intrinsic component of the acquisition of knowledge.

However, not all interaction that occurs during CMC activities is conducive to constructivist learning. In my study, the synchronous activity proved to be daunting, unpopular, and ineffective for some students. The unpopularity of the activity lay precisely in the realm of interaction, where students, instead of feeling that they were engaged in real communication, felt isolated from their peers. This finding of my study demonstrates that CMC cannot be applied wholesale to learning environments, but must be adapted to the purpose of the activity.

As one kind of communicative act, CMC contributes to the precepts of communicative competence, where language is seen not as an artifact, but as an agent in social interaction (Hymes, 1972). The students’ desire to communicate their ideas clearly to their peers led them to work hard to be as explicit as possible. This in turn caused them to use more complex language than they would have employed in a verbal environment. The desire to communicate feeds back into the constructivist framework, where the students build a knowledge base, increasing their communicative competence.

CMC created a pedagogical context that facilitated the students in the construction of knowledge. The results of my study support the tenets of constructivist

learning theory. However, CMC must be judiciously applied and not exclusive of traditional face-to-face discussion. CMC must be carefully managed by instructors in order to create truly meaningful and constructivist learning opportunities for their students.

Implications for Further Research

In exploring students' perspectives of CMC prewriting activities, my study sought to address how to implement CMC in a pedagogical context, with an emphasis on the task-based and goal-oriented outcomes of idea generation and organization for an academic essay. As with any research, this study would benefit from replication to see if the results are consistent across different student demographics and academic conditions.

The investigation of students' perceptions is only a narrow segment of research. Salaberry (2001) recommends "caution...when pedagogical recommendations about the use of novel technological tools in the L2 classroom are restricted solely to the analysis of students' and teachers' perceptions (or misperceptions)" (p. 49). My study did not explicitly examine the essays the students wrote in order to see if there were any differences in terms of syntactical or lexical features that could be ascribed to the online activities.

In a study investigating whether spoken and computer mediated communication among ESL students differ in preparing these students for spoken discourse (Epp, 2004), no statistical difference was found. However, the researcher noted that the students participating in the study perceived that their use of language improved as a result of CMC. Epp's study highlights a dichotomy among the students between perceived and actual performance. Perhaps a similar dichotomy exists in the present study. Further research could use quantitative analysis to explore whether CMC prewriting activities can

improve idea generation and organization. Qualitative analysis could also be employed to investigate how online activities can contribute to the goals of prewriting activities.

Another study could compare the essays written under face-to-face prewriting conditions with those written after online prewriting activities. The essays could be subjected to a quantitative analysis of t-units, or perhaps a holistic assessment by independent ESL academic writing instructors. In this way, the effect online brainstorming may have on the complete essay, not merely idea generation and organization, may be investigated.

This study did not explore how gender and culture may impact students' online interaction for a task-specific activity. Many ESL programs have students of different cultures with potentially unfamiliar norms of behaviour. ESL research could be undertaken to explore how gender and culture play out in online communication and how this interaction may influence students' performance in certain tasks, such as prewriting activities.

An area of research interest is the exploration of register that is used in online communication. Chun (1994) and Sotillo (2000) have demonstrated that the register of online communication is similar to that of spoken discourse. Academic writing employs a highly formal register unlike spoken language that is rarely transferred to verbal communication. It would be valuable for future research to explore the two separate discourse functions of online communication and academic writing to investigate how they may influence the creation of academic texts or result in complex verbal output.

A factor in my study that I did not explore was the impact reading may have had on the students' abilities to generate and organize their ideas. The online activities required the students not only to write text, but read as well. ESL students are engaged in a

process of acquiring a variety of skills in the English language. There may be variability in the level of skill a student may possess in a certain area, such as writing or reading.

Another area of research may examine online reading to see if it possesses any unique attributes that may either facilitate or hinder students in accomplishing their online tasks.

Three students consistently maintained an ambivalent stance toward CMC and computers throughout the study. In the initial interview these students demonstrated little enthusiasm or initiative for using computers. These 3 male students also had the most negative experience with the online activities. A study could be undertaken to investigate ESL students' personality and learning styles to explore how they may influence students' language learning and commitment to the performance of task-specific CMC activities. Sengupta (2001) states that "being active in interactive Web-based classrooms...may pose a tremendous challenge on ESL learners. Unless we know the demands posed by language ...we cannot fully evaluate the pedagogic power of the electronic mode and plan a way forward" (p. 104). In this way, the activities could be adapted to students' particular learning orientations and the online activities' potential as facilitators could be enhanced.

