ESL Students' Off-Line and On-Line Texts: Differences and Similarities

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Abstract

This study was undertaken to investigate any textual differences and similarities within essays written with a word processing program and an e-mail editor by non-native writers. It arose from many contradictions and a paucity of empirical research within the field of second language learning and electronic technology. To further explore these contradictory observations, 3 classes of intermediate level ESL (English as a Second Language) students wrote 6 essays, alternating between a word processing program and an e-mail editor. Prior to the data collection, students read brief texts and responded to questions that focused upon three formal topics: immigration, economics, and multiculturalism. Data were examined for (a) the differences in the frequency counts of 12 cohesive devices, (b) sentence complexity, which focused upon the occurrences of simple and complex sentences, (c) the number of words within the writings, (d) the method of contextualization preferred by writers, and (e) any variations in the final grades of the students' texts that resulted from holistic rating. Results of analysis indicated that there were no statistically significant differences in the frequency counts of the linguistic features. Sentence complexity did not vary within the off-line and on-line essays. The average number of words found within the off-line essays was approximately 20% greater than within on-line essays. Contextualization methods were not different within word-processed or e-mailed essays. Finally, there was no difference in the quality of the texts when holistically rated.
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CHAPTER ONE: THE PROBLEM

Introduction

This study examined the differences and similarities found within off-line and on-line essays. The study grew out of contradictions found in a review of related literature and was based upon the occurrences of grammatical and linguistic features found within essays written by intermediate level English as a Second Language (ESL) students with a word processing program (off-line writing) or an e-mail editor (on-line writing).

Electronic technology has inundated the second language writing classroom because current ESL theorists suspect a potential link between electronic media, language learning, and the second language writing classroom. The nature of that link, however, remains unclear because there are inherent differences between word processing programs and e-mail editors, as well as similarities. One possibility discussed is that the medium a writer uses influences the language that is produced. For example, the continuum theory holds that the type of language found within computer texts is derived from a writer's or sender's intention within an exchange of information. The resultant language moves along a continuum and exhibits varying degrees of written or oral language characteristics. Another theory rests on the belief that word processing and e-mail serve two distinct purposes and are used accordingly within the second language writing classroom. This theory assumes that dichotomous language, defined as distinct language within different electronic media, results within the writings completed using a word processing program and an e-mail editor. Therefore, word processing programs are used for more formal writing activities while
e-mail editors are put to use for personal communication between friends and relatives. In a third configuration, proponents of a hybrid theory argue that written and oral language have melded together to produce a new form of language within electronic texts. Furthermore, different grammatical and linguistic features do not result from the medium used by the writer. Instead, the purpose for the writing is the basis for the language that manifests in a medium. Since these contradictory assumptions present a dilemma for current theory and pedagogy as to the exact nature of the link between electronic technology and second language learning, there is a reason for further investigation of the phenomenon.

Background to the Problem

In general, the use of electronic media embodies a number of requirements necessary for both communication and language learning, including a degree of typing and writing skills, as well as negotiation and social skills. Because these skills have the potential to foster communication and language learning, contemporary experts of second language theory and pedagogy have embraced the possibilities of electronic technology. Unfortunately, the potential of this new technology has been acclaimed in spite of the computer’s brief history in the language classroom and in the face of contradictory empirical evidence (Chun, 1994; Kelm, 1992; Oliva & Pollastrini, 1995).

Electronic media, whether in the form of a word processing program or an e-mail editor, are believed to bring a potential benefit to second language learners. Current research suggests that writing with word processing programs improves the overall quality of students’ essays. Sommers (1985),
for example, found that 44 students who received word processing instruction scored higher on a 12-point holistic scale than 37 students who did not receive equivalent instruction. In addition, the majority of 54 ESL undergraduate students surveyed by Neu and Scarcella (1991) stated that they paid more attention to grammar, organization, punctuation, and spelling when using word processors than when using traditional writing tools. Furthermore, these same students believed that they received higher grades on term papers when they used a word processing program.

On the other hand, Wilkinson and Buboltz (1997) have hypothesized that interpersonal communication is the most popular application of e-mail. This popularity has produced a burgeoning of e-mail subscribers during the 1990s, which is evident in Wilkinson and Buboltz’s statement that “from 1994 to 1996, the number of e-mail messages has swollen from 776 billion to 2.6 trillion, and is expected to top 6.6 trillion by the year 2000” (p. 1). In the face of such substantial growth of e-mail communication, the potential influence of e-mail upon writers’ lexical choices deserves investigation. Even though e-mail is primarily used for personal communication, many educators theorize that, when applied within the second language writing classroom, this form of technology can facilitate second language learning. For example, Kroonenberg (1994) contends that ESL students’ on-line messages have resulted in spontaneous communication that develops both cognitive and language skills and that increases second language proficiency. Moreover, electronic mailing produces large amounts of readable, original text that address real topics and that result in communication essential for second language acquisition (Chun, 1994; Oliva & Pollastrini, 1995).
Even though a number of studies point out many benefits of electronic technology, there are also contradictory issues that center upon the potential of word processing programs and e-mail editors for increasing the proficiency levels of second language writers. For example, Tella (1992b) has argued that word processing programs produce better quality texts with the use of various cohesive devices and a high level of organization when compared to e-mail texts. By contrast, Murray (1995) and Walker (1999) hold an opposite view for the potential of off-line programs, and they express concerns over a lack of planning and editing that could result in less cohesive essays. Furthermore, present research has been inconclusive as to the capacity of an e-mail editor. Several writers, including Levin, Riel, Rowe, and Boruta (1985) and Reich, Matthews, Goldman, Brienne, and Matthews (1991) have found that the implementation of e-mail within the second language writing classroom improves the degree of students' organizational skills, command of the second language, and level of vocabulary. However, Tella (1992a) reports contrary findings and argues that e-mail language is colloquial and lacks the level of organization found within word processed essays. He argues that the language produced with an e-mail editor does not facilitate second language proficiency.

