ESL ACADEMIC WRITING AND ELECTRONIC BULLETIN BOARDS:
The Viability of Technological Supplements for Writing Improvement and
Sociocultural Development

by

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Abstract

Studying issues of second language writing and identity in an academic context is important as both students and teachers are adapting to an environment that is becoming increasingly multicultural, multilingual, and technological. A research project was conducted at the English Language Institute at the University of British Columbia in order to assess the viability of technological supplements in writing improvement and sociocultural development. This study evaluated whether on-line interactive writing using an electronic bulletin board helps students improve their academic writing skills, including meta-linguistic and critical thinking skills, as well as accuracy, fluency, complexity, and coherence. Additionally, secondary gains using this intervention were evaluated. These expected gains included increased student confidence and motivation, as well as a greater awareness of identity issues, cross-cultural understanding, and improved peer relations through collaborative tasks and introspective narrative and critical inquiry.

Both quantitative and qualitative research methods were used to gather data in order to evaluate writing progress over time. Measures used for the quantitative analysis included pre-tests and post-tests of the Cambridge Advanced Exam of English Usage, as well as expository essays written at the onset and conclusion of the three-month term. Upon comparison with a control group that utilized traditional paper-based and face-to-face instruction, the quantitative results gathered from test and essay scores did not reveal significant differences between the two groups, and as such, did not strongly support the efficacy of on-line interactive writing for improving academic writing. However, the qualitative results, gathered from guided on-line journal entries, interviews, questionnaires, and the researcher's observations, suggested that on-line writing can improve academic writing. Interactive writing on the electronic bulletin board was both form-focused and meaning-focused, and provided opportunities for authentic communication, negotiation of meaning, peer review, and self-correction. The guided tasks led to a development of meta-linguistic and critical thinking skills. Furthermore, the qualitative results of student self-report data revealed that on-line interaction assisted students in improving their confidence, increasing their motivation, and developing their
cross-cultural and interpersonal communication skills. International students interacting on an electronic bulletin board were also more aware of self and group identity issues as they were integrating into a new academic and multicultural environment.

The findings of this research project are consistent with previous research conducted using similar tools and contexts. Interactive electronic writing has the potential for improving second language writing skills, thereby providing international students with a greater opportunity to meet the academic standards set by the university. Additionally, on-line writing can enhance student confidence, motivation, and cross-cultural awareness to communicate with native speakers and other international students. Finally, interactive writing using an electronic bulletin board allows ESL students the possibility of becoming multiliterate, thereby enabling them to integrate into and contribute to the academic community more effectively.
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CHAPTER 1

Introduction

1.1 Statement of the Research Problem

In the last forty years, Canada has seen an influx of immigrant and international students who wish to study, work, and improve their quality of life in Canada. Canada, along with the U.S., Australia, and Great Britain has English-speaking universities whose “quality, desirability, and prestige” attracts more students in the world than can be admitted (Santos, 2001, p. 188). These students invest a lot of time, effort, and energy learning English for a variety of reasons. First and foremost, most of them would like to improve their chances for entry into post-secondary institutions, which will in turn provide them with greater employment opportunities. Immigrant and international students are also interested in integrating into Canada’s multicultural environment and using English as a means for learning about or communicating with anglophones and other immigrants or international students. Even though immigrant and international students may eventually integrate socially by mastering spoken or non-standard English in informal settings, their literacy skills, which are necessary for effective integration into the academic community, may lag behind.

Literacy is at the heart of education’s promise of change and improvement in one’s social and professional status, access to material resources, and capacity to participate actively in civic life (Kalantzis and Cope, 2000). In fact, “of all the functions and purposes of education, reading and writing have always been foundational. [...] Literacy represents a
kind of symbolic capital in two senses: as the pre-eminent form of symbolic manipulation that gets things done in modern times and as a symbolic marker of ‘being educated’” (Kalantzis and Cope, 2000, p. 121). Many foreign students who come here want access to this symbolic capital and they are willing to pay the price and make the sacrifices to earn it. It is thus incumbent upon language teachers to provide the most effective strategies and tools to help students acquire this symbolic capital by helping immigrant students and international students overcome the challenge of trying to master the reading and writing of Standard English which is used in academic discourse.

Reading and writing skills in a second language are often so difficult to grasp for young adults trying to fit into a school’s social and cultural life, that they suffer academically, particularly in subjects in the social sciences or arts which are considered to be more verbal, qualitative, and abstract than the pure or biological sciences. Low academic achievement reduces these students’ chances of entering post-secondary institutions and succeeding (Cummins, 1984). Even if education’s promise is one of providing equal opportunity to all, it appears that the system works better for some groups than it does for others. As Cope and Kalantzis point out, “you get a better education if you are wealthier; if you speak the national language; if you belong to the most powerful ethnic group; if you live in the right neighbourhood or the right country; or if you are a male” (Kalantzis & Cope, 2000, p. 122). Some foreign and immigrant students are fortunate enough to have the resources to study abroad, and there is an increase in the number of female students who are pursuing higher education now than in the past; however, adult foreign students often do not speak, read, or write the language well enough to succeed socially, academically, and even professionally in their new environment. Learning literacy skills in at least one of this
country's official languages is thus extremely important in giving a student a fair chance at education.

As a teacher of English as a second language and a graduate student of English and French as a second and third language respectively, I have observed and personally experienced the frustrations and problems that arise in reading and writing in a foreign language within an academic context. Post-secondary NNS students must be knowledgeable about the academic discourse necessary for writing essays and standardized exams in order to succeed in school. Low achievement in these kinds of assessment tools may hamper learning, decrease motivation, and alienate the student. Many young adult students come to Canada from foreign countries with an abundance of hope and enthusiasm to learn English and 'get a better education' in order to improve their academic and professional opportunities in North America or back in their home country. Once they arrive, they realise that in order to progress academically, they have to take and pass a barrage of English proficiency examinations or other standardized exams that test their verbal ability (i.e. TOEFL, GMAT, GRE, LPI). The challenges do not stop even when they pass those exams. As previously mentioned, many foreign students, and even native students, have difficulty writing academic essays and exams in English once they have entered a program of studies. Since writing is the primary means of assessing students' knowledge, students who have difficulty with expression usually have lower performance levels as well.

There are many reasons for the poor writing skills of second language learners (or even for native speakers of English), which in my personal and professional experience, are not based on student laziness or lack of motivation. The traditional methodology used to teach second languages, the view of English as just another subject in school, and insufficient
feedback are just some of the reasons why students may have poor writing skills in English. Firstly, in the 20th century, the main approach used to teach second language universally was the Grammar-Translation method (Brown, 1994). Although this approach may improve accuracy, its limitations lie in providing little, if any, improvement on fluency, and in not placing as much importance on other very significant aspects to effective writing. These aspects include overall coherence, the quality and development of ideas, the organization of those ideas, word choice, use of figurative language, and other criteria. To overcome the limitations of teaching writing through grammar, teachers focused on improving fluency by providing students with endless lists of words out of context, and students had to memorize the definitions. The limitations of this approach were that students could recognize a new word and know what it meant when reading a passage, but they would not necessarily be able to use it appropriately in a sentence. The structure and vocabulary of English as a second language were not taught for communicative purposes within a particular context. The result of this approach was that even though foreign students would do hundreds of grammar exercises and memorize many vocabulary lists, they would often be surprised, frustrated, and discouraged upon receiving their first English essay full of red marks. They couldn’t understand how after all that hard work, they still had difficulty writing.

Secondly, I was surprised to discover that most of the ESL students in my class were not taught how to write an academic essay. The purposes and strategies used in academic writing were not identified, nor were the differences in style and genre between academic writing in western and eastern cultures. In fact, students didn’t understand why it was important to write an essay in the first place. From the interviews and questionnaires, students informed me that before coming to Canada, they viewed their English class as just
another subject area in school. They studied for English much in the same way they did for other subjects: they did the exercises, memorized the necessary content or rules for the exam, regurgitated them on the exam, and most probably forgot everything afterward. They told me that most of their teachers ‘taught to the test’, so that students could get the results they needed to help them get into university. Furthermore, students mentioned that the feedback they received after writing tests or exams was quantitative and summative, not qualitative and formative. Writing was not viewed as a process, but as a final product for evaluation purposes only. The uses of writing for expression and exploration were rarely emphasized.

Students did not really see English as a language used for communication purposes, and only realized that English was more than a school subject when they came to Canada and saw the language being actively used on an everyday basis. Moreover, the kinds of tasks that they were expected to do were primarily translation and reading comprehension, which were evaluated by multiple choice questions. Because of the overwhelming emphasis placed on grammar, students had a very limited and simplistic view of writing as grammar. Students reported that they rarely wrote a paragraph or expository essay for the purposes of expressing their beliefs, ideas, and opinions to others. Also, even though they thought that learning English was important, some students admitted that writing, whether in English or even in their mother tongue, was not as important a skill to master as other kinds of analytic and numerical skills required for the hard sciences, such as math, physics, and chemistry. These kinds of skills could then help students enter university and pursue more secure and lucrative professions like engineering, medicine, or business. So, we can see how students’ attitudes towards English writing were shaped to a large extent by the school system and the methodology used to teach English, as well as by the career prospects of students.
Since globalization has helped to bring more international students to North American universities, there has been an increasing realization that ESL learners studying in these new contexts need assistance with their written and spoken academic English. In the late nineteen-sixties, the University of British Columbia created the English Language Institute to meet the linguistic needs of these international students. More recently, the Institute has put a greater emphasis on providing foreign students with the opportunity to improve the academic literacy skills they need to enter and succeed in North American post-secondary studies. As a teacher in the Institute for the last five years, I have focused on guiding students to improve their academic writing skills at the advanced level. During my teaching experience, I have sought to implement the communicative approach towards language learning that I had been introduced to in my teacher training. However, I was always open to new approaches and tools that could lead to optimal learning for students.

The motivation behind this research project arose from a desire to address ESL students' needs by using innovative technologies to supplement regular face-to-face classroom sessions to improve students' academic writing skills. My expectation was that networked technologies would not only help students improve their academic writing skills, but would also modify their attitudes and perceptions towards learning academic writing in English. In my own studies in English and French language and literature, I became increasingly aware of the greater presence of computers for writing and interacting with students and teachers. To increase my understanding of the effectiveness of technological supplements in second language learning, I participated in series of graduate courses that used an on-line forum as an adjunct to the regular classroom seminar. These courses were not writing courses, but content-based courses in education (i.e. bilingual education and
language planning, second language research, Asia-Pacific narratives). However, by participating on the bulletin board, I realized that I was focusing on improving my writing skills as I discussed a particular topic with other students. I appreciated having the opportunity to engage in critical thought about a variety of issues with peers. I was asked to provide feedback on other students’ work, and I would receive interesting and constructive insights on my writing from others. Overall, I had a positive experience in using electronic bulletin boards, and realized its potential benefits for students who wished to improve their writing skills. I therefore decided to conduct a research project on exploring the effectiveness of technological supplements for second language writers.

This study tried to experiment with using innovative, networked-based technological tools within a theory of interaction in an effort to provide students with an effective means to ameliorating their academic writing skills. In doing so, students would view writing as a means of communicating to a specified audience within a particular socio-cultural context. They would come to regard writing not only as a product, but also as a process that is experienced in collaboration with others through on-going interaction and peer revision in a networked, virtual environment.
1.2 Significance and Rationale of the Study

The significance of this study lies in the examination of a more communicative, reflective, and interactive approach towards teaching and learning writing using on-line interactive media. Whereas previously, teachers considered how to use computers in order to teach language, “it is now essential also to consider how to teach language so that learners can make effective use of information technology.” (Shetzer & Warschauer, 2000, p. 172). In the industrialized world, “virtually all academic and professional writing currently involves computer use” and as teachers, we needed to prepare students for the future by giving them the writing skills they require to succeed in academic contexts and to communicate on-line with native and non-native speakers for a variety of purposes (Shetzer & Warschauer, 2000, p. 172). It is hoped that the electronic literacy skills students will gain through networked-based language teaching will help them become better writers for academic purposes, and will also assist them with participating and writing in on-line environments with native-speakers in academic and professional environments in the future. In doing so, they can become autonomous learners and broaden their knowledge base, interpret, express, and share what they have learned, and slowly become part of a discourse community that includes native and non-native speakers of English.

An interactive approach towards writing development and the technology used to deliver it can help students who have English as their second language not only write better essays in an academic context, but also develop critical thinking skills and sociocultural understanding. By using an electronic bulletin board, students wrote reflective journal entries on a variety of topics related to writing, thus developing meta-cognitive skills about the
process and importance of writing from diverse perspectives. Students would read each other's postings and ask and answer questions, thus reinforcing the notion of writing in English as a means of communication. They would also write formal academic essays that they would post on the electronic bulletin board and respond to what they read by summarizing and/or asking questions to the students whose essays they read. By doing a thematic and text analysis of data from on-line journal entries and discussions, by interviewing students and using questionnaires, this study examined students' perceptions of how on-line computer technologies and written interaction can improve writing in an academic context.

I was also interested in students' perceptions of the purposes and processes of writing and whether these perceptions shape or change students' identity and cross-cultural understanding. Participants were asked to respond to questions about identity and second language writing in interviews, and they were encouraged to reflect on cultural differences that they perceived between how they learned to write in their home country, and how they were expected to write in a North American academic context. By writing on-line journals, they could then share and discuss their different experiences and views. I analysed the content of their written texts to see if students' perceptions towards writing evolved, given their new academic and cultural environment. The hope was that students would improve their academic writing in English, better understand academic discourse in North America, and view writing as a communicative tool for learning about oneself and others by articulating their ideas and opinions, and by critically thinking about issues.

I also wished to compare their perceptions about their writing quality with more objective, quantitative measures of their performance. To evaluate the effectiveness of the
strategies and tools I used, I compared students’ pre- and post-tests within our class and with a control group that did not use WebCT for interactive writing activities. Also, I wished to determine if students increased their cross-cultural understanding as a result of interacting at a deeper level with students from other cultures, languages, and discourses. By comparing the data and analyzing the findings, this study suggests that on-line interactive and reflective writing has a beneficial effect on students and can improve academic writing skills significantly. It was also discovered that a secondary effect of on-line reflective/interactive writing is improved peer relations and cross-cultural understanding and awareness.

Studying issues of second language writing and cross-cultural understanding in an academic context is of primary importance in a time when students and teachers are trying to adapt to a new global economy and work environment that is becoming increasingly multicultural and technological. Globalization has affected Canadian education by promoting and increasing student exchanges, and by encouraging a greater number of international students to study here in order to improve their English skills and learn the latest developments and technologies in their chosen field of study or profession (Morrow and Torres, 2000). Their education could enable them to practice in Canada, or return to their home country with the benefits of a different cultural and academic experience. However, as mentioned previously, these international and immigrant students face linguistic and cultural barriers that could decrease their chances of succeeding in the North American educational system. If students develop proficiency in English and academic literacy, they have a greater probability of attaining higher academic achievement and improving their opportunities for employment (Cummins, 1984). To prepare these students for success, “literacy teaching and learning need to change because the world is changing” (Cope and Kalantzis, 2000, p. 1). If
the goal of education in a democracy is to provide students with the opportunity to learn in ways that will allow them to participate fully in social and economic life, then teachers have the responsibility to provide students with the various tools, skills, approaches, and discourses that will be part of their future academic and work environment.

Since globalization has created a more multicultural and multilingual society, teachers need to expose students to a multiplicity of discourses and languages, as well as familiarize students to the varieties of text forms associated with information and multimedia technologies. In the past, literacy pedagogy was restricted to “formalized, monolingual, monocultural, and rule-governed forms of language” (Cope and Kalantzis, 2000, p. 9) where teachers expected students to read and write in page-bound, official, standard forms of the national language. However, the current learning environment in Canada is one where students often have access to and are expected to know how to use the iconographic, text, and screen-based modes of interacting with computers (Cope and Kalantzis, 2000).

Also, in today’s classroom, students are often surrounded by other international students who have multiple citizenship and who participate in a variety of language and discourse communities. It is the modern educator’s responsibility not only to train students to use the new modes of representation that modern technology provides, but also to help students communicate with one another in a variety of languages and discourses with a deep understanding and respect for their individual cultures. In fact, these are the social skills in cross-cultural understanding that today’s students will need if they are to participate and succeed in the diverse social and globalized environment of the new economy. Given the wide range of skills and knowledge that students should have, Cope and Kalantzis emphasize the notion that the students of today and tomorrow cannot be merely literate, but must be
‘multiliterate’. By being multiliterate, they can understand many modes of text from a variety of communication and information networks, and work cooperatively with others in a multicultural environment. Cope and Kalantzis believe that there will be a cognitive benefit to students in a pedagogy of linguistic and cultural pluralism because when “learners juxtapose different language, discourses, styles, and approaches, they gain substantively in metacognitive and metalinguistic abilities and in their ability to reflect critically on complex systems and their interactions” (Cope and Kalantzis, 2000, p. 15). As such, a pedagogy of multiliteracy will not only prepare students for today’s global economy, but will also help them develop intellectually and socially.

The rate and force with which globalization has been spreading is due primarily to modern innovations, such as high speed transportation and communication technologies. The Internet, for example, has enabled students to have easier access to information and to communicate with individuals and communities from around the world. Even though it has been argued that technology in education may increase the ‘digital divide’ between populations (Morrow & Torres, 2000) and ‘dehumanize’ the profession of education (Stevens, 1992), technology can also provide the students with the tools to empower themselves and to bridge the gap between ‘the knows and the know-nots’ (Schofield, 1999). As educators in a globalized and technological environment, we have a responsibility to learn how new technologies can be used for increasing democratization and empowering linguistic minorities so that they can be successful in academic and professional institutions. This research project aimed to do this by exposing students to computerized interactive writing environments where they were asked to reflect on a variety of topics related to writing and culture. There are many reasons why I feel that providing students with this kind of
computerized writing environment is beneficial to their intellectual and personal development.

Firstly, learning how to access and use computer technology can provide many educational opportunities through increased access to information and social interaction, even at a distance. Distance education can help individuals in remote areas, those who are homebound (e.g. single mothers), and also students or teachers who do not have adequate transportation or other resources, to gain access to major research libraries, e-journals, and e-books in order to gain the knowledge, information, and contacts they need to further their educational endeavours. Access to web resources can allow minority language students to read academic journals and articles in their field which are good models of the level of academic literacy they will need to achieve.

Also, the minority language students who wish to participate in academic discussions, but are too shy to engage in oral communication, have the chance to 'save face' and take the time they need to formulate their ideas and opinions in written form on electronic bulletin boards (Carey, 1999a). The connections they make through on-line communication, the networks and alliances they form, and the resources they acquire can empower them to have their voice heard in debates and discussions that challenge the predominant discourse. The chat-rooms that individuals choose to enter into and the variety of on-line communities learners participate in can help to shape their identity in multiple ways and increase their opportunities for growth, for “choosing a community means in part choosing who one is; and changing communities, or exploring new communities, is a process of exploring or experimenting with new selves” (Burbules, 2000, p. 340). Learning to have access to the Internet and engaging in computer-mediated communication (CMC) would allow students to
broaden their knowledge and experience, and would permit them to experiment and expand their identity and sociocultural development.

In this study, we examined how using technology within a multicultural environment can empower linguistic minorities by having them learn to communicate on-line in English with other international students in an academic context. This project suggests that the practice they received in writing and reflecting on the act of writing, as well as the on-line interaction with other students, helped adult learners in academic and professional contexts become more reflective and critical of their thought processes and expression. Students read and responded to the writings of academic writers and of their peers, and shared different points of view and ways of thinking, which broadened their horizons personally, culturally, and intellectually.
1.3 Research Questions

In light of the discussion above, I endeavoured to answer the following research questions in this study:

- To what extent does the written interaction using electronic bulletin boards help improve students’ academic writing ability?
- Does the reflection and interaction of on-line writing in a social context help students develop meta-cognitive and critical thinking skills, thereby improving their academic writing?
- Does sharing and reflecting their ideas on writing and identity with other international students through an on-line forum assist students with their sociocultural development and provide them with affective gains?

I will now examine some of the theories, approaches, and research studies in the field of computerized interactive writing that were instrumental to the formulation of the research questions posed in this study.
CHAPTER 2

Literature Review

2.1 The Theory of Constructivism and the Importance of Interaction for Second Language Learning

One of the first questions that language teachers and teacher educators must ask themselves is “What theory and approach can be used for optimal teaching and learning of second languages?” In my view, as well as in the view of many prominent educational theorists today, the social constructivist theory is best suited to learning second languages because of its emphasis on interaction, collaboration, communication, and learning in a sociocultural environment that is at or above a learner’s actual level of cognitive ability in the target language. This theory is associated with educational psychologists and theorists such as Vygotsky, Piaget, and Dewey, and has been espoused by more modern language education theorists such as Lantolf (2000, 1994), Appel (1994), Wells (1999), and John-Steiner (1994), as well as by psychologists, such as Newman (1993) and Holszman (1993). The theorists and researchers using the social constructivist theory of learning have greatly influenced my understanding of learning how to teach writing interactively in a second language. The computers and networking technologies the participants of this study used are the tools that helped students and teachers put this theory into practice.

In this study, the participants engaged in writing activities that are grounded in social constructivist theory to examine whether they learned from others who were at their level or higher, and thereby improved their academic writing skills. The electronic bulletin board
provided an effective and open environment that encouraged students to reflect and write at their own pace, as well as share their ideas and construct knowledge in discussion threads. These threads wove a diverse community of English language learners together to form a multiplicity of styles, perspectives, and identities.

Social constructivism is commonly defined as the constant rearranging of existing knowledge to produce new and more complex mental structures. According to Wertsch (1985), the constructivist perspectives most closely associated with Computer-Supported Collaborative Learning (CSCL) have roots primarily in Vygotskian cultural psychology. Vygotskian psychology "makes sense of 'learning' by reference to the social structure of activity – rather than by reference to the mental structure of the individual" (Crook, 1994, p. 78). A cultural constructivist approach used in the classroom hypothesizes that cognitive and linguistic development occurs when students interact and engage in a collaborative activity with others for a particular purpose. With respect to Computer-Assisted Language Learning (CALL), "the social structure of an activity can include the computer software with which a learner interacts in addition to other learners who collaborate in the same room or from remote locations through networked computers" (Chapelle, 2001, p. 32). Evidence for the quality of this kind of learning activity can be gained by analyzing classroom or electronic discourse that can be easily stored and retrieved. An analysis of student discourse and written texts, as well as test results, assisted in assessing the viability of electronic bulletin boards for fostering collaborative interaction and improving academic writing skills within a social constructivist framework.

An effective theory of pedagogy such as social constructivism must first be based on a general understanding and view of how the human mind works in society and classrooms,
and how that knowledge can be applied to the act of teaching and learning. According to Cope and Kalantzis, and in my view as well,

The human mind is embodied, situated, and social. That is, human knowledge is embedded in social, cultural and material contexts. [...] Human knowledge is initially developed as part and parcel of collaborative interactions with others of diverse skills, backgrounds and perspectives joined together in a particular epistemic community, that is, a community of learners engaged in common practices centered on a specific historically and socially constituted domain of knowledge (Cope and Kalantzis, 2000, p. 30).

Other educational researchers share the same view that knowledge and language are socially constructed phenomena situated in a particular cultural environment. Mark Warschauer, a leading educational researcher in language learning and technology, also claims that language is "not just a private, 'in the head' affair, but rather a socially constructed phenomenon" (Waurschauer & Kern, 2000, p. 4-5). During the 1980's, scholars such as Dell Hymes and Halliday, promoted social constructivist theory which aimed at helping second language learners enter into various authentic social discourse situations and discourse communities that they encountered inside and outside the classroom by engaging in authentic tasks and projects with their peers. Other literacy researchers, such as Bereiter and Scardamalia (1993), and Lave and Wenger (1991), who have done recent work in cognitive science, social cognition, and sociocultural approaches to language learning, also agree that immersion in a community of learners engaged in authentic versions of such practice is necessary if the pedagogical goal is a high degree of mastery of language skills. All these modern theorists seem to agree on the importance of social interaction and immersion as a
means of acquiring knowledge and language skills. They argue that overt instruction of decontextualized rules, as found in the grammar-translation method, is not the most effective means of teaching a second or first language.

The St. Lambert experiment in 1968, which was one of the first attempts in Canada at creating an immersion environment for second language learners of French, was met with both praise and criticism. In this experiment, students learned to communicate using the target language in context-embedded tasks, but they were communicating mostly with other non-native speakers. A second language student can improve both fluency and accuracy in an immersion environment where the learner is situated amongst native speakers of the target language. However, it is questionable whether a learner reaches a high degree of accuracy and complexity in the target language if the classroom environment includes mostly other non-native speakers, and only one native or near-native speaker (the instructor). As Carey states, “the methodology employed in immersion programs begins with an emphasis on the naturalistic and communicative functions of language acquisition in a contextually-embedded environment where the emphasis is on the comprehension and production of language with a greater emphasis on communicative function than on form” (Carey, 1984, p. 254). Furthermore, it was debated whether “immersion programs encourage the use of simplified and concrete language which may facilitate communication but reduce complex or abstract intellectual communication” (Carey, 1984, p. 254). In fact, it was believed that students in such immersion environments may have experienced “subtractive bilingualism”, the reduced language mastery of one’s mother tongue and their second language (Carey, 1991, p. 952).

Even though these early attempts at immersion were considered innovative, classrooms using this approach towards second language learning were still relatively
teacher-centered, thus limiting students’ opportunities for producing language and for receiving individualized attention from the instructor. The more recent innovative approaches of the networked-based classroom discussions are more student-centered, and allow for more opportunities to engage in conversations with the instructor. In addition, the medium used for communication, writing, necessitates a greater focus on form, while at the same time allowing the learner to engage in meaningful interaction (Chapelle, 2001). Although in some cases students are still interacting with other non-native speaking students, they have the extra time they need to formulate their thoughts and express them in writing. In an ideal situation, a networked-based classroom for enhancing second language learning would be one in which there were both native and non-native speakers interacting on the electronic-bulletin board (Carey, 1999a, 2001a, 2001b). In this way, non-native students would be learning from peers who are at a higher level of linguistic proficiency, thereby enlarging their ‘zone of proximal development’ – the Vygotskian term which references a learner’s attempts at extending his or her capabilities to reach a higher level of knowledge or ability.

Before the Canadian French immersion experiment, a similar approach and theory of learning in general and first-language learning in particular, had already been conceived more than 60 years ago by two prominent psychologists and educational researchers, Lev Vygotsky in Russia, and by Jean Piaget in Switzerland. Vygotsky and Piaget recognized the limitations of the behaviorist approach as it pertained to language learning, and emphasized the importance of the social environment that helped language emerge from the learner, rather than being transmitted to the learner from the teacher. For these theorists, an individual’s learning and intellectual development is mediated through an environment which
includes interaction with other people and their cultural artifacts (signs or tools), which are then appropriated or internalised by those individuals (Vygotsky, 1978). Language expressed through speech or writing plays a central role in the process of understanding that environment and promotes intellectual growth (Vygotsky, 1978). It is this process of internalisation of linguistic signs and structures through interaction which helps the language learner acquire a second language and broaden his or her identity through language.

Thus, for Vygotsky, as well as Piaget, it is evident that language plays a central role in human development, and therefore some concepts of their theory of children’s intellectual development through language can be applied to the adult second language learner. Also, although Vygotsky and Piaget differed on the role of language and thought, they are both constructivists. However, Vygotsky placed a greater emphasis on the sociocultural approaches of the acquisition of a first and second language. Language should not be imposed in a vacuum by presenting isolated words and grammatical structures onto learners who must then memorize them for exams. It is important that the second language teacher introduces and expresses the target language in a meaningful, socially authentic way so that the child or adult learner uses both speech/writing and action to accomplish a communicative activity within a particular cultural environment. Only in this way will the student begin to internalize what he or she learns, since expression in the target language will emerge as a natural consequence of the learner’s motivation and desire to understand and be understood in a social environment while engaging in a particular social activity. It is for this reason that second language education theorists (Canale & Swain, 1980; Brown, 1994) view that language taught in a particular context to produce meaning and perform a communicative function is the best way of learning that language. Cope and Kalantzis (2000) also
emphasize the fact that using language to make meaning should not be something governed by static rules, but should be an active and dynamic process. Let us examine more closely the role that social interaction and activity plays in the internalisation of linguistic structures and of language and social development.

Learning by interacting with others often involves mentoring by more culturally knowledgeable persons, such as adults, parents, teachers, and elders, as well as problem solving and dialoguing with others who are at the same developmental level. However, "meaning is constructed through joint activity rather than being transmitted from the teacher to the learner" (Lee & Smagorinsky, 2000, p. 2). Rather than give the student an answer to a question or try to transmit content knowledge, vocabulary, or grammatical structures, a teacher can help the learner rise to the challenge and assist him or her by providing hints, asking probing questions, and allowing the student to have enough time to guess so that the student comes to that knowledge by himself or herself. In a second language classroom, teachers can use a variety of communicative activities, authentic materials, and tasks to be carried out in the target language so that students socialize in a second language - in other words, enter the zone of proximal development.

Central to Vygotsky's theory of social and emotional development is the concept of the zone of proximal development. For over a decade, thinkers in the field of education assumed that the learner's actual developmental level was indicative of their mental abilities. This level was determined by giving a student a battery of tests that they had to complete on their own. However, Vygotsky and his contemporaries believed that one's mental ability was not only determined by what they could do on their own, but also from what they could do with the help of others. A learner's ability to solve a problem with the help and guidance
of others is equally indicative of his or her ability as the learner has developed the necessary skills at a certain level to solve the problem through interactive assistance. According to Vygotsky, "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving through adult guidance or in collaboration with peers" (Vygotsky, 1986, p. 86) is the 'zone of proximal development'. The assumption behind this notion is that students who participate in interactive activities in the classroom and collaborate with others extensively increase their zone of proximal development and thus learn more. Additionally, computer technology and Web-based instruction could help students widen their zone of proximal development as it would allow them to have more time and freedom to interact with their peers, work through problems through the guided questions of their teachers, and hone their cognitive abilities and ideas through writing. If, according to Vygotsky, "human learning presupposes a specific social nature and a process by which [learners] grow into the intellectual life of those around them" (Vygotsky, 1986, p. 88), then it follows that language students should be in either a classroom environment or networked environment where they are interacting with other students, where the teacher is at a higher level in the target language (both linguistically and culturally) and uses authentic interactive language activities to maximise the student’s learning potential.

Throughout this study, it is assumed that optimal learning will occur if language teachers create a social and cultural environment that helps learners enter the zone of proximal development by writing with in a social context with the help of their peers and by the teacher. In this project, students were asked to write open-ended answers to questions on the topic of writing by using an on-line forum. Students were able to read each other’s
writing and ideas and provide feedback and constructive comments. The teacher also followed this on-line discussion and provided guidance and more probing questions. This kind of approach towards language teaching enables the teacher and learner to observe the interactive process of writing as a communicative activity, rather than as a final linguistic product. Before an academic essay was written, students had the opportunity to engage in personal reflection, interaction, and critical thinking (see Appendix A). These steps in the process of writing are important since the purpose of language learning and meaning-making is not to reiterate and reproduce the knowledge, sign and tool systems that have been internalized within a social environment, but to construct new knowledge through collaborative inquiry which fosters creativity and originality of thought (Lee & Smagorinsky, 2000). Unfortunately, many minority language students do not go through the process of interaction and personal reflection before writing and submitting their final academic paper; rather, they may often bypass these steps by memorizing texts, reproducing what they read, or even by copying other student’s work or plagiarizing from expert authors.

The importance of interaction in the process of language learning cannot be overemphasized, especially in light of the multicultural environment of both school and work, and the kinds of literacy and computer skills that will be required of students who will be working in the new economy. Douglas Brown, a prominent educational researcher and theorist claims that, “After several decades of research on teaching and learning languages, we have discovered that the best way to learn to interact is through interaction itself.” (Brown, 1994b, p. 159). He defines interaction as “the collaborative exchange of thoughts, feelings, or ideas between two or more people resulting in a reciprocal effect on each other” (Brown, 1994b, p. 159). Interaction encourages the curiosity and intrinsic motivation
needed for learning so that students can formulate questions to one another or to the teacher, and "negotiate" meaning, or share a common understanding. The notion of creating networks in order to share knowledge and skills is of utmost importance in an era that has changed from the hierarchical/linear structured model of a classroom, to one that is a 'community of practice' – a community that engages productively in a common endeavor, seeks innovative methods for group problem-solving, and adapts to a variety of contexts (Wenger, 1998). As Gee states in his article, "New people in new worlds: Networks, the new capitalism, and schools":

In the new capitalism, it is not really important what individuals know on their own, but rather what they can do with others collaboratively to effectively add 'value' to the enterprise. Remember, the focus of the new capitalism is on distributed systems. Knowledge and productivity should be distributed across teams and units and their accompanying technologies (Gee, 2000, p. 49).

In today's classrooms, there should be a movement away from schooling that reproduces the ideas and practices of experts. Educational practices should not be aimed only at individuals who possess the knowledge and don't share it or build on it with others. Rather, the teacher of the new classroom should focus on 'knowledge building' within a community of learners who work collaboratively in teams, for knowledge is not "either in heads, discrete individuals or books but in networks or relationships" (Gee, 2000, p. 54). Therefore, it is important for students to know how to work within a community of practice as it is the "crucial node at which business, schools, and society are aligning and merging in the new capitalism" (Gee, 2001, p. 50). Thus, teachers have a responsibility to create an environment and use strategies and approaches where students interact, problem-solve, and
share knowledge with others, since this is the way that students will be expected to behave in the social and educational sphere in the western world where the New Economy has emerged. The following strategies are commonly used by the teacher in the classroom to promote a sense of community for sharing and building knowledge: peer review and editing, jigsaw activities, group writing projects, student presentations, debates, and reciprocal teaching (Brown & Campione, 1994). In addition to the teacher using interactive activities, Brown and Campione also put much emphasis on the teacher’s responsibility to create an optimal environment for knowledge-building; one that includes the “pervasive use of modern computer, telecommunications, and network technologies, that render them much like new capitalist work spaces” (Gee, 2000, p. 52). The benefit of having technology in the classroom is that the other students and structured activities take on the role of the scaffolding, structuring expert in the ‘zone of proximal development’ framework. It is not only the traditional classroom teacher or ‘expert’ that helps the student accommodate to the goals, understandings, and competencies needed for a task, but the “scaffolded joint activity with other students and their associated tools and technologies” that help the student and the group reach optimal intellectual development (Gee, 2000, p. 52).

Network technology can create an environment where students engage in scaffolded joint activity and can help students overcome many of the obstacles that prevent opportunities for interaction and knowledge-building. With the constraints of time and space in elementary, secondary, and post-secondary schools, overcrowded classrooms, and few teachers, not much interaction occurs in the target language. We can speculate that not much interaction time is provided to students in an even bigger university lecture hall where international and immigrant students find themselves struggling to understand the English
spoken by the teacher. Furthermore, they do not have the opportunity to ask questions and
discuss content knowledge and ideas with their peers because of conflicting schedules and
cultural, linguistic, and psychological barriers.

On-line interaction using computer technology helps ESL students in particular with
personal expression in the target language whether at the elementary, secondary, or post-
secondary levels. It gives them that extra time they need receive comprehensible input
(Krashen, 1985) to filter through and reprocess all the ideas and information (throughput) so
that they can interact and respond to others in a forum that is free from the temporal and
spatial barriers of the school classroom (Carey, 1999a). More importantly, interaction
between ESL students, and between NNS and NS, fosters authentic communication and risk-
taking since students try to ask and answer their peers' or their own questions, give opinions,
advice, and information, as well as make hypotheses, or provide critiques. By performing
these kinds of sociolinguistic acts, students slowly start to assume different roles within the
community of learners, and the dynamic interaction helps students learn and grow, and
expand their zone of proximal development. Computers, a modern tool present in various
academic, professional, and social contexts, can be used to optimize second language
teaching and learning from a social constructivist perspective. In this study, I have chosen to
use computers and have participants use an electronic bulletin to maximize student
interaction time and help them view writing not only as an isolated activity, but also as a
social activity that requires the constructive input of all the members of the classroom. The
following is a more in-depth look at the benefits of computers in a writing classroom and a
justification for my choice to use them in this study.
2.2 Using Computer-Assisted Language Learning to Enhance Interactions and Academic Achievement in Second Language Writing in English

According to Vygotsky, the higher mental functions are socially formed and culturally transmitted. "If one changes the tools of thinking available to a child, his mind will have a radically different structure" (Vygotsky, 1978, p. 126). As such, students who have the opportunity to use computers and the Internet as tools for language learning will have a very different schema and experience from those who do not. It is perhaps a hard reality that students who lack this particular schema, the computer literacy skills, or the chance to learn on-line are at a disadvantage, particularly in the age of globalization where computers are used universally in the social, academic, and professional spheres. It is the responsibility of the second language teacher to provide as many options and opportunities for the student, and one way of doing so is by using computer technology to foster linguistic and sociocultural competence in a second language, while at the same time helping students build their computer literacy skills, which include research skills as well as communication skills.

According to Chapelle, education technology research has been ongoing since the 1960's (2001, p. 28), and many changes have occurred with regards to theories and methodologies to reflect the changes in trends in second language learning. Koschman, in an introduction to a volume on Computer-Assisted Collaborative Learning (CACL), claims that educational technology research is currently undergoing a paradigm shift relative to prior research done in the field:

We are currently witnessing the emergence of a new paradigm in [educational technology] research; one that is based on different assumptions about the nature of
learning and one that incorporates a new set of research practices. [...] This newly emerging paradigm, on the other hand, is built upon the research traditions of those disciplines — anthropology, sociology, linguistics, communication science — that are devoted to understanding language, culture, and other aspects of the social setting.

(Koschman, 1996, p. 10-11)

The emerging paradigm that Koschman is referring to is the cultural constructivist approach (Scott, Cole, Engel, 1992), which was built on the theories of Vygotsky and Piaget. This approach is contrasted to research conducted using a behaviorist or cognitive approach towards language learning which minimized the effect of the social and the cultural contexts in the learning process. According to Crook, Vygotskian psychology "makes sense of 'learning' by reference to the social structure of activity — rather than by reference to the mental structure of the individual" (Crook, 1994, p. 78).

More recent developments in using computers for second language learning have aimed to create environments that engage students in a communicative activity within a social context. In this section, we will more closely examine the history of other approaches using Computer-Assisted Second Language Acquisition (CASLA), so as to see the benefits of cultural constructivist methodology. Also, we will survey previous research findings done both in the area of collaborative Computer-Assisted Language Learning (CALL) and also in the area of computers and second language writing. I will then situate this project within the relevant research literature in order to demonstrate that a collaborative, cultural constructivist approach in CASLA can be beneficial not only for second language learning in general, but also for second language writing in an academic context.
As there have been changes in approaches to language learning and teaching in the regular classroom, so too have there been changes to the way in which computer technology has been used to teach and learn second languages. In the 1960's and 1970's, structural approaches to CALL consisted of grammar and vocabulary drills and practice programs which basically provided corrective feedback. This ‘computer-as-tutor’ model was not that different from the structured drill practice that second language learners would get in the classroom or from workbooks, so they often did not view the computer as any more useful or exciting. In the 1980's, cognitive approaches to CALL gave the learner more agency and encouraged analytical skills by allowing him or her to create ideas through problem-solving and hypothesis-testing in a simulated environment. New programs using this approach were a significant improvement from the drill practice programs of the earlier generation (Waurschauer, 2000). However, practicing effective negotiation of meaning, a central element in linguistic interaction, was still missing from this approach.

In the 1990's and into the new millennium, there was a shift from “learners’ interaction with computers to interaction with other humans via the computer” (Kern & Waurschauer, 2000, p. 11). The social constructivist approach towards language learning with the aid of computers emphasized meaningful interaction in authentic discourse communities through computer networking. According to Waurschauer, computer networking is a revolutionary tool in that it not only facilitates access to other people through computer-mediated communication (CMC), but it also allows access to information and data through globally linked hypertext. CMC enables language learners with network access to communicate with other learners, and ideally, with speakers of the target language in asynchronous (not simultaneous) or synchronous (simultaneous) modes, and permits one-to-
one as well as one-to-many communication. A class can share brief messages, such as questions and answers on various issues, in the target language, but also lengthy writing assignments or essays, thus facilitating collaborative reading and writing. Globally linked hypertext and hypermedia (the World Wide Web), enables users to organize, link and access information in the target language. They can search and access authentic materials, such as newspaper and magazine articles, radio broadcasts, book and journal excerpts that they can use for their essays and research papers. They can also use the web to publish their texts and share sites with other classes. These new forms of communication and access to information are so widespread in universities and in the workplace that it is imperative that language teachers expose this kind of technology to students. Let us examine in greater detail the advantages and disadvantages of IT (information technologies) and CMC (computer-mediated communication) for language learning and literacy, and how this tool can enable second language learners to improve their level of academic achievement, particularly in academic writing.

Today, the Internet has created important changes in “the way we communicate and how we access, produce, and distribute information and knowledge” (Luke, 2000, p. 70). There are many controversial issues surrounding the Internet, such as ownership, monopoly, unequal access, as well as the inability to manage, censor, or control the Internet. These issues have serious implications for education. The first and foremost is the question of equal access and social justice. It appears that the most privileged students in the well-funded public or private schools have greater access to this kind of information and knowledge, while other less fortunate are not privy to the same kind of up to date knowledge you can acquire from the Internet. Second, the Internet seems to have control over what
information and knowledge is presented, but a programmer's agenda may be at odds with the basic curriculum of educators. According to Luke in “Cyber-schooling and technological change”, “unless educators take a lead in developing appropriate pedagogies for these new electronic media and forms of communication, corporate experts will be the ones to determine how people will learn, what they learn, and what constitutes literacy” (Luke, 2000, p. 71). More than ever, teachers need to help students develop their critical thinking and research skills so that they realize that the information they find in one web-site may not be wholly accurate about an issue or subject.

Another important issue that arises is plagiarism from the Internet. Students can do an Internet search on a subject, access a variety of web-based articles on that subject, very easily cut and paste sections of the articles onto a Word document, and hand it in to the instructor as his or her own work. Although there have been some programs designed to detect if students have plagiarized, they are still not sophisticated enough to stop students, particularly at the post-secondary level, from copying others’ writing and ideas.