Conclusion

The results of this study demonstrate that the ESL students perceive online prewriting activities can be beneficial for generating and organizing ideas for academic writing assignments. However, the online exercises cannot be a substitute for face-to-face prewriting activities, whose value in the realm of social interaction cannot be replicated by CMC. In addition, the type of online activity is crucial to its success. The synchronous exercise introduced complicated and negative dynamics into prewriting that were not mitigated by the efficacy of the activity.

In developing the online prewriting activities, I explored possible avenues for

implementing CMC into academic writing curricula that were supported by the theoretical foundation of constructivist learning theory and addressed specific pedagogical objectives. In this way, I sought to point the way forward for ESL instructors who wish to use CMC but lack the time and resources to develop effective activities.

It has been noted (Salaberry, 2001) that in their enthusiasm for the new potential CMC offers, some ESL researchers have inflated claims for the value of CMC. New pedagogical technologies and techniques must always be subject to the greater needs and goals of learners and educators. It is only through thoughtful and rigorous examination of CMC that informed judgments can be made regarding its efficacy as a facilitator in second language acquisition.

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APPENDIX A

Letter of Information (student)

Title of Study: ESL student perception of a web-based pre-writing activity

Date of Study: February to April 2004

Dear Student,

This letter is to inform you about the research study in which you have been invited to participate. It is your right to be fully and clearly informed of all aspects of the research before becoming involved in this study. This project has been reviewed by and has received ethics clearance through the Brock University Research Ethics Board. (File # 03-034).

This study is being conducted by Kate Sullivan (hegira@sympatico.ca) under the supervision of Professor Denise Paquette-Frenette (dpaquett@ed.brocku.ca). You are being invited to participate in a research study in a Master's of Education (TESL) program.

In this study, I hope to examine your perception of a web-based discussion activity in order to explore how it may influence you in getting ideas for your academic writing assignments or in completing your writing tasks. As a participant in this study, you will be asked to take part in two interviews outside of your regularly scheduled class time. The first interview is expected to take ten to fifteen minutes and the second interview twenty to thirty minutes. The interviews will take place at the college, at a time that is convenient to you.

In addition, you will provide me with two examples of the first drafts of your academic writing that you produce in class. I will not evaluate them, but use them as a reference to better understand your perceptions.

As a participant in this study, I will interview you twice: at the beginning of the semester and upon completion of the first draft of your final essay for the course. These interviews will be audiotaped and transcribed. During the interviews, you may leave unanswered any question you prefer not to answer.

Here are some examples of the types of questions you will be asked:

- (a) Do you think writing is an important skill for you to learn?
- (b) What is the hardest part for you when you write a paragraph or an essay?
- (c) Do you find it difficult to express your opinion/comments to others?
- (d) How well did the pre-writing activities prepare you to write your first draft?
- (e) Describe what you liked and disliked about using web-based discussion.

The review of the transcripts is expected to take approximately two weeks. You will have the opportunity to review the transcripts yourself in order to check that your thoughts and ideas have been faithfully represented.

There are no foreseeable risks or discomforts to you as a result of this study. You may benefit personally from this study by improving your academic writing skills. It is hoped that the information obtained from this research may assist ESL teachers in the instruction of academic writing. All information obtained from this study will be kept confidential from the course instructor. Your participation in this study will have no effect on the grading of your course or on any other college activities.

The Director of the International Education and Development Division of _____ has approved this study. Your anonymity will be secured and your privacy will be respected. Your name will not appear in any report, publication or presentation resulting from this study. The data, with identifying information removed, will be securely stored. The confidentiality of the data will be ensured by keeping electronic data on disks locked in a secure location at the researcher's home or in a password protected file. Documents and audio tapes will be kept in a locked storage cabinet at the same address.

In order to further secure your privacy, any paper records of the data will be confidentially shredded after five years. In addition, all audio recordings and electronic data will be erased after the same period of five years.

A period of approximately two months will be required to review the transcripts of this study. The results will be recorded in my M.Ed. thesis, which will be publicly available through the Brock University library system.