These findings demonstrate that researchers are not in agreement as to the language found within off-line and on-line essays. As a result, the research has failed to illustrate conclusively that the writings of ESL students improve with the introduction of word processing programs or e-mail editors within the second language writing classroom. In addition, there are many unresolved issues and unsupported claims that need to be addressed in order
to demonstrate the appropriate and effective use of electronic technology within the second language classroom (Pennington, 1993a; Peterson, 1997; Warschauer, 1997). Thus, in view of the variations in opinions and findings, more research is needed to explore the impact of electronic technology upon the writings of ESL students. This gap in the knowledge base was the impetus for the study being reported in this document.

Statement of the Problem Situation

Although a proliferation of electronic technology has taken place within the second language writing classroom, and although contemporary researchers and educators believe in the potential of the new tool for language learning, the effect of word processing programs and e-mail editors upon students' texts has not yet been determined. A few studies have examined students' language written using either off-line or on-line programs (Biesenbach-Lucas & Weasenforth, 2001; Murray, 1985; Tella, 1992b; Weasenforth & Lucas, 1997). However, the limited amount of evidence from these few studies has resulted in a variety of contrary explanations concerning what characterizes the language found within ESL students' off-line and on-line essays (Biber, 1986; Murray, 1985; Tella, 1992b; Yates & Orlikowski, 1993). These contrary findings have serious implications for second language learners, instruction practices, and the use of electronic media.

Among the studies that described and discussed the characteristics and influences of electronic media is Murray’s (1985) work on the oral-literate continuum. Murray argues that the language selected by writers is fundamentally grounded within the assumed roles of the sender and the
receiver. As a result, the language produced within texts using different media might co-occur at times but could be contrary in other instances. In contrast, other researchers such as Biber (1986), Slaouti (1998), Tella (1992b), and Walker (1999) have argued that a linguistic dichotomy exists because the language created by writers with different electronic media is different. In other words, the linguistic and grammatical features found within students' essays written with a word processing program are separate and distinct from those written with an e-mail editor. Finally, Yates and Orlikowski (1993) argue for a hybrid theory wherein linguistic features have melded together to form a new language that co-occurs within electronic texts. These linguistic choices are the result of various factors, such as purpose and task, and do not arise from the influence of the medium.

The above studies demonstrate contradictory views of what types of language result within electronic texts, which is problematic because these hypotheses form the basis of current writing theories. Generally speaking, the theoretical model adopted within the second language writing class dictates the role of electronic media and pedagogical practices. For example, if a linguistic dichotomy is believed to exist between a word processing program and an e-mail editor, then the roles of the media will be expected to differ (Slaouti, 1998; Tella, 1992b). Thus, off-line programs will be seen as being more appropriate for formal writing while on-line writing will be limited to personal communication. However, the results of Yates and Orlikowski (1993) indicate that both off-line and on-line media can be equally suited for formal and informal writing exercises. Therefore, the contradictory results from
current research provide sufficient reasons, both theoretical and pedagogical, to proceed with this study.

Purpose of the Study

The purpose of this study was to determine if ESL students' off-line and on-line essays exhibited differences and similarities of linguistic features. To explore this issue, five questions were examined and addressed in the study:

1. Will there be differences in the frequency counts of 12 predetermined linguistic features in off-line essays as compared to on-line essays?

2. Will there be a difference in sentence complexity between off-line and on-line writings?

3. Will there be a difference in the overall lengths of students' texts written on a word processing program as compared to an e-mail editor?

4. Will there be differences in the contextual category, either first person or third person source, to indicate the preferences of student writers composing on a word processor versus e-mail?

5. Will there be differences in the quality of student texts produced off-line or on-line?

Theoretical Framework

The research questions addressed in this study were grounded within the following theoretical framework. Researchers have argued that word processed essays exhibit characteristics that are typically found within written language whereas texts composed using e-mail editors display traits that are similar to oral language (Slaouti, 1998; Tella, 1992b; Walker, 1999). Therefore, if the association between written language and off-line texts and
between oral discourse and on-line writings are factual, then ESL students' writings produced using word processing programs and e-mail editors should result in language distinct to that form of media.

First, various studies have argued that the linguistic features selected for analysis within this study are to be found in varying frequencies and to predominate within one form of electronic medium rather than the other (Kroll, 1977; Morrow, 1989; Sloan, 1983; Weissberg, 1984). Therefore, the differences in the number of occurrences of these features can aid in the determination of what distinguishes off-line and on-line texts.

Second, experts maintain that the influence of electronic media manifests into different grammatical structures found within the paragraphs of off-line and on-line essays (Biber, 1986; Murray, 1985). For example, due to the relationship between written language and off-line texts, complex sentences are expected to appear most frequently within off-line writings. On the contrary, simple sentences are expected to occur most commonly within on-line texts due to the similarities between on-line writing and oral language. If this theory holds, the differences in the occurrences of these grammatical features should result in variations between off-line and on-line writings.

Third, researchers have found that ESL students' texts vary in length due to the influence of the media. However, these findings are contradictory because some studies observe that off-line writings contain a greater number of words (Biesenbach-Lucas & Weasenforth, 2001; Tella, 1992b; Weasenforth & Lucas, 1997), while Lepeintre (1995) reports that on-line essays have longer text lengths. In spite of the contradictions in the findings, variances in
the overall lengths of students' essays are expected to differentiate the
writings within the two forms of electronic media.

Fourth, writers provide introductory information to their readers by
means of different types of contextualization methods with initial information
being presented with either first or third person source. First person source,
which is believed to be similar to oral discourse, demonstrates the writers'
personal opinion with the use of such phrases as "I believe," "I think," and "in
my opinion." On the other hand, third person source is similar to written
language and relies upon the comments of experts as a means to corroborate
background information. Therefore, the contextualization types that students
prefer are expected to differ according to the medium used by the writer
(Tella, 1992b; Weasenforth & Lucas, 1997).

Finally, research has indicated that both longer texts and increased
density of cohesive devices coincide with higher quality essays (Witte &
Faigley, 1981). Therefore, a holistic rating of the quality of student texts
should differ and should be a means to differentiate off-line and on-line
essays.