Despite all the challenges that IT poses to education, there are quite a few advantages it provides to those students who are fortunate to have access to computers and the World Wide Web. Firstly, for second language learners, the Internet provides easy access to sites that include authentic documents written in the target language. Furthermore, students can exercise autonomy by choosing the topics and subjects that they are interested in on their own time and space, without having to be restricted by the lab’s or library’s hours of availability. In addition to seeing how language is used, the second language learner can also learn the sociocultural context in which the writing is produced and embedded. Secondly, the interface of IT is multimodal, thus providing the second language learner with graphic
imagery and auditory clues to make meaning from a text if he or she does not understand the writing. As Luke explains,

The Multiliteracies of digital electronic ‘texts’ are based on notions of hybridity and intertextuality. [...] In hypertext navigation, reading, writing, and communicating are not linear or unimodal (that is exclusively language- and print-based), but demand a multimodal reading of laterally connected, multi-embedded and further hotlinked information resources variously coded in animation, symbols, print text, photos, movie clips, or three-dimensional and maneuverable graphics (Luke, 2000, p. 73).

For example, some computer programs, such as Cyberbuch, allow second language learners to read a text, see a word that they don’t understand, click on it, and receive not only a definition of the word, but also an illustration, or other information about how the word is used, as well as synonyms or antonyms (Lomicka, 1998). Lastly, IT helps students develop certain technical, research, and analytic skills that they will need when gathering information on a topic for an academic essay or examination.

One other aspect of CALL (Computer-Assisted Language Learning) is Computer Mediation Communication (CMC) where the student has the opportunity to interact with other users, enter certain cyber-communities, and write by sharing information, knowledge and ideas. Computer Mediation Communications (CMC) is emerging as a blend of print text, sound and graphic imagery - a hybrid of the language of the book and the language of the computer technology. Students have the opportunity to extend their literacy skills beyond the reception and production of print; they can demonstrate their understanding and knowledge using a variety of genres and modes, which can appeal to their different learning styles. The
areas referred to as 'Computer-Supported Collaborative Learning' (CSCL) and 'Computer-Assisted Language Discussion' (CACD) are offshoots of computer-mediated communication motivated by the cultural constructivist approach.

There are many advantages that on-line learning or CMC provides to students that the regular second language classroom does not. On-line learning is more democratic since it provides more time and space for students to reflect and respond to issues raised in the classroom or found in their textbooks. Carey states, “there are inherent severe time limits in a conventional seminar and a lack of opportunity to formulate or express questions in the limited class time. [An on-line seminar seeks] to overcome these limitations of a conventional seminar and to preserve and expand the essential and critically important component of extensive opportunities for student and professor exchange on questions of vital interest to the student” (Carey, 1999, p. 5). By using an electronic bulletin board such as the one found on WebCT, students have more time and space to interact with other students and with the teacher through computer-assisted classroom discussion (CACD) in a non-threatening, comfortable environment. Second language learners in particular, need that extra time and opportunity to process their ideas and realize them through writing. According to Cummins and Sayers (1995), “asynchronicity allows second language learners the extra time they need to elaborate and polish written based on ‘models’ of native speakers of the target language, while seeking and relying heavily upon assistance from their local language and cultural resources in the form of teachers, peers and community members” (Cummins & Sayers, 1995, p. 32-33). By carefully writing their own thoughts on an electronic bulletin board in response to a student or teacher-generated question or comment,
students communicate their ideas through authentic interaction within a discourse community.

Using Computer-Mediated Communication (CMC) is also democratic since it provides equality of opportunity for students to participate (Ortega, 1997). It is common in a classroom that those students with more extroverted personalities tend to dominate in class discussions, which may intimidate and limit the risk-taking behavior of shyer, more reserved ESL students. Since there is more opportunity to ask questions and discuss issues, a student can assume a more active role in the on-line classroom. By taking a more active and unique role on-line, students take greater ownership of their learning and are more motivated to participate and learn (Zvacek, 1992).

Most importantly, CMC provides more opportunities for interaction than a traditional classroom where most students passively listen and take copious notes on what the teacher says without questioning his or her ideas or discussing them with peers. (Warschauer & Kern, 2000). The different discourse acts that learners engage in by using an electronic bulletin board help to maximize opportunities for second language learning and writing improvement in context and build critical thinking skills. On-line interaction involves student or teacher-generated ‘input’, negotiation of meaning, and modified ‘output’ (Krashen, 1985). In CACD, students have access to, as Krashen refers to it, ‘comprehensible input’ from other students and the teacher and people acquire second languages only when they receive comprehensible input. The quantity and quality of comprehensible input that CACD provides to second language learners is therefore extremely important to second language acquisition. According to Mohan, learners need to go through a process of negotiation with their interlocutor in order to fully comprehend the input. “This means that
the learner must be engaged in some form of dialogue which allows for feedback and adjustment” (Mohan, 1992, p. 115). Computer networks provide the space and the technology for that kind of dialogue and negotiation. Also, because students are saying what they really want to say and are negotiating meaning, rather than passively noting or reiterating the ideas of a teacher, students are more involved, both cognitively and emotionally, in the learning process and remember what they wrote and learned better. According to Brown and Campione (1994), it is this negotiation, along with the extra time and space available for reflective awareness in computer network environments, which is important for developing students’ critical thinking skills in academic writing.

According to Carole Chapelle, Chun was one of the first researchers to publish results of research done in computer-assisted classroom discussion (CACD) to examine the nature and quality of interactivity by looking at the functions associated with interpersonal communications. She examined the electronic discussion of first and second year college learners of the German language in the US (Chun, 1994), and through discourse analysis, she identified a variety of interpersonal functions that the activity helped to produce. These kinds of functions were different from the ones found in teacher led discussions in the classroom. They include “statements to the teacher which were not in response to questions, requests for clarification, and feedback from one learner to another” (Chapelle, 2001, p. 20). It appeared that the CACD was much more student-centered than a traditional face-to-face classroom. As with Chun’s study, in the present study, we will also look at examples of such interactive functions that the students in this study engaged in using CACD.

The possibilities that CACD allows for interaction in the target language has also been documented in studies by Pellettieri (2000), and Davis and Thiede (2000), and Schultz
In these studies, the point is not only to show evidence of interaction, but also to demonstrate how the interaction has lead to the improvement or development of certain language learning skills, such as metalinguistic awareness, self-correction, development of style and peer revision skills. In the study conducted by Pellettieri, the researcher analyzed modifications that students made as a result of negotiating meaning with other students and of receiving corrective feedback from the teacher. According to Kern and Warschauer (2000), Pellettieri “provides evidence that computer-mediated interaction provides a useful mechanism for helping learners achieve higher levels of metalinguistic awareness” and grammatical competence (Kern & Warschauer, 2000, p. 16). In the study conducted by Davis and Thiede, student interaction by L2 and L1 writers in asynchronous computer conferences is examined to investigate the nature and degree of language learners’ imitation and accommodation of writing styles. Their analysis indicates that L2 learners changed their style to accommodate to the L1 students, thus suggesting that communicating with peers provides the ‘scaffolding’ necessary for learning a variety of rhetorical styles from others. Jean Schultz (2000) compares the results of student interactions occurring during peer review in computer-mediated discussions with those occurring in oral discussions, and makes interesting observations about the advantages of using both on-line peer-review and face-to-face peer review. Although face-to-face peer review can be beneficial, on-line peer review sessions allow students adequate time to think out a response in a more focused and articulate manner. In the current research in CALL, the question is no longer to determine if meaningful interaction occurs in CACD; rather the focus is on showing how that interaction using technology facilitates language learning skills in a more effective way than traditional classrooms.
In general, CMC provides more students with a greater opportunity to engage in authentic interaction in the target language through writing, and students play a more active role in the learning process by negotiating meaning about topics which interest them. In doing so, they enlarge their zone of proximal development and become more proficient in the target language. However, there is an added benefit to CMC that goes beyond improving writing skills and communicative competence. As Chapelle emphatically states, “regardless of how Internet Pedagogy is formulated, it must take into account the cross-cultural communication that is inevitable in most Internet activities” (Chapelle, 2001, p. 25). Qualitative studies, such as the one done by Sanouie and Lapkin (1992), found that electronic communication not only provided L2 students with good language practice, but also increased their appreciation for the target culture, dispelled stereotypes about other cultures, and helped to improve cross-cultural communication. Cummins and Sayers (1995) claim that technology will play a central role in language learning in the near future “precisely because of the cross-cultural experiences it can provide learners through experiential learning” (Chapelle, 2001, p. 25).

Although computer technology can assist students to develop their speaking and listening skills in the target language, it is mainly the writing and critical thinking skills that are practiced in a text-based, computer networked, socialized environment that are the focus of this study. It is also these key skills that are most often evaluated for measuring academic achievement at the post secondary level. In this research project, I was more interested in examining in greater depth the productive skill of writing as it is the primary means by which student language proficiency and content knowledge is assessed in post-secondary education. It is my contention that by interactive writing through computer-mediated communication,
the young adult ESL learner will improve their academic literacy skills, as well as gain a better cultural understanding of themselves and their peers.

A review of the literature to date demonstrates that there is a limited number of studies done on how interactive computer writing environments affect academic writing skills, and how they have, as a secondary effect, led to better cross-cultural understanding and improved peer relations. In my survey of the research done on computer use in language learning, the majority of the studies done relate to how word processing on the computer affects writing quality and second language acquisition. Other studies evaluate a variety of educational software for organizing and revising written texts, and compare classrooms using that software with classrooms that had face-to-face instruction. Much of the research examines how computer writing environments affect the revision process, collaboration, and motivation. There seems to be a limited number of experimental studies conducted to investigate how interactive, networked-based programs on the computer help with the development of academic writing skills for English L2 students. In this study, it is the opportunities for interaction, not the word-processing programs, provided to students who use writing for the negotiation of meaning in a group setting, that is being emphasized. Although the electronic bulletin board provides the space for word-processing, I am not focusing on how word processing affects student writing development. However, honing their word processing skills is definitely an added benefit for students who communicate through an electronic medium. A survey of the research done on computer writing environments serves to create a context for my project and to identify areas that have not yet been explored.
Some educators argue that computer writing environments have revolutionized the writing process and have helped students produce more accurate, reflective, and coherent writing. According to Glynn, Oaks, Mattocks, and Britton (1989), computers have revolutionized writing because they provide the environments that support the cognitive processes of good writing in a way that writing with pen and paper do not do as effectively. By following the model of the writing process proposed by Hayes and Flower (1980), writing starts with a writer's long-term memory of knowledge and experience of a topic, and knowledge of the audience. Computerized networked-based environments allow learners to broaden their knowledge on a topic by doing research on a variety of web-sites and by entering chat rooms or communities where students can find experts in their field of interest. Once the knowledge, information, and ideas have been gathered, the writer then has to plan or organize those ideas. Word processors and electronic bulletin boards allow you to cut and paste and reorganize sections of writing, words and phrases so that they follow a logical or sequential order. Thirdly, writers can fine-tune and ‘translate’ these roughly expressed ideas into formal sentences, which can then be revised by the writer and his or her peers.

Although these different stages of the writing process can be followed on paper, computerized environments make it easier. Writers who use word processors or electronic bulletin boards have many opportunities during the writing process to edit their work in a way that is not confusing and cumbersome, as is usually the case with writing on paper. If they realize they need more knowledge or information in an area, they can quickly search the net without with minimal effort. They can reach out for external assistance by simply posting or mailing their document to him or her. In the study conducted by Glynn et al. (1989), students expressed the opinion that computerized writing environments support the
writing process much better than writing on paper because these environments are more flexible, dynamic, interactive and recursive. Computers assist students by providing them with a bottom-up approach towards writing (through the use of dictionaries, thesauruses and spell checks), as well as with a top-down approaches by effectively and efficiently retrieving and generating ideas needed for the writing.

Also, in a study conducted by Bernhardt, Edwards, and Wojagn, (1992), it was found that teaching college composition with computers helped students to hone their revision skills not only with sentence level surface features, but also in the areas of organization and support. Other studies also suggest that word-processing and revision programs have a positive effect on revision and writing quality (Bean, 1983; Daiute, 1986; Kelly, 1987, MacAllister & Louth, 1987, Etchison, 1985, in Hartley, 1992). As Tone and Winchester (1988) state, most of the literature indicates that “computer-assisted writing instruction has some effect – if not dramatic impact – on both quantity and quality of writing” (Tone & Winchester, 1988, p. 3).

Not all researchers who have done studies assessing the effects of computer programs on writing ability share the same enthusiasm, and they have not necessarily come up with the same results. Although for many instructors, word processing and computer revision programs led to increased revision and writing quality, some researchers, such as Bridwell & Duin (1985) have warned that “word processing may actually encourage a preoccupation with surface revisions to the near-exclusion of revisions to meaning and overall structure of a document” (Zvacek, 1992, p. 58). Also, a few researchers, such as Hawisher (1986) and Kurth (1987) claim that they found no significant differences in writing quality between writers who wrote with word processors and those who used traditional methods. A report
by Dean (1986) questions the potential for computer assisted writing instruction and wonders if using computers is worth the cost and the extra instructional time required. By comparing scores on a college entrance exam, Dean found that "college freshmen who were not trained to write using word processing outperformed those who were trained to write on computers" (Dean, 1986, cited in Tone & Winchester, 1988, p. 3).

Despite these critical accounts of computerized writing environments, other researchers, such as Luke (2000), Britton & Glynn (1989), Shetzer and Warschauer (2000), claim that the new 'electronic' writing and computer writing environments have revolutionized the teaching, learning, and practice of writing. An estimated 85% of the electronically stored information in the world is in the English language (Crystal, 1997). According to Shetzer and Warschauer (2000), "the overlap between English language learning and the development of electronic literacy is especially pronounced" (Shetzer & Warschauer, 2000, p. 171). Communication on e-mail, usenet, and the Internet, as well as word processing software have generated an explosion in writing that is compared to the biggest boom in writing since the Enlightenment (Luke, 2000). "Millions who write in online collaborative environments, such as e-mail based chatgroups or bulletin boards are constructing new writing and communication strategies developed through negotiating texts and meaning among a collective of often culturally diverse writers" (Luke, 2000, p. 85). Interactive electronic writing can help second language students learn new words and their use by reading other students' writing. They feel less threatened than if they were to write to a first language speaker or to the teacher. Writing on an electronic bulletin board can also help second language students engage in collaborative writing projects by composing group summaries, essays and narratives. Colette Daiute (1985) conducted a study in collaborative
writing using computers with NS children and discovered that most children enjoyed the process of collaborative writing with a computer and that there was a significant change in writing ability as determined by comparing pre-tests and post-tests. She mentions, however, that writing activities on the computer should be carefully planned to meet students’ academic and personal needs, rather than trying to maximize the use of the computer (Daiute, 1985). It is for this reason that participants in this project were provided with a specific set of guidelines and questions for each class held in the lab (see Appendix A). This kind of structure provided students with a framework for writing and prompted them to think about a variety of issues that they could discuss on-line with their classmates.

NNS students can also develop their editing skills by doing collaborative peer editing and self-editing on the electronic bulletin board as they write, for it is in the revision process where students improve their vocabulary knowledge and apply the grammar and sentence structure necessary to produce a clear and coherent piece of writing. On-line communication on the WebCT bulletin board is text-based which is easily transmitted, stored, re-evaluated and can be rewritten (Davis & Thiede; 2000, Pellettieri, 2000). On-line discussions are different from classroom discussions as the latter can be reviewed, rethought, and discussed, thus promoting greater reflection and critical thinking on the part of the students. As Sengupta (2001) very pointedly mentions, “Zuboff (1988) notes one difference between ‘orality’ and electronic ‘textuality’ in that orality is by nature not ‘on the record’, while CMC, which can be printed, forwarded, and otherwise manipulated, is by its very nature always on the record” (Sengupta, 2001, p. 3)

The students in this study were asked to read the threads of on-line discussions, and they were also asked to cut and paste or attach onto a message their academic essays, and do
peer reviews of each other’s work. Students would read each other’s academic essays and provide comments on the content and style of their work before submitting their final draft to the teacher. According to Sengupta, researchers have found that peer-response on-line appears to be more effective than peer-response in face-to-face situations. In the latter situation, Nelson (1997), Topping (1998), and Zhang (1995), found that “students attach little value to peer’s feedback and feel reluctant to critique peers” (Sengupta, 2000, p. 3). In contrast, researchers who have analyzed peer response through networked computers, especially in writing classrooms, have reported that web-based response is easier than face-to-face response, and students participate more, provide more feedback and gradually feel more confident (Braine and Yorozu, 1998; Curtis & Roskham, 1999, Davis & Thiede, 2000).

In addition to studies on how word processing and network-based interaction affects writing ability, other studies in the area of computers and writing include the investigation of how certain programs may or may not assist students with the writing process, particularly with revision. THINKTANK (Hershey, 1984), NLS (Uhlig, Farber, & Bair (1979), and PROMPTDOC (Owens, 1984) were evaluated for their idea processing capabilities, but those studies were particularly aimed at NS (native-speaking) students. WRITER’S WORKBENCH (Macdonald, 1983) Critique (developed at IBM’s Thomas J. Watson Research Center) is another computer program that was researched for its effect on the L2 writing process and product as compared to using a human tutor. The findings of this study suggested that students working with a human tutor showed better quality and greater length in their writing assignments, and that the experimental group that used Critique relied too heavily on the program, and therefore neglected to use their own revising skills. Interestingly though, another study which used a revision program that provided questions (rather than
pointed out errors) on content, organization, coherence, as well as grammar and vocabulary, suggested that students using the program made more meaningful revisions, and revised more interactively than students who did not use the computer prompts. Daiute and Kruidenier state the prompts might have led to increased and closer revising of drafts because they offered a model for self-prompting which engaged the subjects in a closer reading of their texts (1985). It appears that computer programs that identify errors to the writer are less effective than programs that guide students in learning how to revise and identify weaknesses for themselves, or programs that allow for peer review. In the present study, students did not use a computer prompt program for revision, but they were provided with specific questions on the content, organization, structural and lexical elements of their writing. They referred to these questions when doing on-line peer review, thus maximizing their practice time for practicing revision of their own and other students’ texts.

Most recently, a few studies have compared word-processing with e-mail and analyzed how the two different mediums may affect the message and which medium may be more beneficial to the improvement of writing ability (Tella, 1992, Lepeintre, 1995, Murray, 1995, Yates & Orlikowski, 1993). Although word processing is believed by some to have revolutionized the writing process and improve academic writing, writing on electronic bulletin boards seems to resemble the kind of informal writing found on e-mail rather than the kind of academic writing expected from students in university assignments. E-mail is considered to be a hybrid of oral and written features (Dubartell, 1995, Marcus 1996, Murray, 1996 cited in Biesenbauch-Lucas & Weasenforth, 2001). As such, educators question the usefulness that e-mail may have on improving academic writing skills, which are a particular genre and require formal wording, proper sentence structure, cohesion and
coherence (Kasper, 2000). For example, Biesenbach-Lucas and Weasenforth (2001) are unsure that e-mail is an appropriate tool for students to use in writing academic essays. Even though in their study they discovered that there was no difference between e-mail and word-processed texts with regards to grammatical and lexical cohesive devices, there were differences with regards to text length and the amount of contextualization. The researchers assumed word-processed text was longer than e-mail text because students writing e-mail had an increased awareness of audience and did not feel that they had to include background information to inform the reader.

In my own research study, students tended to treat the electronic bulletin board in the same way as they used e-mail in the beginning of the course. As a result, their writing was rather informal at first. Students used the lower case to write ‘I’, wrote short sentences, abbreviations, and emoticons, such as :-) :-/. As Luke states, some critics consider this informal and conversational mode “detrimental to reflective language practice. However, e-mail communication, or navigating CD-ROMs or the Net do require writing and reading” and therefore provide increased practice in these important skills for the second language learner (Luke, 2000, p. 84). In fact, the students really appreciated having the opportunity to ‘just write’ and they were not intimidated by the responsibility of writing a perfectly readable formal, academic essay in the beginning stages of their writing. However, as the course continued, students became more aware of the context in which they were doing their writing on an electronic bulletin board: an academic writing course. They realized they were not conversing with their friends at an Internet café; instead, their writing was being formally and informally assessed by the teacher and the other students on topics of a more academic nature. Halfway through and by the end of the course, I failed to see abbreviations,
colloquialisms, and ellipsis typically found in informal e-mail messages. My study was different from Biesenbach-Lucas’ and Weasenforth’s study because the audience in the latter study was the classroom teacher only, whereas in my study, students knew that their message would be read by the teacher and the other students in the classroom. As a result, there was a higher sense of audience involvement and an increased desire to ‘save face’ by having their writing publicly and permanently exposed to their peers.

In addition, electronic writing is no different from other kinds of communication where the style or genre may vary depending on the context, purpose, or audience of the message. As Shetzer and Warschauer (2000, p. 173) state, “those who master the particular stylistic and sociolinguistic features required by the context and medium will best reach their audience.” The level of formality, word choice, content, and organization used in electronic writing, as well as the rules of turn-taking and topic shifting will depend on whether the writer is writing for business, academic, or personal purposes. Young adult students in my class had been used to writing using e-mail for personal reasons — to communicate about daily events, experiences, and opinions to friends and family. As such, they were used to being informal when writing e-mails. However, as they make the transition to post-secondary studies (taking courses that often include electronic bulletin boards) and to the workplace, they soon realize how electronic writing should be formal, precise, and coherent. The kind of writing they present on e-mail will affect the way they are perceived by professors, peers, superiors, and colleagues, and will to a large extent shape their identity at school and in the workplace. It is the teacher’s responsibility to help students make the transition and understand that electronic writing varies in style and degree of formality, depending on the audience, context, and purpose of the message.
It is this permanence and public exposure that is also a significant issue in studies comparing on-line writing (using e-mail or electronic bulletin boards) and off-line writing (word processing). Luke states that “electronic ‘permanence’ is ephemeral and unlike the durability and materiality of print text on paper” (Luke, 2000, p. 84). Also, the archived format of electronic writing “allows us to record, reflect on, and refine our previous words as well as those of our interlocutors” (Shetzer & Warschauer, 2000, p. 173). However, not all researchers share this attitude towards electronic writing. Some researchers believe that the negative emotional effects of public, on-line writing can be as permanent as the electronic writing itself. According to Sengupta (2001), the fact that every written contribution from students and teachers remains publicly visible can be very taxing on students emotionally and intellectually. On the other hand, this visibility also made students in this project feel more accountable, more critical of their writing, and aware of an audience, all of which are factors that may have helped to improve writing quality.

In this study, participants reported that even though they could have written with greater grammatical accuracy from the beginning, writing on the electronic bulletin board really helped them expand their vocabulary. Students would search for the right words to express themselves and would learn new words and how they were used by reading the teacher’s writing, as well as other students’ postings. They came to realize that this interactive writing was done within the context of an academic writing course. They were also given clear instructions of how to write and knew that the teacher would be providing feedback, not only on content, but also on grammatical and lexical features of their writing. Consequently, they had a greater awareness of their writing than they would in a casual, personal, non-academic environment where they e-mail friends and family.
In my opinion, one of the key factors for interactive electronic media to be effective is that the users should not feel inhibited to express themselves. If amongst the users, there were native English speakers, the ESL students may have felt too intimidated to write anything. In fact, some students felt afraid when it came to answering questions that I had asked them. Students felt comfortable expressing themselves to other students who were at approximately the same level of competency in English writing and who were experiencing the same challenges. One of the findings that came out of this research was that students perceived exchanges on the electronic bulletin board as helpful in improving their academic writing skills because students were able to learn from one another. They got ideas and insights from their peers, observed how those ideas were organized, how sentences were structured, and how new words were used by reading other students’ essays.

Ultimately, this project is unique in that it explores how computer interactive writing environments affect both writing quality and sociocultural development within an academic context for adult NNS students. Writing development was measured over time and compared with a control group that did not use the electronic bulletin board. Also, students were interviewed and asked to answer questionnaires in order to determine their attitudes towards computer writing environments and how they thought it affected their writing development. The content of the written texts, transcripts of the interviews, and results of the questionnaires were also analyzed to determine if writing in an interactive, electronic environment helped them get to know other students, understand their culture better, and negotiate their identity within a new academic and multicultural setting. In the following sections, we will discover how this project affirms or adds to the ideas, findings, and approaches of the literature on computers and second language writing. However, an
evaluation of the viability of the technological tools cannot be made unless the purpose for using them is comprehended. A brief overview of the history and issues, both linguistic and sociocultural, surrounding second language writing will first be presented to provide a clearer understanding of the purpose of this study: improving second language academic writing skills.

2.3 Theory and Research on Second Language Writing

A Brief Historical Overview

In social constructivist theory, writing is considered a social act that can take place within a specific context and for a particular discourse community (Johns, 1990a). However, this is only one interpretation of the purpose and definition of writing. There is a history of competing theories of writing presented by various researchers at different points in time, with the theory and research of first language writing preceding that of second language writing. In the last forty years, discussions about writing pedagogy have centered around the process-product controversy, and there has been varying emphasis placed on text, writer, content, context, and reader (Corbett, cited in Leeds, 1996). Although this section focuses on second language writing, much of the baseline research and theory comes from first language writing theory and research. Therefore, I will first provide a brief overview of the main theories and approaches to first language writing and then discuss how it informs second language writing theory and research.

According to Grabe, the first coherent theories of writing in modern educational contexts emerged in the 1980's with Graves (1984) and Flower and Hayes (1980, 1981) who came up with a variety of models of the writing process. Although these models were novel
and intriguing at the time, they failed to take into serious consideration the sociocultural context, motivational factors, language knowledge, discourse, and genre issues in writing. For some theorists, such as Britton (cited in Freedman, Pringle, & Yalden, 1983), writing was considered analogous to speaking, except that we use scripted signs and symbols to express the ideas, facts, requests, or opinions that we wish to communicate to others. However, other theorists in writing of the 1980’s, such as Bereiter and Scardamalia, point to the fundamental differences between conversation and composition and argue that much of the difficulty involved in learning how to write derives from the fact that in order to write we must learn a whole new set of cognitive strategies that are not called for in the production of oral language (cited in Freedman et al., 1983, p. 7).

In academic institutions, particularly at the high school and university levels where much emphasis has been placed on the final written product (the exam or the essay) than on speaking, it was therefore imperative that students develop those cognitive skills needed for writing. However, at the time, those cognitive skills seemed to be reduced to “‘knowledge-telling’, the simple emptying of one of our memory file holders” (Freeman et al., 1983, p. 7).

In the late 1980’s and early 1990’s, there was much criticism of this limited functional-notional view towards writing. Theorists such as Elbow, Britton, and Murray, believed that academic writing solely for the purposes of evaluation by the teacher does not fulfill the expressive goal of writing, which is discovering and communicating one’s ideas and opinions, rather than reiterating what a teacher or textbook has previously said. This ‘product’ approach and emphasis on the text has led to a lack of creativity and interest in writing and has made students view writing as a chore, rather than as an opportunity to
express themselves and think critically about issues that are important to them. Students tend to deliberately conform to the teacher’s thoughts and opinions in order to maximize their grade output.

To counter this attitude towards writing in academic contexts, some language and writing teachers and researchers have emphasized the *process* approach towards writing for the purposes of learning, communicating, and interacting, not only with the teacher, but also with other students in the classroom (the audience). As Freedman et al. point out, “conventional composition teaching focused on the message, the product, the written composition, analysing style, organizational patterns, rules of usage. The new rhetoric, in contrast, has consciously and deliberately shifted its focus to the encoder or writer, investigating especially the process of writing itself and the developing of writing abilities within that encoder” (Freedman et al., 1983, p. 4). Thus, in this process approach, the emphasis is not so much on the text and the mark that you receive on the final product, but on the learning and discovery process that occurs as you write. Teachers are encouraged to evaluate students not only on the basic standards of good writing, but also on their improvement over the course of the term. Teachers base their assessment not only on one final paper, but on a portfolio of writing where students have had an opportunity to make further changes on marked papers and can view their own progress.

In the expressivist tradition using a process approach towards writing, writing should not only be considered as a skill to be used for communicating with others, but it should also be used as a skill for communicating with oneself or reflecting on ideas, as when students write in journals or diaries. Journal writing is a venue for the ‘inner speech’ (Vygotsky) that slowly develops one’s thinking and language skills, or for the internal dialogue one needs to
have in order to sort out ideas, figure out problems, or think of questions - goals which are consistent with the ‘writing as problem-solving approach’ of the cognitivist tradition. Wertsch, Wells and other authors on literacy development also focus on the importance of encouraging exploratory speech [and writing] in classrooms, which enables students and teachers to talk through their ideas on their way to constructing meaning. Cope and Kalantzis further mention the need for a metalanguage - a language for talking about language, images, texts and meaning making interactions. The expressivist tradition encourages critical inquiry (Lee & Smagorinsky, 2000, p. 7) - the idea that writing can be a tool for exploring ideas for oneself - so that learners can gain the necessary personal and theoretical distance from what they have learned to constructively critique it and eventually re-design it in their own way. (Cope and Kalantzis, 2000).

Exploratory and expressive writing do not have to follow a particular rhetorical pattern in the same way that academic writing does. The main genres in academic writing have been the argumentative, cause/effect, and comparison/contrast essay. However, the process approach towards writing treats narrative writing as being equally important as the other genres. This kind of writing is found in autobiographical stories, moments, or sketches, or in real or fictitious stories. Elbow, Clandinin, and Connelly argue that greater emphasis needs to be placed on narrative writing in academic discourse, especially when trying to encourage students to learn to write in a second language. Narrative writing allows learners to express their individual experiences and gives them the opportunity to contribute a unique cultural perspective to the learning community. Many students also consider narrative writing to be much more interesting and enjoyable than academic writing. Peter Elbow, a freshman professor and writer on writing, points out that narrative is particularly important
discourse in that it tries to render experience rather than explain it. Narrative conveys "what it is like to be me or to live my life" (Elbow, 1991, p. 136). Second language teachers can help students learn to write in a language that conveys to others a sense of their experience, or better yet, that mirrors back to themselves a sense of their own experience from a distance, once it’s out there on paper (or on the screen). Discourse that renders experience and engages the learner at a personal level often yields important new cognitive insights by helping us look at a situation from different points of view or by entertaining different interpretations of an experience.

It is uncertain how much is actually internalized when students memorize the definitions and explanations in a textbook about a principle explained in academic discourse, but then can’t really show the application of that principle. By using narrative, or language that renders, students can internalize a concept or experience and be able to explain complex ideas in everyday, experiential or anecdotal terms. In this study, even though students practiced many other genres of academic writing, they also practiced narrative writing by writing a literacy autobiography. I believe that this kind of writing is very interesting and motivating to students, and helps them to better understand their culture and writing experiences, as well as the culture and experiences of their classmates.

Educational researchers emphasize the importance of narrative not only in writing, but also in research across the disciplines. According to Clandinin and Connelly, "we understand the world narratively [since] life – as we come to it and as it comes to others – is filled with narrative fragments, enacted in storied moments of time and space" (Clandinin & Connelly, 2000, p. 17). It is easier to understand complex ideas from a narrative framework, and more interesting to learn them through others’ experiences. Writing narrative essays in a
second language can help to increase motivation and expression; moreover, students feel that they are writing for a purpose: to understand their experiences and themselves better, and to share those experiences with others. Writing to communicate, not only to demonstrate correct grammatical and rhetorical structures, leads to individual, social, affective, and cognitive development that is consistent with the social constructivist theory of language learning. As stated by Carson,

techniques such as explicit grammar teaching have been shown to be ineffective in improving writing proficiency. Functional practice, resulting in implicit knowledge, highlights the importance of audience and purpose and suggests why a focus on these aspects of the writing process is more likely to lead to the development of writing ability” (Carson, cited in Silva and Matsuda, 2001, p. 196).

Even though narrative writing and research is becoming more and more accepted in the academic community, international and immigrant students (particularly at the university level) who have to write academic essays in a second language must still be able to write in the other academic writing styles as well. Often these students come to Canada to study in the areas of business administration, computer science, the physical, biological, and social sciences, and are rarely asked to write narrative essays. They need to be knowledgeable and fluent in the more structured rhetorical styles of academic writing. According to Janet Giltrow, a distinguished Canadian professor and writer on academic writing, “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, 1995, p. 10). Thus, if university students wish to succeed in a program of study and be accepted by
the academic community, they should know how to write in a scholarly fashion by presenting ideas in a coherent manner, and by using formal wording, clear sentence structure, and accurate grammar. They should learn how to summarize ideas from other researchers and writers through reported speech or by quoting others and providing sources. Most importantly, they should be able to critique accepted ideas by using evaluative language and by providing adequate support for their claims.

Teaching second language writing using narrative is ideal in the elementary and secondary schoolroom. However, in university, Giltrow argues that students should be able to write in a scholarly style as there is an important distinction between the schoolroom and the university. She states:

The most important distinction between school situations and university situations is that the latter are located in research institutions. While students may see themselves as learners rather than researchers, they nevertheless do their learning under the direction of people who are trained as researchers and who read and write research publications. The knowledge students acquire is the kind of knowledge that comes from the techniques of inquiry developed by the various academic disciplines. We could go so far as to say that the very wording of the facts and concepts students must absorb derives from research practice. [...] This wording represents research communities’ beliefs and their members shared techniques for interpreting the world. At the same time, such wording is also the medium in which students must work (Giltrow, 1995, p. 24)
Even though students are not necessarily writing research articles, according to Giltrow, "it is not too much to say their writing can share features of research writing" (1995, p. 24). Second language learners have to develop the accepted linguistic and intellectual conventions characteristic of the academic community (Johns, 1990a). In other words, they should have what Mehan (1980) refers to as pragmatic confidence – the knowledge and skills that are necessary for membership in a society or community – so that they are able to interact effectively with those members of the academic community who are already competent in the academic discourse and culture.

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. Students are overwhelmed by the volumes of reading and writing assignments; in fact, many students have completed very little academic writing beyond a paragraph (Applebee, 1981 cited in Connor and Johns, 1990, p. 213). I was very surprised to discover that most of my own students had no experience, or very little experience or knowledge of writing in an academic context. Unfortunately, in an effort to conform to the cultural and linguistic rules of the university, international students have to sacrifice some of the world views and beliefs they hold from their native cultures in order to gain acceptance into the English-medium university culture (Johns, 1990a). To assist ESL students with academic initiation into the university community, EAP (English for Academic Purposes) courses have been offered at many post-secondary institutions. By familiarizing NNS students with the kinds of syntactic and linguistic features of academic writing, EAP
programs prepare students for the same kinds of tasks they must perform in the regular college or university classroom.

However, critical theorists in education and postmodern theorists, such as Derrida and Foucault, would disagree with the viewpoint that ESL students need to be trained to communicate in academic discourse. They would argue against the hegemony of the professorial voice and style, and for the inclusion of the plurality of voices and styles in university writing, especially since these students come from a variety of social, cultural, and linguistic backgrounds. Some social science researchers believe that the university environment is rigid in its power structure and unidirectional as the entire agenda is set by the faculty members, with little or no input from students (Connor and Johns, 1990). But increasingly in academia, we see traditional forms and styles of written documents challenged since novels and other artistic works are now being accepted as Ph.D. dissertations, and other non-academic forms of writing are used for educational inquiry. To most researchers such as Clandinin and Connelly, narrative inquiry and writing are just as valid as other genres of writing in academia. Narrative allows students to find their voice amidst the myriad of voices they hear in their academic texts, and helps them to make sense of what they learn by applying it to their own life experience. Thus, even though language teachers should provide exposure and give students the knowledge and skills they need for academic writing in a variety of styles, they should also recognize the importance of using narrative in writing in a second language. A broad understanding of the various genres in English writing will provide students not only with the interest and motivation to write in a second language, but it will also help with their own personal and sociocultural development as they understand themselves and their experiences better and share them with others. Even
though most of the essays and journal entries students wrote in this project were academic, narrative writing was included in this study to meet those ends.

Recent, progressive educational theorists view writing as a social activity which shapes the thinking process of individuals within a social group, and as a creative activity where students can share their experiences, and real or fictitious narratives to understand themselves and those around them better. Also, writing can be considered an individual activity where the student critically thinks about ideas for him or herself through exploratory writing. In a writing classroom, a text should therefore not only be viewed as a final product (essay or exam) to be judged and quite often, discarded, but it should also be representative of the process through which one uses writing to think through ideas and make meaning for himself or herself. Thus, in first language writing, both the social and exploratory aspects of writing are important in writing theory and practice, and there are some tenets of these two approaches that can be carried over to second language writing in English. However, some educators of writing argue that there are distinct differences between the needs of second language writers and first language writers. L1 writers differ from L2 writers in terms of writing processes, writing purposes, writing context, and constraints on writing performance. Therefore, the theories of first language writing had to be adapted to meet the needs of second language writers.

In the 1970’s and the 1980’s much of the theorizing about L2 writing closely followed L1 views of writing and theories of the writing process, but with major contributions slowly made from L2 settings, such as “the attention to language in writing production, the nature of organizational structuring in writing, and the influence of cross-cultural variation on writing” (Grabe, 2001, p. 43). According to Ann Raimes, there are
four approaches to English L2 writing instruction that have been evident in the last twenty-five years, starting with a focus on form (1966-), then with a focus on the writer (1976-), continuing with a focus on content (1986-), and finally with a focus on the reader/audience (1986-) (Raimes, 1996). Some of these approaches or a combination of them are still subscribed to in theory as well as in practice.

From the 1960's and into the 1980's, much emphasis was placed on providing NNS with the knowledge of the linguistic rules of the target language, and the grammar-translation approach guided second language writing theory and practice. Such an approach was influenced by the audiolingual method, which was the dominant mode of instruction, and the role of writing was to reinforce oral patterns of the language (Raimes, 1996). Students memorized grammatical rules out of context by means of sentence drills and exercises on sentence combining (Brown, 1994a; Raimes, 1996). According to Widdowson, in exercises on grammatical transformation, such as changing verbs from present to past, students didn’t need to pay any attention to what the sentences meant and the manner in which they related to each other (Raimes, 1996). Cohesion was not taught, and content was given. Creativity and experimentation was discouraged as students were made to imitate not only correct form in sentences, but also rhetorical form in paragraphs and essays.

It wasn’t until the 1970's that L2 theory and practice was influenced by L1 research on the composing process. Teachers and researchers reacted against the form-dominated approach, which didn’t meet the communicative aims of NNS, and developed an interest in the writer and the process the student went through while composing. In response to theory and research on writer’s processes, teachers allowed students to choose the content of the writing, gave students opportunities for learning and experimenting with the language
through journal writing, and encouraged them to make revisions and multiple drafts of paragraphs and essays before handing them in. Evaluation was formative and used to provide feedback and to further opportunities for writing development. Emphasis was placed more on the dynamic nature of writing development than on the static nature of writing quality. Previous research on learning about the process of writing has focused on how writing in L1 can influence the development of writing in L2 (Campbell, 1990; Cumming 1987; Raimes, 1987 cited in Krapels, 1990), and on discovering the most effective writing strategies for improving the process of writing to create a ‘good’ final product. Also, the works of Spolsky (1989), Cumming (1998), Kroll, (1990, 1998), Leki (1995), and Silva (1993, 1997) have provided us with a better understanding of L2 writing development and writing constraints.

However, some L2 theorists, such as Johns, Swales, and Horowitz, reacted to the process approach towards writing used in the L2 writing classroom by claiming that “the Process Approach fails to give students an accurate picture of university writing” (Johns, 1990b, p. 15). It is possible to argue that “adult second language learners do not have enough time left in their lifetimes to travel the same long road that they did when they set out to learn how to deal with reality through their first language” (Freedman et al., 1983, p. 10). The expressivist or ‘poetic’ aims of writing, while they are still very desirable, are less central to meeting L2 students needs in academic and work environments. In contrast, the ‘transactional’ aim or view of writing takes precedence for second language students and teachers of second language writing. This view of writing believes that teachers need to provide NNS speakers with the knowledge and skills they need to communicate what they know effectively to a college/university instructor who will judge them on the quality of their final product. In fact, many researchers (Carroll, 1980; Morrow, 1979; Canale & Swain,
1980) suggested that all second language tests should be redesigned to measure what the learner can ‘do’ through the language. In other words, tests should assess whether students can complete certain tasks they will need to know how to perform in an academic or work environment (Freedman et al., 1983, p. 10). Those who perceived the process approach as inappropriate for academic demands shifted their focus from the process of the writer to meeting the demands of the academy, and to a content approach towards writing.

In 1979, Mohan proposed a content-based approach that would help NNS learn “the language of the thinking processes and the structure or shape of content” (Mohan, 1986, p. 18). With this kind of approach, an ESL course could be attached to a content course or grouped with courses in other disciplines at their college or university (Raimes, cited in Leeds, 1996). Reading and writing instruction tasks center around the content related to an academic discipline, and instructors are also responsible for teaching students how to write in the rhetorical style relevant to their area of specialization. Research conducted on the content-based approach include an analysis of the rhetorical organization of technical writing and academic writing (Weissber, 1984), studies of student writing in content areas (Jenkins & Hinds, 1987), and surveys of the kinds of content and tasks L2 students are required to do (Horowitz, 1986b). These studies supported the view that a content-based approach helped students succeed in an academic environment.

Along with the content approach came a greater emphasis on the role of the reader or the audience in writing. The reader-dominated approach viewed language teaching “as socialization into the academic community—not as humanistic therapy”, which can be achieved through personal writing (Horowitz, 1986a, p. 789). Once again, this approach concentrated on training students to write for an academic discourse community by providing
them with prescriptive patterns and rhetorical structures that would meet the expectations of an academic reader who would judge the quality of their work.

It wasn’t until more recently that theorists and practitioners started to take a critical perspective towards cultural influences and power issues that were believed to be masked behind the theory and practice of second language writing. Educators have become more interested in the importance of socio-cultural competence along with linguistic competence. Too much attention had been paid to grammatical accuracy and performance at the expense of communicative competence and cultural awareness. Educators realized that the language and the linguistic rules were not the only differences between L1 and L2. Connor (1996, 1997) and Leki (1991, 1997) discovered other differences, such as the influences of LI rhetorical and cultural preferences for organizing information and structuring arguments. The questions that arose in this kind of research related to the extent to which L2 students needed to make certain changes in terms of how they organize and present their ideas in order to succeed in the western academic environment without jeopardizing their own cultural thought patterns and identity.

Also, an article by Atkinson and Ramanathan (1995) underlined the “culturally driven English L1 assumptions that differentiate L1 and L2 academic writing experiences and instruction. [...] Such assumptions include the high value placed in English L1 university cultures on originality, critical thinking, creativity, logic, insight, cogency, individual voice, and so forth” (Grabe, 2001, p. 44). In fact, more recent researchers, such as Leki and Carson (1997), call for changes by English L1 writing teachers who are asked to share the burden of learning by understanding the cultural dispositions they bring with them to the classroom as well as the legitimate values that L2 writers bring. In their article, the authors address
concerns about fairness and cultural awareness, and raise many points of difference for the L2 writer, such as differences in epistemological issues, functions of writing, choice of writing topics, writing from reading, audience awareness, contrastive rhetoric, plagiarism, and memorization (Grabe, 2001).