In the event that you have any questions or concerns about your participation in this study, please contact the Research Ethics Officer at 905-688-5550, ext. 3035.

Participation in this study is voluntary. You may discontinue participation at any time. You may withdraw from the study at any time by telling the researcher of this decision. I suggest you keep a copy of this consent form for your records.

Thank you

Kate Sullivan
Researcher, M. Ed. TESL candidate

Consent Form (student)

Title of Study: ESL student perception of a web-based pre-writing activity

Date of Study: February to April 2004

REB File #: 03-034

Your signature on this form indicates that you have understood the information regarding participation in this research study and agree to participate as a subject. It in no way limits or removes your legal rights nor releases the investigator or involved institution from their legal and professional responsibilities.

By signing this form you indicate that you agree to the following:

You will participate in two separate interviews with me.

You will provide me with the first drafts of two examples of your academic writing.

These will be referred to during our interview in order to help me better understand your perceptions. I will not grade your writing.

Any paper records of the data I collect for this study will be confidentially shredded after five years. In addition, all audio recordings and electronic data will be erased after the same period of five years.

I, _____ (*please print*), have read and understood the above information. I also understand that I may ask questions in the future and I can decide at any time to stop participating in the study.

I agree to participate in this research study.

signature

If you have signed this consent form, please complete the following information:

Gender: Male _____ Female _____

Mother Tongue: _____

E-mail address: _____

APPENDIX B

Letter of Information (instructor)

Title of Study: ESL student perception of a web-based pre-writing activity

Date of Study: January to April 2004

Dear _____,

This letter is to inform you about the research study that I will be conducting in your intermediate level academic writing class. It is your right to be fully and clearly informed of all aspects of the research before becoming involved in this study. This project has been reviewed by and has received ethics clearance through the Brock University Research Ethics Board.
(File # 03-034).

This study is being conducted by Kate Sullivan (hegira@sympatico.ca) in partial fulfillment of a Master's of Education (TESL) program under the supervision of Professor Denise Paquette-Frenette (dpaquett@ed.brocku.ca).

In this study, I hope to examine students' perceptions of a web-based discussion activity in order to explore how it may affect them in getting ideas for their academic writing assignments or in completing their writing tasks. As participants in this study, the students will be asked to take part in two interviews outside of regularly scheduled class time. The first interview is expected to take ten to fifteen minutes and the second interview twenty to thirty minutes. The interviews will take place at the college, at a time that is convenient to the students.

I will be sitting in on your class as a non-participatory observer in order to observe the students as they engage in the pre-writing activities. This will provide me with contextual information that will potentially help to make sense of the students' responses during the interviews. I will take notes of my observations to refer to during the interviews and for use when I analyze the data generated by the interview

There are no foreseeable risks or discomforts to you as a result of this study. It is hoped that the information obtained from this research may assist ESL teachers in the instruction of academic writing.

The Director of the International Education and Development Division of _____ has approved this study. Your anonymity will be secured and your privacy will be respected. Your name will not appear in any report, publication or presentation resulting from this study. The data, with identifying information removed, will be securely stored. The confidentiality of the data will be ensured by keeping electronic data on disks locked in a secure location at the researcher's home or in a password protected file. Documents and audio tapes will be kept in a locked storage cabinet at the same address.

In order to further secure your privacy, any paper records of the data will be confidentially shredded after five years. In addition, all audio recordings and electronic data will be erased after the same period of five years.

A period of approximately two months will be required to review the transcripts of this study. The results will be recorded in my M.Ed. thesis, which will be publicly available through the Brock University library system.

In the event that you have any questions or concerns about your participation in this study, please contact the Research Ethics Officer at 905-688-5550, ext. 3035.

Participation in this study is voluntary. You may discontinue participation at any time. You may withdraw from the study at any time by telling the researcher of this decision. I suggest you keep a copy of this consent form for your records.

Thank you

Kate Sullivan
Researcher, M. Ed. TESL candidate

Consent Form (instructor)

Title of Study: ESL student perception of a web-based pre-writing activity

Date of Study: January to April 2004

REB File #: 03-034

Your signature on this form indicates that you have understood to your satisfaction the information regarding this research study. It in no way limits or removes your legal rights nor releases the investigator or involved institution from their legal and professional responsibilities.