The theoretical framework of this study is rationalized in the results of
Tella (1992a, 1992b), Weasenforth and Lucas (1997), and Biesenbach-Lucas
and Weasenforth (2001), all of whom suggest that texts written off-line and
on-line demonstrate dichotomous language. These researchers argue that a
linguistic dichotomy is manifested in the use of distinctive linguistic and
grammatical features within each medium. For example, off-line texts are
characterized by such formal structures as complex sentences and a high
level of organization while on-line texts demonstrate informal traits with
simpler ideas and less organization. Therefore, off-line and on-line writers produce distinctive linguistic features within their essays that should similarly differentiate essays written by ESL students.

Definitions of Terms

The following terms are used often within this study. These definitions are provided to maintain clarity of communication.

Asynchronous conferencing: A writer sends an electronic message to an individual who is unable to respond at the same time.

Clause coordinators (connectors): lexical features used to connect two independent clauses (and, but, because, for, or, so, yet, and as a result).

Clause subordinators: lexical connectors used to connect independent and dependent clauses (because, since, as, thus, while, therefore, such as, as a result, and if).

Complex sentence: a sentence containing more than one clause.

Contextualization: A writer or speaker provides introductory information to a reader or listener by means of first or third person source.

Demonstrative noun phrases: Demonstrative pronouns are followed by a noun (these new books).

Demonstrative pronouns: Pronouns (this, that, these, those) are used to replace a noun which has been previously mentioned.

Discourse particles (markers): are usually found within spoken discourse (oh, well, by the way, but, or, so, now, then, I mean, like, you know, and actually).

Ellipsis: A lexical item is omitted, and understanding occurs from the proceeding discourse.
Emoticon: a visual representation of language that suggests, electronically, a sender's mood or tone. For example: ":-)" is a smiling face, a wink is ";--)", and laughter is represented as ":-D".

Holistic rating: an evaluation of a student's written text as a whole, with respect to the following categories: grammar, organization, content, and language.

Lexical repetition (reiteration): exact repetition of the same noun or noun phrase within the following sentence or clause.

Linguistic dichotomy: On-line and off-line texts contain different linguistic features and exhibit distinct characteristics not found within the other medium.

Off-line: writing with a word processing program.

On-line: writing with an e-mail editor.

Phrase subordinators: connectors for phrases to independent clauses.

Pronouns: words used to indicate and to replace a noun (I, me, my, we, us, our, myself, ourselves, you, your, yourselves, he, she, it, him, her, them, they, himself, herself, their, and themselves).

Sentence connectors (conjuncts): words that are used to connect two independent clauses (however, therefore, furthermore, in addition, and moreover).

Simple sentence: a sentence containing a single clause.

Summative expressions: phrases that are used to sum up longer segments of previously stated discourse.

Synchronous conferencing: technology that permits the answering of electronic messages to occur at the same time between participants.
Synonyms: lexical items that have the same meaning within a specific context.

T-units: one main clause plus any subordinate or nonclausal structure attached to or embedded within it.

Rationale of the Study

Various researchers have presented contradictory findings to account for the different types of language produced by ESL students with a word processing program or e-mail editor. For example, Biber (1986) and Telia (1992b) argue that the language found within students' essays is a result of mutual exclusivity found within word processing programs or e-mail editors. Alternative explanations have been offered by Beaman (1984) and Granger (1998), who argue that the medium is not responsible for the writers' linguistic selections but that these linguistic choices are the result of other factors, which include purpose, topic, and genre. As a consequence of these contrary hypotheses, it was important to investigate this complex problem in order to gain additional insight into the influence of electronic technology upon the writings of ESL students.

Importance of the Study

Currently there is considerable interest in the potential for electronic technology within the second language writing classroom. However, there appears to be some question concerning the use of electronic media because word processing programs and e-mail editors are both different and similar. For example, off-line programs have editing features to produce professional-looking documents, while on-line editors connect writers in asynchronous or synchronous conferencing. As a result of these different purposes, the texts
written by ESL students in each of these media contain features that are yet to be determined. Thus, additional research needs to be conducted to determine the differences and similarities of language found within off-line and on-line texts.

The impact of this study can be found in relation to: (a) educating writing instructors as to the language produced within off-line and on-line essays, (b) changing present practices to address both the potential and the limitations of electronic media, and (c) developing programs to maximize the effectiveness of electronic media within the second language writing classroom.

Word processing programs and e-mail editors are not the same, but they are similar in nature. The influence of a similar but dissimilar medium and the subsequent lexical and grammatical choices made by ESL writers has not been agreed upon due to contradictory findings and a paucity of empirical research. Therefore, the outcome of this study would be of considerable interest for second language theory and pedagogy.

Scope of the Study

The focus of this study was to examine the potential differences and similarities found within the off-line and on-line texts of ESL students. This investigation was based upon the frequency counts of 12 linguistic features, sentence complexity, variations in the lengths of texts, contextualized introductions, and overall quality of the writings. The scope of this study is limited to the following: 48 ESL students, enrolment within the 1999 fall term, one cohort of intermediate level students, six writing assignments, three formal topics (immigration, economics, and multiculturalism), and alternating
writing essays with a specific word processing program (*Word 6.1*) and a specific e-mail editor (*Pine*).

**Outline of the Remainder of the Document:**

This chapter provides a brief introduction and background of the current problem, purpose and questions to be considered, definitions, and the justification for the study. Chapter Two presents a review of the literature related to the linguistic features found within written and oral communication and also the characteristics that distinguish written and oral language. The chapter includes an in-depth examination of the characteristics of language found within word processing programs and e-mail texts. Finally, the chapter ends with a summary of the literature reviewed.

Chapter Three describes the methodology and procedures employed within this study. The chapter discusses data collection and analysis, instrumentation, setting, and subjects chosen for the research. Reliability and validity risks were major considerations, and the measures implemented to minimize their effects are discussed. Finally, the possible limitations, problems under examination, and the null hypotheses are reviewed within the framework of this study.