Many second language theorists and teachers started to become critical of academic discourse and argued that a greater emphasis needed to be put on students trying to find their unique voice and expressing their independent thought. It was argued that writing should be a means by which students can communicate ideas and themes that are of interest to them, and that they wish to share with others. These critics believe that students should not be forced to acquire academic literacy and integrate into the academic discourse community. “Instead, it is the academy that must change to adapt to the many cultures that the students represent” (Johns, 1990a, p. 29). Writing for expressive, exploratory, and communicative purposes would create an opportunity and environment in which fluency and structural accuracy would slowly emerge, and one in which participants would find their voice and expose their world view to other students and to the teacher.

Thus, at the turn of the century, we have started to witness a focus on critical thinking in writing, influenced by the critical pedagogy of Friere and the postmodern philosophy of Foucault and Derrida. This focus is a backlash against the content and audience-based approaches that encouraged conformity to academic discourse, which was largely influenced by western thought and values. Researchers and theorists, such as Pennycook and Benesch, who focus on developing critical thinking skills of L2 students, believe that all the decisions and situations found in educational contexts are inherently political; “...teaching and politics are inseparable” (Benesch, 2001, p. 164). They believe that NNS should be aware of the
power relations and politics involved in a western educational environment. She views that a pragmatic stance towards L2 writing (one that claims to prepare L2 students for target-situations, without having any political intentions) “is an ideological stance, not a neutral one” (Benesch, 2001, p. 169). Also, critical theorists argue that an approach that aims at helping students conform to the academic discourse community is outdated given an academic and work environment that is presently multicultural, multilingual, and multiliterate. According to Benesch, putting critical theory into practice in the EAP (English for Academic Purposes) L2 writing classroom involves firstly, teachers presenting the content from a sociopolitical standpoint, and secondly, teachers training and encouraging students to challenge and deconstruct academic discourses (of science and technology, and any other subject) rather than encourage students to accept and practice them.

Interestingly, critical approaches to L2 writing have not escaped criticism either. Terry Santos disagrees with the theoretical positions and pedagogical recommendations of critical theory and pedagogy as she finds it extremist and ultimately counterproductive. Santos, who holds a more centrist and pragmatic perspective, believes that the move in critical theory from the undeniable fact that education and human relations have a political dimension to the assertion that education and human relations are nothing but political is as falsely reductive as any other all-encompassing claim about humans (i.e. human behavior is genetically determined; that all human decision-making is economically based, or self-interested) (Santos, 2001, p. 181).

Santos also disagrees with the claim made by critical theorists that there is “no such thing as a neutral position, just a constructed discourse of neutrality that hides its special interests” (Santos, 2001, p. 181). Although Santos concedes that there may be no such thing.
as perfect or absolute neutrality, she gives many real-life examples (situations of war and conflict) where relative neutrality exists. As such, she disagrees with Pennycook’s claim (1997) that the pragmatic approach to EAP and L2 writing is not neutral, even ethically unacceptable because it maintains inequitable relations in society (Santos, 2001). In fact, Santos believes that not helping L2 students become proficient in academic discourse would be unethical, and would jeopardize L2 students’ opportunities for academic and professional success.

The question then is: Do ESL teachers actually help students with their academic writing skills by using either approach (critical or pragmatic), or do we simply assume that we are helping them? Much of the research conducted in EAP and second language writing analyses texts, elicits ideas from teachers, and tests out a strategy or tool that could improve writing skills. Theorists seem to know what’s best for the second language writing classroom without really considering students’ viewpoints and experiences. A theorist such as Terry Santos may assume that L2 writing teachers are acting ethically and in the students’ best interest, but this may not be the case if we take a closer look at what students really think and feel about the academic community within which they must adapt to.

Ilona Leki, a leading educator and theorist in second language writing has conducted research investigating students’ experiences and opinions about L2 writing in an academic context. In her research, Ilona Leki focuses on the inclusion of ESL students voices - voices that were often neglected or absent in many of the second language research studies. She believes that some immigrant and international students have a ‘public transcript’, a discourse where the student shows the teacher what the teacher expects in order to maintain subordinate/dominate power relations. These students also have a ‘hidden transcript’, the
discourse that takes place ‘offstage’ – beyond direct observation by power holders (Leki, 2001). In the public transcript, students often write what teachers want to hear or read, and hide their true opinions and beliefs, as well as the resentment, frustration, and boredom that they feel in their courses because of the “enduring respect for teachers that the culture of some of these students had inculcated in them or had at least required in the public transcript of their interactions” (Leki, 2001, p. 20). Of course, another obvious reason that students do not reveal their private transcript is because they are afraid that the teacher will disapprove of their real attitudes and opinions, and give students lower marks. Leki has discovered that the hidden transcript of students is surprisingly very different from what teachers perceive, and that the public transcript is part of a game that students and teachers alike learn to play. In her interview with one student, Leki discovered that in his writing class, what this student was learning to perfection instead of writing, was “how to play this game, how to get what you want from a bureaucracy [...] [W]hat he wanted were grades good enough to eventually get a degree, even if it meant subverting the educational system. [...] [W]riting papers was a matter of simply giving teachers what they wanted because the reasons for why they wanted one thing rather than another – four papers rather than three, five sources rather than eight – were indecipherable and entirely arbitrary ” (Leki, 2001, p.25). In an educational system where so much emphasis is given to quantitative measures of achievement, it is no wonder that second language writers simply cater to the demands of institutions in a desperate need to fit in both socially and academically. They forfeit themselves by doing whatever it takes, either illegally by plagiarizing, or legally, by presenting to the teachers a façade of their ideas in their writing assignments.
So although L2 teachers might think that they are helping our NNS students by providing them with the knowledge of the rhetorical structures, the grammar and lexical knowledge of academic writing, students may not share the same perception. They might not necessarily view teachers as assistants or guides, but rather as academic figureheads who help promulgate the discourse, rules, and conventions of educational institutions, which tend to stifle self-expression and individuality and promote standardization and conformity.

I do not wholly agree with the discourse of critical pedagogy because of its extremist claims that "all forms of education are political" (Benesch, 1993, p. 707), or that "every pedagogy is imbricated in ideology" (Berlin, 1988, p. 492). These generalizations, paradoxically, are as much truth claims, as are the kinds of truth claims that postmodernism and critical theory are staunchly against. However, I do think that the academy has to revisit its traditional rules and conventions to reflect its changing socio-cultural and linguistic student body that it is ultimately supposed to serve. Academic institutions do not only exist for research purposes only; they also exist for students. With the way things stand now, it is very frustrating for L2 theorists and educators to flout the importance of self-expression, experimentation, and learning through writing, when at the end of the day, most NNS will have to write a very structured, grammatically correct essay in 30 minutes for the TOEFL exam in order to get into university. L2 writing teachers can only change their pedagogy if institutions change their expectations and rules so that they are more realistic and fair.

Although professional and ethical obligations dictate my duty to prepare NNS students for writing in an academic environment, I do not necessarily believe in choosing between pragmatic and critical teaching styles to fulfill this duty. Hamp- Lyons (1991) comments on the false dichotomy that seems to be plaguing L2 writing teachers.
As the process-product controversy dies down, [...], it is easier to see that the issue has never been whether we see the primary focus of writing instruction as the provision of opportunities for the development of ideas and voice and for self-discovery, or whether we see the primary focus as on participation and success in the world of the academy. We [L2 writing teachers] are not prepared to choose one or the other for our students: We demand of ourselves and of them that they achieve both. The issues center on how to ensure this achievement (p. 329).

Benesch also mentions the possibility for addressing both issues in second language writing as she claims that “target-situation demands and students’ right to challenge them can be simultaneously addressed through what Pennycook [...] called ‘critical pragmatism’” (Benesch, 2001, p. 162). L2 teachers who teach writing for academic purposes can strike a balance between giving students the linguistic and rhetorical knowledge they need to be able to write English proficiency exams, as well as exams and essays in their regular class, and provide students with opportunities for self-expression, critical thinking, and experimentation with the target language through journal writing or personal writing, narrative, or autobiographical writing. In my writing classroom, I encouraged students to do both so that they viewed writing not only as a chore or as a skill that they must hone for assignments and tests, but as a creative and reflective act that can help develop their thinking and can promote self-discovery and identity.

In light of all the theory and research that has been conducted in second language writing, I have created a research project and a writing classroom that fulfills all the competencies and discourse demands of ‘good’ second language writing, while at the same time attempting to meet the personal and academic needs of students. In my study, students
had the opportunity to achieve communicative competence as they interacted using the electronic bulletin board on a variety of issues and ideas on the topic of writing with their peers and the teacher. They learned the social rules of communication (turn-taking, question-response, appraisal, recommendation), and had a heightened sense of audience in their writing. They could also practice the linguistic rules of writing for greater accuracy and fluency in an asynchronous environment, thus achieving a higher level of grammatical competence. I would provide them with regular formal and informal feedback on their postings on the bulletin board, and on academic essay assignments.

In addition to providing students with opportunities to interact and to practice applying their sociolinguistic knowledge in writing, students learned both academic discourse and critical discourse. To learn academic discourse, they practiced a variety of genres and rhetorical styles in academic writing (comparison-contrast essay, argumentative essay, narrative essay) on the bulletin board, and received informal feedback from their peers and the teacher. They also wrote a formal academic essay that was posted on the electronic bulletin board, peer reviewed, submitted, and formally evaluated by the teacher. In assigning these essays, I was aware of the risks involved in writing for an academic community, for if students lose their voice in academic discourse, then they will not really be communicating what they want with others, but only blindly repeating the styles and discourses of the academy. However, if students engaged solely in personal writing without regard to form, then they would not be able to enter the academic discourse community and this would hinder their chances of pursuing certain educational opportunities. In this study, I tried to meet the academic needs of the students, but also encouraged them to find and use their unique voice. The environment created by the electronic bulletin board allowed students to
engage in reflective writing at their own pace. As they were writing, they had an awareness of the audience that would read their ideas, and most importantly, respond to them.

The reader-responses that unfolded in the discussion threads of the electronic bulletin board gave students the opportunity to sharpen their critical thinking skills by questioning student assumptions, writing and reflecting on the act of writing, discussing cross-cultural differences in writing, as well as differences in academic writing and narrative writing. After writing their reflective pieces, students would interact with one another discussing the content and style of each other’s work. They would engage in a variety of discourse acts such as asking a question, requesting clarification, expressing an opinion, agreement or disagreement. Asynchronous interaction is slower than the synchronous interaction of ‘chatting’ programs, thus allowing for longer turns and greater reflection before writing. The discourse that students participated in was context-embedded, student-focused, and self-paced.

In a second language writing classroom in particular, I believe that emphasis should be placed on writing as a process for exploration and critical reflection for two main reasons. Firstly, second language writers need the extra time and opportunity to write and think through their ideas because the vocabulary and sentence structure is not available in the same way that it is for a first language writer. Secondly, most second language writers are from a culture different from the dominant western culture(s) of the academic community, and they really need to explore, compare and contrast culture differences in writing and thinking. In this study, students were given 100 minutes (of 400 min.) of class time per week to write journals in an on-line forum to explore and reflect on the process of writing, their roles and identity as second language writers, and on the cultural differences of writing. They were
also given the opportunity to read and respond to each other’s ideas (similar to a dialogue journal) both in class and outside of class time. This investment of time on journal writing placed the emphasis on the importance of the reflective thinking and writing that needs to be done before submitting a final written product. Students knew that they were being evaluated, not only on the quality of their writing, but also on the quality of their contribution and their effort. As a result of using this approach, students felt that they improved their fluency in writing, understood cross-cultural differences in writing, and felt more confident in expressing their ideas.

Using an electronic bulletin board also helped students improve their computer literacy skills as they practiced participating on an on-line forum in English, gained greater familiarity with the keyboard and the various functions of the program, and honed their typing and word processing skills. These are the skills that they will inevitably need in the future, not only in school, but in the workplace. To summarize, writing practice on the electronic bulletin board helped to provide students with a space for written social interaction in which both academic and critical discourse were practiced, and where feedback was provided by both students and the teachers on the content and form of their writing.

**Evaluation and Assessment of Second Language Writing**

Although second language writing assessment is not an area of focus in this research, it is relevant in determining how assessment and evaluation were used to give feedback to students and propel further interaction. Also, both formal and informal assessment helped to determine if there was any improvement over time in terms of writing quality.
Much of the research to determine the extent to which English L2 teachers help or hinder NNS students' progress in writing is in the area of evaluation and assessment. As previously mentioned, much of the writing that NNS students do in college and university is for the purposes of being evaluated by the instructor for marks. As such, we can understand the concern for the final product of writing, by both teachers and students, in a high stakes situation where marks can determine one's academic and professional future. Assessment in writing is important not only because it provides feedback to students and sets standards, but also for critical theory, as it is a means of expressing and wielding power over students' work. As Currie states, "it is through evaluation in both in mass and classroom contexts that, either as institutions or as individuals, we [teachers] wield substantial power and control over our students' lives" (Currie, 2001, p. 32). More progressive approaches to writing assessment have included marks from peers as well as marks that students give themselves (self-evaluation), in the overall grading of the essay. Because both numerical and written feedback on writing assignments have important implications for students, much theory and research has been conducted, particularly in the area of standards (Cumming, 2001) and contrastive rhetoric (Connor, 1996).

Once in college or university, assessment of texts written by NNS becomes problematic for instructors in three main areas. Professors and second language teachers point out problems that the student has with English, in other words with language correctness. This problem can be 'fixed' or 'corrected' by providing the student with opportunities for learning the rules of grammar and spelling, and getting students to do focused exercises to improve their accuracy. The second problem is with the ways in which the NNS structures and organizes his/her ideas. Kaplan proposed in 1966, 1972, and 1987 that different cultures
have different rhetorical styles that are expressed in their writing and that the rhetorical style of their L1 is used in their L2 writing. However, the students’ L1 rhetorical style is often at odds with the western rhetorical style of the teacher. This accounts for comments such as ‘irrelevant’, ‘illogical’ or ‘incoherent’ on the side margins of many NNS students’ essays. A third problem in assessment faced by teachers and students is the differing attitudes towards knowledge and learning and teaching styles. Overseas students bring with them a strong cultural identity and educational experience that is very different from what they encounter in North America. These different learning styles and attitudes range from conserving knowledge, which according to Ballard and Clanchy (1991) require rote memorization and reproduction characterized by the Asian and Southeast Asian educational system, to extending knowledge, which requires critical thinking and speculating, skills that are encouraged in the western educational tradition.

The last two problematic areas are not as easily resolved as the problem of linguistic competence, and they require a much longer time frame and greater effort from both student and teacher to learn. However, traditionally, the NNS has had to accommodate to the kind of discourse and cultural assumptions of the academy, and the academy has been inflexible in rethinking its standards and assumptions so as to include other discourses and ways of thinking. It is not entirely clear whether learning how to write in English for NS is an issue of extending their repertoire in order to meet the demands of a new cultural setting, or whether writing in English is a way of losing, denying, or suppressing the linguistic or cultural repertoire international students bring with them.

Assessment of second language writing must reflect the changes in the methodology and approaches used to teach writing. Before the communicative era of language teaching, the
criteria used may have been suited for a more structural approach towards writing, by placing emphasis on the grammatical and mechanical elements of a student’s text. Testing was more indirect by assessing the ability to recognize errors. However, with a more communicative approach towards teaching writing, the overall coherence of the text, and the quality and organization of ideas are given more emphasis as criteria for evaluating good writing. It is for this reason why most of the writing assessment done in the study used a direct method, where students physically wrote a piece of continuous text in response to a prompt. There is strong evidence to suggest that universities prefer direct assessment of writing skills to indirect assessment, such as the ones in the structure section of the TOEFL where students have to recognize errors in a multiple-choice exam (Hamp-Lyons, 1991). Direct testing has come to be considered more valid and reliable than indirect testing, as well as more desirable to universities as an accurate measure of their writing ability (Hamp-Lyons, 1991).

Students may possess the content knowledge, but in academic writing, they must be able to express it in a coherent fashion. One of the most important criteria in writing assessment is coherence. However, it is difficult to evaluate for coherence, firstly because it is very hard to define as a concept, and because it is not easily quantifiable in the same way that grammar mistakes can be counted in a text. As Connor admits, defining coherence is problematic because there are at least two competing orientations: one which emphasizes the interaction between reader and text, and one which focuses on the text itself (Connor & Johns, 1990). For ESL and international students, the emphasis in academic writing has to be shifted from grammatical accuracy to coherence within the communicative model of teaching and writing. Students must learn to ask themselves: Am I understood by my audience? Does the text have proper organization, sentence structure, and word choice to be understood effectively by the
reader? One of the unique features that the electronic bulletin board allows is a wider audience for the writer. This audience, composed of both students and the teacher, increases a writer’s awareness of the readability and coherence of their writing and helps them look at their writing from a different perspective.

Although the text itself also has to demonstrate certain surface signals that ease the process of understanding, such as repetition, anaphora, and the use of logical connectors, most researchers, describe a “coherent text” as text in which the expectations of the reader are fulfilled (Connor & Johns, 1990). In order for a common understanding to be reached effectively, the producer and receptor of discourse should share not only the same language, but also have a degree of knowledge of the content and context of the text. In short, the text should reflect a ‘consistent world picture’ that the reader and writer both share (Connor & Johns, 1990). It is for this reason that culture is an important factor when discussing the issue of coherence because if the reader and writer do not share the same cultural knowledge and assumptions, the reader who comes from a different culture may judge a writer’s text as incoherent.

As Enkvist states in his article on the ‘Seven problems in the study of coherence and interpretability’, “the knowledge that language and culture go together is commonplace, which gains in importance once we consider that cultural knowledge is part of the background of discourse comprehension. [...] There are instances, ranging all the way from niceties of literary style to elementary politeness patterns in conversational etiquette, [which] might lead at best to negative responses and at worst to umbrage and communicative disaster.” (Connor & Johns, 1990, p. 26). As teachers of second language writing, we should be sensitive to cultural differences that may cause challenges in terms of text
coherence, and create a greater awareness of cultural issues in writing to our students for the purposes of facilitating the communication process. Enkvist reminds teachers that the goal is to prepare students for communicative success, and as teachers, "we should strive to measure success rather than to count errors" (Connor & Johns, 1990, p. 27). Second language writing teachers should therefore evaluate a text written by a second language learner by not only looking at grammatical accuracy, mechanics, and lexical choices, but at how those elements assist or detract from the overall coherence of the text.

For the purposes of this research, student texts were evaluated according to the following criteria: unity (supporting paragraphs back up thesis statement), support (thesis points, numerous, specific examples and reasons), coherence (organization, transition and connections), sentence skills (no fragments, or run-ons, adjective, adverb, and noun clauses), expression (word choice, word order), and grammar and mechanics (see Appendix B). These criteria are consistent with the criteria for writing introduced in the class text, College Writing Skills, by Langan and Winstanley (2000, p. 111). These are also approximately the same criteria used in other research studies evaluating writing quality with the use of computers (see Bernhardt, et al., 1992). Furthermore, the multiple-trait assessment used for this study is consistent with the kind of criteria used in the Michigan Writing Test, the TOEFL Test of Written English, and other institutionally accepted scoring guides (see Hamp-Lyons, 1991). Although these writing scales are widely accepted in academic institutions, they vary according to the weight that is placed on each item and to the threshold for what is considered an acceptable essay for university entrance.

The purpose of evaluation in this context was to provide feedback to the student about the quality of their writing and the improvement they made over time. Students also used the
same criteria to provide informal feedback to other students. Peer review and interaction using these criteria engendered a greater sense of audience amongst the students. Their work was posted on the electronic bulletin board for public viewing any time they wished to log on to the web-site. Since students knew that the quality of their writing would be formally assessed by the teacher and informally assessed by the students, they were much more critical of their own writing and thus became more adept at self-evaluation.

However, an overemphasis on the evaluation of student writing could lead a student to view the task of writing in school only as a means of working for a mark that would meet the expectations of the teacher and meet the academic needs of the student. Such a limited view of writing would greatly downplay the essence of the act of writing, which is self-expression for the purposes of communication and/or personal reflection. In my opinion, and in that of many theorists and researchers, writing is very closely linked to identity and self-discovery, and second language writing in particular has many implications for cross-cultural understanding. The purpose of this study was not only to explore how writing in a computer-mediated networked environment affects writing quality; it was also to explore how writing on the electronic bulletin board amongst a multicultural group of students affected their sense of who they were, how they may or may not have changed as a result of this experience, and how they understood the students who came from other cultures. It is not enough for second language educators in a multicultural, globalized environment to assist students with the reading and writing skills they will need for academic purposes. Teachers should also help students create an awareness of how language is the expression of culture and identity. Students will then be more reflective and critical not only of their writing, but of the writing they read, and realize how this mode of expression promotes change and growth in oneself.
and others. The following section provides a theoretical basis for the secondary effect of interactive writing on an electronic bulletin board. This basis involves sociocultural development through the negotiation of one’s identity that occurs as a NNS student learns to express himself or herself in a second language within a community of students from diverse cultural and linguistic backgrounds.
2.4. Second Language Writing, Technology, and Identity from a Social Constructivist Perspective

Computer-Assisted Classroom Discussion (CACD) provides opportunities for expression in the target language in a particular discourse community that shares the same goals, but has different perspectives, opinions, and experiences. According to Warschauer, "The Internet appears to be a particularly important medium for fostering the exploration and expression of cultural and social identity" (Warschauer, 2000, p. 56). This observation is supported by research conducted by Warschauer who observed students who used the World Wide Web and e-mail to explore their sense of what it means to come from a particular country and culture, or what it means to be a graduate student (2000). Turkle (1995) also saw the potential of the Internet for affecting one's identity. For example, he observed that teenagers participating in anonymous chat lines seemed to be developing their 'real' selves, rather than exploring fantasy selves. Students' on-line postings were not anonymous in the study I conducted, yet students openly engaged in discussions reflecting on their 'outsider' status as international ESL learners in English-speaking Canada, on cultural similarities and differences, and on how electronic writing may or may not have affected their identities. An increased awareness of identity and sociocultural issues, as well as other affective gains, appeared to be a secondary effect of using CACD in the target language. Although this increased development may not directly improve academic writing skills, it may provide students with a more positive attitude and cultural understanding of the dimensions of on-line interactive writing that could improve academic achievement in the future.
One of the initial tasks that students engaged in on the electronic bulletin board was writing about and sharing a literacy autobiography. This activity helped students gain a greater awareness of how they presented themselves to others, and helped to build a sense of community in the classroom. Another task was to write a narrative essay about a memorable or significant experience in their lives. The narratives students wrote were a means of revealing themselves to others on-line, and of shaping their identity through the writing process. By sharing their experiences on-line, students were given the opportunity to know each other better, and to view the process of learning as a communal, dynamic activity. This activity of shared writing about oneself is unlike conventional writing classes where students are rarely given the chance to learn about other students by reading and responding to each other’s writing. Traditionally, student essays were written for the teacher – the only audience - and were submitted for the purposes of evaluation, not as a means of self-expression.

As previously mentioned, narrative writing is becoming more and more popular and accepted in the academic community because it is an effective way of explaining an idea or experience, as well as a means of understanding ourselves (our culture, experiences, beliefs) and others. Writing, especially narrative writing, should be an expression of our unique voice and views, not a false imitation of others. Writing, as well as many other forms of expression, is very closely related to identity (Ivanic, 1998). But what is identity? Do we have one identity, or multiple, context-dependent identities? How is identity related to language? Why is it important in second language writing in an on-line collaborative community of international students? How can writing teachers ensure that we don’t reduce ESL students’ identity to their writing skills?
Every L2 teacher should remember that “behind many of the papers we read is a person’s felt sense of struggle, a population of writers well aware of how much more easily they could be themselves and communicate their thoughts with clarity, precision, imagination, and force in their L1s” (Leki, 2001, p. 19). In my own experience as a student, I often found it very difficult to express a concept in my mother tongue that simply did not exist in the target language. I would create long, convoluted ways of conveying ideas, frequently sounding awkward and unconfident. I witness my students feeling the same sense of frustration in not being able to express easily their opinions, feelings, and ideas. Sometimes, students can’t bear to hear themselves, so they don’t speak at all. Perhaps one of the reasons ESL students fail to revise their writing, or look at a teacher’s corrections is because of the disappointment they feel when they reread their work. To an ESL student, it must be disheartening not to feel the same sense of confidence in oneself that one feels when writing in their first language. In fact, in second language writing, it appears that the main issue that teachers must contend with is the absence of the self in L2 writing. Most NNS have to deal with “the conflict between their real selves and the discoursal identities they are expected to present in Western academic writing” (Currie, 2001, p. 30). Some students cling tenaciously to their real selves, some envisage themselves “crawling out of one identity and into another”, and some are so torn by the competing discourses that they may lose one or both during their struggle (Currie, 2001, p. 30). In the next section, I will discuss these issues related to identity and language learning from a variety of perspectives.

According to Bonny Norton, the word ‘identity’ is used to reference “how a person understands his or her relationship to the world, how that relationship is constructed across time and space, and how the person understands possibilities for the future [...]. The role of
language is constitutive of and constituted by a language learner’s identity” (Norton, 2000, p. 5). Identity is a social construct grounded in social interaction, and one of the mediums for that social interaction is language. As such, speaking, reading, and writing are sociolinguistic activities that we engage in and that define who we are. From this perspective, we can see how the role of both first and second language education and educational policy can shape who we are and affect what we may become in the future.

If we accept the notion that the role of education in society is to help individuals learn, grow, and adapt to their social environment, then we are assuming that a person’s “identity is not socially determined but socially constructed. […] The possibilities for the self are not fixed, but open to contestation and change” (Ivanic, 1998, p. 12). One’s identity changes over time, and perhaps more importantly, over space, as it enters into and is limited by national, cultural, and linguistic boundaries in an era where globalization and technology ease the ability to travel, immigrate, and communicate with other cultures. If experiences through ‘real time’ and ‘real space’ can alter our identity, then it can be argued that fictional time and space of the imaginary realm, and even the ‘virtual time and space’ of cyberspace can change who we are and how we perceive ourselves. From a linguistic point of view, the sense of time and space that is expressed through language can have a profound effect on who we become, as we navigate through a variety of ‘textual spaces’—the written page, the computer screen, the film strip or audio tape.

If according to Norton, language is not only constitutive of but also constituted by a learner’s identity, then we can understand how discourse, or representation through language, the physical form of which is a spoken or written ‘text’, is the site in which identity is manifested. The ‘self’ “should not be conceived of as something to be studied in isolation,
but as something which manifests itself in discourse” (Ivanic, 1998, p. 18) – a view that is consistent with social constructivist theory. The practices of reading, writing, and speaking are activities that use discourse for self-expression and self-representation and can serve to change a person’s identity through ‘textual’ time and space. In Writing and Identity, Roz Ivanic discusses how the act of writing intersects with identity to recreate ourselves and our understanding of the world. “Writing is an act of identity in which people align themselves with socioculturally shaped possibilities of self-hood, playing their part in reproducing or challenging dominant practices and discourses, and the values, beliefs, and interests which they embody” (Ivanic, 1998, p. 32). Literacy teaching in particular, has become a formative source of the self. Children usually learn oral language at home, and are taught to read and write in the classroom. “Literacy is uniquely a schooled thing, and very different to oral language. It is not simply oral language transcribed; rather it is a radically different form of language which makes for a different kind of consciousness” (Kalantzis & Cope, 2000, p. 142). When one writes, one basically writes oneself into the text slowly and carefully; then, by self-editing, a writer engages in remaking one’s self and one’s voice. However, the problem with the way literacy was taught in the past was that it denied and erased the self from writing: “ ‘Don’t use the first person, and certainly not the first person singular’ said the teacher in the grammar lesson. Persons in flesh and blood, with lives and histories, were spirited away to be replaced by abstract reason, [...] reducing as much as possible the variability that inevitably comes from different persons” (Cope and Kalantzis, 2000, p. 142). The literacy teaching of the Fordist and nationalist era privileged certain forms of writing (business memos, scientific reports) that did not include narrative reading and writing. This kind of literacy teaching served to assimilate and exclude. However, literacy teaching that
includes narrative, experiments with a variety of genres, and allows the student to use the first person plural encourages the expression of one’s unique identity, and includes a diverse array of discourses, languages, and cultural positions that both students and teachers alike can learn from.

From the discussion above, it is clear that since identity is socially constructed, it involves membership in one or many ethnic, cultural, or linguistic group or groups. For, as Kalantzis remarks, people are simultaneously “members of multiple and overlapping communities – communities of work, of interest and affiliation, of ethnicity, of sexual identity, and so on” (Cope and Kalantzis, 2000, p. 17). As such, it is reasonable to assume that the identities of international students studying in Canada have multiple layers that are in complex relation to each other. More interestingly though, it is the non-participation in a community or discourse that can add an additional layer to a student’s identity, one that may be marked by a feeling of exclusion, rejection, or inferiority. In the area of education and educational policy, not only do the chosen language of instruction and the second language curriculum affect a student’s identity, but the cultural and linguistic mix of the student body also affects how students perceive themselves socially and academically in school.

As educators and theorists, we must be aware of the social dynamics of the multicultural classrooms that exist in Canada and encourage cross-cultural awareness and understanding in our students. Carey believes that one of the “principle reasons for this lack of increased understanding or empathy for the other culture results from the lack of cultural exposure that is provided in our programs” (Carey, 1984, p. 258). In the grammar-translation approach to language learning, the second language curriculum was focused on teaching the structural features of the language, and paid very little (if any) attention to teaching culture.
Only recently have there been more progressive and critical approaches towards language learning that have focused on cultural knowledge. Also, modern language educators are more attuned to the rich multicultural mix of their students and encourage an awareness of other cultures and of diversity. As Heller states, “if one knows the identity of one’s interlocutor, one can assume a great deal about what he or she is likely to believe and about how he or she is likely to behave” (Heller, 1987, p. 187). Students must learn to respect different value systems and forms of expression, and teachers must be sensitive to individual learners’ social and cultural backgrounds and needs, and view learning as a social phenomenon. They should not perceive students only as ‘cognitive entities’; rather, teachers should take a personal view towards students’ knowledge, skills, tasks, activities and learning (Wenger, 1998). As such, an integral part of the second language curriculum should not only be limited to the development of reading, writing, and speaking skills in the target language. It should also aim to increase cross-cultural understanding and to build social relationships through the language, thereby merging language and culture learning (Byram, 1997; Candlin, 1989; Kramsch, 1993).

A central issue in education then is ensuring the inclusion and participation of all those who have the desire to do so. The purpose of education should be to provide them with the experiences and opportunities they need to expand the boundaries of their personal identity, learn more about other cultures, and reach their full potential personally and intellectually. As Cope and Kalantzis explain, “the role of pedagogy is to develop an epistemology of pluralism that provides access without people having to erase or leave behind subjectivities” (Cope and Kalantzis, 2000, p. 18). Education as pluralism means that “the mainstream – be that the culture of the dominant groups or institutional structures such
as education – is itself transformed” rather than only transforming the learners (Kalantzis & Cope, 2000, p. 124). The above theorists claim that a pluralist education doesn’t represent a single cultural destination or position; “it is a site of openness, negotiation, experimentation, and the interrelation of alternative frameworks and mindsets” (Kalantzis & Cope, 2000, p. 124). This kind of education permits the learner to broaden his or her horizons, and be prepared to communicate within a variety of discourses and from diverse cultural positions without leaving their old selves behind. The result of this kind of environment is mutual influence, hybridity, and cultural dynamism. In my opinion, the threaded discussions of the electronic bulletin board create this kind of environment as students are encouraged to express their unique voices to a multicultural and diverse audience.

Language educators must ask themselves if they are creating an environment and curriculum that fosters pluralism in education and ensures that students who are choosing to participate in a new language and discourse community, are able to maintain their voice and identity. Will students assimilate and erase that aspect of themselves that they brought into the community in order to succeed? Education for assimilation “means getting into institutionalized education and succeeding at it by crossing over, and by making yourself over in the process. You can leave the old self (...), and get with the strength of those lifeworlds closest to the culture of education” (Cope and Kalantzis, 2000, p. 124). Dorothy Smith, in Writing the Social, also warns of the assimilatory effect that the discourse of power revealed in educational texts, has on individual students who have different cultural backgrounds, experiences and lifeworlds from those who write texts. She states that “as a system of control, the ruling relations have been particularly effective in ensuring that, in the main, whatever knowledge is produced is not oriented to the needs and interests of the mass
of people, but to the needs and interests of the ruling” (Smith, 1999). The discourse of power created by the ruling is mediated by texts, that is,

by written, printed, or otherwise inscribed words and images (on television and movie screens, on the computer monitor). [...] Our knowledge, our practices of thinking and theorizing, and our images of the world are textually grounded and grounded in the ruling relations. The ‘knowledge-power’ relationship that Foucault (1980) has proposed is a metaphor for this reality, an organization of power mediated textually. And, of course, we can’t do without it. Societies, the global economy itself, would disintegrate if some magical or extraterrestrial power were to obliterate every text.

(Smith, 1999, p. 33)

As educators of students who come from different cultural contexts, and who have different lifeworlds and experiences, how do we honour students’ uniqueness, voice, and individuality? How can we help them to apply critical thinking skills when they read and write so that they don’t assimilate to the point of becoming the living embodiment of the official word and the discourse of power (Kalantzis & Cope, 2000)?

One thing that teachers can do is use the potential that electronic learning networks provides for fostering dialogue about cultural issues and creating discourse communities with participants of different cultural backgrounds. Students can engage in on-line writing tasks that (1) make students aware of their own cultural identity, (2) help learners become familiar with other students’ cultural identities, and (3) help students develop a dialogue with other students by negotiating cultural values and norms, and different perspectives (Muller-Hartman, 2000, p. 113). These tasks should be dialogic in nature and can be enhanced by allowing “learners to become more aware of their own personalities and social roles, and
those of their fellow learners” (Candlin, 1987, p. 17). By discussing a piece of literature or a topic such as language learning, reader-response writing for a peer audience helps students to “engage in joint interpretations and processes of negotiation that can potentially hone critical literacy skills” (Muller-Hartman, 2000, p. 131). ‘Critical literacy’ is described by Cummins and Sayers (1995, pp. 11-13) as critical thinking and creative problem-solving, as well as basic literacy skills. By engaging in reflective discussion on a number of topics, students in this study were able to interact with students from different cultural backgrounds and experiences. The electronic bulletin board set the stage for students to communicate with one another about language learning and cultural issues, and develop intercultural awareness and critical literacy skills.

Another avenue that teachers of language and literacy can explore, whether it’s teaching a first language or a second language, is to create an awareness of differences through a kind of comparative linguistics. Even though certain rules apply to languages and need to be learned, these rules should not be fixed as standards. Rather, they should be used for comparison, location, and boundary crossing (Cope and Kalantzis, 2000). The new literacy curriculum should include the many varieties of languages, discourses, dialects, and accents as part of the language learning process. It should use interlanguages that are context and content specific, and encourage the learning of many languages and their cultures. Generally, the new literacy curriculum should change its original frame of reference of those people, languages, cultures in the periphery heading to the center - a center that expands and includes them. However, a practicing language teacher realizes that currently, the curriculum and the language testing benchmarks are based on rules that are used as standards, and this curriculum has not yet expanded to include the new literacy. How does the teacher ensure
the student meets those standards so that students can get ahead with their studies and their careers, while at the same time teaching from a framework of diversity, inclusion, and multiliteracy? I have often debated with this question since I understand the kinds of ‘errors’ students are making in their language production in English. However, I feel that it is my responsibility to point them out and have students correct them so as to meet a particular standard, particularly in academic writing. Moreover, the students have the expectation that the teacher do this as well, as they are willing to pay the price of assimilation in order to succeed within the system. These students did not leave their countries and come to Canada to speak and write in a kind of English that is different from the standard; they came here to find and learn the standard. The teacher can strike a balance in this dilemma and meet the students’ needs, even though they may be misguided, by providing two kinds of venues for writing. One venue could be used for free expression, where not much attention is paid to rules and conventions, but rather to the use of language for expressing one’s opinions, ideas, and identity. The other venue could be used for writing formal academic essays where the teacher provides feedback based on standards and where students learn the rules, conventions, and genres of academic writing that will meet their educational needs now, given the present state of the curriculum.

In this study, students were encouraged to express themselves through written journal entries in which they reflected on the purposes of writing, the cultural differences in writing, and how their writing is related to their identity. By having their voice and opinion heard, and by reading other student’s thoughts and viewpoints, it is hoped that they gained an increased awareness of their identity, improved their confidence, created social relationships with their peers, and achieved greater cross-cultural understanding and self knowledge.
CHAPTER 3

Methodology

In this study, I observed and analysed both qualitative and quantitative data gathered from on-line interactions and assignments, interviews, questionnaires, and test/essay scores. An attempt was made to establish a link between self-reported and observed behaviours and linguistic outcomes, as the connection of these three elements is considered to be a priority in CACD research (Ortega, 1997). The analysis conducted provides mixed results for the proposal that on-line interactive writing on the electronic bulletin assists in the development of academic writing skills. Further analysis suggests that interactive writing on the electronic bulletin board has, as a secondary effect, the improvement of cross-cultural understanding and the negotiation of identity within a new academic and cultural environment.

3.1 Setting and Participants

This research study took place at the English Language Institute at the University of British Columbia. Established in 1969, the Institute’s main objective has been to provide English language and culture programs to international and immigrant students. Their primary approach towards English language teaching has been communicative, but a variety of approaches are also used to meet the academic and professional needs of students. There are two main programs in place: short language and culture programs which emphasize social interaction and experiential learning about Canadian culture, and the 12-week Intensive English Program, which focuses on improving reading, writing, and speaking and listening skills for academic and professional purposes. Levels of both programs vary from
high beginner to advanced. At the beginning of each program, students take a written and spoken test to assess their level of proficiency in English. The various language skills are taught through content areas such as business, drama, news and current events, and Canadian culture and lifestyle.

More recently, the English Language Institute has been encouraging the use of innovative technologies, such as electronic bulletin boards and on-line concordancers, in an effort to modernize the Institute’s goals of teaching language for the purposes of communication. The Institute has an excellent student study centre with many resources, and two big computer/multi-media labs, as well as an audio-lab. It provides students with a wide variety of computer programs (Storyboard, Hot Potatoes, Paragraph Punch), language learning web-sites, and courseware, such as the one I used, WebCT. In order to evaluate the effectiveness of technology in second language learning, I conducted a pilot study at the English Language Institute in the spring of 2001. This study involved students using WebCT to participate in on-line discussions via an electronic bulletin board in order to assess their writing improvement and vocabulary development. Since students responded positively to this technological tool, an official study was prepared for the fall.

There were 43 participants involved in this official study: 18 from the experimental group, and 25 in the control group. The participants included international students or immigrants enrolled in an upper-intermediate / lower-advanced academic writing course (520W). Their ages ranged from 16 to 35, and these students came from Korea, Japan, China, Taiwan, Thailand, Mexico, Columbia, Brazil, Germany, Sweden, Iran, United Arab Emirates, or India. There are usually 12 to 16 students per class, and their main purpose was to improve their academic writing skills in English in preparation for attendance in colleges
or universities that use English as the language of instruction. Some students also took this course to meet English language requirements in their home university, or to help them with written English in their work. What students expect from the course is improved fluency and accuracy in writing, and practice in writing using various academic genres or rhetorical styles, such as summaries, comparison-contrast essays, cause and effect essays, and argumentative essays. These students are highly motivated because they have made a very large personal and financial investment in deciding to leave their home countries for 3 months to 2 years or more to come here to study.

As we can see, the English Language Institute is an ideal site for this study firstly because of the multicultural richness of the student body and their high level of motivation. The ELI is unique and different from many other English language schools because it is located within a university and gives students an opportunity to become familiar with the academic community, its standards, and its various resources. This school is also very well suited to this research project because it is supportive of studies in computer-assisted language learning using a communicative approach. Finally, one added advantage of using this site is that entry for the researcher, myself, was facilitated by the fact that I have been a teacher at the school for the last five years. The teachers, administrators, and some of the students knew me, and students in my class had the opportunity to build a trusting relationship with me through daily interaction in the classroom and on the electronic bulletin board.
3.2 Materials

Students in the experimental group utilized the courseware WebCT, which was first developed at the University of British Columbia and is now commercially available to public and private schools and universities all over the United States, Europe, and Asia. The courseware has a variety of components including quizzes, web-based resources and links, an assessment grid, a calendar, a private chat, and an electronic bulletin board. The different components can be designed by the instructor to provide materials and information that are specific to each course. Twenty percent of the student’s grade was based on the use of the electronic bulletin board. The courseware was used in conjunction with regular face-to-face classes. Out of four classes a week (each lasting 100 minutes), one class was conducted in the computer lab where the students had the opportunity to practice written interaction using WebCT.

The following are some of the features of the WebCT that encourage student written interaction:

- Students’ entries can be organized chronologically or in threads that follow a particular theme or topic. Thus, students can see who has written the latest posting, or follow the line of an argument between a group of students, and can interject at any point.

- Students can view all postings or only the ones that they have not yet read.

- Students can initiate a new topic for discussion by using the ‘compose’ button, or they can respond to another student’s question or entry by pressing the ‘reply’ button.

- Each posting includes the student’s name, the date the article was posted, and the subject of the article.
- The teacher and students can use the quote function to incorporate text from a previous posting in order to comment on it in a new posting. This particular feature is particularly useful to teachers as it allows them to make comments or corrections of student writing using the bulletin board.

The following is an example of the WebCT interface that students see when they are about to choose a discussion thread, respond to a topic, or create a message:

![Sample of WebCT interface](image)

**Figure 1.** Sample of WebCT interface
Although students were given class time to use WebCT, students could access the web-site outside of class time. All messages were stored and could be retrieved at any point, but once a message had been posted, no further changes could be made. Also, students could post their academic essays onto the electronic bulletin board by using an attachment, or by copying and pasting their document onto a message. Students and the teacher could therefore look at the development of their writing over time, and could learn about and from other students by reading their postings.

3.3 Procedure

In this study, in every session, students were divided into a control group that did not use the electronic bulletin board provided by WebCT courseware, and into an experimental group that did. The project ran from late September 2001 to early December 2001, and was repeated from January 2002 to the end of March 2002. For the data analysis, I added the students from each session together in order to have a greater sample size. In both sessions, I was the teacher of the students in the experimental group, but the students in the control group had a different teacher each session. However, in the spring session (April 2002 – June 2002), I was the teacher for a third control group. A comparison of the achievement levels was made between the control group that had a different teacher from the experimental group, and the control group that had the same teacher as the experimental group. This comparison was made to control for the teacher as a variable that could influence the results. No significant differences were found between the different control groups, thereby indicating that the teacher should not have been a factor to affect student performance.
Students were responsible for producing four kinds of academic essays of about 350 – 400 words in length: a narrative/descriptive essay, a comparison/contrast essay, a cause/effect, and finally, an argumentative/persuasive essay. Forty percent of their mark was allocated to their performance on these essays. The results that students achieved in this direct writing measure were analysed over the course of each session. Essays written in the beginning of the term were compared with essays written at the end of the term. Any gains made by the experimental group were compared with those of the control group to determine if there was a statistically significant difference in performance between the two groups as a result of the intervention – computer-assisted classroom discussion.