By signing this form you indicate that you agree to the following:

I will sit in on your intermediate level academic writing class as a non-participatory observer.

Any paper records of the data I collect for this study will be confidentially shredded after five years. In addition, all audio recordings and electronic data will be erased after the same period of five years.

I, _____ (*please print*), have read and understood the above information. I also understand that I may ask questions in the future. I consent to participate in this research study.

signature

APPENDIX C

Sample of Synchronous Online Chat

José: BECAUSE HE LIKE TO DO THAT, FOR ME HE DOESN'T CARE IF HIS PATIENTS ARE SUFFERING OR NOT, HE ONLY DO THIS FOR PLEASURE, THAT'S WHAT I THINK.

Amir: Dr. Kervorkian try hard to help ill people to take their life away and finish the pine of ill people.

Kyon: Dr. Kervorkian can understand how much they have suffering so he wants to help them.

José: NO WAY HE IS A MURDER, I DON'T KNOW HO IS HE FREE, HE HAS TO BE JUDGE FOR THE CRIMES THAT HE DID, I DON'T CARE IF THE PEOPLE ASK HIM TO KILL THEM, BUT HE IS THE REAL PERSON WHO KILL THEIR PACIENTS.

Kyon: I thank that he is a hunam who doesn't want to see someone's suffering who is going to die.

Amir: I think he is not he is no hero and evil person. I am not going to advise him or her to kill him/her self because I want to be guilty and feel sorry because I tell them to kill themselves.

Sample of Asynchronous Posting

Most people should have happy memory when they live in the world; therefore, there should be no person choose the life full of pain and ill. Unfortunately, some people could get sick such as cancer thus they become terminally ill patients before they leave the world. I have seen a movie about a successful woman suddently got a ill which let her become a terminally ill patient. She was painful because she had no idea about her ill and all the doctor couldn't find the way to help her. She had no hope and only suffered the pain She really wanted to give up, but her parents still thought that she could fight the ill. Finally her monther changed her mind and told her that you should go and find your new life, then she died. The woman lived unhappily and hopelessly, she really wanted to die to escape the pain. After a lot of pain, some terminally ill patients wish they can have happy eanding in their live, if they ask to escape the suffering, why not give them another new life. Not only keep a unuseful body.

Jin

APPENDIX D

Example of the Face-to-Face Prewriting Activity

from *Introduction to Academic Writing* by A. Oshima and A. Hogue.

Prewriting: Brainstorming

Activity

Everyone agrees that television has had a tremendous influence on society since it was developed in the 1940s. Some influences have been positive, but others have been negative. With your entire class or in small groups of three or four students, brainstorm the influences of television. Brainstorm both positive and negative influences. Think about how television has changed communication, education, and family life. Make two lists.

Example of the Online Prewriting Activity

Second Essay—Online Brainstorm

I would like you to use this discussion board with your group member to brainstorm ideas about Dr. Kervorkian. Use the following 5 “Question forums” to guide your online discussions:

1. Do you think that Dr. Kervorkian really cares about ending the suffering of terminally ill people? Explain why you do or do not.
2. Why do you think the doctor continues to help people end their lives?
3. Why do you think the legal system cannot stop him from continuing his activities?
4. How do you feel about Dr. Kervorkian and his activities? Is he a hero or an evil person.
5. How would you advise someone who was terminally ill and feels hopeless enough to want to contact the doctor?

questions from: *Introduction to Academic Writing* by A. Oshima and A. Hogue.

APPENDIX E

Sample Initial Interview Questions

Home Country:

First Language:

Age:

Sex:

Level of Education:

Years of English Study:

Length of Time in Canada:

Started of Studies at College:

1. Why did you choose to study English in Canada?
2. If I were a new student in your class, what would you tell me about academic writing?
3. How important is academic writing for you?
4. You're taking all these courses at the college: grammar, speaking, listening, reading and writing. Which of these courses is the hardest for you?
5. What is the easiest part for you when you start to write a paragraph or an essay?
What is the hardest?
6. Brainstorming is a pre-writing activity. It's something you do before you begin to write your essay. Some students think that brainstorming is a waste of time and they want to just start writing. What would you say to these students?
7. How do you feel about talking in class to discuss your ideas?
8. How much do you think you participate in class discussions?
9. When you're having a discussion in class, what do you pay attention to when you're speaking. What so you pay attention to when you're listening to another student?
10. You're using Blackboard in class. How do you feel about using computers in your writing class?