Chapter Four presents the findings of the study that resulted from the research questions presented in Chapter One. The results of the statistical analyses are shown in various tables in order to illustrate any statistical significance or nonsignificance of the differences in features of communication found within students' off-line and on-line texts.

Chapter Five summarizes the purpose of the study and the findings from the previous chapter. In addition, the chapter interprets and discusses
the results, and it examines the practical and theoretical implications of these results for ESL students' off-line and on-line discourse. The chapter concludes with a number of recommendations for additional research in the area of second language production using electronic media.
CHAPTER TWO: REVIEW OF RELATED LITERATURE

Organization of the Present Chapter

This chapter begins with a description of the linguistic features of communication that are found in varying numbers in writing and speaking due to the inherent differences and similarities between written and oral language. These differences and similarities are explored in relation to the argument by several researchers that written and oral language features vary. This variance has been attributed to the methods of language acquisition, the manner and speed of production, and the relationships between senders and receivers. The second section of the chapter discusses the characteristics of language found within computer-mediated writing. Even though there have been few empirical studies carried out to investigate the language found within computer generated writings, controversy continues to surround the question of language within electronic communication. Finally, the chapter ends with a summary of the literature reviewed.

Linguistic Features of Communication

Effective communication, which leads to accurate comprehension, occurs between a writer and reader or speaker and listener when coherence and clarity are present (Altenberg & Tapper, 1998). Coherence and clarity are achieved by a number of features such as cohesive devices, grammatical structures, lengths of texts, contextualization, and quality of texts. Cohesive devices are the first feature that have the potential to provide coherence and clarity within written and oral language. Leech and Svartvik (1994) believe that various cohesive devices
act as signposts for the listener or reader by providing logical and semantic relations, which are conducive for understanding. Furthermore, effective communication within written and oral discourse manifests from the use of different types and frequencies of cohesive devices.

In addition to cohesive devices, grammatical structures also aid in a reader's or listener's understanding of written or oral communication. These grammatical features include simple and complex sentences, which tend to be found in differing frequencies within written and oral language. For example, speaking appears to be less complex, with active verbs and simple sentences of only one clause (Kroll, 1977). In contrast, multiple-clause sentences have been found to coincide with the increased frequency of passive verbs within written language (Chafe, 1982). These grammatical structures not only help in comprehension, but they also influence other aspects of language, such as contributing to the lengths of written texts.

Researchers Poole and Field (1976) agree that sentence complexity ultimately influences the overall lengths of texts. For example, the frequency of passive verbs and complex sentences within written language translates into a greater number of words per sentence than in oral communication. As a result of increased sentence length, the overall lengths of written texts contain as many as 20% more words than oral communication.

Contextualization is another feature of communication that provides coherence and clarity to written and spoken language. Through this feature, writers and speakers use either first or third person to provide initial information
to readers and listeners in order to facilitate understanding. Poole and Field (1976) found that personal reference is used 10% more often within speech than in writing, but that writers use third person pronouns to a greater extent than speakers. Thus, if written language is similar to language found within off-line texts, and if speech has characteristics displayed within off-line writings, it is suggested that the methods of contextualization vary according to the medium.

Finally, accurate comprehension within writing and speaking is affected by the differing quality of production. DeVito (1966, 1967) observes that oral language contains more generalities, is more vague, and displays a greater degree of redundancy. In contrast, written texts are more precise, with more quantifiers. As a result of these characteristics, higher quality content occurs within written than oral communication (Witte & Faigley, 1981). Higher quality of content leads to less ambiguity and misunderstanding and to more precise comprehension.

Although cohesive devices, grammatical features, length of texts, contextualization, and quality of texts aid in the understanding of both written and spoken communication, they vary in the number of occurrences found within written and spoken language. These variances provide a means of distinguishing the characteristics of written and spoken language.

*Cohesive Devices*

Cohesive devices act as connectors between units of language. Connectors help to "facilitate the interpretations of underlying relations in discourse and to resolve potential ambiguities" (Altenberg & Tapper, 1998, p.
Furthermore, cohesive devices are sensitive to both register (formal vs. informal language) and discourse type (conversational vs. expository prose language). Due to register and discourse sensitivity, Altenberg (1984, 1986) maintains that oral conversation contains connectors that vary from those a writer uses within an expository essay. Therefore, these features have been used as differentiating markers to distinguish written and oral language. Connectors fall under the categories of demonstrative reference, conjunctions, and lexical cohesion.

**Demonstrative reference.** This category consists of demonstrative pronouns and demonstrative noun phrases. Demonstrative pronouns, *this, that, these,* and *those,* differ in two dimensions: distance and number. Another form of demonstrative reference is demonstrative noun phrases. Demonstrative noun phrases include a demonstrative pronoun and a noun phrase. An example of this communicative feature is *these new books.* Both of these linguistic features fulfill similar functions in that they act as signposts that aid in referential cohesion within texts, but understanding of demonstrative reference is dependent upon previously written or spoken discourse (Rochester & Martin, 1977). In addition to aiding in cohesion, the occurrence of demonstrative reference within written and spoken language is varied. Chafe (1985), for example, argues that written texts usually contain a greater number of demonstrative pronouns than does spoken language, due to the speed of production. In contrast, Ochs (1979) found that spoken language is more dependent than written language upon referential cohesion. In spite of the contradictory findings of these researchers, they agree
that the frequencies of demonstrative pronouns and demonstrative noun phrases vary between discourse modes and aid in differentiating written and spoken language.