The students also had to write a mid-term exam. The first part of the exam tested students’ grammatical and lexical knowledge, and their sentence skills. The second part of the exam consisted of a timed writing of a narrative or comparison-contrast essay. The final exam consisted of a timed writing of an argumentative essay. It is evident that a considerable part of this course focused on evaluating a students’ final product which reflected their ability to write academic essays in English in both timed and untimed conditions.

A significant percentage of the course was also allocated to assessing the process of student writing. Twenty percent of a student’s mark was allocated to writing journals and an additional ten percent to their portfolios. For the students in the experimental group, most of their journal writing was done on the electronic bulletin board. Their writing was not personal writing (writing that is only seen by the student-writer, and perhaps the teacher), but was made very public as their journal entries were posted on the electronic bulletin board for all of their classmates to read. Students in the experimental group used the computer lab ten times over the course of the term. In each lab, they were provided with explicit instructions
as to what to do on the bulletin board (please refer to Appendix A for samples of lab assignments). Students were allowed time to reflect and write on a topic related to issues of second language writing, identity, and computer assisted language learning. They were also provided with a list of questions that served to prompt their thinking and writing. Writing a journal on the electronic bulletin board also permitted them to practice the different kinds of rhetorical structures that they had to use for their formal academic essay assignment.

After writing a journal entry on a topic for about half an hour, students were given the opportunity to read and respond to other students’ entries. To prevent students from getting into cliques and favouring friends, I divided the students into groups of three or four and changed the members of the group at every lab session. The students then had to read and ask questions on the entries of only those students who were in their group.

As students were working on their journal entries, reading, questioning, and responding to each other’s contributions, the teacher read the students’ entries and provided feedback privately on the form and content of their messages using the electronic bulletin board. Students could access this feedback through a personal mail folder and had the opportunity to ask the teacher some questions privately as well.

So, as stated, the first part of each lab was used for reflection, and the second part, for interaction. The remainder of the lab time was used for the word-processing of their academic essays, which they would post on the electronic bulletin board upon completion. Students then had an opportunity to peer review each other’s essays on-line.

Students in the control group also engaged in journal writing, but the teacher was the only one to read their entries. In this activity, there were opportunities for reflection, but no opportunities for written interaction with other students in the class. Additionally, students in
the control group participated in peer-review of their academic essays, but only one other student would read their essay and provide oral feedback to the writer.

Writing done on the electronic bulletin board reflects a more process-oriented approach to teaching writing, whereas the other classroom tasks and activities (formal essays, and essay exams) assumed a more product-oriented approach. To assess the effectiveness of the Web-CT for improving second language writing, an empirical analysis of the on-line protocols was conducted using Carole Chapelle’s criteria (see page 101).

This study attempted to measure student writing improvement over time to determine the effect of using an electronic bulletin board. In addition to using on-line journals and essays (a direct measure) to evaluate performance, a standardized test (an indirect measure of writing performance) was used to provide an objective, holistic assessment of students’ writing improvement. As such, students in the experimental group and in the control group wrote pre- and post-tests of the English Usage section of the Cambridge Proficiency Examination at the Advanced level. There was a different version of the test provided for the pre-test and the post-test.

At the beginning of the course, students in both groups also had to fill out an information sheet and survey to gather personal and educational information for the study. At the end of the course, both groups also filled out a questionnaire of 7 Likert-type scale items in which they indicated the level of progress they felt that they had or had not made on their writing ability over the course of the term (see Appendix C). This questionnaire also assessed the degree to which students felt they got to know other students and other cultures better. This questionnaire was modeled on similar questionnaires distributed in U.B.C. graduate courses using WebCT. This questionnaire was also used in a pilot study and was
effective in eliciting student attitudes about writing improvement and sociocultural development. As such, it was utilized again for this formal study.

Also, at the end of the course, students in the experimental group were invited to participate in an in-person interview (see Appendix D) where they had to provide feedback on their experience using the electronic bulletin board. In the first part of the interview, students were asked to briefly describe their academic background and their reasons for studying English. Then, they were questioned on the particular areas of writing that they felt they improved by using the electronic bulletin board. Finally, they were asked about sociocultural and identity issues related to writing in an on-line public forum.

It is important to note that the academic essays, exams (including the Cambridge exams), on-line journal entries, and portfolios were compulsory and all counted for marks in the Academic Writing 520 course. However, in keeping with the Code of Ethics for research studies set by the university, the questionnaires and interviews were optional and had no bearing on the students’ final grade. As such, not all students chose to participate in these measures.

3.4 Data Collection and Analysis

There are four data sources for the study:

1. The electronic bulletin board protocols (longer, reflective entries and shorter conversational entries) and assignments.

2. In-person, individual interviews conducted with all of the students in my classes who participated on the bulletin board.
3. Information from a questionnaire used to gather participants' demographic information, as well as the students' perceptions of improvement in writing skills.

4. Statistical data of students' scores of their academic essays, pre-tests and post-tests, as well as final course grades.

The qualitative data gathered from these sources was so excessive, that it was impossible to include everything in the appendix of this thesis without exceeding the permissible length. Therefore, only certain excerpts of student protocols and transcripts are shown to illustrate a point relevant to the hypothesis of this research project.

Firstly, measures were used for analyzing the effectiveness of the intervention, the WebCT, as well as the CALL tasks, by observing if and how they contributed to improving academic writing skills through computer-assisted classroom discussion (CACD). Carole Chapelle, in her book on *Computer Applications in Second Language Acquisition*, outlines several criteria to evaluate if the technology used to enhance second language learning achieves the main goal of communicative competence for L2 learners. As she states, "[t]he key issue for development of CALL is how computer activities can best be constructed to promote development of L2 ability. [...] What is needed are theoretically and empirically based criteria for choosing among the potential design options and methods for evaluating their effectiveness for promoting learners' communicative L2 ability" (Chapelle, 2001, p. 42). I will outline the theoretical criteria that guided my choice of computer program and activities, and through empirical analysis of learner performance and interaction, I will seek to determine to what extent these criteria were met.
Chapelle’s first criterion is that the computer-based program and activity have ‘language learning potential’, or in other words, that they allow students with the opportunity not only to use the target language, but also to focus on form and learn from mistakes. Chapelle underlines that opportunities for language use do not equal opportunities for language learning. She claims that although the emphasis of a learner’s attention in communication tasks should be on the meaning of the language, the learner should have the opportunity to pay attention to form when communication breakdowns occur. As such, the grammatical patterns which seem problematic are ‘chosen’ by the learners and “resolved in a process called the negotiation of meaning (Long, 1985)” (Chapelle, 2001, p. 47). This negotiation is characterized by an interruption in the regular interaction by requests for repetition, clarification or restatement of the input so as to make it comprehensible to the receiver (reader or listener). Consequently, the writer or speaker has to correct or modify his or her output so that meaningful communication can be achieved. In this project, I observed and analysed how students were allowed opportunities to focus their attention on form and modify their output through corrective feedback given by the teacher and their peers. Also, students were much more aware of the accuracy of their written messages as they knew that their messages would be posted for all students to see, so they wanted to ensure that their writing would be understood. This focus on form helped students to work on the accuracy and clarity of their message, skills which are indispensable for improving their academic writing.

Chapelle’s second criterion for evaluating whether a CALL program and activity is effective in developing L2 communicative ability is ‘learner fit’. “Learner fit takes into account the individual differences in linguistic ability level and non-linguistic characteristics”
In this class, all students were placed at the same level of writing ability as determined by placement tests that were marked by as many as three teachers who had reached a consensus about the student’s level of writing ability. As mentioned before, all the students in the class were evaluated as low-advanced writers of English as a second language who were able to write clear sentences and paragraphs, and a fairly coherent essay with some errors in form; however, some students still had different strengths and weaknesses. Students were expected to write paragraphs and small essays and post their writing on the electronic bulletin board, and the students’ individual needs were met because the teacher was able to read and respond to their writing immediately by sending them a private message. With regards to differences in non-linguistic characteristics, students had the opportunity to choose from a variety of structures and themes to write about by basing them on their own personal experiences and opinions. In this way, learners could focus on what is important and of interest to them, and share their thoughts with the rest of the class. As a result, most learners were able to have their linguistic and non-linguistic needs met while expressing themselves in meaningful interaction with other students, and thereby meeting Chapelle’s third criterion - ‘meaning focus’.

Chapelle claims that students participating in CALL activities should have opportunities to use the target language to accomplish a task, make a decision on an issue, exchange information, ideas or opinions. She differentiates these discourse acts with “form-based tasks which might have learners filling in correct verb tenses in a written list of sentences, or changing declarative statements to yes/no questions” (Chapelle, 2001, p. 56). She also specifies that meaning focus can occur “during tasks involving reading and writing when learners use the written language purposefully for constructing and interpreting meaning”
(Chapelle, 2001, p. 56). In using the electronic bulletin board, students wrote paragraphs, short and long essays on a variety of topics to express an idea, opinion, or experience that stemmed from their own thinking, and did not merely reiterate a text or the teacher, or fill in the blanks in prefabricated sentences. Students would then read each other's writing and had the opportunity to ask questions of explanation and clarification if there was a breakdown in their comprehension. Samples of negotiation of meaning through interactions with other students are also a means of analyzing whether or not a CALL task has a meaning focus.

In addition to CALL programs and activities providing opportunities for form and meaning based second language learning, Chapelle also recommends that there should be a certain degree of authenticity involved in the kind of activity students are engaged in when using the technology. For Chapelle, "[a]uthenticity refers to the degree of correspondence between an L2 learning task and tasks that the learner is likely to encounter outside the classroom" (Chapelle, 2001, p. 56). In the age of globalization and technological development, electronic literacy is one example of a skill that is necessary not only for school, but for the workplace and for social interaction. By using the electronic bulletin board, students had the opportunity to practice meaningful interactions with others by reading and writing in English in a variety of genres and topics. They also learned about proper etiquette on the Internet, turn-taking, and other paralinguistic features affecting the communication process that they can transfer outside the schoolroom. However, it is important to keep in mind that the main reason that these students took this 'Academic Writing' course was to learn how to write and communicate in an academic context. Although the web-based bulletin board provided students with the opportunity to hone their electronic literacy skills in general, the tasks the students were responsible for involved
writing coherently and accurately in certain academic genres that included a clear thesis statement and supporting points. The tasks were therefore similar to the kind of writing these students would have to do upon entering university in their respective fields.

To analyze the authenticity of L2 tasks, Chapelle also recommends that a researcher determine whether the language used on the electronic bulletin board is an example of meaningful interactions that serve a variety of functions. For example, the interactive writing should serve a particular function between 2 or more interlocutors in the target language (e.g., give instructions, provide 'comprehensible input, ask questions, display knowledge). The writing should also demonstrate knowledge of certain linguistic characteristics (such as syntactic or morphological forms, coherence, and cohesion). The researcher or instructor should also attend to how much input, output, and interaction the task on the electronic bulletin board allowed. Also, the researcher should also be aware of the non-linguistic moves and forms used to accomplish interaction and to perform certain functions (e.g. negotiation of meaning; response to questions) (Chapelle, 2001, p. 91). In the content and discourse analysis of the protocols, we will see if authentic and meaningful interaction occurred by looking at these criteria.

Chapelle also recommends that researchers and instructors assess whether the activity using technology has an overall positive or negative impact on the learner. The CALL activity should help students feel that they are enjoying the learning process. They should view the tasks as meaningful and interesting, and not feel that they are simply engaging in busywork. Chapelle believes that CALL tasks “should teach more than language; they should help learners develop their metacognitive strategies (Oxford, 1990) in a way that will allow them to develop their accountability for their learning in the classroom as well as to
learn beyond the classroom. They should engage learners’ interest in the target culture […]” (Chapelle, 2001, p. 57). To determine whether or not the CALL task had a positive or negative impact on the learner, the students in the experimental group were interviewed and asked whether they liked or disliked the experience of using the electronic bulletin board. They were also asked to comment on their experience by writing their thoughts and opinions on-line. By analyzing their oral responses and written comments, we will see that their experience using CALL to improve their academic writing was for the most part positive. In addition, students had an opportunity to develop their metacognitive skills as many of the writing tasks that they were asked to do centered around the theme of writing, the purpose of writing, and their experiences with writing in their L1 and their L2. They were also asked to assess their strengths and weaknesses in writing, and to differentiate between academic writing and other kinds of writing. Furthermore, the electronic bulletin board allowed students easy access to writing that they had done in the past so that they could observe their progress and learn from their mistakes. By looking at the form and content of the on-line protocols, we will be able to observe how the students’ metacognitive skills were given the opportunity to develop and contribute to the CALL task by providing an overall positive impact to the learner.

Finally, Chapelle reminds researchers and instructors to examine issues of practicality when assessing the effectiveness of a CALL task. According to Chapelle, “[p]racticality refers to how easy it is for the learners and teachers to implement a CALL task within the particular constraints of a class or language program. Relevant constraints include the availability of hardware and software that are adequate for the planned activities. In addition, knowledgeable personnel need to be on hand to assist with the unforeseen problems”
(Chapelle, 2001, p. 57). Once again, students were asked about their impressions of the practicality of using the WebCT, and as we will observe in the analysis section of this research, students generally expressed that there were enough resources and excellent technical support, but most students claimed that they wanted more time. Although one quarter of class time (100 minutes out of 400 minutes per week) was allocated towards writing using the on-line bulletin board, it was not possible to use more class time on the Web because computer time had to be shared with other classes in the English Language Institute so as to accommodate other students. However, if students had a home-computer and Internet access, or if they had free time after class hours, they had the possibility of contributing to the on-line bulletin board. More on issues of practicality will be discussed later, but the project was able to be carried out with relative ease both on the part of the students and the teacher.

Carole Chapelle recommends that the above criteria be applied for a judgmental evaluation of CALL tasks to determine if they are fit to provide communicative competence in L2 ability. As an example, she analyzes the synchronous computer-assisted classroom discussion of an L2 Portuguese class which used a program that is very similar to the kind students in this project were engaged in. She found that this activity increased communication from all members of the class, and that the CMC activity “was intended to provide conditions in which learners would have some time for reflection while producing the target language within an otherwise fast-paced interaction. The fact that the meaning was expressed in written mode would be expected to provide opportunity for some focus on form, and the real-time interaction might make modified interaction, and modified output possible” (Chapelle, 2001, p. 60).
A judgmental analysis of a particular CALL activity, such as computer-assisted classroom discussion, provides a methodology for making hypotheses that the task and the program meet the conditions for optimal second language learning. However, hypotheses must be supported by empirical, observable data that provide evidence of CALL qualities, since students and teachers may have different perceptions about what and how students are learning. Fortunately, because the computer is able to record student written texts, it allows for a more detailed analysis of both the written process and product. Also, the learners' performance in writing was analyzed by using pre- and post-tests of direct and indirect assessment to determine if there has been an improvement and whether the CALL program and task led to that improvement. The following is a table of questions based on Chapelle's criteria for the empirical evaluation of CALL tasks that will be used to analyze all the qualitative and quantitative data for this research project (Chapelle, 2001, p. 68).

Table 1

Questions for the Empirical Evaluation of CALL Tasks

<table>
<thead>
<tr>
<th>Qualities</th>
<th>Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language learning</td>
<td>What evidence suggests that the learner has acquired the target forms that were focused on during the CALL task?</td>
</tr>
<tr>
<td></td>
<td>What evidence indicates that learners focused on form during the CALL task?</td>
</tr>
<tr>
<td>Learner fit</td>
<td>What evidence suggests that the targeted linguistic forms are at the appropriate level of difficulty for the learners?</td>
</tr>
<tr>
<td></td>
<td>What evidence suggests that the task is appropriate to learners' individual characteristics (e.g., age, learning style, computer literacy?)</td>
</tr>
<tr>
<td>Meaning focus</td>
<td>What evidence suggests that learners' construction of linguistic meaning aids language learning?</td>
</tr>
<tr>
<td></td>
<td>What evidence indicates that learners use the language during the task for constructing and interpreting meaning?</td>
</tr>
</tbody>
</table>
The bulletin board protocols for each student were printed and analyzed by examining recurring themes that surfaced in their writing and by searching for a meaning focus in the CALL activity. I conducted a content analysis of all of the on-line essays and protocols for both classes in the experimental group by reading and noting the topic of each essay and on-line discussion. The essay topics covered are listed in Figure 11, p. 174. Also, by analyzing the content of the written protocols, I was also able to trace recurring themes and assumptions students hold about writing and identity, thereby observing their metacognitive skills at work. By reading the narrative accounts of their writing experiences, I was able to understand the reasons for their cultural assumptions that may have affected the way that they write in L2. Also, by looking at changes in viewpoints and opinions over time, I was able to determine if the exercise of reflection on writing was instrumental in the evolution of their thought and reconstruction of previous schemata.
The following are codes used for topics that students referred to frequently with regards to second language writing.

A. The difficulty of writing in a second language
B. The importance of writing.
C. Cultural differences in writing
D. The relation between writing and thinking
E. Problems with vocabulary, fluency, and expression in writing

In addition, the protocols were also analyzed for a variety of discourse acts that were identified in on-line interactions. Below is a list of the codes used to analyze discourse patterns in on-line discussion:

1. Questions: request an opinion, request a fact, request feedback, request clarification, request advice
2. Statements: respond to a question of fact or opinion, acknowledge the speaker, express agreement or disagreement, praise, recommendation or advice

On-line protocols were not only analyzed to measure the extent that writing was used to achieve communicative competence through meaningful written interaction. Student-generated texts were analyzed and evaluated holistically for organization of ideas, fluency, and accuracy to see if there was any improvement over time in the general quality of their postings. This kind of analysis was important to determine, along with other measures, if and how writing on the electronic bulletin board assisted students in developing their academic writing skills. Those skills include:
- generating ideas
- organizing ideas using a variety of rhetorical styles
- sentence skills (sentence combining)
- lexical skills (word choice, word order, word combinations)
- applying grammar rules
- questioning assumptions and thinking critically about one's own and other's ideas
- revising for content and lexical and grammatical accuracy
- editing for mechanics

Students were evaluated holistically for their contributions on-line, and through general observation, I examined both the quality and quantity of their writing, as well as their participation and interaction with peers using the electronic bulletin board. Students were aware that I would be awarding them a holistic mark for their on-line written participation. This ensured that the quality of the writing on the bulletin board would be of an academic standard, while at the same time preventing students from feeling inhibited if they were penalized for every grammatical or lexical error.

As previously mentioned, to determine the kind of impact this CALL activity had on students, student perceptions and opinions of their experience using CALL were elicited. Interviews with students were conducted, recorded, and transcribed. For about 25 minutes, students were asked approximately 15 questions (please refer to Appendix D) on their perceptions of how the interactive electronic bulletin board affected their writing ability in English and how they felt about using this tool. Transcriptions were analyzed for content relating to attitudes about on-line communication, and the data were compared to responses of similar questions on the bulletin board to check for reliability. Students’ responses were
analyzed to indicate if students found that using the electronic bulletin board improved their academic writing and improved their attitude towards writing in English. Responses were also analyzed to determine if students gained a greater understanding of other cultures and themselves through an interactive electronic writing environment.

Also, to assess the effectiveness of the medium with regards to improved academic writing and sociocultural development, a questionnaire was administered to both the experimental groups and control groups to determine if any improvement or gains were made as a result of the intervention – the computer-assisted classroom discussion on the WebCT electronic bulletin board. This questionnaire was also distributed in the pilot study to assess its effectiveness in eliciting students’ perceptions of their improvement. Results from the questionnaire were gathered and the Likert-type scale items were scored. The higher the mean for each item, the higher the positive attitude towards their writing improvement in different areas. For the quantitative data, the computer program SPSS was used to conduct statistical analysis. An item analysis of the questions on the instrument was used, as was a calculation of coefficient alpha to check for reliability. Results of the questionnaire from the experimental group were compared with results from the control group to determine if the independent variable, interactive writing using an electronic bulletin board, had a statistically significant effect on writing improvement.

Descriptive statistics were also gathered to compare the differences in pre-and post-test scores for the Cambridge exam in the experimental group, and to compare the average difference in the pre- and post-tests for the control group with the that of the experimental group. Scores on the Cambridge exam were marked objectively as answers to multiple-choice test items, one-word items, and sentence combining were provided by the test-makers.
Students' in-class, academic essays were evaluated more subjectively by the teacher of each group. The essays for the experimental group were also evaluated by another teacher to ensure a certain degree of inter-rater reliability. The student-generated texts were assessed for unity, support, coherence, expression, grammar, and mechanics (see Appendix B for evaluation criteria sheet). These criteria were the same evaluation criteria recommended by Langan and Winstanley (2000, p.111) in their book, College Writing Skills – the textbook used for this academic writing course. By assessing the essays students wrote at the beginning and end of the three-month term, I was able to compare their results and evaluate students' performance over time (for more detailed information on the criteria used for evaluation, please see discussion on assessment and writing).

This study analyzed quantitative and qualitative data over the course of 12 weeks to detect trends, themes, and changes in attitudes and performance of English L2 writing on an electronic bulletin board. At the end of each course, I gathered data from different instruments, and through a process of triangulation of the multiple sources of data, determined if the analysis fit with my initial hypothesis – that written interaction using online technologies can improve NNS students' academic writing skills and help them negotiate their identities in order to better understand themselves and others.

3.5 Challenges of the Study

Although this study provides multiple sources of data collection and uses a control group, there are still some challenges that I faced in conducting the project. The first concern is the 'truth value' of the study. The written responses I received from students in the interviews, questionnaires and journal entries are the reported claims, opinions, and beliefs...
(Marshall and Rossman, 1995). There is really no means of ensuring that what students write is what they actually believe. With this type of data collection, the researcher relies in good faith on the honesty and accuracy of the participants’ responses. Even though their narratives may provide a wealth of information about the development of their identity through writing, the narratives may suffer from selective recall and a reinterpretation of the past. The concerns I have about inaccurate accounts and false claims were minimized by creating a trusting relationship with my students, and by ensuring them that they would not be deducted marks or penalized for providing 'right' or 'wrong' answers.

Finally, I am aware of the double role that I had in this study: researcher and teacher. As a teacher, I wanted to ensure that I was meeting the learning objectives of the course and helping students meet their goals. However, at times I felt that my role as a teacher limited what I could control as a researcher. I realized that in conducting action research, I had to abide by the timelines, rules, and measures set by the school. I also had to ensure that my reasons for choosing a particular tool or methodology were not only based on an underlying assumption of their usefulness for research, but also on their pedagogical value. As a researcher, I also had to ensure that any assumption of the pedagogical value of technology in the teaching of second language writing did not affect students’ attitudes and beliefs.

The overall focus of this study was not only the viability of computer technology for improving academic writing, but also the linguistic, intellectual and sociocultural development of the students. More specifically, I wished to assess the effectiveness of an electronic bulletin board for improving academic writing skills, and for helping students negotiate their identity, increase their confidence and cross-cultural awareness in a new academic and cultural environment. I hope that this study is ultimately beneficial to students,
but also to teachers by helping them to redefine their practice in teaching English writing in a second language. It is expected that the findings of this research will add to the current literature in the area of interactive computer-assisted writing environments, and help teachers, researchers, and administrators reassess strategies used to teach second language writing. They can then challenge the traditional ways in which it has been taught and implement a more dynamic and multiliterate approach based on social constructivist theory. By using such an approach, students can acquire the writing and communication skills they need to succeed not only in the academic community, but also in an international community that they are likely to encounter in various professional and social contexts of a globalized and technological world.
CHAPTER 4

Results and Analysis

4.1 Empirical evaluation of CALL

We have discussed the criteria set by Chapelle for the judgemental analysis of CALL activities and have seen that the interactive environment created by the electronic bulletin board and the various writing tasks assigned provide opportunities for learners to increase their language learning potential and improve their academic writing skills. However, a judgemental analysis alone is not sufficient to determine the effectiveness of a CALL task, nor is it enough to assess whether the same results could have been obtained without the computer support in a traditional face-to-face classroom. For a more complete evaluation of the effectiveness of technological supplements, it is important to have a control group and empirical data.

In the following section, I will be presenting and discussing the results obtained from both the experimental group and the control group to determine the effectiveness of the intervention - a computer-assisted classroom discussion whereby students posted written messages and essays on an electronic bulletin board. Most, though not all, of Chapelle's criteria for the effective use of computers for second language learning were met after examining the quantitative and qualitative results of the data. We will methodically go through all of the criteria and focus specifically on how CACD affected student's academic writing skills and assisted with their sociocultural development.
4.2 Language Learning Potential

A variety of methods and results, both quantitative and qualitative, were used to determine the effectiveness of CACD on the learner’s ability to focus on form. As mentioned earlier, it is important to differentiate between a task providing opportunities for language use, as opposed to opportunities for language learning. By looking at the sheer quantity of postings (over 270 pages of writing at approximately 400 words a page, written by 18 students over a period of only 18 hours each out of a total of 80 hours for the whole course), we can establish that the activity and this software allowed for substantial written output in the target language, despite the time limitations imposed on students. Previous research has also supported the notion that CACD allows for increased language output and learner productivity. Although quantity of linguistic output (as opposed to quality and quantity of ideas) is not sufficient in the process of second language learning, it is necessary (Ellis, 1980). According to Swain’s comprehensible output hypothesis, language production plays a crucial role in L2 development because the meaningful use of a learner’s linguistic resources in a particular socio-cultural context ‘pushes’ interlanguage development. According to Ortega, “the tentative finding that can be gleaned from the literature is that CACD may provide for an instructional context that generates opportunities for (communicative) practice of the target language and opportunities for (meaningful) learner output to a significantly greater degree than more traditional arrangements in the L2 classroom” (Ortega, 1997, p. 87). However, to determine the pedagogical value of this activity, we must also examine to what extent it helped students learn and improve their writing by focusing not only on the quantity of that output, but also the quality.
As Chapelle indicates, one of the most convincing ways to demonstrate the language learning potential of a CALL activity is through the study of learning outcomes by assessing students before and after a CALL activity to determine if they have acquired the target forms and structures. She also mentions that "stronger evidence is obtained if a contrasting group that [not using] the CALL task [...] failed to make similar gains" (Chapelle, 2001, p. 74-75).

As mentioned in the methodology section, students were divided into an experimental group and a control group, and were give pre-tests and post-tests of both direct and indirect writing. The final results of these tests were compared.

Other evidence concerning focus on form can also be obtained through qualitative methods, such as interviews with learners who have participated in CACD, as in a research study conducted by Beauvois (1998). Another way to determine if the CALL activity has allowed students to focus on form is by observing and analyzing evidence of modified interactions and modified output. The evidence of these interactions and output is manifest in the written protocols on the electronic bulletin board. In this study, although the qualitative data obtained from the protocols and interviews support the view that CACD activity increases language learning potential, the quantitative data do not encourage the view that any statistically significant improvement in writing was achieved as a result of the intervention, CACD. These mixed results point to the difficulty in assessing writing on-line over a short period of time, and also suggest that students' perceptions of their improvement may not be as accurate as they or their teachers might assume.

Firstly, we will examine the quantitative data and analyse the results to determine if the intervention (the interactive writing activity on the electronic bulletin board) enhanced the language learning potential of students. Secondly, we will analyse students' responses to
interview questions, as well as students' modified interactions and output to evaluate if the CACD on WebCT gave students the opportunity to focus on form and participate in the negotiation of meaning necessary for learning to write in a second language in an academic context.

4.3 Quantitative Results and Analysis for Language Learning Potential

By comparing the pre-test and post-test results of both direct and indirect writing assessment, there did not seem to be any statistically significant differences in terms of learning outcomes in writing ability between the experimental and control groups. First, we will observe the descriptive variables of each group to determine the degree of homogeneity of the separate groups. Then, by analyzing the quantitative results of the writing assessment measures, we will see that although both groups improved, the degree of improvement was not significantly different, therefore questioning the effectiveness of the intervention. However, if we look at the qualitative data gathered from observations of on-line protocols and self-report data obtained from interviews, we will observe that the intervention had a positive impact for the majority of the students in terms of improving their academic writing skills and promoting sociocultural development.

Both the experimental groups and the control groups had approximately the same kind of student profile, with a relatively equal number of Asians, Latin Americans, and Middle Eastern students in each class who were approximately the same age and educational level. All students were placed in the same level of language proficiency in writing, and only about 25% of the students from both groups were able to progress to the next level as they had received a grade of 80% or greater in the course (this standard was set by the Institute). The
The following tables are meant to determine that the experimental and control groups were relatively homogeneous in terms of age, gender, nationality, and educational level.

Table 2

**Mean Age Between Groups**

<table>
<thead>
<tr>
<th>Group</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental (n =18)</td>
<td>22.8</td>
<td>4.6</td>
</tr>
<tr>
<td>Control     (n =25)</td>
<td>23.5</td>
<td>5.5</td>
</tr>
</tbody>
</table>

Table 3

**Group Membership by Gender**

<table>
<thead>
<tr>
<th>Group</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>9/18</td>
<td>9/18</td>
</tr>
<tr>
<td></td>
<td>(prop.=.5)</td>
<td>(.5)</td>
</tr>
<tr>
<td>Control</td>
<td>10/25</td>
<td>15/25</td>
</tr>
<tr>
<td></td>
<td>(prop.= .4)</td>
<td>(. 6)</td>
</tr>
</tbody>
</table>
Table 4

Group Membership by Country of Origin

<table>
<thead>
<tr>
<th>Country</th>
<th>Experimental</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Japan</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Korea</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Taiwan</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Mexico</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Argentina</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Iran</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

(prop. = .11) (prop. = .32)

Table 5

Group Membership by Educational Level

<table>
<thead>
<tr>
<th>Level</th>
<th>Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Experimental</td>
</tr>
<tr>
<td></td>
<td>Control</td>
</tr>
<tr>
<td>High School</td>
<td>7</td>
</tr>
<tr>
<td>Bachelor's</td>
<td>9</td>
</tr>
<tr>
<td>Master's</td>
<td>2</td>
</tr>
</tbody>
</table>

(prop. = .38) (prop. = .44)

As we can see, all of the students had traveled far to study at the English Language Institute in Vancouver, BC, and had made a significant financial and personal investment to pursue an intensive English program. Most students who took this academic writing course, as opposed to a regular writing course, wanted to enter a North American university and
study in a bachelor’s or master’s degree program. Some students hoped to stay in Canada to work, while others wished to return to their country with superior English language skills that would land them a very good professional position. For those students who had already completed their university degree, they took this course so as to improve their writing skills at work. Thus, there was a lot of external, practical motivation to do well in this course in both the experimental and control groups.

By examining the data, it is important to note that the students in the experimental groups were similar in some ways, and different in others. Firstly, there were seven more students in the control group than in the experimental group. This is because the experiment was conducted over the course of two semesters using an experimental group where I was the instructor, and a control group that had a different instructor. However, in the third semester, I decided to use a control group where I was the instructor for that class in order to control for the effect of the teacher. I could not be the teacher for the other two control groups because those classes were offered at the same time that I was teaching the two experimental classes. As a participant-observer in this kind of action research, there were some constraints in terms of time and scheduling that I had to adhere to because of the school setting I was actively involved in. Therefore, in essence, there were two experimental groups, and three control groups. The greater number of students in the control group could have affected the results by providing the control group with more statistical power.

Most of the students in both groups were above 21 years of age and thus seemingly had the emotional maturity needed to study in a foreign country far away from their loved ones. They were willing to commit themselves to intensive academic study in a foreign language. Also, both the experimental and control groups had approximately the same
cultural mix of students from Asia, Latin America, and the Middle East. As such, students from certain language groups whose language is closer to English and easier to learn, such as the hispanophones, would not greatly affect the average of the two groups. However, it is important to note that the control group had almost 20% more Chinese students and 20% more Korean students than the experimental group. Students from these cultural groups tend to be extremely motivated, and any improved performance could have increased the overall average of the marks in the control group.

In addition, there were an equal number of males to females in the experimental group, but a greater number of females than males in the control group. Also, the fact that there were more females than males in the control group could account for higher levels of achievement in that group. It is well accepted in the field of second language learning that women are generally thought to be more proficient at learning languages than men because of enhanced verbal ability (Kimura, 1999). The female-dominant control group could have had the effect of mitigating the difference in performance between the control group and the experimental group. The decreased difference would therefore reduce the degree of significance of the results related to the effect of the intervention.

By taking into consideration age, educational level, and the general context, we can see that both the experimental and control groups had similar student profiles. However, there was some variability in terms of student numbers, gender, and nationality between the two groups. Given these differences, it is uncertain to determine if there was a high degree of homogeneity between the two groups to determine if the intervention, CACD, created any difference in terms of learning outcomes. Unfortunately, in action research, it is very
difficult to control for all demographic factors. As a researcher, I had to conform to the rules and policies of the Institute and try to work my project around them as best as I could.

Having established that both the experimental and control groups had roughly similar demographic backgrounds and motivations for taking the course, we can now focus on the results of their writing ability and performance. It is important to remember that all students in the experimental and control groups had already gone through placement testing at the beginning of the semester, and were determined to be at the low-advanced level of writing in English. Although students had different individual needs and strengths and weaknesses in ESL writing, it is safe to assume that all of the participants in both the experimental and control groups were at approximately the same level of writing ability at the beginning of the course.

First, we will examine the quantitative data of learning outcomes by looking at the pre- and post-test averages of the Cambridge exam in the experimental group and the control group. The Cambridge Certificate in Advanced English, Paper 3 exam was the indirect assessment measure used to evaluate if students had the expected lexical and grammatical structures necessary for the advanced level of English according to standards that Cambridge has set. There were five different parts of the exam: contextualised fill-in-the-blank type exercises, multiple-choice, error-correction, and sentence combining tasks. This exam was also being piloted in the program as an exit test to determine if students were ready to advance to the next level (proficiency) if they received 60% or above on the post-test. By examining the figures in Table 6, we can see that the averages of the pre-test were at relatively the same level, therefore indicating that the two groups were at approximately the same proficiency level in English. However, if we look at the results of over time, we can
observe that there did not seem to be any significant difference between the averages of the post-test in the experimental group and the averages of the control group from the results of the indirect assessment.

Table 6
Mean Performance Levels of Indirect Writing Assessment

<table>
<thead>
<tr>
<th>Group</th>
<th>Pre-test</th>
<th>Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Experimental</td>
<td>35.8</td>
<td>11.05</td>
</tr>
<tr>
<td>Control</td>
<td>39.1</td>
<td>7.13</td>
</tr>
</tbody>
</table>

Pre- and post-test gains for both groups appear in Table 6, and we can observe that the experimental group had slightly lower performance levels than the control group in the beginning and at the end of the course. However, it also appears that the experimental group improved almost twice as much as the control group, but this improvement was not significant enough to determine if the technological tools made a difference in the results. It is important to note that standard deviation for the pre-test and post-test in the experimental group is quite high. The high degree of deviation creates a lot of variability in the data, which mitigates against the statistical significance. The gains of both groups were compared in Table 7 using a two-way analysis of variance.
In Table 7, we can observe that there was no statistically significant difference between the gains made in the experimental group with those of the control group. This quantitative analysis reveals that the intervention – computer-assisted classroom discussion using an electronic bulletin board- did not help students improve their writing skills any more than working in a regular, face-to-face classroom. However, we must consider the reasons why these results were not supportive of the initial hypothesis.

Firstly, it is questionable whether the indirect writing measure, the Cambridge exam, is an accurate one for measuring writing ability as it is primarily a test of English usage that does not evaluate writing directly. It is well-known in the language education literature that students may perform well on standardized, more objective exams (i.e. TOEFL) designed to measure writing, but still experience great difficulty when it comes to expressing their ideas in an organized and coherent manner by writing an essay (Hamp-Lyons, 1991). Although standardized measures are considered by some as being more objective and reliable, their validity is often questioned because they do not necessarily measure what they are supposed to measure – the ability to use the knowledge of lexical and grammatical structures to create sentences and paragraphs that are linked to one another to produce a coherent essay. In some
cases, students who wrote a final essay exam did not meet the 80% standard required for advancing to the next level in writing, but they did meet the 60% standard required in the Cambridge exam to progress to the next benchmark for examination proficiency. These mixed results indicate that opposing conclusions about writing ability can be drawn depending on the type of measure used.

Although the Cambridge exam is perceived by the English Language Institute to be a valid and reliable measure for measuring general English usage, the impression that I received from most participants in both the experimental and the control groups was that the post-test version of the exam was more difficult for them than the pre-test. Exactly the same test was not administered, as Cambridge has a variety of tests available to measure reliably student aptitude of English usage at the advanced level. However, it is possible that there may be varying degrees of difficulty from one test to another that could have accounted for some inconsistent results.

It is important to keep in mind that this course was not a content-based, but a skills-based course. In a content-based course, the instructor has the responsibility of covering a certain amount of material and preparing students for an exam which specifically tests that course material. In this writing skills course, students had to demonstrate the ability to write an expository essay, not to display their knowledge on an exam. It easier to use standardized measures to assess comprehension of content-knowledge than to use those measures to assess writing ability because in content-based tests, students know what to expect (Carey, 2000). However, in a proficiency test using indirect writing assessment (i.e. Cambridge exam), students are faced with tasks, words, and structures that they may or may not have learned in
their writing class. As a writing instructor, my goal was not to teach to that specific test, but
to help students acquire the skills they needed to write an academic essay.

The Institute in which I taught this writing course decided to pilot the use of the
Cambridge exam as a more objective means of determining a students' level of writing
proficiency. However, after using this exam for a few semesters, some of the teachers found
that students felt discouraged with their results, and the students asked for a greater focus to
be placed on teaching to the test. However, this focus would conflict with the objective of
the course, which was to improve students' academic essay writing skills. Although the
Cambridge exam was used to assess the students' proficiency level in writing, the validity of
this exam remains at issue since the purposes of this exam are inconsistent with the
objectives of the course. Nevertheless, these exams, in conjunction with direct writing
samples (essays), were administered to allow for a comprehensive and reliable analysis of
student writing proficiency in the target language.

Some theorists believe that a more accurate measure of writing ability is a direct
measure whereby a student writes an actual essay, thereby closely paralleling the kind of
activity that the students in the experimental group were participating in when they were
writing on an interactive electronic bulletin board. The challenge with this type of measure,
however, is the subjective assessment of the individual markers. To decrease the subjectivity
or any bias in the evaluation of indirect measures, it is important for a certain degree of inter-
rater reliability to be achieved. In fact, the primary means by which the students in both the
experimental and control groups were placed at this particular level of the academic writing
class was by asking them to write an expository essay from a choice of topics set by the
assessment committee of the school. The essays were then read and evaluated by two raters,
and if there was a discrepancy between the two marks, a third rater was asked to evaluate the essay. In this project, I assessed the essays that students in the experimental group posted on the electronic bulletin board, and then enlisted one other rater to evaluate the same essays to establish the reliability of the results and decrease any bias. Only 15 of the 18 students in the experimental group chose to submit their essay for the purposes of this research. The measures used to evaluate student essays are those that are recommended by John Langan and Sharon Winstanley (2000, p. 111), the authors of the text for this course (please refer to Appendix B). These criteria are similar to those utilized by the highly regarded Michigan Test, which is used to evaluate national and international standards in writing ability. The following graphs indicate that the results were approximately the same among the two raters for essays written at the beginning and end of the term.

![Graph showing inter-rater reliability of pre-essay scores]

y = 1.5636x - 13.864
R² = 0.807

x = rater 1
y = rater 2

Figure 2 Inter-rater reliability of pre-essay scores
In the above graphs, we can see that there were no significant differences between the two raters in terms of the evaluation of the student essays posted on the e-bulletin board. There is a strong co-relation between the marks of the two raters in the pre-essay, and a moderate co-relation in the post-essay. It is evident that students improved their overall scores over the course of the term, as marks were generally higher in the post-essay.

The averages of student essays (direct writing measures) in the experimental group were compared to the averages of the students in the control group over time in Table 8.
Table 8

Mean Performance Levels of Direct Writing Assessment

<table>
<thead>
<tr>
<th>Group</th>
<th>Pre-essay</th>
<th></th>
<th>Post-essay</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Experimental</td>
<td>21.7</td>
<td>2.7</td>
<td>24</td>
<td>1.7</td>
</tr>
<tr>
<td>Control</td>
<td>22.8</td>
<td>1.5</td>
<td>24</td>
<td>1.2</td>
</tr>
</tbody>
</table>

In Table 8, we can observe that the average grade for the first essay in the course was slightly higher for the control group than the average of the experimental group. Although the average of the final essay is the same for both groups, the level of improvement of the experimental group is twice that of the control group. However, once again, the improvement was not statistically significant when comparing the gains of both groups in Table 9. Once again, the gains of both groups were compared using an analysis of variance:

Table 9

Analysis of Variance of the Direct Writing Assessment

<table>
<thead>
<tr>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10.208</td>
<td>10.208</td>
<td>3.378</td>
<td>.074</td>
</tr>
</tbody>
</table>

It is my contention that the essay was a more accurate measure of writing ability as it assesses more directly the students' capacity to write a well-organized, coherent essay that demonstrates proper usage and grammar. Also, this is the kind of task that students will be expected to perform in university courses. A comparison of student essays of both groups
written at the beginning of the term with those written at the end of the term indicates an increase in their scores, and therefore an improvement in overall writing ability. However, as we can observe in Table 9, the degree of improvement is not statistically significant between the experimental group and the control group. Therefore, the quantitative data do not show that better results in writing improvement could be achieved as a direct result of the minimal intervention, CACD. However, it is important to note that the difference in writing improvement between the two groups is approaching significance at \( p = .07 \). If there were an equal number of students in both groups, then the experimental group may have had a greater degree of statistical power to increase levels of significance. Also, if the students in the experimental group had spent an equal amount of time on the electronic bulletin board as the students in the control group had spent in the classroom, then we could have had a clearer idea about the improvement levels of students using the intervention.

Other studies have also not found statistically significant performance levels in writing between a control group using traditional methods, and an experimental group using CACD. One such experiment assessing writing ability using technology was conducted by Loretta Kasper (2000). In her experiment, Kasper uses an electronic bulletin board and a ‘focus discipline’ approach with college level ESL students who need to improve their literacy skills in English to succeed in their coursework. She compared results from a writing test (a timed essay) between one group engaged in focus discipline research with the benefit of electronic technology resources, with students who engaged in focus discipline research without technology. She states that, “although the pass rate is higher for those students who used technology, differences in these percentages are not statistically significant based on a chi-square test. […] Thus, for the ESL 91 students at my college, technology use appears to
have significantly facilitated reading skill development, while leaving writing skill
development basically unchanged.” (Kasper, 2000, p. 121-122).