11. Do you think using computers can help you learn English skills like academic writing?
12. Suppose you did the brainstorming using a computer discussion like a chat or a discussion forum. What do you think it would be like?

Sample Exit Interview Questions

1. You did two kinds of pre-writing activity: a face-to-face discussion and an online discussion using Blackboard. How would you compare these two activities?
2. Which of the two topics you wrote about was more difficult, the influences of TV or assisted suicide? Why?
3. What differences did you notice between how you wrote on the Discussion Board and how you spoke in class?
4. You had two separate essays: the influences of TV and assisted suicide. Each essay had two separate activities. One was the talking brainstorm and the other was the Blackboard brainstorm. Which of these activities did you like better?
5. Can you describe to me what you liked about discussing the topic in class by speaking?
6. What did you dislike?
7. What did you like about using Blackboard to discuss your topic?
8. What did you dislike?
9. We did two online discussions. One was a chat session and the other you had to post your opinion on the Discussion Board. What differences did you notice about those two activities?
10. Some people would say that its not a good idea to use computers to discuss ideas for writing. What would you say to them?
11. Were you able to include ideas from the online discussions in your writing?
12. Which activity, verbal discussion or Blackboard, helped you more to get ideas for your topic?

13. How do you feel that the online activities helped you with your grammar and sentence construction?
14. Which Blackboard activity did you prefer, the chat or the discussion board?
15. Where do you feel you contributed more: speaking in class or during the Blackboard chat?
16. Which activity helped you more in organizing your ideas and structuring your essay?
17. Does using Blackboard for brainstorming make you want to use the computer more or less?
18. Let's say you take another academic writing course and you can choose from one that uses Blackboard the way we did and another that just uses speaking for brainstorming. Which course would you take?
19. Imagine a different brainstorming activity. The first day you start a new topic, you have a speaking discussion just like you had for the influences of TV. And then the next class you have Blackboard discussion where you post your ideas and respond to two others, just like we did for assisted suicide. What would you think of an activity like that?
20. Did you feel your performance on the last assignment changed as a result of the online discussion?
21. Which of your essays would you say is more organized? The one on the influences of TV or the one on assisted suicide? Why?
22. Would you take another writing course that uses online discussion? Why?
23. How do you think they have affected your writing?

APPENDIX F

Research Ethics Board Approval



Brock University	
Senate Research Ethics Board	Extensions 3943/3035, Room AS 302
DATE:	October 8, 2003
FROM:	Joe Engemann, Chair Senate Research Ethics Board (REB)
TO:	Denise Paquette-Frenette, Education Kate Sullivan
FILE:	03-034, Sullivan
TITLE:	ESL Student Perception of a Web-based Pre-Writing Activity

Joseph Engemann
Chair
Research Ethics Board

The Brock University Research Ethics Board has reviewed the above research proposal.

DECISION: Accepted as clarified.

This project has been approved for the period of October 8, 2003 to August 31, 2004 subject to full REB ratification at the Research Ethics Board's next scheduled meeting. The approval may be extended upon request. *The study may now proceed.*

Please note that the Research Ethics Board (REB) requires that you adhere to the protocol as last reviewed and approved by the REB. The Board must approve any modifications before they can be implemented. If you wish to modify your research project, please refer to www.BrockU.CA/researchservices/forms.html to complete the appropriate form **REB-03 (2001) Request for Clearance of a Revision or Modification to an Ongoing Application**.

Adverse or unexpected events must be reported to the REB as soon as possible with an indication of how these events affect, in the view of the Principal Investigator, the safety of the participants and the continuation of the protocol.

If research participants are in the care of a health facility, at a school, or other institution or community organization, it is the responsibility of the Principal Investigator to ensure that the ethical guidelines and approvals of those facilities or institutions are obtained and filed with the REB prior to the initiation of any research protocols.

The Tri-Council Policy Statement requires that ongoing research be monitored. A Final Report is required for all projects, with the exception of undergraduate projects, upon completion of the project. Researchers with projects lasting more than one year are required to submit a Continuing Review Report annually. The Office of Research Services will contact you when this form **REB-02 (2001) Continuing Review/Final Report** is required.

Please quote your REB file number on all future correspondence.