**Conjunctions.** Words that connect clauses or sentences belong under the label of conjunctions. This closed category of words includes sentence and clause connectors as well as clause and phrase subordinators. Conjunctions, or conjuncts, are often referred to as grammatical words for the major role they play within English grammar (Quirk, Greenbaum, Leech, & Svartvik, 1985). Within this category of conjuncts are *and, but, because, for, or, so, yet,* and *as a result.*

Conjuncts are found in different numbers within written and spoken language. For example, in a comparative study of conjunct use in business news stories (from newspapers) and academic journal articles, Morrow (1989) found greater frequencies of conjunct use in academic articles than in business stories. Because the academic essays contained longer sentences and more ideas, conjuncts were used more frequently. On the other hand, Chafe (1982) discovered that certain coordinators (*and, but*) occurred in different frequencies in spoken and written language. In spoken discourse, *and* occurred 44.2 times per thousand words, while in written texts it appeared only 10.1 times. Similarly, *but* was used 9.8 times per thousand words in spoken language and only 4.1 in written texts. Furthermore, Kroll (1977) found that, due to the extensive use of the conjunction *and,* coordination occurred in spoken discourse almost twice as much as in written. These studies demonstrate that the frequency counts of
sentence and clause connectors provide one indication of the differences between written and spoken language.

Clause subordinators, such as because, since, as, thus, while, therefore, such as, as a result, and if, are explicit connectors that join independent and dependent clauses. Connectors that join phrases to independent clauses, including in addition to, because of, as long as, as well as, in the event that, in the event of, in spite of, whether or not, for example, in case of, in regard to, in reference of, with respect to, also, for instance, nevertheless, and as a result of, are called phrase subordinators. These kinds of connectors have also been found to differ between written and spoken language. For example, some researchers maintain that written texts are more syntactically complex, which results in the use of additional subordination not typically found in oral language (Backlund, 1986; Kroll, 1977; Murray, 1985; O'Donnell, 1974). In contrast, Poole and Field (1976), Beaman (1984), and Halliday (1985) argue that spoken narrative is as complex as, and at times even more complex than, written narrative. These researchers found subordination to occur more frequently within spoken than written language. Even though the studies found contrasting results, the overall finding is that there are varying amounts of subordination within written and spoken language, which again helps to delineate the characteristics of both forms of communication.

*Lexical cohesion.* Some lexical features function as referents to one another by referring back to the previous clause or sentence. This kind of lexical cohesion is performed by discourse particles or markers (oh, well, by the way,
but, or, so, now, then, I mean, like, you know, and actually), lexical repetition, synonyms, pronouns (I, me, we, my, our, myself, ourselves, you, your, yourself, yourselves, he, she, it, him, her, them, they, himself, herself, their, and themselves), ellipsis, and summative expressions (in conclusion, for these reasons, these results indicate, and such findings suggest). As with other features of communication, the findings of a number of studies have revealed that lexical cohesion occurs in varying frequencies within written and spoken language. Chafe (1985), for example, argues that discourse markers are seldom found within written language due to the temporal and spatial distance between writers and readers. However, he points out that this is just the opposite within spoken communication. In that format, discourse markers such as like, well, and I mean are prevalent due to a speaker’s rapid rate of production and the need to monitor and control the flow of information. Chafe believes that the use of these lexical items provides the speaker with additional time to plan for future discourse. In addition, discourse makers signal that a topic change is about to occur.

Lexical repetition, synonyms, and pronouns use the same word or an equivalent of a word to provide cohesion. Again, these features are found in different numbers in written and spoken language. First, in a comparison of written and oral texts, Biber (1988) found that lexical repetition occurred with a greater frequency in written essays. Moreover, Biesenbach-Lucas (1994) found this type of cohesion “to be favored in written academic discourse by native speakers in order to avoid ambiguity” (cited in Weasenforth & Lucas, 1997, p. 5).
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Second, an analysis of 60 scientific journals revealed that synonyms were used approximately 10% of the time (Weissberg, 1984). Although used with less frequency than lexical repetition, synonyms were the second most frequent type of cohesive device found within scientific writings. In contrast, Halliday (1985) discovered that synonyms were more frequent in oral than in written language. Poole and Field (1976) also found that the occurrence of personal pronouns was significantly higher in oral than in written language. Furthermore, Weissberg (1984) found that, although pronouns were used less than 7% of the time, these were the third most frequently used cohesive device within scientific writings.

The category of lexical cohesion also includes the features of ellipsis and summative expressions. These devices render both compactness and efficiency to attain cohesion and are also found in different numbers within written and spoken language. Halliday and Hasan (1976) specified that one of the major classes of cohesion is ellipsis and found that this cohesive device is more frequent in spoken than in written language. Furthermore, because ellipsis involves deletion of words or phrases, a reader or speaker must look at prior discourse for comprehension. Finally, Weissberg (1984) discovered that the most common forms of summative expressions used in scientific journals were these results indicate and such findings suggest. He also found that summative expressions appeared in less than 5% of the occurrences of lexical cohesion and were usually found within the discussion paragraphs of the scientific articles he analyzed.
The studies reviewed in this section demonstrate that these 12 cohesive devices aid in the comprehension of written and oral language and that the differences in the frequencies of these devices mark the distinction between written and spoken language. Although contradictions and disagreement are evident in the literature, there is clear agreement among the researchers that written and spoken language can be defined and differentiated by the features found within the language.

**Grammatical Structures**

**Sentence complexity.** Sentence complexity, in the form of simple or complex sentences, is a grammatical feature of communication that helps in reader and listener comprehension. It can help to identify the similarities and differences between written and spoken language through the ratio of simple to complex sentences. Simple sentences are defined as a sentence that contains only one clause, while complex sentences have more than one clause. Researchers have found that the frequencies of simple and complex sentences vary within written and spoken language; therefore, the variance in the ratio of simple to complex sentences is a method to differentiate written and spoken language. For example, Chafe (1982) argues that the process of writing provides additional time for composing and organizing, which manifests into more complex and congruous texts. More complex and congruous texts also result from the frequent use of subordinate clauses within written language (Chafe, 1982; Kroll, 1977; O'Donnell, 1974). In other words, the use of subordinate clauses yields more complex sentences in written than in spoken language.
One commonplace linguistic assumption is that writers and speakers maintain uniquely different relationships with their prospective audiences. A writer is seen to be distanced from an audience in time and space, and comprehension is accomplished by means of differing lexical choices (Tannen, 1985). One result of temporal and spatial distancing is the more frequent use of passive voice within written than in spoken language. The research conducted by Poole and Field (1976) indicated that passive verbs were used three times more often within written than spoken language. This frequent use of passives by writers appears to be a characteristic associated with detachment of writing (Chafe, 1982), whereas active verbs are more prevalent within oral discourse because of a speaker's personal involvement with the audience (Tannen, 1985).