In this group as well, there was not a significant difference between the averages of
the post-tests of the control group in relation to the experimental groups, but the degree of
improvement of the experimental group was greater than that of the control group. Perhaps
this improvement could have been due to students learning English usage by reading and
responding to other students’ writing, and immediately incorporating certain words or
phrases that their peers used in the same context. Thus, the reader-response tasks and the
interactive and collaborative nature of the writing activities on-line could have assisted
students in the experimental group to improve their academic writing skills in Kasper’s
research and in my own study. However, the question remains as to whether those kinds of
tasks need the technology in order to yield the same results.

By examining the quantitative analysis of the data in this project, and the findings of
Kasper’s experiment, it can be suggested, as Bruffee (1993) and others have noted, that
“collaborative learning communities, be they face-to-face or online, encourage active
participation in learning, foster processing of interdisciplinary themes and concepts, and
teach students how to construct and articulate the knowledge they need in order to produce
strong written projects” (Kasper, 2000, p. 122). In fact, Kasper questions the value of having
students post their messages on electronic discussion lists because she found that they “were
rather informal in nature, consisting essentially of personal opinions and experience.”
(Kasper, 2000, p. 122). She does not feel that the informal nature of the writing required of
students in a CACD is conducive to producing formal academic writing which they will have
to do in a university environment. She states, “as Leki and Carson (1994) noted, ‘writing
tasks that require students only to tap their own opinions and experiences’ do not provide them with practice nor adequately prepare them to produce the structure and discourse modes inherent in academic writing. Thus, although their postings to the list did provide the ESL students in this study with additional opportunities to produce written English, these postings did not offer students a model for the type of academic pieces they were required to produce for the writing assessment” (Kasper, 2000, p. 122).

Although I agree with Kasper that CACD provided learners with extra writing practice, I do not necessarily agree with her assertion that this activity on the electronic bulletin board does not help students produce the structures and discourse modes they need to know for academic writing. It is true that some electronic communication does have a degree of informality, but as with many other kinds of communication and language, the degree of informality depends on the context and audience. It is understandable that young adults tend to express themselves informally on e-mail because their experience in using electronic communication has been for writing for personal reasons to family and friends. However, as they are making the transition into academic (post-secondary) and professional environments, it is the teacher’s responsibility to create an awareness of the different registers of electronic communication. Since many courses now at the post-secondary level have a web-page with an electronic bulletin board, it is important that the second language instructor underline the importance of clear and effective communication in an academic context. The new writing habits and standards that they will learn from this experience will assist them with the kind of professional correspondence they will be making to colleagues, supervisors, and clients.
Teachers can help students write in more formal academic prose on the bulletin board by setting clear standards in terms of style, usage, tone, accuracy, and mechanics of writing. It should be understood that the instructor will be reading and providing feedback on the content and form of most, in not all, of the writing posted. The instructor should also participate in electronic discussions among students so that his or her writing can serve as a model of more formal prose to students. The electronic-bulletin board in an academic course should not only be used as virtual gathering place for informal small talk among students. Rather, the instructor should help students view this space as an open forum for the dynamic exchange of stimulating ideas and critical discourse. In order for these ideas to be expressed clearly and convincingly, the teacher must set standards for student writing on the bulletin board by supervising, giving constructive feedback, and by participating in the written discussion.

Critics of electronic communication may argue that technology is not necessary for creating written discussions with high standards of written expression. It could be argued that the same kind of exchange could be achieved by using pen and paper in a peer review session guided by an instructor. However, one main reason that the technology is often used and preferred by some instructors is because it is a more efficient and effective way conducting computer-assisted classroom discussions. Students have permanent records of their own and other students’ writing that they can refer back to and revise. Also, an on-line peer review session does not need to be limited to a specific time and place, as in a regular face-to-face classroom. It can occur outside of class time at the learner’s convenience. Also, the asynchronous nature of the on-line discussions gives students more time for reflection and the opportunity to build on others’ ideas at their own pace.
Although critics may question the necessity and usefulness of technology for written discussion in an academic context, their ambivalence about technology may be legitimate because it is not the technology *per se* that makes a difference in the students' learning. As I have previously mentioned, the teacher's role and ability to use the technology and the kinds of activities she or he creates with this tool may help in increasing the language learning potential of ESL students.

Every effort was made in this project to prepare properly the students for the on-line task, to provide them with formal and informal feedback, and to create an awareness of the academic context and audience of the electronic bulletin board activity. The quantitative data may not have yielded the expected results for a variety of reasons: inappropriate measures, lack of statistical power, external variables that could not be controlled, and insufficient length of time provided. All these reasons will be discussed in detail in the 'discussion' section of this paper.

### 4.4 Qualitative Results and Analysis for Language Learning Potential

Although the quantitative results of the direct and indirect writing measures do not support the claim that writing improvement was a result of computer-assisted classroom discussion on the electronic bulletin board, my observations as well as the qualitative data obtained from student protocols, interviews, and questionnaires provide support the claim that CACD can improve the language learning potential of students and help them to focus on form in their writing. In addition to comparing the quantitative results of student essays, student writing on the electronic bulletin board was evaluated holistically and the following
general observations were made as to the quality of their postings over time and their ability to focus on form.

At first, I noticed that some students were producing informal messages and writing on the electronic bulletin board as if they were writing on e-mail to their friends. The samples of student writing hereafter are unedited, original texts. Here are some examples of student writing in the first week of using WebCT.

Figure 4. Sample of informal style of student writing on-line.

Figure 5. Sample of informal style of student writing on-line.

Using lower case letters, improper sentence structure, emoticons, and phonetic spelling of words are examples of informality in student writing that are inappropriate in academic contexts.

From one point of view, this relaxed style may have eased students into the act of writing since young adult learners usually have a positive experience with e-mail exchange.
It appeared that they transferred those positive feelings when writing on the electronic bulletin board. However, I kept on reminding students of the academic nature of the writing course, and I provided them with immediate feedback on-line on the content as well as the form of their written protocols. By the third week of the course, I noticed that students were paying more attention to the accuracy in their writing by asking me questions about grammar and usage, checking an on-line dictionary for spelling, and by taking more time to revise their message before posting it. Also, they were given guidelines, resources, and practice exercises for working with an on-line concordancing dictionary that could help them by giving them models of appropriate usage of new words. After frequent reminders about the academic context of this kind of electronic communication, students made a greater effort to write more formally and accurately. The following is a sample of the one of the students' writing after six weeks of using the electronic bulletin board:

Message no. 390
Posted by xxx on Monday, November 26, 2001 10:05am
Subject Computer technology

In all around the world, every technological innovation is positive and negative. As a matter of fact, it is impossible to find something just with one side. However, in reality this is people who make the effects of computer on a variety aspects of life. For example, a student can use the computer wisely in order to improve his/her knowledge in science, other languages and cultures. While a student can use the computer in that way, another student can just waste the time on unimportant or sometimes harmful information on the internet. In fact, computer, especially internet is a source to get good knowledge and also bad knowledge. In my opinion, the bulletin board has really helped the student in improving both their knowledge and writing skills. First, when a student read other students' essay, he/she will become familiare with different styles of writing. For example, different cultures have different ways of describing. In addition, people show their point of view about a similar subject so different from others. In fact, by reading other students' essay we will learn about other cultures and see the world through their eyes. Second, writing on the bulletin board will help the students to improve their writing skillis
by writing in a limited period of time. For example, when the students must think about a topic and start writing whatever comes to their mind, afterwards they become more comfortable with writing. They will learn how to jot down their opinions in the correct way. In conclusion, I strongly believe that working on the bulletin board will be so helpful for students to discover their talents in writing and other students’ way of thinking.

Figure 6. Sample of formal style of student writing on-line

In this sample, we can observe that the student’s ideas are more organized and coherent, as she uses transitional phrases and words such as ‘however’, ‘in fact’, ‘first’, ‘for example, and ‘in conclusion’. There are very few spelling mistakes and errors in subject-verb agreement. Sentences are joined effectively through the use of subordinating and coordinating conjunctions, and there are no colloquialisms or informal words.

Some students were so concerned about the quality and accuracy of their writing before posting their work that they would type their message or essay onto a Word document first and then posted their writing on the electronic bulletin board. The Word program provided them with the feedback on the spelling and mechanics of their writing and gave them the impression of creating a more polished document. However, student use of the Word program before posting their message was discouraged because they realized that the point of the on-line bulletin board was to hone their own editing and revising skills, rather than have an editing program do it for them. Also, the focus of CACD was to encourage peer review to build Krashen’s ‘internal monitor’ skills, and to receive more effective and accurate feedback on their writing from the instructor. The following is a sample of the kind of corrective feedback that the instructor provided in order to encourage students to focus on form in their writing, and thus increase their language learning potential:
Message no. 4  
Sent to XXX on Monday, January 28, 2002 9:23am  
Subject: Introduction  
In message 18 on Tue Jan 22, 2002 09:19, XXX Writes:  

> How I learned to write.  
>  
> There are four basic elements of learning language  
> which are listening, speaking, reading and writing.  
> Everybody knows how to write, but write a good  
> composition is quite difficult. We have to know how to  
> write the words, then think about what we are going to  
> write and organize them. Writing is a lot of work then  
> we think because there are a lot of rules in writing,  
> especially in Chinese writing. My first language is  
> Mandarin, so I have to learn how to write the different  
> words first. I remember that when I was in elementary  
> school, I had to learn how to write the words which  
> looks (LOOK) like pictures. This is the first step of learning  
> writing. The second step is the teacher wanted the  
> students to copy the short compositions because we were  
> too young to know how to write. While we are copying,  
>  
> we learned how to write the words and how to organize  
> the composition. Coping the book is quite easy, but  
>  
> when I was in secondary school, I had to write my own  
> composition, and it was not easy anymore, because I have  
> to think independent and I usually got confused about  
> independently  
> the rules of Chinese writing. I couldn't remember my  
> first writing paper, but I believe that it should be an  
> awful writing! My second language is English and I  
> learned how to write it in secondary school. Learning  
> how to write English words is easy for Taiwanese because  
> our own words is more difficult, especially our words is  
> traditional Chinese, not simple Chinese. I think the  
> step of how I learned to write English was the same with  
> how I learned to write Chinese. Writing English was  
> easy for us in secondary school because all we had to do  
> was copy the book or write a short composition. When I  
> was in college, the writing was more difficult in both  
> English and Chinese. The biggest differences of writing  
> English and Chinese are the rules and the organization.  
> In Chinese writing, there are more rules than English  
> writing. It is hard to explain there are what kinds of  
> WHAT KINDS OF RULES THERE ARE  
Rules in Chinese writing. Talking about organization, I  
remember my teacher said, "The organization of Chinese
> writing is like a circle, and the organization of English writing is like a straight line." It means in Chinese writing, we talk about other things first and the point of topic usually in the third paragraph, but in English writing, we list several things about the topic and talk about them. I think these are the differences of writing in English and Chinese. Sometimes I don't like to write because it is a lot of work and takes a lot of time, but I think it is important to know how to write because writing can make me to think more and clearer than before. If I can ME THINK MORE AND MORE CLEARLY think and write clearly, I can express clearly, too. MYSELF The ways Of communicating with other people are not only speaking but also writing, such as e-mail, letter, business letter and so on. I can let other people know exactly what I think, and we won't misunderstand each other.

WELL DONE xxx! I LIKE HOW YOU OUTLINE THE DIFFERENCES BETWEEN WRITING IN YOUR CULTURE AND IN CANADA.
KEEP UP THE GOOD WORK!
VALIA

Figure 7. Corrective feedback provided by the teacher on-line

As we can see, the kinds of corrections the teacher provided were typical ESL writing errors. Feedback was given on word choice, sentence structure, article usage, subject-verb agreement, choice of verb tense, and pronoun reference. This student really appreciated the feedback, and felt motivated by the fact that the instructor was monitoring her writing. This approach of providing corrective feedback was foreign to some international students because they were not used to their writing as being part of a learning process, but as a final product to be judged. One student expresses his awareness of this difference, and shows an appreciation for the corrective feedback he was given.
I think there are cultural differences between academic writing in Korea and academic writing in North America. The main differences are how and when to teach. Write an essay and how to improve their essay. Continuously. In Korea, students study how to write Essay for a short time in high school. Teachers don't teach in detail about that. In university, professors don't want to correct their students' essay. They just mark. In comparison with Korea, students in North America must learn how to write an academic writing for a long time. In university, professors try to correct their students essay, so students can improve their essay skills continuously. When I write an essay, I first think about what I want to say on my paper. And then I write down everything I can image. After finishing this step, I choose what I want and narrow it down. I have to write thesis, topic, and concluding sentences. If I write whole essay one time, I read it and check again and again. Actually, I am not a good essay writer, because I didn't know how to write an essay correctly. I like to write Academic writing, because finally I learn how to write an essay efficiently.

Figure 8. Student perceptions of cultural differences in correction and evaluation

Even though as an instructor, I felt responsible for giving students feedback on form, I also wanted to help students build their metalinguistic awareness and help them learn to become more autonomous learners once they left the classroom. As such, I encouraged students to rely on their own editing skills, on manual and on-line resources, and on their peers. I strictly monitored students in the computer lab to make sure that they did not use the Word program before posting messages. Slowly, students understood my intentions, and they started providing feedback to one another on both the content and form of their messages and essays. Here is an example of one student pointing out an important error on form to another:
Message no. 142 [Branch from no. 129]
Posted by xxx on Monday, March 4, 2002 8:56am
Subject: Re: Do you like to drive a motorcycle? (C&C essay)

I was surprised at that you revised enough. You added more details to support main ideas and developed the introduction and the conclusion. In your conclusion, you should check the condition sentence, "If people could..., a car was...". I think "If people could..., a car would be..." is correct.

Xxx

Figure 9. Student feedback on form

As we will see in the student protocols, the participants were able to observe the way that I was responding to and correcting student writing on the electronic bulletin board. Slowly, they would start to comment on grammar or ask questions about meaning to each other in the same way that I did. The following figure is an example of one student providing feedback on form to another student using the on-line bulletin board:

Message no. 164 [Branch from no. 158]
Posted by xxx on Monday, March 11, 2002 8:55am
Subject: Re: plagiarism

Hi xxx. You expressed the idea of plagiarism with a very good example. It was very clear to me. Congratulations. I'm sending you some corrections that I could see:

In message 158 on Mon Mar 04, 2002 10:08, xxx writes:
>Hi everybody, how was your weekend? I had a great time with my friends. Well, I would like to write an essay on plagiarism (cause and effect). I hope you like it. What is plagiarism? There are many definitions of to plagiarize; "to take (words or ideas) from someone's else work) and used in one's own work without admitting one has done so". If you plagiarize in a university maybe you will be refuse of a degree. (Longman dictionary). That is a dictionary definition, now I need to write all the causes and the effects of plagiarism.
> Cheating, copying, dishonesty, not educated, not intelligent, in moral, those are some words related WITHOUT ETHICS with the word plagiarism. But, what are the causes of plagiarism? When I was in high school, a great friend of mine made a very big mistake that will affect all his ME MADE AFFECTED life.
> We were taking the same course (Linguistics) and we had WE HAD
to hand in a final essay writing that will count ten percent of our grade. He was a very smart person. Actually, before handing in the essay, he already had 85 percent of its grade. He did not need to hand in the essay to pass the course. No matter what, he decided to copy it from the Internet. He had a lot of confidence in that essay that he did not even read it all. Unfortunately, in the middle of the essay was a sentence that says "here, in Spain we have..." Then, the teacher realized that was a copy-paste essay, and accuse him of plagiarism to the director. Plagiarism with the director. My friend got a cero in the course, and in its record will always appear the word plagiarism. What a tragic story, but after talking to him, I got some of the causes and the effects of my friend’s action. Actually, there was only one cause that was laziness. In personal, I will never risk a year of work for only two or three hours of effort. Otherwise, for only one cause he had and it’s having a lot of effects. He lost the confidence of the teacher and the director. He will always have a bad reputation because of his record. He had to take again the course. In the future, when if he will apply to a university, it will be very difficult for him to be accepted. These were some of the causes and effects of a specific way of plagiarism.

I'm out of time ...to be continue... Tank you for your feedback.

Regards... have a good week.

Figure 10. Student feedback on form

As can be seen, this student provided another student with some general positive feedback on the clarity and detail of his writing, and then proceeded to highlight some areas that his classmate could improve upon. Peer feedback included corrections on word choice, verb tense, sentence structure, and pronoun reference. Of course, not all the errors made by the writer were detected, but this attempt at peer review indicates that the student editing the
other students' writing made an honest effort to apply the grammar rules learned in class to help another student improve their writing.

Near the end of the course, it was clear to me that students in the experimental group had made progress in their peer review and editing skills, and had aimed for a greater degree of accuracy, formality, and sophistication in their writing. I believe that this change had occurred because of the public, interactive nature of the electronic bulletin, the instructor's guidance, and the continued motivation of the students. In my observations of CACD, this activity helped students not only to use the language extensively, but also to learn language for the purposes of writing in an academic context. In the control group, the writing students did was not so public in nature, nor was it as extensive, interactive, or reflective. Since most students in the experimental group had never written an academic essay in English before, I felt that they had made a tremendous improvement over the three-month session because of the opportunities for open interaction and reflection that the WebCT encouraged. However, a teacher's perceptions of the efficacy or viability of a pedagogical tool or method provide only some of the support for the hypothesis made. Therefore, interviews, questionnaires, and student protocols revealing learners' perceptions and opinions were also analyzed.

In addition to my observations on the language learning potential of CACD, most students' observations and reports on their learning to write academically indicate that they thought that CACD did play a pivotal role in their improvement in this area. One method used to determine if on-line interactive writing was responsible for these improvements was by asking students directly during an interview. Sixteen of the eighteen students in the experimental group were asked if they felt that they improved in their grammatical accuracy, their fluency, and organizational skills in writing in English (please see Appendix D). They
were also questioned about their ability to revise and edit their own and other students’ essays and about their overall improvement in writing as a result of using the on-line bulletin board. Their opinions were also solicited regarding the effectiveness of feedback received from the instructor, and about the usefulness of peer review.

Two of the students in the experimental group chose not to participate in the interviews. Fourteen out of the sixteen (88%) students interviewed indicated that at least 50% of their writing improvement was due to the on-line writing practice and written interactions with other students on the electronic bulletin board (see Table 10). Eleven out of sixteen students (69%) believed that their grammatical accuracy had improved as a result of using the on-line bulletin board. It is interesting to note that all five of the sixteen students who felt that on-line writing had not really helped them improve their grammar were in my first experimental group. In that group, the instructor did not provide feedback on form to the students in the first half of the course for fear of impeding fluency in writing. Interestingly, fifteen out of sixteen students (94%) felt that on-line writing really helped them to expand their vocabulary by reading other students’ essays, learning new words, and using them right away. Ninety-four percent of the students interviewed also felt that on-line writing helped them to improve their revising skills because of the feedback they received from the teacher and because they learned from student models. In addition, students felt that they had a greater sense of audience when writing and were thus very careful not to make errors. Sixty-nine percent of the students believed that their reading skills had improved by reading other students’ essays, but the remaining thirty-one percent claimed that reading student writing did not help them learn anything above their level of proficiency in English vocabulary. However, by reading student essays and by having the extra time to
reflect on their writing, 100% of the students felt that they learned how to organize their ideas in a more coherent manner. As one student clearly admits: “When we use WebCT, we have time to think and organize our ideas.” This additional time allowed students to focus on form and formulate sentences that more accurately represented their ideas.

The following table illustrates the areas where students felt they had improved, from most popular to least popular, by using computer-assisted classroom discussion:

Table 10
Student Perceptions of Areas of Writing Improvement

<table>
<thead>
<tr>
<th></th>
<th>Improvement</th>
<th>No improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization</td>
<td>16</td>
<td>0</td>
</tr>
<tr>
<td>Revision</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>Vocabulary/Fluency</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>Overall writing improvement</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td>Grammar</td>
<td>11</td>
<td>5</td>
</tr>
<tr>
<td>Reading</td>
<td>11</td>
<td>5</td>
</tr>
</tbody>
</table>

It is interesting to note that students felt they learned how to organize their ideas better through the use of the on-line bulletin board. Perhaps this was due to the self-paced environment the electronic bulletin board allows (Carey, 1999a). It may also have been due to their greater awareness of audience, and the importance of expressing their ideas in a coherent fashion so as to be understood. The second area where almost all students improved...
by using the electronic bulletin was in their revision skills. Students were aware that the instructor and other students would be reading and providing them with feedback on their writing; furthermore, they were able to look back at previous postings of their writing and do recasts or self-corrections of their own work. Also, since they were not allowed to use the auto-correct features of the Word program, they were forced to rely on their own discretion about the quality of their writing. This self-reliance helped them to build their internal monitor of good writing and helped to improve their revision skills, including grammaticality judgements, error recognition and correction (Larsen-Freeman & Long, 1991). Judgments of grammaticality refer to a speaker's intuition about whether a particular utterance is well-formed (Larsen-Freeman & Long, 1991, p. 34). By building that intuition, students train themselves to recognize not only mistakes, but errors. According to Corder, there is a distinction to be made between a mistake and an error.

Whereas a mistake is a random performance slip caused by fatigue, excitement, etc., and therefore can be readily self-corrected, an error is a systematic deviation made by learners who have not yet mastered the rules of the L2. A learner cannot self-correct an error because it is a product reflective of his or her current stage of L2 development, or underlying competence. Rather than being seen as something to be prevented, then, errors were signs that learners were actively engaged in hypothesis testing which would ultimately result in the acquisition of TL [target language] rules” (Corder, 1967 cited in Larsen-Freeman & Long, 1991, p. 59).

Although the students in this study had been introduced to and learned various grammar rules, they made errors because they were not able to put these rules into practice.
and achieve mastery. The numerous opportunities that students had to make errors and observe the errors of others, and go back and try to correct them, points to the attempts students made to focus on form and thus increase their language learning potential in the target language.

The next area where students felt that they had improved was in developing their vocabulary and their fluency in writing. Most students mentioned that even though they knew the meaning of certain words, they were able to determine their correct usage by seeing them written in context by the teacher or by other classmates. This ‘scaffolding’, or building utterances on the input of another speaker/writer (Slobin, 1982) helped students improve their usage and style. Also, the dynamic nature of the ‘reader-response’ activity helped to create a sense of flow and rhythm in the interactions, and helped to build their fluency.

Although most students felt that they were able to learn from the contributions of others, some students felt less convinced that their grammar and reading skills improved. This is so because they realized that the kind of writing that they were exposed to was ‘learner writing’ or ‘interlanguage writing’, which is by definition, imperfect or inaccurate writing compared to the non-native speaker standard. Although interlanguage is of great interest to language researchers because it provides insight into the process of second language learning, it is questionable whether second language learners regard it as a useful practice. Some learners would rather exchange the time spent gaining input from student writing with gaining input from native-speaker writing. According to Larsen-Freeman and Long (1991), the effect of ill-formed, ungrammatical, or ‘deviant’ input on subsequent language learning has attracted surprisingly little research to date (pp. 128-29). It seems reasonable to expect that a second language learner exposed to predominantly ‘deviant’ input
of non-native speakers will acquire, at best, a substandard variety of the target language. Larsen-Freeman and Long claim that, although no clear causal relationship has been established, there is some suggestive evidence that this is the case since "the kinds of SLA environments most often associated with ungrammatical input are also those in which a 'pidginized' variety of the SL has been found to develop" (Larsen-Freeman & Long, 1991, p. 129). This issue has been an area of importance and controversy in second language pedagogy, particularly in immersion programs (Spanish immersion in the USA and French immersion in Canada) where fossilization occurs with student output errors, even when the teacher provides well-formed input (Harley & Swain, 1978; Carey, 1984).

Despite the findings which question the effectiveness of non-native ungrammatical input for second language learning, there are recent findings of non-native/non-native conversation (‘interlanguage talk’) which show that this kind of conversation is as useful, if not more useful, than NS – NNS conversation (Pelletierri, 2000, Porter, 1983; Pica and Doughty, 1985; Varonis & Gass, 1985). The claim these researchers make is supported by the fact that breakdowns of communication occur more frequently between non-native speakers, and thus provide more opportunities for negotiation of meaning. This negotiation is central to the learning process for non-native speakers. When a NNS communicates with a native speaker, most of the negotiation and output comes from the native speaker, and therefore decreases the NNS opportunities for experimenting with the language and learning from his or her attempts. Also, in my opinion, and in the opinion of many other experienced second language teachers in the ELI, it appears that exposure to authentic materials in the target language and models of native speech and writing as input are insufficient for second language learning. The student actively needs to go through the process of creating output,
making errors, recognizing those errors, and correcting them. Communicating in speech and writing with a non-native speaker may lower their affective filter and encourage them to create more output and negotiate meaning more than if they were communicating with a native-speaker. In fact, as an instructor, I noticed that when I asked students a question on the bulletin board and they had to respond to me, they expressed that they were nervous or shy about doing so. Their writing was limited in length, and they seemed not to take as many risks as compared to when they were communicating with their non-native speaking peers. By looking more closely at some of the students' comments regarding on-line corrective feedback from the teacher and from the students, we can gain a greater understanding as to their perceptions of what is more effective for their writing development.

In the first class of the experimental group, the instructor made comments on the content and pointed out some errors of student writing on the bulletin board for the first five weeks; more detailed corrections were made in the last five weeks. Students in this class expressed that they would have liked on-line corrections from the beginning. Although some felt that they were writing more fluently in the beginning, they later realized that their writing was not very accurate grammatically once they had a chance to reread their own writing on the electronic bulletin board. One student explained his experience:

At the beginning, I wrote my first thought in WebCT, but maybe I had a lot of mistakes, but they were my thoughts and my free writing was more fluent at the beginning, but with a lot of mistakes. And with the pass of the time, with the corrections, [...] you learned that you had to think before to write.

This student expresses that he liked the opportunity he had to build his fluency in the beginning, but felt that what he was gaining in fluency, he was losing in accuracy. He
became more aware of his grammatical errors once the teacher provided on-line corrections, and learned to be more careful about his writing. He started paying more attention to form and spending more time on the revision process. He stated: “When I wrote my first essay, I wrote, maybe I spend like on hour and a half or two hours. Maybe the second essay, more like four hours. The third essay, like five hours or more. Well, the last essay, more than eight hours.”

With this testimony, we can see that for this learner, writing on an electronic bulletin board not only increased his opportunities for language use, but also for language learning as he could pay more attention to form, knowing that both the teacher and the students would give him feedback on form and content. This created a greater awareness of audience, which led to an attitude of greater precision and accuracy in his written work. Although content and the organization of ideas is important to academic writing, greater clarity and coherence can be achieved if a student learns to be more precise in both grammar and word choice. Focusing on form is necessary for high quality academic writing, and these adult ESL students had an opportunity to apply their grammatical knowledge and create pieces of writing with greater clarity and accuracy through the use of the on-line bulletin board.

Another student also expressed the opinion that she would have liked the teacher to provide feedback on her writing, rather than not have any feedback at all. She feels that the teacher’s role is to correct, and that if the teacher did not fulfil that role, she would not be able to gain an awareness of her weakness. She felt that the teacher’s attention made her pay more attention to her own writing and self-correct on the electronic bulletin board, without relying on the Word program to correct errors for her. She stated:
I prefer that the teacher correct my postings on the bulletin board because I can know the mistakes which I made in the essays. We have an idiom in Taiwan, "Learning from the mistakes." If the teacher didn't correct the mistakes, I wouldn't know which grammar is right, and which grammar is wrong. I would think that I use the right grammar and spelling which are wrong. If I didn't know that, I would make the same mistakes every time when I write something. The most common errors that I make are verb tense and prepositions because we don't change verb tense in Chinese. We add other words to show past and future. I think most Chinese students make the same mistake, too. After writing on the WebCT, I make less tense errors than before because I have to pay attention on them when I write on the bulletin, which not like office word helps me to correct my mistakes.

This student is also demonstrating metalinguistic awareness in her protocol by comparing the tense structure and preposition usage of her mother tongue and that of English. We can see that this reflective exercise on what students find more effective for their writing improvement not only exercises their writing, but it also allows students to make linguistic comparisons much in the same way Cope and Kalantzis (2000) recommended for the development of multiliteracy.

Other students also mentioned that WebCT had helped to improve their academic writing and to focus on form because it gave them the opportunity to use the rules they learned from textbook exercises. When asked how much a student felt she improved, a
student answered: “A lot, because before I already knew the grammar and the vocabulary, but I don’t use [it]; I just know and I don’t use.” Part of learning how to use the new rules in their own sentences involved looking at models of student writing that were posted permanently on the electronic bulletin. One student commented on how computers have made the language learning process easier by allowing meaningful interactions to occur and by providing records of student writing than can be emulated.

Message no. 176
Posted by xxx on Monday, March 11, 2002 10:10am
Subject It is helpful for students to use computer.

It is very useful and helpful for student to use Computer when they are studying. Just 20 years ago, when our mother and father were studying, they had to read their text books or reference books to acquire some information that they want to know. Sometimes, they also had to spend whole weekend to find books or information in the library. However, we live in information age. The development of computer technology help students to study various ways. First of all, students can acquire a lot of information that they want to know. On Former days, we had to read some articles and imagine something we didn't know. However, if we access any homepages now, we can see many picture and read more detail information. To see something which it is involved in our study can help students to understand very well. Second, students can save their time to find Information. They just type some words in computer and then wait for 1-2 minutes. They don't need to spend their time to find some information. To use the electronic bulletin board is very helpful for me to improve my academic writing skills in English. First, I had to practice how to type in English for one month and now I can type better than before. By using the electronic bulletin board, I can read my classmate's essay. It's good chance to learn advance's writing. Sometimes, my classmates and teacher read my essay and give me good advice. I think that my writing skills are improving much after I used the electronic bulletin board.

Figure 12. Student's positive perceptions of WebCT for writing improvement.
Students felt that the teacher’s high standards and on-going feedback on the electronic bulletin board helped them to put into practice what they had learned in the classroom and learn from each other’s writing. Even though the electronic bulletin board appeared to be similar to e-mail initially, most students came to view this interactive electronic writing exercise as a formal activity that could improve their academic writing skills. One student stated: “It’s a formal way to write, I think. [...] I don’t just write my note [...], so I paid attention to my grammar structure so I think it improved my writing skills.”

One of the teacher’s concerns was that the students’ fluency and comfortability with writing on the electronic bulletin board would be compromised if standards were set too high or if students felt that they were constantly observed. However, most students expressed that the standards and the attention were extremely helpful and did not impede their fluency. This positive reaction to teacher feedback emphasizes the importance of the teacher’s role for helping students reach the zone of proximal development. One student states: “I practice every Monday writing essays, and the feedback that my teacher gives me, it’s like, it’s the way that I learn more because I can see my mistakes and my errors and then I can correct them.” When asked if this feedback makes him feel self conscious, the student’s response was:

No, [...] because well sometimes you feel when a teacher doesn’t correct your work you feel that she doesn’t care about your work and when you see that she’s, or he’s, correcting everything that you do, it, you, well, I think that he or she cares about my work so that’s why I feel good when they give me feedback.
Some writing teachers may feel that when they monitor writing on the electronic bulletin board, they may have a tendency to over-correct, and thereby discourage students' risk-taking ability. Although the corrections were made privately, at times I was hesitant to point out every single error for fear of decreasing students' motivation and opportunities for writing practice and learning. However, most students insisted that they preferred the attention of the teacher, and felt more motivated by the feedback. One student bluntly stated: "I want to know my mistake."

The student self-report data suggest that teacher feedback on the final product of their writing is necessary, but the continual guidance on-line also made them view writing as a process that is fuelled by consistent feedback, revision, and reflection. This process not only shapes their writing, but also appears to change the strategies they use when writing in a second language. One student was asked: "Do you think the WebCT has helped you with the writing process?" She answered: "I think I have changed a lot because you always correct my writing, [...] and then I thought, 'Maybe I have to check before writing' [...] so now I try not to make same mistake."

This student has realized the importance of the process involved in revising her work as a result of the teacher's attention and corrective feedback on her writing. However, another student did not seem to be so convinced of the merits of using an electronic bulletin board to improve academic writing skills. He thought the same could be accomplished with pencil-and-paper tasks, as long as the teacher provided some feedback. When he was asked if WebCT helped him with his writing skills, he responded by saying the following: "Well, in terms of practicing, yes it did help me [...] Actually, yeah, I improve my typing speed, and I improve my vocabulary, grammar, and organization. [...] but you know, as I said, it's just
in terms of practicing, not because it's on WebCT [...]. It could have been on a piece of paper.” However, later on in the interview, the student did realize that the difference between writing on-line and writing on a sheet of paper was that all the other students in the class would read his writing and that they were expected to respond to it. This kind of interaction and attention to a larger audience occurs at a lesser degree, if at all, in a regular face-to-face classroom.

In addition to the interviews and on-line student protocols, student questionnaires were also distributed to students in both the experimental and control groups to determine if there were any significant differences between the two groups in terms of perceptions of writing ability. The questionnaire (see Appendix C) had a reliability of .81, and only 26 of the 43 participants responded; 7 (out of 18) from the experimental group and 19 (out of 25) from the control group. The reason there were fewer responses to the questionnaire in the experimental group was because there were only two experimental groups and three control groups (one in which I was the teacher). Also, the day that I had scheduled to distribute a questionnaire to the first experimental group (the last day of classes), an unexpected event occurred, and many students chose not to participate in the questionnaire. The lower number of responses in the questionnaire may have weakened the statistical power of the results in the experimental group. Most of the question items yielded similar positive results from the students in both groups with a few noticeable, statistically significant exceptions. After an ANOVA test, the following question items in the experimental group were statistically significant from the control group: a2, and a9.

In a2, students in the experimental group expressed that they felt that they could revise and edit their essays significantly better than the students in the control group.
Perhaps the students using the electronic bulletin used the permanence of the medium to review their writing and make the necessary changes needed to enhance the readability of the message or essay posted. Also, the on-line peer review could have contributed to improving students' own revision and editing skills and to creating a greater awareness of audience.

In a9, students in the experimental group reported that they felt significantly more confident when taking timed writings than the students in the experimental group. Students on the electronic bulletin board were given a certain period of time within which they could write an on-line journal entry/reflection piece, respond to another student's entry, post their academic essays, and revise the essays of their peers. Since students only had access to 100 minutes of class time in the computer lab, they had to make the best use of their time to fit in all the writing activities. The increased writing practice under time limitations perhaps made them more comfortable with other timed-writing activities they had to engage in (i.e. preparation for the timed writing in the TOEFL exam).

With regards to writing improvement assessed by the answers given from a1 to a10, 95% of the responses ranged between 5 (agree) to 7 (strongly agree), thus indicating that most of the students felt that they had developed their academic writing skills. Interestingly, these results differ quite markedly from a study conducted by Stepp-Greany that analyzed student perceptions on language learning using electronic threaded discussions. A group of first-year students learning Spanish as a second language answered a questionnaire that assessed the students experience using CALL. Although most students felt that they invested more time, learned more about Hispanic culture, improved their reading and listening skills, and had a positive experience learning language using technology, "only 50% of students believed that their writing skills had improved when evaluating the general effect of
technology-enhanced instruction on writing skills" (Stepp-Greany, 2002, p. 8). The results of this study sharply differ from the results of student perceptions of writing improvement in my study primarily because corrective feedback was provided by the teacher as well as by other students in my study, which made students focus on form and hone their revising skills. Stepp-Greany admits that “no formal feedback took place” (2002, p. 9), and students were given credit for the assignment, regardless of its quality. The difference in these results underscores the importance of providing corrective feedback to the second language student if the purpose is to help the learner improve academic, formal writing. Even though a computer-assisted classroom discussion is a meaning-focused activity that allows for the development of critical thinking skills and creativity, students preparing to write for an academic environment must also learn to write with precision and accuracy if they wish to communicate effectively with peers, future teachers, and employers.

Having established that students perceive teacher feedback on the electronic bulletin board as conducive to academic writing improvement, it is also important to investigate students’ perceptions with regards to peer feedback. During the interviews, students were asked how helpful it was to read each other’s interlanguage writing. Many teachers, researcher, and learners of a second language question the effectiveness of learning by being exposed to so-called ‘deviant’ models of writing. As an instructor and researcher, I was interested in knowing whether students felt that they learned from each other’s mistakes and refined their ‘monitor’ skills. However, I also wondered whether students simply repeated each other’s errors, thus encouraging the process of fossilization. Even though some instructors believe that peer review and interaction may encourage negotiation of meaning and ‘push’ the learner to achieve greater clarity and proficiency in the language, I wanted to
know what students' perceptions were of this experience. It appears that some students felt frustrated and, at times, hopeless about the possibility of any kind of negotiation occurring. One student stated: "I'm not sure about that [peer review] because sometimes [it's a] little bit difficult because the writing is from students, right, so they make a lot of mistakes, as I did. So sometimes, I just misunderstand and then I don't know what they are talking about, and I just don't want to read anymore." Another student expressed the same opinion: "Sometimes, it's easy to read other student's writing, but sometimes its difficult to understand what he really means." A more advanced student in the class, was not always convinced of the value of peer review for the improvement of his own writing. He does admit, however, that at least he was able to assist others: "Actually, I don't think I have learned grammar through WebCT, but I found incorrect grammar of other, so I could tell them that that was wrong, and then they would be learning."

On the other hand, some students found the experience very helpful in improving both their reading and writing skills. One student expressed her appreciation in participating in this kind of activity: "It was the first time I have the chance for feedback from my audience." When another student was asked if engaging in on-line peer review assisted a student with her literacy skills, this student answered: "Oh yeah, my reading is improving because I read many people's, many student's essays. I found grammar mistakes (chuckle) and I realize also I did same mistake." It appears that for this learner, reading other's mistakes created a greater awareness of her own. Also, students perceived that on-line writing allowed them to do 'recasts' of their own writing and review their own work, thus improving their form and accuracy in writing, and honing their revising skills. One student noticed a marked difference in his writing when comparing postings he had written at the
beginning of the course with ones that he had written near the end. He stated: “you always can see a lot of mistakes at the beginning [...] and then you would start seeing less mistakes because all of us were improving. [...] When I read essays from other students, I get more vocabulary.” This student also commented on how he felt encouraged by students who provided him with positive feedback. He admitted: “Sometimes you receive feedback about grammar or vocabulary, and a lot of time you receive feedback about your writing, and then you feel good to know that there are students who like your writing. [Also] it’s very interesting to read the other classmates’ essays and postings.” Another female student expressed the same positive feelings about having her work read by other students. She stated:

It’s really encouraging because when they tell us their ideas towards our essay, it’s really helpful because sometimes they say just good things and then they ask a question and it helps me to think about other things too, and sometimes I realize that maybe this part isn’t clear for everybody, maybe I translated it from my own language, so I think it’s really helpful and I think I got more self confidence because I tried to think about everything more.

The responses received by students on their work created a greater awareness of audience which in turn helped students focus on form in their writing in order to present the best piece of writing possible. One student admitted to his increased effort in knowing that his writing will be seen by others: “For me, if I posted my essay, I have to try my best to write it better or try my best to write it well [...] because other people they will read my writing.” Still another expressed a similar sentiment: “Whenever I have a class in the lab, I
really try to make my essay beautiful because someone is looking at my essay, so I force myself to work hard. I think it’s a good thing, I think.”

Another student admitted to feeling ill at ease when she had to post her first piece of writing, but then she realized that there were benefits to having her writing made public. She confessed: “First time, I don’t like to post my writing because that means everybody is seeing my writing, [...] but I think it’s better because I can see the other people’s writing and then I can learn from their writing.” A students’ level of comfortability often depended on their personality and on their level of writing proficiency. The following student commented on her own improvement over the course of the term, as well as the benefits she experienced from peer interaction and review. She did not feel at all intimidated about posting her writing in public, as she viewed it as a useful part of the learning process.

**Message no. 198**

Posted by xxx on Monday, March 18, 2002 10:09am

**Subject Reflection**

After I passed the exam on the 7th of January at ELI, I was told that my level for writing class would be 400. I met just an English course for three months in Germany Before, so I had to be happy with the result of my exam. But this report was for someone like me who believes "the life is a challenge, so be a challenger" disappointing. Fortunately, I was able to change to 520 after one week staying in 400.

As soon as I bought my book, "college writing skills", I paged through: Writing process, essay writing, narration, and argumentation, use parallelism, run-on, etc. Also, I, the challenger, have been challenged to improve my English knowledge. However, there are some common points in every language to improve the essays like first draft and revise it as much and as long as you can.

One of the points which I have learned in writing class is revising sentences, specifically in usage of parallelism, or consistent point of view. An other improvement in my English writing skills is a correct usage of punctuation which was a challenge for me because usage of punctuation in German and Farsi
language is absolutely different from English language. Also, I began to think more and more in English without comparing with Farsi or German.

Every time I wrote an essay and revised it, I found out some failures which helped me to learn more about grammar; in addition, when my teacher has corrected my essays, I was able to learn more about sentence structures, grammar, punctuation. Also, I really prefer to be corrected by teacher as well by other students because every time someone correct me, give me a chance to improve my English knowledge. I feel absolutely comfortable that all other students read my essays and correct my failures and give me a useful feedback.

Also, through writing class, I learned to be not only a Better writer in English, but also to be a better English speaker; For example, before I met this class I was not acknowledged, that I did not give attention of usage of an adverb or an adjective.

Also, I am in general satisfied with my improvement of English knowledge in a short period of time. I have to thank my teachers in every class as well other students, and I enjoyed the time at ELI.

Figure 13. Student perceptions of writing improvement using e - bulletin board

One of the main reasons that students felt that their writing improved through peer review on the electronic bulletin board was that it allowed them the time and space they needed to develop their ‘internal monitor’. One student admitted to correcting her errors after having reviewed another students’ writing. She stated: “You can read other people’s [writing] and sometimes you think there’s something wrong maybe and you find that you can avoid in your writing.” Another student mentioned that he had gained a higher degree of metalinguistic awareness through the practice of on-line peer review: “If I read now [the] newspaper, automatically I began to correct something if it’s written wrong... Every time I got from other people an essay to correct it on WebCT, I had to look very carefully and so I think it’s this effect [that it] has instilled in me.” Further testimonials as to the positive
effects of on-line peer review are also evident in student written protocols (please refer to Appendix E).