In short, seemingly different relations between writers and speakers and their audiences manifest in the varying use of grammatical structures that can help to identify differences within written and spoken language.

**Quantity of Text**

Another feature of communication that can be used to identify the similarities and differences between written and spoken language is the average lengths of production. This type of identification is measured by counting the overall number of words found within written and spoken language and finding the average lengths of the text.

Researchers argue that organization is a major contributor to the variance of the lengths between written and spoken language (Ochs, 1979; Olson, 1977). At the center of organization is the practice of planning. First, Akinnaso (1982)
observes that writers are allowed more time to commit their ideas to paper. Once the ideas are written, this extra time permits the composer to view the text as a whole and to make lexical and organizational changes that are not possible within spoken language. Second, Olson (1977) maintains that writers must follow the canon of academic writing that stresses organization of the text. Such concepts as a thesis statement, topic sentence, supporting evidence, and a concluding sentence provide writing with greater organization than spoken language. Therefore, as a result of the emphasis on organization, writers produce texts of greater length than speakers, which, in turn, distinguishes written and spoken language.

**Contextualization**

Contextualization is defined as a writer’s or speaker’s attempt to provide initial information for the audience. This feature of communication is deemed necessary by writers and speakers in order to provide textual cohesion. There are two sources of providing initial contextual information. First person source expresses a writer’s or speaker’s personal opinion with the following explicit phrases: *I think, I believe, my point of view, and in my opinion.* By contrast, using third person pronouns to restate or refer to the title of an article, the author’s name, reference to the researchers’ question, or examples quoted from an article is indicative of third person source.

The method of contextualization favored by writers and speakers differs, thereby yielding another feature that aids in characterizing written versus oral language. In a comparison of spoken and written language, Chafe (1982) found
that first person pronouns were more prevalent within spoken than written language. Furthermore, when the linguistic features within oral language were compared to those in science texts, Biber (1988) discovered that first person pronouns occurred 12 times per 100 words. In contrast, there were no occurrences within the science texts of first person pronouns. On the other hand, a comparison of spoken dialogue and fiction writing revealed that there were five times the number of third person pronouns within the written articles. These results suggest that writers and speakers differ in their choice of contextualization, which helps to define the characteristics of written and spoken language.

Quality of Texts

The linguistic features of communication used by a writer or speaker can affect the overall quality of production within written and spoken language. One major study that examined this relationship between writing quality and cohesion within students’ essays was conducted by Witte and Faigley (1981). Their study was grounded in Halliday and Hasan’s (1976) system that contains five major classes of cohesive devices. These devices include reference, substitution, ellipsis, conjunction, and lexical reiteration and collocation. In addition, their study incorporated a second taxonomy, the examination of T-units (Hunt, 1970). Hunt defined T-units as one main clause plus any subordinate or nonclausal structure attached to it. Based upon these two taxonomies, Witte and Faigley analyzed the texts of university students in order to distinguish essay quality. Freshmen at the University of Texas wrote 90 essays that were holistically rated by the
researchers. The holistic rating that was applied to these essays consisted of the number and types of cohesive devices.

Analysis revealed that higher rated essays had longer text lengths, larger T-units, and fewer errors. In addition, the higher rated essays exhibited two specific characteristics: skillful writers used conjunctions to a greater degree and varied the types of conjunctions used more often. Skilled writers used conjunctions at a rate of 65.4 per 100 T-units. In contrast, less skillful writers were three times less likely to use conjunctions, in other words, only 20.4 per 100 T-units. Furthermore, the lowest rated essays contained only three types of conjunctions, as opposed to the highest rated texts, which incorporated all five types of conjunctions (additives, adversatives, causal, temporal, and continuation). As a result, cohesive density in the higher rated essays occurred 10% more often than in lower rated papers. It was also found that the highest rated essays contained 375 more words than the lowest rated essays. The greater length of the highest rated essays was attributed to the use of a larger number and more varied selection of cohesive ties.

On the basis of these results, Witte and Faigley (1981) argued that cohesion was both a crucial and necessary characteristic for creating better quality student essays, and certain linguistic features aided in that determination. Cohesion originated with the use of different types and frequencies of cohesive devices, such as pronouns, noun phrases, and sentence connectors. Furthermore, cohesion was an important semantic concept that provided stability
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and continuity (access to related occurrences) for the immediate sentence and, on the larger scale, for the entire text (Schiffrin, 1987; Thompson, 1985).

Oral and Written Language

Nearly 8 decades ago, Woolbert (1922) argued that “speaking and writing are alike - and different. Just how like and how different has never been adequately stated” (p. 269). Little research has supported the supposition that spoken and written language are identical, because each are acquired differently, the manner and speed of production differs, and relationships between speakers and writers are different. First, speech is a natural process acquired while we are growing up, with little regard for systematic learning activities. The acquisition of speech usually occurs within informal settings that include family, relatives, and friends. These types of environments tend to elicit a conversational style of communication that focuses upon the social aspect of relationships. Typical language structures found within oral communication include contractions, frequent topic switching, and colloquialisms. In contrast, most children learn written language within a formal school system. Within an authoritarian and systematic environment, emphasis is placed upon the conventions of formal writing that stress grammar, organization, and spelling. Biber (1988) positions this dimension of language acquisition as “involved vs. informational production,” which results in different linguistic features, thereby differentiating spoken from written language.

The second difference between oral and written language is the manner of production and reception. An individual’s ability to produce oral discourse results
from evolutionary processes that manifest into speech organs. This specialized system found within one's throat produces sounds that are transmitted via sound waves to the listener. These sounds are received by the listener, and comprehension takes place as a result of the sound. On the other hand, written language is differentiated from speech because writers produce artificial language by mechanical tools that include pens, pencils, and computer keyboards (Ong, 1980). As well, the method of reception differs between speech and writing because the spoken word is heard by a listener whereas written text is seen by a reader.