Previous studies in on-line student interaction and peer-review also suggest that students find peer response in CACD more effective than in a regular face-to-face classroom. In a study conducted by Sullivan and Pratt (1996), an analysis of between-group comparisons of electronic and non-electronic peer response suggests that "face-to-face oral discussions were dominated by the author of the essay and discussed, whereas there was no one individual dominating the floor in the same type of discussions on the computer. As a result, [...] the quality and efficacy of peer suggestions for revision increased in the electronic mode" (Ortega, 1997, p. 86).

As we have observed, many of the student testimonials point to the possibilities that the electronic bulletin board allows for focusing on form in their writing. However, many students also expressed that computer-assisted classroom discussion also helped them to improve their vocabulary, fluency, and general expression. One student admitted that "by using WebCT, I can express what I want better than speaking." It appears that the self-paced environment on-line bulletin board gives this student more time to choose his words more carefully and express his ideas more precisely. Another student also commented on improved fluency: "It (WebCT) has improved my vocabulary because every time I read the other people's essay, I learn new vocabulary and or grammar because before this class, it was just exercises from a textbook and that was the first time I practiced grammar by communicating something." This student explained that the meaningful communication and interaction that the e-bulletin board allows helps her use the rules she learned in class in context. Another student also mentioned how her desire to express herself clearly motivates
her to access other resources. She stated “ (Writing on the electronic bulletin board) helped me because I tried to explain what I want to say, and so I have to look at the dictionary, and I have to find new vocabulary.” It appears that students felt that they were able to improve their lexical knowledge and general expression by participating in CACD. This finding is interesting as it is related to other findings of reading improvement through vocabulary development using CACD (e.g. Kasper, 2000, Stepp-Greany, 2002).

An analysis of the student self-report data provided by student interviews, protocols (on-line messages), and questionnaires suggests that most students perceive the threaded discussion activity on electronic bulletin board as being conducive to improving their academic writing skills. The feedback provided by the teacher and the students allows them to focus on form and have a greater awareness of audience. The peer review sessions and reading other students' writing allows students to learn how to use grammatical patterns in context, and helps with the development of their vocabulary. The environment of the electronic bulletin board provides the extra time to reflect before writing, as well as the equality of opportunity for participation.

It is very difficult to reconcile the findings of the qualitative analysis supporting the initial hypothesis, with the quantitative analysis, which does not reveal a significant difference between students using technology and those who didn't. Even though there may be a variety of explanations for the quantitative analysis not yielding the expected results, it is important to keep in mind reasons why the student self-perceptions, though informative, may not always be accurate.

Although the qualitative data indicates that students perceived an improvement in their writing ability, it is very difficult to deduce that this improvement was solely as a result of
student activity on the interactive web-site, or if it was due to other factors, such as the practice and input they received from their mandatory reading, speaking and listening classes. Another important factor that could have affected their perceptions of writing improvement is their environment outside of the classroom. Students who live in a homestay environment and who interact daily with native speakers of English tend to become more fluent in English more quickly than other students who don’t use the target language as often outside of the classroom. In general it is important to keep in mind that even though students perceived that it was the interactive writing activity on the e-bulletin board that was conducive to their improvement, they may not have realized how external variables may have also played a role in creating those perceptions.

4.5 Learner Fit

For effective language learning to occur, it is important that the CALL activity is at the level of the learners’ ability, while at the same time challenging the student to achieve proficiency in more complex forms and structures. The experimental and control groups in this study were placed at the same level of written proficiency - lower advanced - so there were not too many differences between the students in terms of their writing ability in the beginning of the course. According to my general observations and the students’ reports, the skills and structures they were expected to learn in the classroom and demonstrate on the bulletin board were not beyond their capabilities. By observing the student protocols, it was easy to determine that all students were able to write messages and essays with varying degrees of accuracy and fluency in a variety of genres. I also questioned the students during interviews about the adequacy of the CALL task for meeting their individual needs. Since
students have different personalities, cognitive styles, and varying strengths and weakness in their writing ability, there were different kinds of feedback about learner fit of the CALL task. However, the majority of the students felt that electronic writing on the bulletin board was not an activity beyond what they could handle. Most students also felt that this on-line experience allowed them to receive individual feedback from the teacher and other students, thereby fulfilling their own personal needs.

In terms of personality, some students were more introverted than others and did not initially feel as comfortable posting their opinions and ideas for public viewing. However, other students who lacked confidence in their speaking skills and who would have liked to express themselves freely, enjoyed using the electronic bulletin board because it gave them the time to think about what they were going to say before writing and posting their message. Still, some students who lacked confidence in their writing skills were hesitant about posting their messages and essays. They liked the writing practice, but were afraid of the judgmental eye of their audience. Nevertheless, most students' fears were allayed because they soon realized that other students were making approximately the same errors and were at the same level of writing proficiency as they were. One student commented on the comfortability he felt in observing that other students' writing level was similar to his: “I think that WebCT is good because we can read other people’s essays and they’re on the same level, right, not too difficult, not too easy for us, so I think it’s pretty good.” I also observed that students' level of confidence also improved with time because they got to know the other students on a more personal level through the electronic messages, which allowed them to participate more freely and frequently. If the classroom networked activities involved both native and non-native speakers perhaps the ESL students would feel more intimidated and would participate
less. However, in this class, students expressed that they were experiencing the same learning curve together and were supportive and empathetic towards one another. They all felt that despite their different personalities, strengths, and differences, they had an equal opportunity to express themselves and learn from their writing and from the writing of others.

This finding is consistent with other research done on the improved degree of participation and motivation in CACD (Warschauer, 1997a; Beauvois, 1998; Markley, 1998; Carey, 1996, 1999a, 2001). For example, Warschauer found that oral classroom discussion revealed uneven patterns of discussion, whereas CMC produced more even patterns of participation. According to Chapelle, this study and other studies of CMC in the L2 classroom have shown “the written non-face-to-face discussion of the CMC diminished the effect of individual differences that may hamper communication in the classroom, thereby resulting in more comprehensible output produced by those who would otherwise produce little” (Chapelle, 2001, p. 82). As such, students who were hesitant to express themselves in the classroom because of differences in personality and ability, would have a greater chance of improving their academic writing ability by participating in CACD.

In terms of cognitive style, Chapelle and Jamieson (1986) found that field-independent students (i.e., analytic and independent), who preferred deductive and memory-based tasks, had a more negative attitude toward the CALL activities they investigated. In contrast, the field-dependent learners (i.e. holistic and dependent on others), who preferred inductive methods and tasks, had more positive attitudes. However, these studies do not specify exactly what kinds of CALL activities their findings were based on. From my observations and student self-report data, I have found that even students who preferred deductive,
memory-based tasks had a positive attitude towards writing because it was one of the first times in their academic experience that they were able to put into practice the rules of writing previously learned in their home country. They were unsatisfied with decontextualized grammar exercises and endless vocabulary lists that they would have to memorize for an exam. They welcomed the opportunity to communicate coherently with what they had learned, and most students, whether field-dependent or independent learners, appreciated the opportunity to do just that in CMC.

Although I did not administer any exams to determine what the learning style of each student was, I was able to observe the cognitive styles of the students as they engaged in writing tasks on-line and in the classroom. Also, students explicitly told me what kinds of activities and approaches they liked and disliked, and most expressed that although they wish they had more time to participate on-line, they also liked the mixed modes of learning academic writing. They appreciated the opportunities for face-to-face interaction and for rule-based learning in the classroom, as well as the opportunities to learn from examples, to apply rules, and to personally reflect on ideas in the non-face-to-face, interactive environment of the electronic bulletin board.

The findings in this project regarding learner fit using CMC are consistent with other researchers who have examined process data containing the language that learners produced in CMC tasks and evaluating its linguistic difficulty relative to learners' level of ability. One of these researchers, Kern (1995), examined the linguistic characteristics of his students' language in a CACD, and his analysis of the data concluded that "students' language output [in CACD] was of an overall greater level of sophistication than in oral discussion, in terms of the range of morphosyntactic features and in terms of the variety of discourse functions
expressed” (Kern, 1995, p. 470). He argued that CACD engaged learners at the appropriate level of difficulty to improve their development in the target language.

Even though the kinds of activities, structures, and genres that students were expected to display on the bulletin board were not beyond their ability, a few (three of the seventeen) of the very good students did not always feel that they had the opportunity to learn so much from other students’ writing. Although they enjoyed the writing practice, they would have liked to have received feedback only from the teacher and to be reading English written by native speakers or authors. Some of these very fluent students believed that reading student postings provided them with a negative model of English writing which did not meet their needs. Perhaps a better arrangement would have been one in which NNS students were able to communicate on-line with NS students, as is the case with some graduate seminars conducted on-line where NNS students can see models of writing by NS students, and NS students can learn about the cultural values and traditions of other international students (Carey, 1999a).

However, most students in the experimental group viewed reading student work by NNS as an opportunity to build their error-correction and revising skills necessary for academic writing (see Figures 11, 12, and Appendix E1). So, although the activity on the interactive bulletin board seemed to fit most of the students’ level of ability and challenged them to learn new lexical and grammatical structures, there were nevertheless a minority of very good students whose individual needs were not met to the extent that they would have liked (see Appendix E5). Also, there were a few students who felt it was more difficult for them to write on the electronic bulletin board because they did not have good typing skills, and they didn’t like typing. One student stated: “That’s not fair for me because some students can
type well, [but] it was my biggest problem because I cannot type.” Another openly admits: “I don’t like typing.” Even though a few students were inconvenienced by the fact that they had to type on the electronic bulletin board, they soon came to realize that hand-written work would rarely be acceptable in their university classes. They came to appreciate the extra practice they received in typing when writing their journals, essays, and messages on the electronic bulletin board.

Apart from this minority of learners who felt that the CALL activity was insufficient for their progress in writing, the interactive bulletin board allowed the teacher to meet the individual needs of most of the students. I taught certain concepts and structures in the classroom to a group, and once in the computer lab, I had the opportunity to evaluate how students incorporated those structures in their writing, and to give them individual feedback. One student observed that “you [the teacher] taught us grammar in the class, but sometimes, it doesn’t fit our personal [individual] problems [in writing] because there were 10 students in the class. But if you correct my essay [on-line], you focus on the [individual] needs of each student.”

In general, the personalized feedback from the teacher, the equality of opportunity to participate, and the self-paced, student-centered environment of the electronic bulletin board allowed for learner fit. Initially, a few students may have been shy with the public, open nature of the e-bulletin board, or they may have felt at a disadvantage because of their weak typing skills. A minority of advanced students expressed that they weren’t enlarging their zone of proximal development by interacting with less proficient students. However, most students in this class were correctly placed at the same level, so they had a lot to learn from one another by being given an equal chance to participate in an open forum. In the
interviews and on-line protocols, they expressed that the writing activity on the electronic bulletin board met their individual needs for improving writing ability.

4.6 Meaning Focus

In addition to providing opportunities for focusing on form and on meeting the individual needs of learners, the on-line bulletin board allowed students to focus on meaning in CACD because students engaged in dynamic interactions, expressed their opinions and experiences, and reflected on a variety of topics in the target language. According to Chapelle, there is a largely accepted assumption in SLA that learners constructing linguistic meaning assists language learning. Studies by Schaeffer (1981), Robinson et al. (1985) support this view by demonstrating that CALL tasks that help students to understand and create meaningful, contextualized language lead to better post-test results than tasks that use ‘non-meaningful’ and decontextualized instructional approaches. CALL tasks that focus on meaning also help students to develop coherence in their academic writing.

According to Chapelle, evidence for meaning focus is based on observation of the content or topics of learners’ writing in CALL tasks, and students’ self-reports of the CALL task directing their attention to meaning and coherence (2001, p. 85). Meaning focus is evident in texts where students use the target language to write on and discuss a variety of topics that lead to meaningful and beneficial communication. The emphasis is not on the students’ development on form, but on the development of coherence through a topic. There was a meaning focus to the writing students did in the CACD as students wrote on various themes that were of interest to them in a variety of genres. For example, they wrote narrative essays that included literacy autobiographies, accounts of their first time away from home,
their experiences in the military, in cultural and athletic events, as well as events at school. In addition, they wrote comparison/contrast essays by comparing their home culture with Canadian culture, their mother tongue with English, as well as different traditions, events, and experiences. Students in this class also honed their logical thinking and analytical skills by writing cause and effect essays by outlining the effects of living independently and studying abroad, as well the reasons for learning English. In their argumentation essays they demonstrated an ability to organize their ideas and provide supporting material using persuasive vocabulary when expressing their position on cultural pluralism, a particular law, policy, or tradition in their home country or in Canada. Furthermore, students were encouraged to write essays in the various genres in areas that were related to their academic discipline so that they could become familiar with some of the vocabulary and structures of the writing in their field. Students’ academic backgrounds ranged from engineering, computer science, business, biology, nursing, history, linguistics, and religion. Academic topics these students wrote on included a comparison of different computer languages, an analysis of the managerial styles of different cultures, an evaluation of genetically-modified foods, a criticism of an international policy, a historical perspective, or a theological stance. The task of writing an expository essay, the genres chosen, and the topics discussed are activities that are very similar to what students will need to perform in future academic contexts.

The following is a chart that provides a content analysis of the themes and topics found in the writing of students on the electronic bulletin board:

Table 11
### Content Analysis of Essays Posted on CACD for Groups 1 and 2

<table>
<thead>
<tr>
<th>Genre</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Narrative/Descriptive</td>
<td>military service in Korea</td>
</tr>
<tr>
<td></td>
<td>moving to another country/leaving home</td>
</tr>
<tr>
<td></td>
<td>a car accident from drinking and driving</td>
</tr>
<tr>
<td></td>
<td>New year’s eve celebration in Korea and Iran</td>
</tr>
<tr>
<td></td>
<td>passing a school entrance exam</td>
</tr>
<tr>
<td></td>
<td>first day of school</td>
</tr>
<tr>
<td></td>
<td>meeting a one-hundred year old woman</td>
</tr>
<tr>
<td></td>
<td>a moment as a sports hero</td>
</tr>
<tr>
<td></td>
<td>running away from home</td>
</tr>
<tr>
<td></td>
<td>adventures on a camping trip</td>
</tr>
<tr>
<td>Comparison/Contrast</td>
<td>eating out vs. home cooking</td>
</tr>
<tr>
<td></td>
<td>phoning vs. writing a letter</td>
</tr>
<tr>
<td></td>
<td>e-mailing vs. letter writing</td>
</tr>
<tr>
<td></td>
<td>optimism vs. pessimism</td>
</tr>
<tr>
<td></td>
<td>public transport in Canada and Korea</td>
</tr>
<tr>
<td></td>
<td>Vancouver and home city</td>
</tr>
<tr>
<td></td>
<td>classical music vs. rock music</td>
</tr>
<tr>
<td></td>
<td>Farsi vs. English</td>
</tr>
<tr>
<td>Cause and effect</td>
<td>effects of moving to another country</td>
</tr>
<tr>
<td></td>
<td>effects different approaches towards raising children</td>
</tr>
<tr>
<td></td>
<td>effects of different educational styles</td>
</tr>
<tr>
<td></td>
<td>effects of violence on TV</td>
</tr>
<tr>
<td></td>
<td>reasons for the popularity of video games</td>
</tr>
<tr>
<td></td>
<td>reasons for/ effects of being an international student</td>
</tr>
<tr>
<td></td>
<td>causes and effects of independence</td>
</tr>
<tr>
<td></td>
<td>causes and effects of learning a second language</td>
</tr>
<tr>
<td></td>
<td>causes and effects of cell phone use</td>
</tr>
<tr>
<td>Argumentative</td>
<td>computer technology in education</td>
</tr>
<tr>
<td></td>
<td>identity and language learning</td>
</tr>
<tr>
<td></td>
<td>the growing popularity of the Internet</td>
</tr>
<tr>
<td></td>
<td>the movie screen quota system in Korea</td>
</tr>
<tr>
<td></td>
<td>passing a first language on to children</td>
</tr>
<tr>
<td></td>
<td>the US attack on Afghanistan</td>
</tr>
</tbody>
</table>
In addition to writing and posting essays on the bulletin board, students were asked to reflect on the act of writing in a second language so as to increase their awareness of what they were doing on the bulletin board and improve their meta-cognitive abilities. In other words, they were not only responsible for conveying meaning to others on a variety of topics, but they were also responsible for finding meaning in the activity that they were engaging in - writing on the electronic bulletin board writing. They were asked to compare writing in their first language with writing in their second language, to define writing and its purpose, to compare academic writing with other kinds of writing, and to discuss the rewards and challenges of writing in a second language. As we will see, students responded well to discussions on writing, as they had never really had an opportunity to reflect on what they were doing. They empathized with one another when expressing the problems they faced in writing in a second language, and they gave each other strategies for solving them. There was also a very interesting discussion on plagiarism showing that differing cultural viewpoints place a different value judgement on copying others’ work.

By writing essays, reflective pieces, and responses on a variety of topics on the electronic bulletin board, these students were actively engaged in writing coherently to express an idea, reading for meaning, and negotiating meaning if any breakdowns in communication occurred. Here is an example of a student who read another student’s narrative essay about her experience of being in a car accident. The reader asked for clarification or a better explanation of the consequences of her experiences.
Hi xxx. I've read your narrative essay. It is very interesting. As feedback I can tell you that I would like to read more about details in the crash. How was the impact, how damage was your car, where the other car crashed into your car, etc. Other thing is when you wrote that you lost your job, I didn't know exactly why. What was the problem. I think that it was because you miss many days to your job, but may be you have to be specific. The last is that I didn't see paragraphs, may be it was a copy-paste problem. These are my comments.

Have a good week. Regards...

Figure 14. Student engaged in meaningful interaction by asking for clarification

In the next example, another student actually recopied a part of another student's text to point out an area of confusion as a result of improper word choice in an effort to gain greater clarity. The other student responded with an expression of appreciation for the noted oversight.

I just have a question from the next sentence that you wrote.

"The easiest way, the optimist way, was to fire her. However, I decided to keep her because I thought optimistically and I believed she could change her mind."

If you will fire her, will that be an optimistic decision?
Message no. 147 [Branch from no. 146]
Posted by xxx on Monday, March 4, 2002 9:24am
Subject: Re: My comparasion and contrast essay
Thanks xxx for your feedback. I did a mistake in my sentence. I was referring to the pessimistic way, not the optimistic. Have a good week. Alberto.

Figure 16. Student expressing appreciation for peer correction.

Here is another example of a student who asked for a deeper explanation of a sentence that another student wrote:

Message no. 108 [Branch from no. 69]
Posted by xxx on Wednesday, October 10, 2001 11:31pm
Subject: Re: Writing
Hi: This is xx, and I read your message carefully. I think you really mean what you want to express, and your message is attractive. I quote a sentence here (I hope you don't mind): "human needs a gun to force him/her to start writing, but when s/he start to write s/he needs the same gun to stop". Excuse for my poor understanding, I can understand the first part of the sentence but I'm not sure about the second part of it, could you explain to me? Thank you very much!

Figure 17. Student request for an explanation

As we can observe, the public nature of the e-bulletin board allowed students to read each other’s writing and respond to it. The on-line threaded discussions enabled students to ask for further clarification and explanation if they did not comprehend another student’s writing. This negotiation of meaning led to modified output from the learners for the purpose of being fully understood. In the interviews, most students expressed an appreciation for the meaningful interaction supported by the discussion threads of the e-bulletin board. One student stated: “The interaction makes it interesting and well you feel that you are writing for someone and not only for handing your work and getting a grade. That’s my main reason...
Many friends read my essay or journal, so I think it is good chance to express my opinion in detail.” This student believed that the on-line interaction reinforces the communicative role of writing and detracts from the view that writing in school is only for the purposes of evaluation. Through the interactions, he used writing as a means of expressing his opinion in a clear and precise fashion; often, students in face-to-face classrooms do not have the opportunity to offer opinion or perspectives, and when they do, the immediacy of spoken interaction does not allow them to express themselves as clearly as they would like. Another student admitted that even though it may be difficult to understand student writing, the e-bulletin board enables students to ask further questions in an effort to seek greater clarity. She stated: “I think it [reading the postings on WebCT] is a little confusing because they just write like e-mail and sometimes their style, you can’t understand it, but you have the chance, you can ask questions to them and they can answer and they can explain.” Over time, students gained an awareness of the many possibilities for the negotiation of meaning that the on-line threaded discussions of the e-bulletin board supported.

In addition to the essays and peer feedback, students were also able to write with a meaning focus and build their meta-cognitive skills by writing journal entries or reflective pieces on the act and purpose of writing in a second language. According to Lamy and Goodfellow, “a challenge is facing the developers of the virtual language classroom to combine the processes of conscious reflection with those of spontaneous interaction” (Lamy & Goodfellow, 1999, p. 1). The medium of asynchronous conferencing is ideal for allowing both because it is flexible with regards to ‘place and pace’ and because it encourages both monologic and dialogic kinds of written language exchange. In the study by Lamy &
Goodfellow, students were able to engage in ‘reflective conversation’ about the topic of language and language learning issues in a similar way that the students of my study also engaged in. Little (1996) and Van Lier (1996) claim that successful language use over time depends on continued language learning, which can be achieved only if a student develops a certain amount of learner autonomy. To develop proficiency in a second language, teachers need to be ready “to turn almost any occasion of language use into an occasion of conscious language learning” (pp. 26-27). According to Lamy and Goodfellow (1999), the promotion of learner autonomy via critical reflection (i.e., evaluation of one’s own learning strategies) has come to be regarded as of equal importance as, say, the provision of comprehensible input and the opportunity for productive practice” (p. 43). Recurring themes in the on-line reflective journals and interactive protocols included a discussion of the kinds of problems and challenges ESL students had with L2 writing and the kinds of strategies they used to overcome them. The following is an example of a student who is responding to another student about strategies to overcome the difficulty of writer’s block:

Message no. 52[Branch from no. 50]
Posted by xxx on Monday, October 8, 2001 10:26pm
Subject Re: MY WRITING EXPERIENCE
Hi, thank you for reading my message! I'd like to tell you that I can't write a long journal for quite a long time since I began to learn how to write. I think the Most important thing is you should have something to Express. That is what you want to say is the basic Element. According to my experiences writing to my Friends in English helps me a lot. You know, when I Write to my friends I'm sure to have some information or Some other things to tell, so I have at least a topic. Second, I try to express myself in detail so that they Can understand what I want to say. Usually what I wrote is not fluent at first, but I never mind making mistakes because I can ask teachers or others to find out the right usage and this is a good way to improve my writing level. In a word, I think write what you can write first and then write down in detail and try to explain clearly. Of course, keeping practice is very important.
All outlined above is my opinion and I just want to
Exchange them with you, hope it will give you some help.
Anyway thank you for sending me the message in
Thanksgiving Day! Wish you good luck!

**Figure 18. Student recommending strategy of risk-taking to improve writing**

Students mentioned repeatedly that they lacked the vocabulary to express themselves,
that there were cultural differences in writing and general expression, and they had difficulty
adjusting to the ways of the target culture. Here is a message written by a student who
expressed his frustrations about not being able to use new words in the right context. She
was asking for advice as to how to solve this problem:

Message no. 28
Hi: This is xxx, and I have read your message right
Now. I think you must do quite well in writing. Here
is a question: I totally agree with you that use
language is very important for learner, but you know
there's so many different usage of one word according to
different situation and it is likely for us to use them
in wrong ways, then how to deal with these problems?(if
without a teacher)

**Figure 19. Student perception of word usage as a problematic area in SL writing**

The student to whom the question was addressed responded promptly by acknowledging her
problem and providing a helpful strategy to solve her problem. He wrote the following:

Message no. 73[Branch from no. 28]
Posted by xxx on Wednesday, October 10, 2001 8:56am
Subject Re: XXX
It is true. There are many other usages in only one
Word. That's one of the factor which can make learning
Language more difficult. If you want to correct the
Problem, you should read and read more often. Through
Reading books, you can improve your language skills, and
Can learn about various usage of a word. You should try
Your best to master the language. Try and get some
Experience. That's the only way to improve your language
Skill, include many usage of a word.

**Figure 20. Student recommendation of extensive reading in the target language as a strategy
for writing improvement**
Another student gave advice to her peers about starting the writing process. She discovered that she could use some of the strategies she learned for writing in her first language to writing in a second language. She mentioned that she tries talking to herself before she starts to write.

Message no. 95 (Branch from no. 81)
Posted by xxx on Wednesday, October 10, 2001 10:29am
Subject Re: How I learned to write
Thank you for complement. I think everyone can speak very well especially first language, though. I think it is quite close each other: speaking and writing. Because I write down the way of my speech. In my case, when I have to write down something, first I always tell something to me, and I try to catch what I want to say. I hope, this answer makes you satisfied.

Figure 21. Student revealing strategy of speaking before writing

One of the most interesting challenges that international students faced was adjusting to the cultural differences in writing. They reflected on and compared the different organizational structures of writing in English and their mother tongue. They also became more aware of the different expectations placed on their writing depending on the teacher’s cultural background. One student wrote a reflective journal entry on the cultural challenges he faced in his English writing classes:

Message no. 15 (Class Message no. 15)
Posted by xxx on Thursday, October 4, 2001 9:28am
Subject writing
Writing is a very important skill for everyone. Almost every people can write, but not all are a good writer. I’m lucky because I know two kinds of skill about writing. One is my native language, another is about English which I am using now. My mother tongue is Chinese, it was a little difficult for me,
Because it needs too many exercises, and I am not really like to do that. I remember when I was in senior middle school, the teacher taught us very hard and cudgel their brains, they told us to read more books, and try to write as much as possible. Sometimes, the teacher would tell some student whose writing is pretty good, and read the writing in the front of classroom, after that, we could discuss it together why it's a good one, or not.

My second language is English. I feel English writing is ok for me, although I also don't do lots of exercise about it. Now, the teacher try to teach us write the English writing in an ideal way, which is used by western people. It's a little hard for international students, because their native culture are different from Canadian culture. There are a big difference between Chinese writing and English writing, which is the organization. In English, people should make the organization very clear, and make the reader to understand easily. People do the writing almost with the same organization. For example, when people write a essay, they would like to have an introduction, several main idea paragraphs and the conclusion. In Chinese, if people make the organization very normal, the teacher will give the low mark, for it's too simple. The writers have to make it as special as they can, and also, the writer have to make it be understood possibly by reader.

I think it's necessary to teach writing skill in school. Lots of time in our life, we have to write a lot of, and make other people to understand us. Even though interviews are also important, the writing can show how much knowledge do you have, and it has more persuasiveness. Sometimes, I write E-mail to my friends with English. Try to write English as much as possible, it's helpful to improve writing skill.

Figure 22. Student awareness of cultural differences in L2 writing

In writing a literacy autobiography, this student is using his experiences and knowledge to differentiate between the two cultural styles of expression. This cultural awareness of the differences of structure and organization in texts written in different languages has helped to develop the learner strategy of conscious reflection and critical literacy espoused by Lamy & Goodfellow (1999) and Cope & Kalantzis (2000).

An unexpected finding in the content analysis of student protocols is that students admitted that they had a lack of knowledge of academic writing in English and even in their
mother tongue. It appears that students not only had to face challenges in adjusting to the cultural differences in writing, but they also had to make even further modifications to their writing so that it was appropriate for the North American academic culture. One student explained her experience:

<table>
<thead>
<tr>
<th>Message no. 50</th>
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<tbody>
<tr>
<td>Posted by xxx on Monday, January 28, 2002 9:32am</td>
</tr>
<tr>
<td>Subject HOW I LEARNED TO WRITE</td>
</tr>
<tr>
<td>How I Learned How to Write</td>
</tr>
<tr>
<td>Jan.21.2002 xxx</td>
</tr>
</tbody>
</table>

In my opinion, there is no theory to how to write in Japan. Actually, there is a writing form such as Paragraph, but I don't know any strategies about writing An essay, even academic writing. In elementary school, junior high school, and high school, I had to Write what I thought about particular books. In Japan, Students have to read some books during vacation, which Are recommended by teachers, and write reports about What they think about them for homework. Teachers just Read it or if they have enough time, correct some Grammar and give them advice how they could write to Make their ideas shown better. Actually, I could write Whatever I felt about the books. What I learned often Was vocabulary and grammar. In addition, I Haven't learned how to think and organize my ideas. Even In university, my professors didn't teach how to do That. When I wrote a report about a special topic before I graduated form it, the professor told me just to add Some details to my report. My parents helped me Learn vocabulary and pronunciation as for Japanese. However, they often taught me mathematic. In Conclusion, I think I have never studied how to write Essay in Japan. Thus I have also never learned how to Develop my idea. However, I hope it's not late for my Life to study that now in Canada.

Figure 23. Student admission of lack of knowledge of academic writing style

In this protocol, we can observe that the student has an awareness of a lack of knowledge of academic discourse, which creates a desire and motivation for learning this style as she realizes its importance for academic success. Another student also openly admits
his complete lack of knowledge of any kind of writing in English during his educational experience, and emphasizes its importance in the workplace. He wrote:

Message no. 65[Branch from no. 59]
Posted by xxx on Tuesday, October 9, 2001 7:02pm
Subject Re: my history of learning to write.
Hey, thank you for your attention. Frankly, I knew Nothing about writing in English before I came here. I Went to some institution and then I realized how Important writing skill was for my job or business or Whatever that somehow required English proficiency.

Writing skill is basically what I want to improve a lot, Therefore I read and write a lot.

Thanks, Good luck.

Figure 24. Student expressing a lack of knowledge of English writing

Students empathized with each others' language difficulties and gave each other advice as to how to solve these problems with L2 writing. Among the solutions were: extensive reading in L2, memorization and translation of words and expressions, and using new words by learning from their peers, native speakers, and L2 texts. Students also reflected on what academic writing entailed, and compared it to narrative writing. They believed academic writing to be useful only for their academic goals and careers. They thought that it was very serious, formal, structured, factual, and objective. Arguments and claims in academic essays were deemed to be based on extensive research and on the ideas of authorities in the field. A few students claimed that they like to write academic essays because it helped them to clarify their ideas and use new words. However, most students claimed that they learned more from
narrative writing and had a more enjoyable time doing it. They found narrative writing to be light, informal, fictional, subjective, and entertaining. Narrative writing put greater emphasis on the process of writing and allowed students to get to know about other students and their cultures. Unfortunately, although some students like writing, most did not consider narrative writing practical for academic success and did not think that narrative writing was a kind of academic writing.

As we have observed, most of the student reflections and exchanges involved the expression of deep insights and realizations, and students engaged in the discourse functions of questioning and problem-solving. As Lamy and Goodfellow state, “certain kinds of exchanges appear to manifest more of the conditions for both ‘input modification’ and ‘social-interactionist’ types of interaction, and that these interaction-rich exchanges are likely to occur when topics focus around language and language-learning; in other words, when the interaction functions as reflective practice” (Lamy & Goodfellow, 1999, p. 44). This combination of reflection and interaction on writing issues was richer and more meaningful to students than the kind of ‘empty’ exchanges that can sometimes occur in on-line chats. By observing this kind of interaction and reflection, I believed that it had an overall beneficial effect on academic writing skills. Reflective interaction helped students be aware of the purposes and strategies of their writing, and have a heightened sense of audience when writing academic essays. As such, they were able to focus on meaning and improve on issues of formality, organization, and readability of the academic essays that they posted in a public forum every 2 weeks.
4.7 Authenticity

In order for a CALL activity to be considered an effective means for second language instruction, Chapelle recommends that empirical evidence needs to be provided as to the authenticity of the CALL task outside the classroom context (2001, p. 88). The evidence should suggest first, that learners’ performance in CALL tasks corresponds to what one would expect to see outside the CALL task, and second, that learners see the connection between the CALL task and tasks outside the classroom. In this study, students engaged in the same kind of discourse acts that they would engage in outside of the classroom if they wished to succeed in the negotiation of meaning. Also, students often mentioned that their speech outside of the classroom improved by interacting on the electronic bulletin board. Finally, most students appreciated the electronic literacy skills they were gaining as they knew that they would need those skills later on in their academic and professional careers.

To evaluate the degree of the authenticity of a CALL task, it is important to analyse student interactions and modifications. Previous findings on the degree of authenticity of CALL tasks have been mixed. One study by Piper (1986, p. 197) described the language of CALL activities as “incoherent conversation where there is much clashing of participants and talking simultaneously.” This researcher concluded that the ‘here and now-ness’ of the tasks created a limitation of the range of language, since, for example, there is little use of any other tense except for the present simple.

In contrast, a similar study by Mohan (1992) suggested that the conversations occurring through the use of a computer were ‘context-embedded’. In the texts documenting student interactions, he identified a variety of functional sequences, including episodes of choice, decision-making or problem-solving, as well as sequences of proposals, agreement,
disagreement, and supporting reasons. According to Chapelle, "Mohan interpreted the linguistic experience as positive for L2 development, presumably because these were the types of functions that learners would use beyond the classroom" (2001, p. 88).

Another study by Chun (1994) suggested that written interactions of CACD, not only helped use a variety of linguistic forms and functions found in discourse outside the classroom, but also helped to improve their spoken discourse. She concluded the following:

The types of sentences being written by students on the computer require not only comprehension of the preceding discourse, but also coherent thought and use of cohesive linguistic references and expressions. These skills, which are important components of writing proficiency, are enhanced in CACD. In addition, since these types of sentences strongly resemble what would be said in spoken conversation, the hope is that the written competence gained from CACD can gradually be transferred to the students’ speaking competence as well (p. 28-29).

As we can see, some previous research has indicated the beneficial effects of CACD for students expressing themselves in the target language through a variety of linguistic functions, but also for improving their spoken discourse. In fact, such students have reported that they noticed greater fluency and confidence in their speech outside the classroom after using the electronic bulletin board. However, the focus of this project was not on how interactive electronic writing could improve their oral skills, but their written skills in an academic or more formal context.

Although students engaged in shorter written interactions that were similar to the dynamic turn-taking occurring in speech, they were also expected to change registers and
write longer, more reflective pieces, thereby developing their electronic literacy skills. As Chapelle states, today, "the registers of language use outside the classroom have expanded beyond those involving face-to-face speaking and monologic writing" (2001, p. 89). Language learners now need to be prepared to interact with computers and with other people using computers. This 'electronic literacy', as referred to by Warschauer (1999), Rassool (1999), and Luke (2000), also needs to be considered as another task that learners can learn in CALL that they can apply to other authentic contexts outside the classroom.

There is evidence of authentic discourse and negotiation of meaning using a variety of linguistic functions in the observation and analysis of the protocols of the interactive bulletin board. Esling (1991) suggested analyzing the language of CALL activities by using Brown and Yule's (1983) classification of discourse sequences, such as giving directions or advice, telling a story, or expressing an opinion. These sequences were used to analyse data for authentic discourse and meaningful interaction. Students asked questions to seek advice, solicit an opinion, seek clarification or an explanation, ask for a definition, for feedback or assistance. Student responses included statements giving advice, expressing an opinion, showing empathy, making a correction or recommendation, showing appreciation, agreement, disagreement or praise. In the first class of the experimental group, 140 of the 470 postings were interactive question-response type sentences of approximately 150-200 words in length. The remaining postings included on-line journals and academic essays on a variety of topics. The second class composed 50 question-response type postings, out of a total of 220, but the postings were of greater length (300 words). The numerous written discourse acts on the electronic bulletin board reflected the same kind of sequences that students could engage in during oral discourse outside the classroom. The written medium of
the negotiations allowed students to express themselves more accurately and focus on form as well. Students felt that this practice allowed for more successful interactions outside of the classroom, and for more accurate spoken grammar.

We have observed examples of authentic interaction in the section of this analysis demonstrating the meaning focus of student writing on the e-bulletin board. The following are further examples of students engaging in authentic discourse acts that they can then transfer outside of the classroom. One sample of an on-line protocol reveals a student seeking advice for how to find ideas for writing:

```
Message no. 56[Branch from no. 3]
Posted by xxx on Tuesday, October 9, 2001 2:56pm
Subject Re: how I learned to write
Hi, this is xxx. In China, we are also required to write journals, and I don't like it too. Because I always have to find something to write. Sometimes, it's really a hard work. However, we must be interested in writing, because of the importance of writing. So do you have some ideas of how we can find something interesting to write?
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Figure 25. Sample of student discourse sequence: seeking advice

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Message no. 57[Branch from no. 56]
Posted by xxx on Tuesday, October 9, 2001 4:49pm
Subject Re: how I learned to write
Hi! xxx, thank you for reading my journal. I didn't know your Chinese name. Anyway, I also feel bothering when I write a journal or an essay. Everytime I should think what I should write. I have asked some question to my friend. My friend said I have to read magazines, newspaper and watch TV, and widen my knowledge. I should try to do these. We will do our best in the writing class.
```

Figure 26. Sample of student discourse sequences: expression of appreciation and offering suggestions
Students engaging in these kinds of discourse acts were not only participating in authentic discourse, but they were also learning strategies and gaining insights from other learners about the challenges of second language writing that they could also apply once they ceased activity on the electronic bulletin board. These strategies and discourse acts gave them the skills to become autonomous learners and negotiate meaning in contexts outside the classroom and in the workplace. In the next protocol, we observe one student praising another’s writing and asking him what processes or approaches he uses to improve his writing:

Message no. 27 [Branch from no. 17]  
Posted by xxx on Thursday, October 4, 2001 9:23pm  
Subject Re: my history of learning to write.  
Hi: This is xxx, and I have read your message right now. I think you write quite well. There is a question I'd like to ask. You mentioned in the message that you have made progress in studying writing, could tell me in detail that during this period what element is the most important to improve your writing skill, practice or something else?

Figure 27: Sample of student discourse sequences: providing praise and asking questions

The interlocutor responded by appreciating the attention paid to his writing, and offered some very helpful advice:

Message no. 63 [Branch from no. 27]  
Posted by xxx on Tuesday, October 9, 2001 6:38pm  
Subject Re: my history of learning to write.  
Hi xxx. Thanks for your interest. I think the best way to improve writing is reading. When people read, they get to see various kinds of phrases and expressions, then they may be able to use those expressions in their own writing. Actually, I learned many things from your writing. Good luck!!

Figure 28. Student discourse sequence: making a recommendation
Students also engaged in authentic interactions by asking for and expressing opinions and different points of view on a variety of issues. One very interesting topic of discussion related to second language writing was plagiarism. Students had difficulty coming to a consensus about what constitutes plagiarism, and they also realized that different cultures had different attitudes towards the ownership of ideas. In the following protocol, one student asks another student his opinion on what kind of an act can be interpreted as plagiarism in North America:

**Message no. 333 [Branch from no. 306]**
Posted by xxx on Monday, November 26, 2001 8:54am
Subject Re: Plagiarism
Hi xxx, how's going? As you said, you used to pick Other's phrase from text, but do you think it is Plagiarism?

*Figure 29: Student discourse sequence: eliciting an opinion*

The interlocutor responds by admitting that in the past, he was plagiarizing without realizing what he was actually doing:

**Message no. 407 [Branch from no. 333]**
Posted by xxx on Monday, November 26, 2001 8:19pm
Subject Re: Plagiarism
xxx: Actually, it depends on people's situation. But I Usually copied some sentences from other books because I Don't like writing in Chinese. it's too long.. so I Think it is plagiarism. Don't you think so?

*Figure 30. Student discourse sequence: expressing an opinion*

Students also had the opportunity to express agreement or disagreement with the opinions offered by others, as well as question certain assumptions. The following student agrees with an essay another student wrote espousing the importance of being optimistic, but she also questions the writer about any circumstances where the author’s position regarding optimism may not be warranted:
Message no. 311 [Branch from no. 254]
Posted by xxx on Friday, November 23, 2001 12:05pm
Subject Re: The optimists and the pessimists
Hi xxx! This is xxx. I agree with your point of view. Also, I always try to think in the positive way. Do you think there is any situation in which people should be pessimistic?

Figure 31. Student discourse sequence: expressing agreement and questioning assumptions

As we have seen in previous sections of this analysis, students appreciated engaging in meaningful and authentic interactions because it reinforced the communicative function of writing. The also felt that they could transfer their electronic literacy skills to other contexts. The interviews provided some evidence that learners see the connection between the CALL task and tasks outside the classroom: One student stated: “yeah in my work uh we use the official communication is by e-mail, then it (classroom e-mail) is similar... I think it (e-mail) is a very good tool for communication in the work and in the class. I think we have a very good experience.” This student reflects the general opinion most students held - that the interactive writing skills practised on the electronic bulletin would be useful in other classrooms and in the workplace.

Chapelle (2001) warns that the authenticity construct is complex and should not be limited to contexts outside the classroom. It should also be used to examine “the extent to which the language engendered in CALL tasks is authentic relative to a particular register of interest. In other words, [...], authenticity needs to be considered relative to a context of interest rather than in absolute terms” (2001, p. 90). Therefore, evidence is needed of learner’s opinions concerning the value of the CALL task relative to what they need to be
learning - academic writing. We were able to observe student perceptions of the viability of the CALL task in this study in the first section analyzing the potential that CACD had for language learning, focusing on form, and improving academic writing. Those perceptions were generally positive, with a few minor exceptions. We will now examine the overall impact that CACD had on students by analyzing their comments on interviews and protocols, and by looking at their answers on the questionnaire.

4.8 Positive Impact

Much of the literature on CALL contains positive estimations of the effects that CALL tasks have on their students (Chapelle, 2001). In particular, CMC enthusiasts highlight the advantages of communicative CALL activities by claiming that such activities change classroom dynamics in a way that positively affects learners (Beauvois, 1992; Collombet-Sankey, 1997; Swaffar et al., 1998). These claims are supported by student self-report data communicated by e-mail, interviews, or questionnaires. Other data, both quantitative and qualitative, should also be used as empirical evidence to suggest that students learned more about the target language and about strategies for language learning. Such data has been presented and analyzed in the section on language learning potential with mixed results. Although the quantitative data do not reflect any significant findings, the qualitative data reveal that students felt that they learned more about academic writing in English and about strategies to use to hone their English language skills. Also, to determine whether or not a CALL task had a positive impact, it is important to provide evidence that suggests that instructors engage in sound second language pedagogical practices by using the task. As demonstrated in previous discussions, the instructor provided opportunities for
students to focus on form by providing them with feedback and by giving them opportunities for peer review on-line. In addition, the methodology behind the CALL task was an interactive approach from a sociocultural perspective that allowed for collaboration and negotiation of meaning using the target language. As previously mentioned, this approach has been considered one of the most sound and effective in the literature of SLA.

Generally, to evaluate the effects of a CALL task, evidence must be provided to suggest that both learners and instructors had a positive experience through the use of the task. Such evidence was gathered by conducting interviews, administering questionnaires, and reading student protocols on the electronic bulletin board. Students commented on a number of areas and provided reasons why the CALL task had a positive effect on them. They mentioned affective gains, such as motivation and improved confidence, multicultural awareness, better knowledge of peers, and awareness of identity issues.