Third, the method of production influences the relative speed of production and, thus, results in differences between oral and written language. Chafe (1982) notes that speaking is substantially quicker than writing, with native English speakers producing approximately 180 words per minute. Due to this rapid rate of production when speaking, he argues that "we are in the habit of moving from one idea to the next at the rate of about one every two seconds" (p. 37). Thus, fragmentation manifests from many and varied ideas being produced within a short period of time. Because oral language is meant to be heard, speakers are less concerned with planning and organization, which results in ellipsis and the use of first person pronouns (Biber, 1988).

On the other hand, because of different cognitive and motor skills, the process of manual or mechanical writing is slower than the production of oral language (Akinnaso, 1982). Chafe (1982) argues that the slow pace of writing results in integration. That is, writers produce thoughts more quickly than they
are able to commit to paper, and the time lag between thinking and writing is beneficial for the development of more consistent, complex, coherent texts. These features are found less frequently within spoken discourse, because thought and production occur simultaneously in oral language.

A fourth point that contrasts oral and written language is that speakers and writers have different relationships with their audiences. Speaking is dependent upon the copresence of the sender and receiver of spoken messages (Akinnaso, 1982). A speaker's face-to-face involvement with the audience enables immediate clarification to be made if comprehension has not occurred (Chafe, 1982). However, a writer's time and space detachment from the reader provides additional opportunities to compose, edit, and change texts at a leisurely pace. As a consequence of these temporal and spatial differences, speakers and writers select different grammatical features to express their ideas. For example, first person references (I, we, me, us) occur 10 times more frequently in spoken than in written language, which illustrates a speaker's desire for direct involvement with the audience. In contrast, Chafe argues that, since the passive voice suppresses direct involvement of the agent, written language contains five times the number of passive verbs as does spoken discourse. It was apparent to Chafe that the features attributed to written and oral language have a critical effect upon the grammatical choices of writers and speakers.

Nevertheless, even after many decades of investigation, Biber (1988) contends that there is still little agreement on the salient characteristics of written and spoken language. Thus, controversy continues to surround the issue of
what characterizes these two modes. In an earlier work, Chafe (1982) argued that certain disparities occurred within spoken and written language because of different cognitive processes. For example, the reported differences in the frequency counts of selected grammatical and lexical features enabled Chafe to hypothesize that a dichotomy existed between spoken and written language. Features found within written texts (e.g., passives) and oral discourse (e.g., first person references) did not overlap but were mutually exclusive to either written or oral language. This linguistic dichotomy served as the framework for subsequent researchers, including Murray (1985), Tella (1992b), Weasenforth and Lucas (1997), and Biesenbach-Lucas and Weasenforth (2001), who moved linguistic research into the realm of electronic influences on language production. These researchers argued that the occurrences of distinctive linguistic and grammatical features within oral and written language paralleled the language produced within electronic media. Therefore, these features could be used to differentiate the texts written with an e-mail editor from those written with a word processing program.

Influences of Computer Mediation on Written Language

In the near past, communication between individuals took place orally or by means of mechanical devices such as pens, pencils, and typewriters. Now, however, these modes of communication are overshadowed by the ubiquitous presence of the personal computer. In general, computer-mediated writing uses word processing programs and e-mail editors as instruments of communication.
The first instrument of electronic communication to achieve widespread use was the word processing program. Word processing software programs have moved personal computers far beyond well-equipped typewriters by turning them into sophisticated tools that allow the user to view text, to store and retrieve what has been typed, and to edit what has been written prior to printing. Clear handwriting is not a requisite skill, because all these functions are completed mechanically through a keyboard. Because the use of a keyboard is a fundamental component of electronic technology, it has emerged as a clear benefit of word processing inasmuch as the production of texts through keyboards can lessen a writer's anxiety about producing legible texts for the audience (Hyland, 1990). Various fonts can now be used to standardize the written word and to produce legible texts that do not depend upon the writer's penmanship abilities. Furthermore, word processors separate writing composition and production, thereby allowing writers to concentrate on thought and writing processes and not on the physical production of text (Murray, 1995). This separation, according to Pennington (1996b), can help students to engage in a more process-orientated approach to writing rather than in a product-orientated approach as in pen and paper composing.

The off-line aspect of word processing programs has the potential to improve the content of texts because it allows for errors to be corrected and for other changes to be made without having to rewrite an entire paragraph, page, or essay (Haas, 1988). For example, the cut and paste feature found in most of these programs allows writers to make changes with a minimum amount of time
and effort. This editing option provides a sense of liberation to the writer because text can be freely moved and changed instantaneously. It is no longer viewed as rigid but "infinitely...malleable and changeable" (Murray, 1995, p. 101). As a result of this and various other editing features, word processing programs have created a new environment that has been found to be positive for writers (Sommers, 1985).

The visual structure of word processing also enables writers to access an organizational schema not found within other modes of writing and to produce higher quality texts. Pennington (1993b), for example, contends that a limited amount of text displayed on a computer screen affects the writer's cognitive processes and contributes to the development of writing techniques. This limiting feature encourages a piecemeal approach to composing that can be advantageous to second language students because it allows for greater concentration upon the displayed work instead of a more diffused focus on an entire assignment (Dam, Legenhausen, & Wolff, 1990). A greater focus upon limited amounts of text is expected to produce increased awareness of cohesion and coherence features within students' writings (Clarke, 1986). As a result, texts are expected to display a high degree of organization and quality.

Moreover, Haas (1988) found that students who wrote with a word processor planned less than did pen-and-paper writers. However, this condition is not considered detrimental to writers. Instead, Pennington (1996a) contends that initial lack of planning with a word processor results in the "bottom up" approach to writing because writers can pay greater attention to details such as
syntax and less attention to initial textual organization. This means, of course, that more time is subsequently needed for revisions and reworking the text because structures are no longer planned at the outset. In contrast, pen and paper writers tend to compose in a linear fashion, planning sentences from beginning to end before composing and writing (Cross 1990; Dam et al., 1990).