The following are examples of student responses in interviews when asked about their experience writing on the electronic bulletin. On the whole, students said that they found it motivating, interesting, and fun:

Interviewer: If you were to take this course again, would you use WebCT?
Student 1: yes
Interviewer: Why would you use it again?
Student 1: Because it motivates me to write. It’s better to use the computer and to write and to communicate [...] to me, is easier, is better to write in the computer [...] than write by hand. It’s like more fun or less boring than write by hand.
Student 2: WebCT is a kind of motivation for me because someone is looking at my essay, so I will make my essay better [...] and I really concentrate on it.
Student 3: Yeah, I will use WebCT for sure because I have a very good experience with this part and I think it gives me a good chance to improve my English. I have feedback. I have the chance to know other people by reading their essay. I can express my feelings.

Student 4: It is fun to know each other and to practice writing lots of time... it's very nice

Student 5: Yes, I would love to use that again because it makes me get familiar with others’ way of talking, and also it makes me more open-minded and helped me to be more accurate and you know, talk more clearly, so yes I really like to use it again.

It is evident that the interaction involved in writing on the electronic bulletin board to their peers is more motivating than writing to get a mark. Students did not view the tasks as chores, but as opportunities to express themselves and to get to know each other better. When asked what the main reason students thought CACD helped improve their writing, one student answered: “Main reason? Well, first it’s not so boring as writing in the paper and just hand it in [to the teacher]. Yes, the interaction makes it interesting and well you feel that you are writing for someone and not only for handing your work and getting a grade. That’s my main reason.”

Apart from being motivating, most students did not perceive the writing activity on the electronic board as anxiety-provoking. In fact, they admitted that it made them feel more confident in expressing their ideas and opinions. One student stated: “You don’t have to be nervous. You don’t have to hesitate [to express] you opinions of feelings to others.” When asked if communicating on-line with other students has improved student self-confidence, one learner admitted that he feels more confident not only with his ESL peers, but also with native speakers of English: “Yes, yes, I feel more confident to write an e-mail for an American person.[...] Yes, I feel more confident than at the beginning. For example, I have sent some messages to the faculty of business here to ask information about my future and I
feel better writing.” Their confidence is also increased when students compliment one another on the quality of their writing. One student expressed his appreciation for receiving positive feedback from his peers: “Students sometimes ask me, they tell me that ‘Oh, you are good!’”

Even though most students’ affective filter lowered when communicating with other peers, this was not always the case when they communicated with the teacher. Sometimes students felt intimidated when responding to the teacher, as demonstrated by the following protocol interaction between teacher and student:

**Message no. 106 [Branch from no. 95]**
Posted by Valia Spiliotopoulos (520W) on Wednesday, October 10, 2001 11:10pm
Subject Re: How I learned to write
Hi xxx,

Do you think that we can write the way that we speak When it comes to academic writing?

Valia

**Figure 32. Sample of a teacher question**

**Message no. 132 [Branch from no. 106]**
Posted by xxx on Monday, October 15, 2001 8:54am
Subject Re: How I learned to write
Thank you for asking... actually, I'm a little bit nervous to answer the question... ^.*

Of course, the way of speaking can not be academic Writing because speaking is sometimes too informal, and Academic writing requires very formal style. However, in my case, when I have to write down something, I think about it first, and I start to talk to myself, and then I try to write and change formal forms later. I don't know my way is good or not... but my writing is like this...

**Figure 33. Student expressing anxiety in responding to the teacher**
Although previous studies conducted (e.g. Gonzalez-Bueno, 1998) point to the benefits of using electronic dialogue journals between the teacher and the student, one drawback in such exchanges is that they can increase students’ level of anxiety, impede fluency and risk-taking. By being able to interact with fellow classmates, students reported decreased anxiety levels and increased self-confidence in writing.

Another area where students perceived CACD to have a positive impact is in developing their cross-cultural awareness and understanding. Students made comparisons between the English language and their mother tongue, and noted many differences in values each culture embraced. For example, students compared the English language to their mother tongue and found English to be “linear, clear, simple, rational organized restrictive, rigid, and lacking in spirit.” They also observed that writing and individual expression was much more highly valued in North America than in their home countries. Their attitudes towards plagiarism were also different from North American attitudes. They felt that plagiarism was not that big of a concern in their home country and that some students in China claimed that they were allowed and encouraged to copy without referencing in order to learn (please refer to Figure 10). These observations of cultural differences towards writing lead to more in-depth on-line discussions on individual vs. communal thinking and property rights.

During the interviews, students expressed that interacting with students from different cultures had increased their cultural awareness and improved peer relations. Most students gave each other support when facing the linguistic and cultural challenges that often arise for international students. In doing so, they felt that they got to know others at a deeper level by
reading their postings on-line in a way that they would not have been able to do in a face-to-face classroom:

Interviewer: Do you think that communicating on-line with other international students in English has encouraged your appreciation for multiculturalism?
Student 1: Yes. I think I had one experience of that. For example, I remember a message of one Japanese student and she wasn’t writing because she is very quiet in class and she didn’t talk, and it’s difficult to know more about her culture and about her feelings. And then, she wrote a very interesting message and I was surprised […] because I could understand her culture and her feelings, and then I answered her, and after that I went to talk to her […] I told her “I feel similar to you […] and it’s not easy to stay here and I have suffered similar things as you and this is why I think it’s one of the things that if you don’t have this tool (electronic bulletin board) you cannot receive this feedback or this help or this information about the cultures. It’s not the same like to talk. […] You have to have a large, a long relationship. After that you can know more intimate information about a culture I think.
Student 2: […] when I read the essays from the other students, I realize that they have a lot of differences and well in the past I didn’t need [to know] a lot of things about different cultures and now, well, I learned a lot.
Student 3: I learned a great deal of things from their writing, like I didn’t know that at a certain age in Korea the men have to get into military, so there’s a lot of new discoveries by reading their essays.
Student 4: Sometimes I had a wrong idea about their culture, but I learn and I read, and then I can get right idea about their culture.

As we can see, students used the threaded discussions on the e-bulletin board to express empathy and understanding. They also admitted that they had certain misconceptions about particular cultures, but after communicating with students, they were
able to dispel preconceived notions about cultures different from their own. This awareness and cultural knowledge increased their appreciation for multiculturalism. One student stated: "You know, I was living in a country that most of the people were just Iranian people. I wasn’t familiar with other cultures, but since I came here, and you know I had this opportunity especially on WebCT that when I read other students’ point of view, and see the differences between my own attitude and their attitude, it really makes it interesting.” In the protocols, another student expressed the importance and usefulness of cross-cultural understanding for maintaining peaceful intercultural relations:

![Message no. 180](Branch from no. 173)
Posted by xxx on Tuesday, March 12, 2002 11:26am
Subject Re: identity

Dear xxx, I think, the life is much more interesting to be knowledged about different cultures. Maybe if the people around the world try to understand each other's cultures, it wouldn't exist so much problems like war, economic problems. In these days, the people know much more about hating someone than love and respect one another. Xxx

Figure 34. Student’s perception of the importance of cross-cultural understanding

These student perceptions of enhanced knowledge and understanding of different cultures is also evident in another study conducted by Stepp-Greany (2002). A questionnaire was distributed to students studying Spanish as a second language using technological tools such as an electronic bulletin board, and two-thirds perceived that they had learned more about culture using a technologically advanced learning environment as opposed to a regular face-to-face class (2002). These findings also corroborate with Sanaoui and Lapkin’s (1992) findings which suggest that the use of technology enhances cultural awareness.

Most students also perceived that using the e-bulletin board allowed them to get to know other students better, not only in terms of their culture, but also in terms of their
personal opinion, beliefs, and interests. In other words, fellow classmates were not only viewed as representatives of their culture, but also as unique individuals. One student felt that using WebCT allowed students to express their opinions, and this allowed her to know them better: “Yeah, to know the others, I need to know their opinions and their behaviors and their appearance, so to know their opinions is one of the ways to know others.” In the protocols, students expressed their appreciation for being able to know others better and make friends in a way that would have been more difficult in a regular, face-to-face classroom where students feel more intimidated and unable to speak as precisely as they write (please refer to Appendix F).

Using the interactive e-bulletin board not only helped students know each other better and become aware of others’ cultures, it also increased self-awareness and encouraged the negotiation of their own identity. Interestingly, most students felt that writing in English only slightly changed their identity. They did not feel that using a different language would change their strongly established cultural identity. Most of them felt that their home culture was still representative of who they were. One student stated: “I am Korean and I’m proud of my country. Yeah, I’m Korean, definitely.” Another student expressed her realization of how different she is from other students in a multicultural classroom: “I really, really noticed I’m Japanese.”

Students were also asked to comment on their understanding of the notion of identity in light of their experience as international students in Canada:

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<td>Posted by xxx on Monday, March 11, 2002 9:46am</td>
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<tr>
<td>Subject Did My Identity Change?</td>
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<tr>
<td>&quot;The qualities and attitudes you have that make you feel you have your own character and are different from other people.&quot; This is what &quot;identity&quot; means when I</td>
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looked for a dictionary. In my opinion, the deep identity is hard to change, but the other identity, such as the attitude to other people, would change when I grow up or when I go to other culture. The deep identity is hard to change. Even though I go to other country or culture, I won't change my Taiwanese values. If I change my values, I will feel I am not a Taiwanese anymore. My personal values and qualities won't change, but the attitude will change. "When you are in Roman, do what Romans do." When I go to another country, I will change my attitude to other people because that's the way they do in their country. For example, in my country, we say "no" in an indirectness way. We will try to find an excuse, or ask other people to say no for us. On the other hand, if people don't want to do something, they will say no directly in Canada. My indirectness values still don't change, but when I am in Canada, I will change my attitude to be directness. However, if I only write essays in a second language (English), that won't change my identity because I only write and think when I write something. If writing can change one person's identity, I think not many people will want to write in other languages. In my opinion, identity can be developed into two parts. One is deep identity which is not or hard to change, the other one is surface identity which is easy to change. I won't say my identity won't change, it will change in some ways and some places.

Figure 35. Student understanding of concept of identity

As can be seen, this student views identity as being two-fold: a deep identity consisting of firmly entrenched cultural values, beliefs, and experiences, and a surface identity that can be more easily changed by new behaviors, environmental factors, and experiences. While this student realizes that she has to express herself more directly when writing in English, she still believes that her deep, inner identity will not change, even though on the surface she is adjusting to her environment. A classmate agrees with this student’s perception of her identity, yet still questions whether one’s deep or core identity can change with time. She responds by writing the following:
Message no. 190 [Branch from no. 170]
Posted by xxx on Monday, March 18, 2002 9:02am
Subject Re: Did My Identity Change?
Hi xxx, I agree with your opinion. I feel often I am Still Japanese even though I have been here for eight Months. However, I am more comfortable with the Canadian Culture than before. The reason why I am comfortable is Because I changed myself which you said are some Behaviors to adjust to it. Do you think your "deep" Identity will change if you stay here more than ten Years?

Figure 36. Student questioning the belief that identity can change

In contrast, another student felt that even though her identity as a Japanese woman was firmly developed before coming here, she has noticed that some important changes have come about as a result of staying in Canada and studying and expressing herself in English. At first, it appears that she was resistant to change as it would cause instability and loss of who she was. However, after eight months of living in Canada, she considers the opportunities she has to express herself in English and to live in a different culture as opportunities for growth and experimentation. She is now more open to the possibility of change and does not fear it as she did before.

She stated:

Message no. 177
Posted by xxx on Monday, March 11, 2002 10:38am
Subject My identity doesn't change
I think my identity still stays the same as that Before. However, I can say I am ready to change now. I Have been in Canada for almost eight months. For six or Seven months, I refused to accept Canadian culture and Hesitate to express myself. The main reasons why I Haven't changed my identity are because of anxiety of Being disliked and my typical Japanese personalities. I was afraid of changing myself whom my friends and co-workers in Japan had liked. As soon as I came here, I was introverted to protect myself from changing my identity. The reason was because I thought if I change, I would not the person who has been respected in Japan Any more. When I was working as an occupational
Therapist in Japan, I worked hard. Sometimes I worked from eight o'clock in the morning to ten at night. Everybody who found me working at night was surprised and encouraged me. I took care of relationships between the other coworkers and me to facilitate work smoothly. I had breaks with the nurses with a cup of tea and showed respect to the older workers. When I left the hospital to come here, they said to me, "come back to the hospital and let's work together again". I remember that I almost changed my mind to stay there instead of coming here. As for my friends, we studied together to take the license of an occupational therapy when I was a university student. They advised and encouraged me whenever I was in trouble. They were my property which I couldn't substitute. The reason why I tried not to change myself was that I didn't want them to dislike me.

My Japanese personalities didn't change myself in Canada as well. I was really Japanese. I was quiet and reserved. In Japan, women should have such kind of personalities. Therefore, it took long time to get used to Canadians' typical personalities, such as very talkative, open mind, and argumentative. Even though I needed to say my opinions, I hesitated to express those. I was confused with the big differences of value in the cultures. I was disappointed with my inability of expressing my opinions and ideas in Canada. My identity is almost the same as that I had in Japan because I wanted to keep my friends and coworkers in Japan and because my personalities refused to change myself. However, I am willing to change now. I made friends supporting me here and met teachers encouraging me to improve my English skills. I know I am changing slowly and surely by them. When I will notice that I am really comfortable in Canada, I will realize that my identity will have changed.

Figure 37. Student realization of changing identity over time

It appears that most of these international students came to Canada with an attitude of openness and a willingness to change and broaden their experience. However, some students felt that they were having a very difficult time integrating into Canadian society and culture and developed more of an ‘outsider’ identity during their stay here. It is hoped that by using the electronic bulletin board, students will gain the confidence and linguistic proficiency to communicate with native speakers and feel like ‘insiders’ within a multicultural community.
Even though writing in English in a public forum may have reinforced students’ perceptions as ‘outsiders’, most of the students expressed positive feelings about writing and interacting with others on an electronic bulletin board. Of the seventeen students interviewed who had used WebCT, all except two had a positive experience using the electronic bulletin board and expressed that they would use it again. When those two students were questioned, they mentioned that the reason they wouldn’t use WebCT again was because they felt that it helped them with their typing skills, not their writing skills. Also, they expressed that they would have liked to be given feedback by the teacher, not by other students. They believed that they didn’t learn much by collaborating with their peers on-line and that the same amount of writing time and practice could have been spent on paper-and-pencil assignments. Also, although the rest of the students felt that this collaborative electronic writing exercise had an overall positive impact on their writing skills and provided them with affective and sociocultural gains, a few students were not so enthusiastic about using this technology in the beginning. Some students were shy about posting their writing for everyone to see. A few did not feel so confident about their typing skills and did not feel so comfortable using this computer program. Others complained about eye-strain, neck pain, and general frustration about being in front of the computer for almost two hours. Still others complained about information overload, and some felt neglected because no one seemed to respond to their particular message or answer a question that was asked to another student.

Despite some disadvantages to CACD, most students felt that these disadvantages were minimal, and the advantages of improved writing skills and other gains seemed to outweigh the disadvantages of CACD. Using this technology and an interactive writing approach is not without its challenges and areas of weakness. Most importantly, second
language instructors and researchers should not disregard the ways that CACD can negatively impact certain students who have different priorities and different needs. Critical perspectives on electronic literacy can make us more informed and aware of the issues involved. If we can identify challenges, then we can take steps to minimize and overcome them in order to further improve the learning potential and positive impact CACD can have on second language learners.

4.9 Practicality

According to Chapelle, questions relating to the practicality of CALL can be addressed by analyzing evidence suggesting that hardware, software, personnel and other resources are sufficient to allow CALL to succeed (Chapelle, 2001, p. 93). In the interviews and general feedback that I received from students, the only resource that students felt they needed more of was time. Most students felt that there should be more time to use the WebCT; they would have preferred to use half of the time of the course on the on-line bulletin board, and the other half of the time in a regular face-to-face classroom. There were always enough computers available during lab time, and the software was easy to implement and access. However, most students were international students and did not come to Canada with computers; they relied on the school to provide them with access to computers outside of class time. Some students complained that they couldn’t access the web-site outside of class hours if they wanted to because the computer labs were busy, and even though some of them had computers at home, they did not have Internet access.

In terms of personnel, there was always a technical support person available to help the class with any computer glitches, which occurred very rarely. From an instructor’s point of
view, it would have been preferable if there was additional help in providing students with feedback on form and content on their protocols. As previously mentioned, writing on the electronic bulletin board generates a lot of writing, and it is very difficult for one instructor to participate in conversations and provide corrective feedback to all the postings. The teacher was not the only one to feel that there was an overload of information. Students also mentioned feeling overwhelmed by the numerous discussion threads. One student admitted: “I was confused. Each of these hundreds of essays and postings!”

Also, I would notice that some students would type their protocols or essays in a Microsoft Word document, and then cut and paste or attach their document onto the electronic bulletin board. More than one student mentioned, “I would like the computer to correct my essay.” Another said, “I think if I use Microsoft Word, maybe I can correct grammar by myself, but on WebCT, it didn’t correct my writing.” It is questionable if having the auto-correct function available to students writing on the electronic monitor would help with their language learning and allow them to focus on form. From a teacher’s perspective, adding this feature could compromise the development of the internal monitor, increase a dependence on the auto-correct feature, and decrease learner autonomy.

Despite these minor issues relating to the practicality of the CALL task, I observed that students learned to use the WebCT courseware expeditiously. Students never missed a single lab due to computer problems, and if a problem did arise, there was always a technical support person available to rectify the situation. A WebCT course shell was very easy to create, and it took relatively little time to set up the user names and the passwords. In fact, the whole activity ran so smoothly for the most part that students only wished that they had more access time to participate.
In the analysis section of this thesis, we have examined both quantitative and qualitative data to determine if using an electronic bulletin board has assisted students with their academic writing skills and encouraged sociocultural development. By using Chapelle’s criteria for an empirical analysis of CALL tasks (i.e. language learning potential, learner fit, meaning focus, authenticity, impact, and practicality) we have assessed the degree to which the results support the initial hypothesis. Although the quantitative data do not support that there is a significant difference in academic writing improvement between students using the interactive bulletin board with those in a regular face-to-face classroom, the qualitative data gained from observations of protocols and student self-report data strongly support this claim. We will now take a more in depth look at the implications of these findings by comparing them with previous research and by making recommendations for future research and teaching practice.
CHAPTER 5

Discussion and Implications for Research and Teaching

The purpose of this research project was to investigate the extent to which social written interaction using CALL would help improve academic writing ability in terms of grammatical accuracy, fluency, sentence structure, and organization. It was also hypothesized that the reflection on writing and narrative writing done in an on-line forum would help students develop meta-cognitive and critical thinking skills necessary for academic writing. In addition, it was assumed that the social context within which both dialogic and monologic on-line writing occurred would encourage cross-cultural understanding, create a greater awareness of one’s own identity, and improve peer relations.

The data analyzed for writing improvement yielded mixed results, depending on whether quantitative or qualitative measures were used. The results of test scores did not show a significant difference in academic writing improvement as a result of the intervention – computer mediated communication using an on-line forum. There are many reasons why the results from the quantitative measures may not have support the hypothesis of improved academic writing. First, it is very difficult to conduct action research in a regular intensive language course because you cannot control for external confounds that may have influenced students’ performance in writing. We were able to control for the instructor as a variable by having two control groups - one with a different teacher from the class in the experimental group, and one with the same teacher (myself) as in the experimental group. We were then able to compare pre- and post-test results and discovered that there were no significant differences between these two groups. By doing so, we were able to determine that the
teacher was not a variable that would influence the results, and were thus able to control for this variable. However, it was very difficult to control for other factors, such as time on task, motivation, and fatigue, which may have better explained the unexpected findings.

It is important to remember that on average, both students in the control group and the experimental group did improve their writing. As such, we can assume that the bulletin board was not detrimental to the students’ writing ability. In fact, as shown in Table 6, the students in the experimental group improved twice as much as those in the control group. Nevertheless, the difference between them was not significant enough to ascertain that any improvement was a direct result of the intervention. It is possible that students in the experimental group were not comfortable with the format of the Cambridge exam, the indirect measure, since they were more used to direct writing on the electronic bulletin. In the on-line forum, they were more in control of the content and organization of the text, and would create their own sentences and paragraphs. It is unclear whether the Cambridge exam was a valid measure for the purposes of this project because it did not exactly measure what it was meant to measure: academic essay writing. In contrast, the measure for direct writing ability, the essays, was a more valid measure because it was closer to the kind of activity students performed on the electronic bulletin board. However, even with this measure, there was no significant difference between the results of the experimental group and the results of the control group.

One reason why the quantitative results did not support the hypothesis that CACD assists students in improving their academic writing skills is that the sample size may not have been big enough for the results to have enough statistical power. Also, it is very difficult to discern a significant difference in writing improvement, from a statistical point of
view, over the course of only three months. A clearer picture of the effects of CACD could be created if students were given a longer period of time to improve their knowledge and skills at a deeper level. Perhaps students’ progress could be assessed over the course of one year, instead of three months. This study could not have been longer than three months because as a teacher, I had to conform to the schedule imposed by the Institute.

In addition, only 100 minutes of the 400 minutes allocated to the course each week were reserved for interactive writing on the electronic bulletin board. If more class time, at least 50-75%, was allocated to CACD, the results could have yielded more definitive conclusions about the efficacy of the intervention as compared to a traditional face-to-face classroom. The reason more class time was not spent on interactive writing using the electronic bulletin was because of limitations of access to the computer lab. In order to create an equitable environment, the English Language Institute tries to accommodate all its students with the opportunity to work with computers. However, the number of students greatly outnumbers the number of computers available, so students can access them for only a limited period of time. If students in the experimental group were given more time on CACD, perhaps they would have had strong exposure to this independent variable – CACD - to make a difference in the performance results of the direct and indirect writing measures.

There were undoubtedly psychological factors and variables outside the classroom that could have influenced the results. Perhaps students in the experimental group had decreased motivation near the end of the course because they were tired from the extra writing and interacting they had to do on the interactive bulletin board. Some of them found the Cambridge exam too difficult and were too discouraged about their writing ability to make a solid effort in the post-test. Maybe the stakes were too high in writing these exams
and the students felt too much anxiety to perform at their level. Apart from variables such as anxiety, motivation, or fatigue, it was difficult to control for other factors, such as extra practice received from tutors, extra help from native speakers or host families outside of class time, and insufficient Internet access available for extra practice on the on-line bulletin board.

The inconclusive finding that a writing class using CACD does not show a significant improvement in academic writing skills is supported by a study conducted by Loretta Kasper assessing students' overall literacy skills after using CACD to conduct focus discipline research through content-based pedagogy. Although her results showed that students using focused discipline research and technology did significantly better on reading and writing post-tests, Kasper was not sure whether the benefits derived from focus discipline research itself, or from the integration of technology. She then compared test results with a control group that didn’t use the technology, but did use focus discipline research as a classroom task. Although students using technology and focus discipline research received a higher mark on the writing assessment than the control group, the differences in these percentages were not statistically significant. In fact, Kasper states that “technology use appears to have significantly facilitated reading skill development, while leaving writing skill development basically unchanged” (Kasper, 2000, p. 121). Although Kasper mentions that students posted e-mail messages and written reports of research conducted on the Internet on a topic of their discipline, she does not mention any corrective feedback on form provided by either the instructor or other students. Students were not given the opportunity to reflect on the act of writing and on their own writing by working on re-casts or self-corrections. Even though Kasper questions the possibilities of CACD for improving academic writing, it is my
contention that if there was some more emphasis on form than on content in her project, and if students were given more than three months to practice their writing skills, a significant improvement could have been made by using the technological supplement, CACD.

Interestingly, findings from other research support the claim that network-based communication can contribute to the development of writing skills and grammatical competence, in particular. In a study conducted by Pellettieri (2000), 20 students learning intermediate Spanish as a second-language engaged in synchronous communication (ranging from an open discussion to jigsaw-type conversation activities) for one university quarter. Student transcripts of on-line messages recorded learner utterances as well as self-corrections. These transcripts were examined for negotiation routines and for linguistic modifications made during these negotiations. The analysis showed that effective negotiation of meaning occurred to ensure mutual comprehension, and that synchronous communication can play a significant role in the development of grammatical competence. The negotiations in which students engaged pushed learners to produce form-focused modifications. The written medium of networked-based communication allowed students with more time to process and monitor the interlanguage (Pellettieri, 2000), and with more opportunities to provide and learn from corrective feedback that helped them incorporate target language forms.

Even though Pellettieri's descriptive analysis promotes networked-based communication for improving grammatical competence, the validity of her study is compromised, as there are no objective assessment measures used in the beginning and at the end of the study to evaluate improvement on form over time as there are in the present study. Also, the lack of a control group minimizes the reliability of the study since external
variables, such as general exposure effects, are not adequately compared against an experimental group.

Another experimental study conducted at the University of Bulgaria by Meskill and Ranglova (2000) found a significant difference in writing proficiency between students in an experimental group, which used peer correspondence through e-mail, and a control group, which did not use any technological support. Fourteen first-year university level students in the experimental group collaborated in English amongst themselves and asked questions to native-speaking students of English in the U.S. about pieces of literature that they had been assigned to read. Students engaged in e-mail discussions about the stories they read and wrote journal entries and essays reflecting on what they had learned. Also, they discussed language and grammar issues and noted them in a grammar notebook in an effort to increase their focus on form in their writing. To assess any gains made in using a technology-based curriculum, students in the experimental and control groups wrote pre-and post-semester exams, and pre-post gains for both groups were compared using a two-tailed test, with significance level set at $p < .05$. The researchers observed the following:

The significant gains on the part of the experimental group in reading and writing as measured by these examinations suggest that the revised curriculum helped learners develop their reading skills and expand their vocabulary a great deal. Perhaps the most noteworthy difference between the groups – scores on the grammar portion – suggest that student-centered, exploratory forms of grammar study may be more effective forms of instruction than lecture presentations. Moreover, the fact that students in the experimental group were required to use English – that is, formulate
and respond to meaningful utterances in realistic tasks on a continual basis – may have contributed to this notable difference in end-of-course measure of English grammar (Meskill and Ranglova, 2000, p. 29).

These results are very supportive of the claim that electronic writing using computer-assisted classroom discussion via e-mail has the potential to improve academic writing skills. There are many reasons, however, why the results of this study do not yield the same results in the study I conducted. First, and most importantly, it is important to note that the students at the University of Bulgaria engaged in networked-based discussions not only with non-native speakers in their class, but also with native-speakers of English who were Master’s students of TESOL (Teaching English as a Second or Other Language). As such, students in that study were thus able to expand their zone of proximal development by learning from advanced native speakers of English who had a vested interest, both academically and professionally, in working with EFL students. In my research project, students had the opportunity to communicate with only one native speaker – the instructor; most of their on-line communication involved writing to non-native speakers who were at the same level of proficiency in English.

Secondly, the results of the post-test results in the study by Meskill and Ranglova were gathered after the students in the experimental group had one full academic year (eight months) of practice with on-line writing. The students in my project were assessed after only three months using the electronic bulletin board. Also, participating students at the University of Bulgaria study used word processing extensively. “All first drafts of journal entries, essays, and grammar book entries were word-processed, then revised using peers’ and teachers’ comments and recommendations” (Meskill & Ranglova, 2000, p. 25). In my
study, students were discouraged from using a word processor before posting their on-line journal entries and messages, and even the first drafts of their essays. They were encouraged to use a word processor only after they had gone through the process of peer review in an effort to increase their 'monitor' skills by learning to detect errors themselves. If students in my research project had the opportunity to communicate with advanced, native speakers of English, practice their on-line writing skills for a period of eight months, and word-process all their written work, then perhaps the research would have yielded significant findings about the ability of networked-based technology to improve academic writing skills.

Despite these differences that may have accounted for the varying results between this study and the one conducted by Meskill and Ranglova, there are also many similarities that are worth mentioning. First, the students at the University of Bulgaria wrote reflective, on-line journal entries about the literature they had read, and shared their thoughts with others by e-mail. Students in my study also engaged in reflective writing activities focusing on the topic of second language learning and writing, and then responded to each other's writing, as did the students in the study by Meskill and Ranglova. Response-based practice in writing was used in both studies as a vehicle "to promote critical and creative thinking through student discourse [...]. In doing so, learners of another language are using the target language in a highly charged, extensive, and meaningful way" (Meskill & Ranglova, 2000, p. 22). Using the target language for meaningful social interaction to improve writing using network-based technology was the goal of both studies. The assumption behind such an approach was that students would increase their focus of form, improve their range of lexico-syntactic competence, and gain a greater awareness of their audience and of the socio-cultural context within which their writing took place.
Even though the findings regarding improvement in grammatical competence in academic writing are inconclusive, qualitative data in the present study and other studies support the claim that student meta-cognitive, meta-linguistic, and critical thinking skills could be enhanced though the use of the interactive bulletin board. Academic writing, especially at the post-secondary level, is expected to include evidence of independent thinking and questioning of assumptions and generalizations.

In this project, students had the opportunity to engage in critical thinking using CACD more than in the regular classroom. Qualitative measures and criteria were used to analyze on-line protocols to determine whether students engaged in reflective writing, and whether they engaged in social and interactive collaboration in an academic context. The results supported the second hypothesis of this research project: Computer-Assisted Classroom Discussion encouraged students to be involved in meaningful ‘reflective’ interaction and critical reflection that could help them to improve their academic writing skills. The results showed that students engaged in a number of discourse acts, such as expressing agreement and disagreement, questioning assumptions, and learners contributed different perspectives on a variety of issues.

It is important to note that it is very difficult to assess critical thinking and meta-cognitive skills in a quantitative fashion, so certain features of discourse were identified to determine if critical thinking and reflection were taking place. Firstly, by reading samples of student essays posted on the electronic bulletin board, we were able to observe that students were given the opportunity to engage in monologic writing in the area of second language writing. They wrote a literacy autobiography of their second language writing and learning.
experience, they thought about the definition and purposes of writing essays, they expressed the challenges they faced in writing essays in a second language, and pondered over the causes and effects of plagiarism. By expressing their thoughts, opinions, and experiences of second language writing, students were able to reflect on the skill they were learning and thereby gain a greater awareness of the writing process. These pieces of writing created by conscious reflection set the stage for meaningful interaction on the bulletin board. This kind of interaction is much richer and more interesting than some of the ‘empty’, meaningless interaction that can occur in verbal and written conversation in an unstructured and misguided environment.

The ‘reflective conversation’ (Lamy & Goodfellow, 1999) that computer-mediated asynchronous interaction allows, propels students to use critical thinking skills by engaging in a variety of discourse ‘acts’ such as asking questions, agreeing or disagreeing, comparing and contrasting, and examining assumptions and generalizations. We witnessed students engaging in these kinds of discourse acts by seeing examples of on-line interactions containing questions, vocabulary and expressions that suggested that critical thinking and reflection was occurring. Students were also able to respond to the reading they had done of other students’ essays that were not on the topic of writing, but on a variety of academic and general topics of the students’ own choice. In this way, students were able to broaden their discourse to engage in ‘reflective conversation’ on a variety of topics with other students, and learn more about other themes and genres in writing. The critical thinking skills that students displayed on the interactive bulletin board were more apparent than in a regular classroom where students are too shy and restricted in terms of time to respond to other students’ written work. The traditional face-to-face classroom tends to be teacher-centered, with the
teacher being the one to ask questions, point out assumptions and generalizations, and make comparisons and contrasts. The reason the qualitative measures yielded the desired results is because the interactive bulletin-board allowed for a more student-centered approach to second language writing where students are the ones asking questions to other students, expressing their ideas, challenging assumptions, and making judgments about each others’ work. In my empirical observation of the class, students in the experimental group had more opportunity and practice to use the language of critical reflection and thought on the on-line bulletin board than in the traditional face-to-face classroom.

In the study conducted by Lamy and Goodfellow (1999), the researchers came to similar conclusions about the benefits of ‘reflective conversation’ around language topics and language learning issues using computer-mediated asynchronous discussion. The researchers examined some examples of CMC exchanges generated during an on-line French course which included both electronically written monologues and dialogues examining word use in a variety of French texts. Students had access to on-line dictionaries, concordances, and new texts that they could download from a web. They participated in discussions on a computer conferencing system called Project Forum, which was moderated by two native speakers of French. Undergraduate university students were learning at a distance and had not met each other face-to-face. They committed themselves to at least 10 hours of work on the web-site, in addition to 12 hours from their regular class. Through a qualitative content analysis of the different genres of writing students displayed on the bulletin board, and of the various discourse features found in interactions (i.e. questions, responses, recommendations, agreement, disagreement), Lamy and Goodfellow (1999) found that reflective conversation using an on-line forum helped students reflect on learning, become aware of the social
context when writing, negotiate meaning, focus on form, and be able to sustain meaningful exchanges over time (p. 21). Although my study was an experimental study that used both quantitative and qualitative measures, Lamy and Goodfellow’s descriptive qualitative study provided sufficient support for the use of interactive electronic bulletin boards to improve writing and critical thinking skills, as well as social interaction.

The third hypothesis made in this project was that CACD assists students with their socio-cultural development by increasing their confidence, improving peer relations, cross-cultural understanding, and by increasing their awareness of their identity and voice in their writing. Qualitative measures such as on-line protocols, interviews, and questionnaires were used to assess student perceptions of these expected gains. Also, as shown in the empirical analysis, most students expressed that using CACD had helped them feel more confident about their writing and about expressing their opinions to others in English. They also felt that they got to know other students better in the classroom because they had taken the time to read their essays and protocols, and had an opportunity to ask them questions. Students appreciated knowing other students’ opinions and thoughts on a variety of issues, ranging from cultural differences in education to abortion issues. Also, students helped each other by providing strategies and tips for improving their vocabulary, grammar, and general writing skills. They collaborated by engaging in peer review and by assisting one another to create the best piece of writing possible. As a result of this kind of peer interaction, students felt that they got to know each other better and were less shy and better able to get along with other students in the classroom.

Since the cultural make-up of the student body in the class was very diverse, students felt that they learned more about other cultures by reading the essays and protocols of other
students. Some essays reflected experiences and discussed culturally related issues and opinions which allowed other students to get a more in-depth look into other students' beliefs, values, experiences, and traditions. The reason that students were able to get to know each other better than in a traditional, face-to-face classroom resulted from a greater opportunity for all students to participate, including those students who were more shy and reticent about expressing their opinions because their culture may not have encouraged them to do so. As indicated by the results on the questionnaire, there was a statistically significant difference between the student responses in the experimental group and those in the control group regarding shyness. Students in the experimental group using CACD felt significantly less shy about expressing their ideas and opinions than did students in the control group. The decreased shyness and increased self-expression may have in turn contributed to the second significant finding between the control group and the experimental group: Students in the experimental group felt more comfortable communicating with people from other cultures. Since the lines of communication were open, this helped students engage in intercultural learning, and gain a greater appreciation for multiculturalism.

A study conducted by Muller-Hartmann (2000) investigates the role of tasks in promoting intercultural learning in electronic learning networks, and his findings are similar to the ones in my research project. Twenty high schools from Germany, Canada, and the United States participated in e-mail projects for a period of 3–4 months. Partner classes were established and students read a play and a novel together in their own time. Students were given the opportunity to get to know each other better by engaging in short problem-solving activities and exchanges in cultural information packages such as school videos and TV-shows. Later, they exchanged posted reader-response e-mail messages discussing their
interpretations of the literary texts. Students then had the opportunity to engage in peer-
response by questioning or challenging other students’ interpretations and perspectives of
literary texts. Data was gathered from the e-mail exchanges, field notes, interviews, and
questionnaires. After a qualitative analysis of all the data, Muller-Hartmann’s study shows
that the tasks in electronic learning networks have supported all aspects of intercultural
learning as outlined by Byram: attitude, knowledge, skills, and critical cultural awareness.
Muller-Hartmann states that “the preliminary exchanges, the matching of students on the
basis of group identities, and the opportunity to integrate personal comments with classroom
content have allowed learners to develop positive attitudes and an awareness of cultural
identities of their partners in the network. The learners also gained in factual knowledge
about each other’s cultures” (Muller-Hartmann, 2000, p. 143).

Although my students were not communicating with other students at a distance and
did not respond to literary texts, they did engage in discussions with other students of
different cultural backgrounds. They compared cultural attitudes to education, writing,
personal expression, plagiarism, and technology. They learned about other students’ cultural
experiences by reading each other’s narrative essays posted on the bulletin board. They were
also able to gain factual information about other cultures on a variety of issues (military
school, legal drinking age, history, politics, abortion, etc.). Students were then given the
opportunity to ask questions, and agree and disagree with different perspectives on certain
issues. By engaging in dialogues on the electronic bulletin board, students learned to develop
and express their views, negotiate meaning, and engage in intercultural learning. The sense
of confidence that most of them gained with increased practice in the CACD allowed them to
question, disagree, and meaningfully respond to other students’ messages.
The increased self-expression encouraged by the electronic bulletin board may also have contributed to a greater awareness of student's cultural identity and of the students' own voice within a multicultural discourse community. Although most students did not feel that their identity changed as a result of writing in English within an academic context, they did feel that their identity could change if they lived and expressed themselves in the target language and culture over a long period of time. By being in a multicultural environment both inside and outside the classroom, and by seeing how students' writing styles, opinions, and beliefs differed, most students felt that their national identity was reinforced. They were more aware of how differently they think and live from other cultures. However, some students felt that they were more similar than different from one another, and that they had changed as a result of knowing about and interacting with people from other cultures. They viewed writing in English as a bridge to expanding their identity by being able to communicate with a multicultural community of learners.

A very interesting and unexpected result relating to identity issues is that all students expressed that they felt like 'outsiders', according to Wenger's use of the term, in the Canadian academic environment and in Canada in general. International students studying English in Canada felt that they had very limited opportunities to communicate in speech and in writing with native speakers, not including their teachers and cultural assistants whose role it was to interact with the students in the Institute. They felt very intimidated to speak because of their accent, the grammatical errors they made, and because of the lack of vocabulary they had to express themselves. They did not feel that native-speaking students outside of the university community were very interested in communicating with them and building relationships. As a result of this linguistic barrier, they felt excluded from Canadian
culture and society in general. Although most of them appreciated the multicultural fabric of Canada and the politeness, generosity, and relative openness of Canadians compared to other countries, they still felt that they weren’t able to build relationships with local Canadians. They attributed their outsider status to their perceived inadequate language skills and the low motivation most Canadians had in building relationships with international students. This finding is not encouraging when considering that the on-line world is “still largely populated by middle-class white, native English speakers” (Warschauer, 2000, p. 57). If students are feeling like ‘outsiders’ in the ‘real’ world, we can also imagine the degree of marginalization they might also face in the virtual world. However, as ESL teachers assist students in refining their electronic writing skills in English, students can begin to feel more confident about the way they write and present themselves to an on-line English speaking community. In doing so, they can slowly participate and become part of that community, while at the same time expressing their unique views and opinions.

Despite their inability to forge an ‘insider’ identity within Canadian culture, students reported that they felt more comfortable expressing their opinions and finding their voice in the on-line forum. They were not intimidated to communicate with other second language writers, so they took the opportunity afforded to them by an open forum environment of the electronic bulletin board to verbalize their thoughts, express their point of view, and agree or disagree on a variety of issues. According to my observations of student interaction on the electronic bulletin board, I found that students participated more in the on-line forum than in class. Previous research also supports this observation. In a study conducted by Gonzalez-Bueno, 50 first-year Spanish L2 students participated in dialogue journals with the instructor using e-mail. The students’ participation was followed longitudinally over two semesters,
and by observing and analyzing the printouts of the e-mails, the researcher discovered that
the quality of participation was enhanced as witnessed by the quantity and quality of target
language produced by the participants versus that observed during previous experiences with
paper-and-pencil versions of dialogue journals (Gonzalez-Bueno, 1998). This study was
different from mine in that Gonzalez-Bueno’s participants were engaged in one-to-one
communication with the teacher, whereas my participants were involved in many-to-many
communication with the teacher and the rest of the students in their class. Also, the former
study did not provide class time for electronic communication, whereas one-quarter of
overall class time was allotted to the use of the electronic bulletin board in the present study.
Gonzalez-Bueno’s study was conducted over a period of two academic semesters (8 months),
whereas my study lasted for 3 months. Despite these differences, similar results were
witnessed by the observers – the increased output of student composed texts and student
interactions.

Not only does CACD provide the potential for increased participation, but it can also
be an equalizer of participation structures (Ortega, 1997). This claim has been supported by
research conducted in FL instruction by Beauvois (1992), Kelm (1992), and Kern (1995), and
participation in my study as well other studies can be attributed to “the absence of oral
interaction constraints, such as fear to interrupt or of being interrupted, need to manage the
floor and the transfer of speakership [...]” (Ortega, 1997, p. 84). Also, students involved in
CACD in the target language need not be concerned with pronunciation issues that make
them more reticent to participate in oral discussions. Furthermore, in CACD, the teacher
takes on a less central role and allows for student initiation and elaboration of topics.
Some students admitted that it was the first time they felt encouraged to express themselves and find their voice in school, as this is not encouraged in some educational environments of certain cultures. For example, most Chinese students felt that they were being disrespectful when expressing their opinions because this was not what was expected of them in their own cultures. They believed that the purpose of high school education was to master a certain body of knowledge for the final exams that would determine if they entered university or not. Displaying critical thinking skills and personal views and opinions was not one of the requirements for graduating from high school and progressing to post-secondary studies.

Students also mentioned that this was the first time they practiced writing in English by expressing their opinions and where there was an audience that included more than one person, the teacher. Through the on-line protocols, we could see that they started to view writing, and writing in English for school as a means of finding their voice and expressing it. They realized that writing in English was not limited to filling in the blanks of pre-fabricated sentences created by test-makers, nor did it consist solely of memorizing verb endings and the definitions of words. Many students had never written an essay in their own language, and all students mentioned that they had never written an essay in English. In reflecting on the purposes of learning to write for school, students became more aware of writing as a means of communicating with others and with oneself.

Although the results are mixed regarding the effectiveness of CACD for improving academic writing skills, the results for socio-cultural development using CACD are more supportive. These secondary effects are important for this study because it can be argued that student perceptions of improved feelings of confidence, an increased willingness to
participate, and greater cultural awareness could in turn affect a student’s attitude towards learning second language writing. Ortega (1997) mentions the following regarding the inclusion of student perceptions in his recommendations for further second language research using technology:

> It would seem more fruitful to concentrate our research efforts on documenting not only differential language outcomes with well-motivated SLA categories and units of analysis, but also learner perceptions and behaviours as they interact with the features of a given CACD task in shaping language performance. Arguably, a learner’s perception of the communicative context and interpretation of the task at hand have a profound impact on the extent to which written or spoken discourse and writing or reading skills are practiced or developed in CACD (Ortega, 1997, p.90).

Positive perceptions of the impact of CACD can therefore have a beneficial effect on learner’s behaviors and overall academic performance in writing.

5.1 Implications for future research

In analyzing both the quantitative and qualitative data, we have observed that there were certain limitations regarding the degree with which external factors could be controlled. If a similar research project were to be conducted, it would be preferable if both the control groups and the experimental groups had the same instructor, and were limited to taking one writing course. Also, the students in the experimental group would be spending most, if not all of the class time participating in a variety of interactive writing tasks on the bulletin board. In this way, it could be more easily determined if any writing improvement was a
direct result of using the technological supplement. In addition to controlling for the teacher, and class time using the e-bulletin board, results of a similar study could lead to more conclusive findings if the study were carried out for a longer period of time. A period of one year, for example, would give students enough time to familiarize themselves with the courseware and on-line activities, and would allow students with enough time to make a significant improvement in their writing. For this study, it was very difficult to control for these important confounds because both the teacher and the students had to conform to the schedule, system, and computer access times established by the school.

There were also certain internal validity issues that could be improved upon in a future study. Indirect measures (i.e. standardized exams) should not be used; only, direct methods (i.e. timed essays) should be used to evaluate academic writing performance over time. These kinds of measures more closely assess the kind of writing students engaged in using the electronic bulletin boards. A future study should put much more focus on a properly conducted quantitative analysis of performance results to determine if the technological supplement creates a significant difference in writing improvement as compared to a regular, face-to-face classroom. The different qualitative measures used (interviews, questionnaires, student protocols, and participant-observation), show consistent results about student perceptions of the usefulness of electronic bulletin boards for the development of writing skills and sociocultural development in this study and in previous studies (Gonzalez-Bueno, 1998; Lamy & Goodfellow, 1999; Muller-Hartman, 2000, Ortega, 1997; Meskill & Ranglova, 2000; Carey, 1999a; Grant & Carey, 2000). Yet as we have seen in this study, student perceptions of their performance using the e-bulletin board were quite different from the results gained from more objective measures. What has been lacking in the research
literature is a tightly controlled, longitudinal study using quantitative measures to analyze achievement results in order to support qualitative findings of positive student perceptions using technological supplements.

It is important to emphasize that it is not the technological tools per se that can be conducive to linguistic and sociocultural gains, but rather the tasks and guidelines set by the instructor that contribute to student learning. Future studies must ensure that students are properly guided and engaged in a variety of writing genres and tasks on the electronic-bulletin board that allow for reflection, interaction, peer review, and meta-cognitive development and the improvement of critical literacy skills. Clear instructions and standards should be provided to students to ensure the effectiveness and success of the task (please see Appendix A). Also, the instructor should organize students in the class into groups and have each person in a group read and respond to other students who are in the same group. This would prevent information overload, and the feelings of neglect some students experienced because others did not have the opportunity to answer their questions or acknowledge their comments. Every week, students could rotate and be in a different group in order to interact with all their classmates.

In addition to providing clear guidelines and tasks, the instructor in the experimental group of a future research study should continue to provide constructive feedback on both the content and form of their writing. This feedback should commence from the beginning of the e-bulletin board activity to ensure that students pay more attention to the accuracy and academic nature of their writing. The instructor should aim to strike a fine balance between allowing for fluency and personal expression on the one hand, yet also limiting the use of informal expressions and 'emoticons' of popular e-mail writing on the other. This is
particularly important for an academic writing class where standards of formality, clarity, and coherence are more rigid. In a regular writing class, these guidelines would not necessarily need to be implemented.

Apart from investigating how the interactive bulletin board could affect academic writing improvement, it would also be interesting to consider the usefulness of this program for improving speech in the target language, or reading development. A few research studies (e.g. Kasper 2000, Pelletieri, 2000) have touched upon the effectiveness of technological tools for improving other language skills, but further research can be conducted to reinforce these findings.

5.2 Implications for teaching

In discussing implications for future research, much emphasis was placed on the importance of the teacher’s role for the success of the CALL task. Kern (1996) states that “the degree to which computer-mediated communication promotes language and content learning, cultural awareness, and critical reflection depends fundamentally on the teachers who coordinate its use” (p.118). Even if the students had unlimited access time to the technological tools, yet were not guided while using them, students would not necessarily succeed in learning. Although the electronic bulletin board has been praised for allowing activity that is student-centered, this does not mean that the teacher’s presence, guidance, and feedback is not necessary. Some instructors may have falsely assumed that technology would replace them, or require less work from them. In my experience, this assumption is inaccurate.
A technological tool used to improve second language learning is just like any other tool. If it is not used properly, it will not help students learn, and it can waste time and money. Also, I found that my workload greatly increased when I had to monitor student writing on the electronic bulletin board; otherwise, student motivation would decrease and students would be less accurate with their writing. It is for this reason that teachers using an on-line open forum in their classroom need assistance. They need another teacher to help monitor and provide corrective feedback to student writing. The importance of providing feedback to second language students should not be underestimated. The opportunities for language use that the electronic bulletin board allows do not automatically transfer into opportunities for language learning. The instructor is the one who enables students to make that transfer by paying attention to their writing over time. To determine the extent of the importance of teacher feedback, further research could be conducted by comparing one group using an electronic bulletin board and receiving teacher feedback, with another group using the same technology, but not receiving teacher feedback. In my observations and upon listening to the opinions of the students, the instructor’s individualized feedback on-line is crucial for second language learning. However, an experimental study would provide further support for these observations and perceptions.

To ensure that students improve their academic writing skills on the electronic bulletin board, teachers need to emphasize to students that electronic writing is not only an informal writing genre. Instructors should make students aware that the audience and context in electronic writing is extremely important, and that they should get into the habit of writing formally on-line to improve their academic and professional potential. This awareness can create better writing on-line and enable students to gain enough pride and confidence in the
way that they represent themselves in a public forum. Students with good writing skills can then feel more comfortable to participate in on-line communities that include native speakers. This participation can in turn help international students feel included in mainstream Canadian society both on and off-line.

Perhaps instructors using electronic bulletin boards with their ESL students could also set up exchanges with native speakers of English to enlarge the students’ zone of proximal development and increase their exposure to the target language. Students could then modify their interlanguage so that it more closely approaches standard English. In addition, they could also get to know members of the university or general community outside of the language school and better understand Canadian culture, customs, and people.

The instructor using a CALL task must also be aware of the extra time it takes to create instructional materials and resources that students can use when engaging in an on-line activity. Teachers should not just assume that ESL learners will contribute in an open forum. They need to be initially encouraged through a series of questions and topical essay choices. The on-line classroom requires no less preparation than a face-to-face classroom, and teachers should be prepared to put in the extra time for preparation.

An instructor must also be familiar with the courseware and how to use it effectively. Teacher training programs should include courses that train teachers how to use new technological tools so that teachers can instruct their students accordingly. Schools should include professional development courses to prepare current teachers to use electronic bulletin boards, concordancers, and other computer software used for pedagogical purposes. This would help instructors feel more knowledgeable and confident when helping their students implement technology in their language learning. It is important that the teacher
have a positive attitude about using the technology if he or she expects the students to embrace the CALL activities in the same manner. A positive attitude can have a beneficial effect on learning and encourage more effective use of the technological tools.

Teachers using the electronic bulletin board for the first time might have to rethink their role in the on-line classroom as one of facilitator and guide. They can set the stage for student writing and interaction, and then observe students more carefully from the sidelines. In doing so, teachers give the center stage to students as they creatively construct their own ideas and reactions to other students' writing.

In closing, teachers using the electronic bulletin board as a pedagogical tool may need to make a few adjustments in the way they perceive their role, and in the assumptions they make about using technology in the second language classroom. If students are properly guided, this tool has the potential to improve language skills and promote sociocultural development. As Warschauer claims, “The existence of the Internet provides the potential for purposeful, powerful use of on-line communication in language and writing classes. It is up to us [teachers] to give life to that purpose and thus achieve the full potential of computer networks in second language teaching” (Warschauer, 2000, p. 57).

5.3 Concluding Remarks

This project has made a unique contribution to the research in the field of second language acquisition as it has attempted to assess, both quantitatively and qualitatively, the effectiveness of networked-technologies for improving academic writing skills. Research in this area is necessary in order to assist international students to compete in a globalized economy and integrate into a multicultural world. The English Language Institute was
created because of the university’s awareness of a need to help international students with their English language skills, as well as their multicultural awareness. Foreign universities in Asian and Latin American countries are also searching for optimal learning situations for international students to master their English language skills. Academic professionals in these countries realize that the level of English proficiency of their graduating scholars is critical to future success if these countries are to participate in the economic, political, and academic components of a globalized world. This issue is so pressing that these countries have organized many international conferences and have invited language experts and ESL teachers to participate in discussions and to work in their schools. Although the quality of their ESL teachers is critical to the goal of learning English, online technologies may offer the best possible supplementary ways to improve the mediocre success of their existing ESL programs (Carey, 1998).

As a second language learner and instructor, I have always questioned the usefulness of technology for improving language learning, gaining knowledge, and developing literacy skills. Admittedly, I was hesitant about the introduction of computers in education as I felt that it would detract from the critical human interactive component of the profession. While I realized the limitations of technology, I also came to appreciate the opportunities networked environments provided for participating in many communities, gaining and sharing knowledge and information, improving literacy skills in a first or second language, and negotiating one’s identity in a globalized, multicultural society connected by the Internet. In studying issues surrounding technology in language education, I became aware of the implications technology access had on social justice, as well as cultural and linguistic conformity. However, it is clear to me that the advantages of technology-assisted learning
outweigh the disadvantages. I decided that as a language teacher, it was important to capitalize on a medium that fosters communication, and use that medium in a second language classroom. In this way, students could judge for themselves the extent to which they found it useful for learning. Embarking on this research project was a way for me to test out first hand theories and precious research regarding second language learning and writing, so that I could make an informed decision about its viability and add to the research in this field. According to Shetzer and Warschauer (2000),

[...] the investigation of electronic literacies affects notions of professional research. In our opinion, excellent models of research on electronic literacies (1) involve teachers themselves as autonomous investigators involved in lifelong learning (rather than having research relegated exclusively to outside experts); (2) involve students as well as co-investigators into their own learning processes (because students are essential co-constructors of knowledge in a learner-centered classroom); and (3) take advantage of new types of collaborative interaction and co-construction of knowledge facilitated by electronic communication” (p. 182).

In this research project, an effort was made to meet all three criteria for research into the effectiveness of networked environments in improving academic writing, critical and cultural literacy. With the help of my supervisor and the active participation of my students, I was able to investigate the effectiveness of technological supplements and gain insight into the issues surrounding second language learning using the electronic bulletin board. As a participant-observer, I was able to analyze more closely students’ reaction to the intervention, and better understand the challenges teachers face in working in a networked environment.
As a researcher, I also had to evaluate the activities, issues, and outcomes of the networked-based writing course for their educational value. By having students reflect on the process and purpose of learning to write in a second language, and post their journal entries to an academic audience, learners became co-investigators of their learning process using the technological supplement.

The purpose of this study is to shed light on the advantages and shortcomings of using electronic bulletin boards for writing improvement and sociocultural development to students, teachers, and researchers. For students, my aim was to help them build their writing skills they needed to succeed in a university environment that demands electronic, critical, and cultural literacy. For teachers, my aim was to outline the most effective activities and strategies to use with the technological supplements that supported student learning objectives and outcomes. For researchers, my goal was to add to the findings made by previous research, and to continue the investigation for the most effective and efficient tools and methods for promoting second language teaching and learning.
REFERENCE LIST


Murray, D. (1996, June/July). Technology is driving the future... the steering is up to us. TESOL Matters, 3.


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PART I: WebCT and journals

1. Follow instructions on how to log on to the WebCT course.
2. After you have logged on, click on to COMMUNICATIONS.
3. Click on to DISCUSSIONS. Then, click on COMPOSE MESSAGE.
4. In the blank area on the screen, write a narrative journal entry of about 250-300 words (or more) on the following topic. I have provided some questions to help you start your writing. Please, do not feel limited by them. Write what comes to mind about the topic. Use them only as a guide.

   Topic: Write a biography describing how you learned to write. Try to remember how (or if) you were taught to write at home, in elementary school, secondary school, and college and university.
   - In what language did you first learn to write?
   - Did you find it easy or difficult? Why or Why not?
   - What methods/techniques did your teacher use to help you learn to write? Describe them. Did they work? Why or why not?
   - What was the second language that you learned to write in?
   - How were you taught to write in a second language? How did you learn to write in English? Was it a positive or negative experience? Why or why not?
   - What were the differences between writing in your mother tongue and writing in a second language?
   - Why do you think writing was taught in schools? Looking back, do you agree with the way it was taught? Why or why not?
• Did you write outside of the school classroom. What kinds of writing did you do? Did you enjoy it? Why or why not?
5. Click POST once you have finished writing! DON'T FORGET!
6. Click UPDATE LISTING and ALL to read other students’ messages.
7. Click REPLY if you would like to respond or ask questions about another student’s writing biography.
8. Go to FILE, and then EXIT

PART II. Editing
1. Review the narrative/descriptive essay you wrote in class during a free-writing session.
2. Type your essay onto a Word document. Improve it by making sure it is coherent, organized, and grammatically correct.
3. Put the subject of every clause in bold, and underline the verb.
i.e. You can learn a lot about a person by seeing the books they have on their bookshelf.
4. Have a friend check your writing. Ask your teacher for advice.

GOOD LUCK!
LAB 2

ACADEMIC WRITING 520

A. Instructor: Valia Spiliotopoulos  Winter 2002

WebCT url: http://www2.cstudies.ubc.ca:8900/webct/public/home.pl

PART I: INTERACTION: 30 min.
1. Read all the messages of the three other students in your group.
2. After reading each message, click on REPLY, and ask your classmate a question or make a comment based on the content of their message. Click on SEND to send your message.
3. Click on UPDATE LISTING, and see what questions or comments your classmates have written to you.
4. Answer their questions by clicking on REPLY. Then type your message with an answer. When you are finished composing your message, click SEND.

PART II: REFLECTION: 30 min.
1. Click on COMPOSE MESSAGE
2. Write on the following topic. I have provided some questions to get you thinking about the topic and to help you write.

What is academic writing?

a. What is an essay?

b. Why do we write essays in school?

c. How do academic essays and other kinds or genre differ in terms of content, organization, word choice and usage, sentence structure, and point of view?

d. Why aren’t other types of writing (poetry, letters, stories) not as common as essays in the academic environment?
e. Do you think there are cultural differences between academic writing in your country and academic writing in North America?

f. What steps do you usually take to write an essay?

g. Have you been a successful essay writer? Why or Why not? What were your strengths and weakness?

h. What kind of writing do you prefer? Academic writing or other kinds of writing?

PART III: ESSAY WRITING

1. Exit Web CT.

2. In a Word document, please start typing the rough/first draft of your narrative/descriptive essay.

3. Review your essay for coherence, organization, expression, grammar, and mechanics.
LAB #3

ACADEMIC WRITING 520W

Instructor: Valia Spiliotopoulos  
February 3, 2002

PART I

1. Please take 15 – 20 minutes to ask and answer questions to your classmates on the electronic bulletin board (WebCT)
2. Take the opportunity to ask your teacher any technical questions about the website.

PART II

1. On the electronic bulletin board, write a journal entry (for 20-30 min.) on the following topic:

   Compare and contrast narrative writing (telling a story) and academic writing

2. Consider the following questions to help you write about this topic:
   - Do you think narrative writing is a part of academic writing?
   - Do you think narrative writing belongs in academic disciplines?
   - What is your favourite piece of narrative writing? Why do you consider it your favourite?
   - Do you think that using narrative is an effective way to learn? Why or why not?
   - Do you find cultural differences between narratives from your own country and the narratives that you have learned in Canada? If so, what are they?
   - Do you like writing narrative essays? Why or why not?

PART III

1. For 15 – 20 min., continue editing your narrative essay.
2. Clearly underline your thesis statement. Please make sure:
   - It's an opinion, not a fact
   - It is one sentence (or two at the most)
PART A: Journal writing (25 min)

1. In a Word document do some free, personal writing on a topic of your choice from the handout on comparison/contrast writing
2. Save your writing onto a diskette so that you may use it later when you work on your 2\textsuperscript{nd} writing assignment

PART B: Timed Writing (30 min)

1. You will be given a prompt and asked to write 4 to 5 paragraph essay within 30 minutes. Use the paper your teacher has provided you with to take notes and organize your ideas before you start typing.
2. Save this timed writing onto your diskette and print it for revision later on.

PART C: WebCT (35 min.)

1. Log on to the WebCT website.
2. Take the time to read the personal mail your instructor has sent you and ask her any questions if there is something you don’t understand.
3. Read the postings that other students have sent to you.
4. Respond to those postings.
5. Ask other students in your group questions about academic writing and narrative writing.
6. Take time to read the narrative/descriptive essays that other students have written and posted on the electronic bulletin board.
7. Comment and ask students questions about their essays.
PLEASE TAKE THE TIME TO READ THIS INSTRUCTION SHEET

PART I (20 min.): INTERACTION
1. Log on to WebCT. (Ask the teacher for your password if you have forgotten)
2. On the electronic bulletin board, answer any questions other students may have asked you about your narrative essay.
3. Make any additional comments or ask questions about other students’ narrative essays.

PART II (45 min.): REFLECTION
1. On the WebCT, write a journal entry on the following topic:
   Compare and contrast the education, practice, and style of writing in your mother tongue with English writing.

Here are some questions to guide your thinking and writing:

- What are the differences in English writing style and the style of writing in your mother tongue? How do these stylistic differences affect your writing in English?
- Why do you think that these stylistic differences exist? Is writing style affected by cultural beliefs/philosophies of knowledge and writing?
- Are there any similarities or differences between academic writing in English and academic writing in your mother tongue? If so, what are they?
- Are there any similarities between writing in English and writing in your mother tongue?
- Do you feel that you express yourself differently (your opinions, your knowledge, your voice) in English compared to your mother tongue?
- Do you feel that you present a different self when you write in English? Why or why not?
• Do you feel that your identity has been changing ever since you started writing in English? If so, how has your sense of identity changed? Do you view this change as positive, neutral, or negative?

• Do you notice differences in writing style when you compare your English writing to the English writing of fellow international students in your class? What may be some interesting differences or similarities?

2. Once you have finished writing on the above topic, POST your message on the electronic bulletin board. DO NOT COPY AND PASTE FROM A WORD DOCUMENT.

3. Read other students’ postings and ask and answer questions.

4. Log off from WebCT.

PART III (30 min.): Comparison-Contrast Essay

1. In a separate Word document, type out your comparison/contrast essay using complete sentences and paragraphs. Refer to the outline you prepared.

2. Make any necessary additions, deletions, corrections. Make sure you review your essay for content, coherence, vocabulary, grammar, and sentence skills (refer to evaluation criteria)

3. Remember to save your document so that you can use it later.

HAVE FUN!!!
PART I: 45 min.
1. In a Word Document, type out your first draft of your comparative/contrast essay
2. Ask a classmate to read and review your essay.
3. Make any necessary changes in organization and sentence structure

PART II: 40 min.
1. Log on to WebCT
2. Read and respond to any questions your teacher or peers may have asked you on the bulletin board
3. Write a posting on the following topic: **What is academic writing? What are the challenges and rewards of academic writing?**
   Consider the following questions for discussion on the bulletin board:
   - Have you read a piece of academic writing in English? Where? Did you like it or dislike it?
   - Who is the audience in academic writing?
   - What are the characteristics a piece of academic writing?
   - What is the role of grammar, vocabulary, sentence structure, organization, and style in academic writing?
   - What do you find most challenging about academic writing? What was the worst academic paper you wrote? What needed to be improved?
   - What do you find rewarding about academic writing? What is the best academic paper you have written? Why was it good?
   - How do you plan to improve your academic writing skills?
   - Do you think that academic writing will be useful for you in your future profession or everyday life? Why or why not?
4. Remember to POST your writing so that other students have an opportunity to read and respond.
LAB #7
ACADEMIC WRITING

Instructor: Valia Spiliotopoulos November 19, 2001

PART I: INTERACTION (20 minutes)
1. Answer questions that the instructor has asked you.
2. Read your classmates postings and/or essays and ask them questions.
3. Answer any questions your classmates may have asked you.

PART II: REFLECTION (30 minutes)
1. Please write a posting on the following topic:
   What are the causes and effects of plagiarism?
   Consider the following questions when writing on this topic.
   • What do you think plagiarism is? Why is it a problem in schools?
   • Why do students copy others' writing without giving the reference?
   • What are the attitudes/rules regarding plagiarism in your country?
   • Do you think copying or imitating is a method of learning?
   • How do you think teachers feel about plagiarism? How do you think teachers should react to students who have copied other peoples' work?
   • What are the effects of plagiarism?
   • Do you think that most students who copy or cheat in school get away with it?
2. Remember to POST your writing.
3. Read other students' postings and ask and answer questions.

PART III: CAUSE/EFFECT ESSAY (50 minutes)
1. In a Word Document, start typing the rough draft of your cause/effect essay.
2. Ask a student to review your essay.
PART I: INTERACTION: (45 min.)

1. Log on to the WebCT site: http://www2.cstudies.ubc.ca:8900
2. Click on ‘Bulletin Board’
3. Please take the time to READ through other student’s postings and ASK your classmates a variety of questions from the topics discussed in the last couple of weeks. (Note that your participation mark is based on the number of postings read, as well as the number of written contributions you have completed).
4. ANSWER any questions that other students or the teacher may have asked you.

PART II: REFLECTION (45 min.)

1. On the bulletin board, write a posting on one of the following topics. Remember, you are ARGUING for or against a position. Provide good reasons and specific examples to support your point of view.

• Do you think computer technology has a positive or negative effect on students’ learning? Why or why not? More specifically, do you think the electronic bulletin board has helped to improve your academic writing skills in English? If so, how? If not, why not?

OR

• Do you think that your identity stays the same, or do you think that it changes? Why or why not? More specifically, do you think that writing in a second language (English) has changed your identity? How?
OR

• Do you think that it is the responsibility of international students to assimilate into the culture and way of thinking of the Canadian school, or do you think that Canadian teachers should assimilate to the different cultures or ways of thinking of their international students? Explain.

2. Read other students' postings and see how their point of view is the same or different from yours. Ask and answer questions.
PART I: INTERACTION: (25 min.)

5. Log on to the WebCT site: http://www2.cstudies.ubc.ca:8900
6. Click on ‘Bulletin Board’
7. Please take the time to READ through other student’s postings and ASK your classmates a variety of questions from the topics discussed in the last couple of weeks. (Note that your participation mark is based on the number of postings read, as well as the number of written contributions you have completed).
8. ANSWER any questions that other students or the teacher may have asked you.
9. Note the comments your teacher has made to you on grammar and vocabulary usage.

PART II: REFLECTION (45 min.)

We are nearing the end of the course, and I’d like you to reflect on your experience in learning how to write academically. I encourage you to use some of these ideas, questions, and your responses for the ‘Reflective Statement’ of your portfolio assignment.

Please consider answering the following questions:

1. Do I better understand the purposes of academic writing as compared to other kinds of writing? Am I more knowledgeable about the different rhetorical styles of academic writing (narrative, cause and effect, comparison/contrast, argumentation)? What exercises or activities in class or in the lab have helped me understand?

2. How have my writing skills improved? If so, how? What and how did I learn about grammar, vocabulary, sentence structure, organization, punctuation, spelling, editing and revising? What specific activities in the class/lab helped me the most? Why? What do I still need to work on? How will I continue to work on these areas for improvement?

3. What have I learned from the teacher? What have I learned from other students? Does it help to have other students revise my work? Do I feel comfortable having all the students
read my postings/essays on the bulletin board? Why or why not? Has this helped improve my writing? Why or why not?

4. Are you aware of cultural differences in writing by reading sample essays from anglophones and the essays of other international students? Do you feel you know your culture and identity better by making these comparisons with other ways of writing and thinking? Do you feel that you have had to assimilate to the 'western way of thinking' when writing academically in order to get a better score on your essay or exam, or do you feel that you have been able to maintain your identity through your writing? Has the e-bulletin board helped you to express yourself more easily and improve your confidence in writing?

5. Do you think that there is a difference between communicating on-line with classmates and communicating face-to-face in a regular classroom? Do you have a preference? Do you think that your level of fluency or accuracy (or both) in academic writing have increased/improved as a result of communicating on-line? Why or why not?

6. Please review the objectives of this course by looking at the course description sheet. Do you feel that you have met the objectives of this course? Why or why not? Would you have like to learn something else? What?

PART III ROUGH DRAFT: ARGUMENTATIVE/PERSUASIVE ESSAY

(30 min.)

1. Please type out the rough draft of your argumentative/persuasive essay.
2. Print out the rough draft and read it several times on your own to look for errors.
3. Ask a student to review your rough draft. Ask the teacher any questions you may have.
PART I: INTERACTION (20 - 30 min.)
1. On the WebCT, please make sure you have posted your argumentative essay.
2. Please take the time to read and respond to questions that other students and the teacher have asked you.
3. Read the postings and argumentative essays of four other students and ask them any final questions about their ideas and writing.

PART II: REFLECTION (20 - 30 min.)
1. In the last lab, you looked back at your experiences with writing in the classroom and on the WebCT. This time I'd like you to reflect on how this writing class has helped your relationship with the other students in this class and with cross-cultural understanding. Please consider these questions and answer as many as you can on the WebCT electronic bulletin board.

   - Do you know other students better by reading their postings/essays on the WebCT?
   - Do you know other students better in this class as compared to other classes? Why or why not?
   - Have you had the opportunity in this class to get to know students from other cultures really well?
   - Do you feel that you have an understanding of other students’ cultures and ways of thinking after reading their writing on the WebCT?
   - What exactly have you learned about other cultures? Give specific examples.
   - Do you feel that you know the teacher better and understand her thinking/culture better by using the WebCT in this class?
   - Do you feel that you have assimilated to the culture and way of thinking of Canada and Canadians?
   - How would you characterize/describe the Canadian culture?
   - Why did you choose to leave your country and come to North America to study English? Do you feel that you are losing your culture the longer you stay here?

PART III: PORTFOLIO (40 min.)
### Assessment Criteria for Academic Essays

#### ACADEMIC WRITING 520

**ESSAY EVALUATION FORM**

<table>
<thead>
<tr>
<th>Instructor: Valia Spiliotopoulos</th>
<th>Name:</th>
</tr>
</thead>
</table>

#### UNITY

- Thesis statement and thesis points
- All the supporting paragraphs back up the thesis

| 1 | 2 | 3 | 4 | 5 |

#### SUPPORT

- Two to four separate supporting points for the thesis
- Specific/relative evidence for each point
- Plenty of evidence for each point

| 1 | 2 | 3 | 4 | 5 |

#### COHERENCE

- Effective introduction, conclusion (indentation), and title
- Organization: Ideas flow logically
- Transition and other connecting words are used

| 1 | 2 | 3 | 4 | 5 |

#### EXPRESSION

- Word choice is appropriate and varied (correct preposition usage)
- Correct word order is used
- Comparison/contrast terminology used
- Sentences are varied
- Proper sentence combining (conjunctions, relative pronouns, adjective clauses)
- Sentences structure: parallelism, no run-on sentences, comma splices, or fragments

| 1 | 2 | 3 | 4 | 5 |

#### GRAMMAR

- Subject-verb agreement
- Correct verb forms
- Article usage/Count and non-count nouns
- Adverbs and adjectives used correctly
- Verb tenses and modals
- Correct and consistent pronoun usage and reference
- Punctuation, spelling, and capitalization

| 2 | 4 | 6 | 8 | 10 |

**Total:** 730 /30

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APPENDIX C

Questionnaire of Writing Improvement and Sociocultural Development

QUESTIONNAIRE

Instructor: Valia Spiliotopoulos 520W, Winter 2002

Home country: ________________  First Language: ________________

Age: ______  Sex: Male: ____  Female: ____

Area of Studies: ____________________________

Highest level of education completed: ____________________________

Previous knowledge of computer use:  Poor  Good  Very good

Please answer the following questions on a scale of 1 to 7

1 2 3 4 5 6 7

strongly disagree  agree somewhat  strongly agree

PART A

After taking this course, ...

1. I have improved my knowledge of vocabulary and lexical structures.
   1 2 3 4 5 6 7

2. I can revise and edit my essays better.
   1 2 3 4 5 6 7

3. My writing is more coherent, organized, and logical.
   1 2 3 4 5 6 7

4. I have improved my knowledge of grammar.
   1 2 3 4 5 6 7

5. My sentence structure has improved.
   1 2 3 4 5 6 7

6. I feel that I write more fluently.
   1 2 3 4 5 6 7
7. I feel that I know how to write different kinds of academic essays.

8. I know how to think critically and argue effectively when writing essays.

9. I feel more confident when taking timed writings.

10. I feel more confident using computers for writing essays and communicating.

PART B  After taking this course,…

11. I got to know most of the other students in my class.

12. I feel less shy about expressing my ideas and opinions.

13. I am aware of cross-cultural differences in writing.

14. I am more interested in meeting students from other cultures.

15. I know myself and understand my own culture better.

16. My ability to understand Canadian culture is getting better.

17. I have learned about the academic culture and academic discourse.

18. I understand the relationship between thought, writing, and identity.

19. I see a relationship between one’s culture and one’s way of thinking.

20. I feel more comfortable communicating with people from other cultures.
INTERVIEW QUESTIONS

1. How would you describe yourself? How long have you studied English? How long have you been studying English in Canada?

2. Why do you want to improve your writing in English? What do you want to improve? What do you think is the best way to improve it?

3. Have you used the electronic bulletin board in a second language classroom before? If so, describe your experience.

4. How do you feel about presenting your writing on-line in a class or school that has many international students?

5. Do you think you have learned to write better by reading other students' writing in this class?

6. Do you prefer it if the teacher corrects your writing on-line? Do you feel that the teacher's corrections may impede your fluency?

7. Do you think the English writing skills you have practised on the electronic bulletin board will help you at your job or at school?

8. Did writing on the electronic bulletin board help to improve your fluency / vocabulary? Your grammar skills? Your reading skills? Your organisation skills? Your revision skills?
9. Do you think your overall writing skills have improved over the course of this term as a result of using the electronic bulletin board? Why or why not? To what extent has it improved?

10. What exercise on the electronic bulletin board do you find improves your writing the most?

11. How is writing on-line different from writing on a page? Do you prefer written interaction or verbal interaction with students and your teachers? Why?

12. Do you feel that you know other students better by interacting with them using the electronic bulletin board?

13. Do you feel that you are more aware of cultural differences by interacting with international students on the electronic bulletin board?

14. Do you feel that your identity has changed as a result of writing in English to an international audience on the electronic bulletin board?

15. Have your attitudes and motivation towards writing differed or improved over the course of this term by using the electronic bulletin board? If so, how and why?

16. Do you think that your confidence has improved as a result of using the electronic bulletin board?

17. Do you think that the objectives of this course have been met as a result of using the electronic bulletin board?

18. What did you like about using the electronic bulletin board?

19. What did you dislike about using the electronic bulletin board? How can this tool be improved to meet your needs?

20. Would you take a writing class using WebCT again? Why or why not?
Computers have a great influence on us. It has helped our society develop. Our lifestyle would probably be a lot different if it weren't for computers. Many of us use it in our everyday life. For students, computers give a great advantage in academic studies. They can gather more information than ever, and exchange or read each other's work in an instant like we do on the bulletin board. Highly advanced information technology gives us a way to gather all the information we need from anywhere in the world. For a long time, teachers in North America liked to assign presentations to their students. The first process students must go through is research. Today that is not as big a problem as it used to be for students thanks to computers. To read and compare our friends' work is an effective way to learn. There are many ways to do this. Such as e-mail or by the bulletin board like we use in class. Both are fast and easy to use. One advantage of using this way of learning is that we can compare and correct each other's writing. By doing this we will improve our reading skill and vocabulary. It is highly effective because the students are at the same level, and the writing of others is not too easy nor too difficult. So I recommend that the governments of every country provide schools with computers. Also parents should provide their children with computers at home. There are so many positive effects on education that no child should miss out. The computer technology is definitely a blessing to our society, and especially to students for academic use.

Figure E1. Peer learning as an advantage of using WebCT

A heated debate has existed for a long time according to whether computer technology is positive or negative. Personally, I think computer technology brings much more positive effects compared to the negative ones. Considering the great convenience, high speed, and high
Efficiency and effectiveness, we realize it has immersed deeply into our daily life. As far as the Electronic bulletin board is concerned, it has helped me a lot to improve my academic writing. Firstly, it makes our communication more convenient. We can read other people's essays or opinions by visiting the bulletin board. Furthermore, it makes possible for us to have distant communication so that we can ask or answer questions from one another even if we are far from each other. Also we could use computer instead of piles of papers and needn't worry about losing them if no accident happens to your dear computer.

Secondly, using this kind of bulletin can help to save our times. We are able to read other's writing without more than a second delay. That means we could communicate with each other in time.

Thirdly, the bulletin board is very efficient and effective. We don't need to type out all the writing materials and we can save the time searching certain paper. In addition, we needn't hand in our writing and the teacher still can read our essays and give us comments by reading and posting on the bulletin. This tool makes our documents clearly arranged because it can show what has been read and what still not.

Figure E2. Ease of communication as an advantage of using WebCT

Message no. 399
Posted by xxx on Monday, November 26, 2001 10:10am
Subject the role of computer in my writing class.

We commonly call a computer the greatest invention in the 20th century. Why do people call the computer like that? The answer is easy. It is because it has brought many benefits. Simply, let's think about the bulletin board which I use in the lab. Many people say that the best way to learn writing is to read many essays. In terms of this view, I think the bulletin board is very effective to learn writing because I can share my essay with my classmates, and then through reading an essay, I can learn the ways of expression, vocab, grammar and so on. Actually I believe that it has been helping me out. Another benefit is that I can communicate with my classmates and teacher easily. If I have a question or curiosity, I can question without my big effort. I think it can be a great motivation for students, because one of the wonderful pleasure is that someone became interesting for other people. I think a computer plays big role in my writing class as you read. A computer helps my class out to be more convenient and effective.

Figure E3. Motivation to communicate as an advantage of using WebCT
Message no. 435
Posted by xxx on Monday, December 3, 2001 9:47am
Subject Reflection

During this course, till now, i learned that each piece of writing has a different style because each of them has unique purpose. For me, handouts for each essay before writing it, really helped me to understand what are differences among different kinds of writing. Besides, personally checking each person essay is the most useful thing for me. In my writing, Grammer mistakes, capital mistakes and a lot of other mistakes use to make my writing imposible to understand and annoying to read. I feel that my writing skills improved because I see less grammer mistake or Capital mistake than before. I have to learn more and more academic vocabulary in order to express my idea thoroughly. In addition, web ct is really helpful activity, and it is perfect opportunity to write freely what come to mind and try to accelerate the speed of writing. In Web ct, I feel absolutely comfortable that my peers read my writing. And, revising my work with my classmates is helpful. Because my writing is a reflection of my way of thinking and my culture, everyone can realize the influence of my culture and identity through my writing. I anticipate that passing time cannot reduce the impact of my culture in my writing, and even, in my life. As I mentioned above, in the process of learning how to write, e-bulletin board plays an important role in improving my self confidence during my writing. I believe, there is a direct connection between communicating face-to-face and communicating on-line. I feel that those students with more ability to communicate face-to-face, have more ability in communicating with writing or on-line. I think, improving in fluency and accuracy in communicating face-to-face, helped me to improve my skills in writing. For each essay, during the course, I spend a lot of time on each essay, but results was always about the same of the others. Among my other classes, my writing class was the most difficault one. And i spend a lot of time on it. Generaly, i agree with organization of course description, but preparing the portfolio in a week and during this rush of final exams, is a hard thing to do, but possible.

Figure E4. Increased self-confidence and expression by writing on-line
Message no. 434
Posted by xxx ) on Monday, December 3, 2001 9:44am
Subject Reflection
I better understand the purposes of academic writing than the beginning of this course. The description sheet which we got before writing an essay really helps me to understand the each way of writing. I think my writing skills are improving little by little. Especially in terms of organization and punctuation. Before I begin this course, I did not know how to punctuate sentences. Moreover, I can learn vocabularies and sentence structures by reading classmates' essay, and I really feel my shortage of vocabularies. I don't feel comfortable having all the students read my posting, because my writing is not good, but reading other person's posting helps improve my writing, and my teacher also help me improve writing. Her correction my essay really eligible. Telling about culture differences, I have never written academic essay in English, so I do not now the cultural differences. However, it is easier to follow the way which I was taught. I don't like typing in the bulletin board, first because my eyes feel tired after using computer. Secondly, computer sometimes has a problem. Once I could not post my writing. However, I can practice writing in the limited time. Considering of the course objection, I cannot understand why the points of weekly essay occupy no less than 40%. Anyway, I need more practices writing and learn more vocabularies.

Figure E5. Positive and negative experiences of on-line writing

Message no. 436
Posted by xxx ) on Monday, December 3, 2001 9:47am
Subject my conclusion about this course
Through this session, in academic writing class, I learned how to write academic writing. Gradually, I improve my writing skill; moreover, I can distinguish different emphasis between all kinds of academic writing clearly. In my opinion, discussing and reading other students' essays is a good way to help me understand and improve my writing skill quickly.

I think my writing skills have improved a lot during this session. In this class, from the book and teacher even the other students, I learned more vocabularies and then used them in my writing; I learned to avoid grammar faults as possible; I learned build sentence structure clearly; I learned use conjunction and logical connection to make my writing more organized, so that others can understand them easily; I learned use punctuations in proper ways; I learned the process to write a good essay.
through several steps. I think the book "independent writing" is a available one, I learned a lot of through the book.

I think writing is a good way to help you improve english. Having revised the essays from students, the teacher helped students known what is a good essay and how to write better. Usually, we were discussing and working together in class, and learned a lot each other. I prefer studying in bulletin board. Reading other students' essays is also a good way to help me. For example, I know a word but I don't know how to use it in appropriate case, and the word appeared in another one's essay correctly. In fact, I impressed the word upon my mind.

The biggest barrier in writing between English and my mother tone is different thinking ways and minds. Because I have learned Chinese for 20 years, and now, meeting a strange language, I have to form my ideas in Chinese first, then translate to English. Some words exist tiny different between two languages. Reading native speakers' sample essays help me know western way of thinking directly, I can mix them together and connecte them logically.

I prefer communicating with classmates face-to-face in a regular classroom. Because in that case, I can catch them clearly through discussing and expression even gestures. On the contrary, I have to check dictionary if I meet a new word on-line.

**Figure E6.** Learning to use new words through on-line interaction
Message no. 437
Posted by xxx on Monday, December 3, 2001 9:49am
Subject: Reflection
I hope my writing skills have improved. Actually, nowadays I can get what I have to do during writing because I just wrote whatever I want before. Moreover, I had never reviewed my writing, so the difference between the first draft and finally essay was just whether it was a handwriting or not. That's why I made same mistakes over and over, and I didn't even know what I had problems. However, I'm getting try to review my writing, and find my often mistakes. I think it looks better than before. I have learn how I can make a smooth essay without basic mistakes. For example, I often use imprudent words because I couldn't get real English meaning, so the sentence is often awkward. This is very difficult to distinguish for me because meaning of words is almost same, but I can't use it a certain situation. I have to know when I can use the word. It is very confusing. Moreover, I often fail to use what I have learnt. Sometimes, I know how I can use the grammar and usages, but when I have started writing I didn't even think that. However, nowadays I'm getting know at least what the problems are. Reviewing one by one with teacher and with classmates is very helpful to find out mistakes and make a better essay. Definitely, way of writing has a big difference between English countries and other countries. Maybe, the basic steps are similar or almost same, but how I learnt is totally different from English countries. The reason why, our education systems don't concern about writing curriculum, so I didn't think about writing deeply. Actually, I couldn't get the western way of thinking a lot because our class doesn't have people from western countries except teacher as I know. However, I could share the other classmates because all of us had a different way of curriculum, it was peculiar experience. Communicating on-line is more private than communicating face-to-face because I can ask and respond other classmates who I have never talked before during a class. Besides, I can understand their thinking very well as compared to communicating face-to-face.
Message no. 216
Posted by xxx on Monday, March 25, 2002 9:44am
Subject Our relationship with WebCT

I felt that I knew other classmates better as compared to other classes because I had read other classmates' essays and replied comments on WebCT. I knew the reason why they chose to Vancouver, why they decided to study English and what their interests are. By reading narrative essays, I could share their vividly previous memory. Those essays showed me their glad, their angly and their sadness. In addition, I have received many replied comments from classmates. They said to me just saying hi, opinions or mistakes. It was useful not only communication but also improvement of my essay.

Figure F2. Student knowledge of experiences and opinions of peers

Message no. 218
Posted by xxx on Monday, March 25, 2002 9:55am
Subject The Relationships With The Other Students in This Class

I think that there are many ways to know a person, and his or her opinions are one of them. When I meet a new person, I know something about them from their appearance. If he he wears very good formal suits, he should be polite, neat, and maybe rich. I would probably like to meet him again. When I meet him next time, I ask some individual questions to him, such as music, and pay attention to his behaviors. The more I am with him, the more I ask him his opinions about controversial topics, such as an abortion or discrimination. In this class, I could know personal opinions. This is the one of the ways to get to know others, so this helped me know the other students. It is true that a different person has different opinions. I often found the different opinions in the other students' essays. I was sometimes surprised at them, but I thought that was because of different culture. I enjoyed reading the other student's essays and learning different culture. When I know some students from different countries from me have the same feelings and opinions as me, I was surprised as well!

Figure F3. Student enjoyment in reading peer's essays
Contact:
If I have any questions or desire further information with respect to this study, I may contact Dr. Stephen Carey or one of his associates at (604) 822-6954.

If I have any concerns about my treatment or rights as a research subject, I may contact the Director of Research Services at the University of British Columbia at (604) 822-8598.

Consent:
I understand that my participation in this study is entirely voluntary and that I may refuse to participate or withdraw from the study at any time without jeopardy to my class standing.

I have received a copy of this consent form for my own records.

I consent to participate in this study.

Subject Signature Date

Signature of Witness Date

CF Version: Nov. 8, 2001
GLOSSARY OF ACRONYMS

CALL – Computer-Assisted Language Learning
CACD – Computer-Assisted Classroom Discussion
CASLA – Computer-Assisted Second Language Acquisition
CMC – Computer-Mediated Communication
CSCL – Computer-Supported Collaborative Learning
EAP – English for Academic Purposes.
ELI – English Language Institute
ESL – English as a Second Language
FL – Foreign Language
LAN – Local Area Network
L1 – First Language
L2 – Second Language
NS – Native Speaker/Speaking
NNS – Non-Native Speaker/Speaking
SLA – Second Language Acquisition
TOEFL – Test of English as a Foreign Language
Web CT – Web Course Tutorial