Although these studies have demonstrated the great potential of word-processed writing, there are also inherent risks associated with electronic technology. Hyland (1993) gives this caution: "Like the language lab movement 20 years ago, the word processor has been cursed by unrealistically high expectations that the technology, in and of itself, would cause dramatic learning results" (p. 21). Furthermore, Snyder (1993) points out that, even though word processors have the potential for increased student editing, these expectations are often not realized. A second risk has emerged in relation to revisions of students' work. Sullivan and Pratt (1996) maintain that more revisions are completed with word processors than with pen and paper. In contrast, Tella (1992a) found that less editing was attempted and most was of the surface type where students only attempted to correct spelling errors. Similarly, Murray (1995) found that student writers "change surface errors such as spelling, punctuation, or syntax, but fail to see that the entire piece is disorganized or lacks supporting details" (p. 111). Furthermore, while a word processor's editing facilities may facilitate changes, these revisions may not aid in overall writing and language skills (Hopwood, 1989).
Such contradictions and risks suggest that writers should be informed about the potential shortcomings of a word processor's editing facilities. One obvious shortcoming is that homonyms are not detected by a spell checker, which means that, although words are spelled correctly, they might not be the suitable lexical choices for the context of a sentence. If student writers automatically rely upon the program spell checker instead of critiquing their revisions, the reliance upon technology may hinder the development of an internal error monitor and could therefore be counterproductive for the language learner (Pennington & Brock, 1992). Second, a word processing program results in a professional document due to various formatting features that include margins, titles, headings, bolding, and italicizing words. However, there is danger in allowing writers to believe that a printed draft, neat and professional in appearance, is a finished product (Susser, 1993).

In spite of these drawbacks, the inherent qualities found within word processing programs offer students the freedom to compose and edit texts with the reduction of the anxieties associated with handwriting. Furthermore, this new environment can result in higher quality writing for the second language student because it allows access to cognitive processes that were previously restricted by conventional writing methods. Word processing, however, is not the only electronic communication medium. As with any new technology, advancement is inevitable, and the next step in the evolution of electronic communication has been e-mail.
E-mail is a form of electronic technology that allows a user to send and receive texts, files, pictures, and data to and from other users in various locations throughout the world. Sterne and Priore (2000) estimate that 50% of the population of the United States will communicate via e-mail in the year 2001. Furthermore, a recent Price-Waterhouse Coopers survey found that e-mail was the primary reason for 83% of the respondents who used the Internet (cited in Sterne & Priore, p. 1). This rapid growth of e-mail communication should be of great interest to educators because of a potential link between second language acquisition and the introduction of e-mail editors to the language learning classroom.

The lack of time and space within an e-mail writing environment provides varied and numerous benefits to users. One advantage is proposed by Bridges (1997), who contends that electronic mailing can be a powerful motivational tool because it is easily accessed from a computer terminal 24 hours a day. This freedom allows students to use the target language over a longer time span and, consequently, to a greater degree than under standard classroom conditions. Additionally, Warshauer (1997) believes that "the asynchronous nature of e-mail makes it suitable for more complex writing and problem-solving tasks than could be accomplished via synchronous discussion in a class" (p. 474). A regular classroom environment is paced more quickly than the electronic class, with the instructor dictating the allotted time for responding to questions posed to the class. However, e-mail writing allows for self-pacing, and students who pause during interactions with the computer screen are allowed extra time for reflection...
before they compose and answer selected messages in which they are interested. Thus, unlike the regular classroom, writers respond without the fear of a time constraint or being inappropriate in front of classmates. Moreover, on-line writings provide genuine, interpersonal communication exchanges and produce a greater number of authentic responses than found within traditional pen-and-paper exercises (Belisle, 1996; Peterson, 1997). All of these benefits can be expected to aid in the acquisition of second language skills.

Another potential benefit from e-mail for students is the number of topics generated in this electroinc environment. For example, Sullivan and Pratt (1996) found that students wrote a greater number and variety of topics and digressions when linked in synchronous communication. As a result, students found themselves having to read and respond more quickly to selected questions when faced with large amounts of text that addressed numerous and varied topics. Moreover, Kern (1996) found that frequent and varied topic switches and ideas led to an open-ended quality of e-mail discourse that was more informal than the discourse usually expressed within a traditional classroom. This informal environment reduced anxieties about students' language production, positively influenced students' attitudes, and resulted in a greater willingness to write.

At the same time as on-line writing influences students' attitudes, it also provides a possibility for increased motivation to learn language through international collaborative ventures. Hauck and Haezewindt (1999) found that foreign language students believed that collaborative projects resulted in purposeful communication that was advantageous for language learning. These
collaborative ventures made use of electronic keypals wherein e-mail users corresponded with writers from different countries. Examples of successful keypal exchanges are reported by Barson, Frommer, and Schwartz (1993) and by Kern (1995). These researchers initiated on-line dialogues between native American speakers and EFL (English as a Foreign Language) university students living in France. Electronic exchanges required students to address various topics, including environmental, cultural, and political issues. Many students commented that they had more fun and found the language alive, meaningful, and useful for practical purposes. These comments were attributed to the communicative nature of electronic mail where spontaneous, not pedagogical, language resulted within these cultural exchanges, thereby providing motivation for learning the target language.

In spite of these enthusiastic claims, electronic texts still need to be examined for grammatical and spelling accuracy, textual coherence, and types of discourse produced. This concern is highlighted in Paramskas's (1993) declaration that electronic texts result in the "mangling of the language, the trade-off being a free flow of opinions vs. exposure to grammatical mistakes" (p. 128). Similarly, Martin (1983) contends that e-mailers communicate by using similar language patterns to those they encounter in the incoming messages. Even though a large amount of original text might expose writers to new vocabulary and ideas, erroneous use of grammar or spelling errors can become fossilized, thereby impeding second language accuracy. These language problems were clearly demonstrated by Murray's (1996) participants, many of whom broke the
normal conventions of writing and conveyed rudeness, simplified sentences, and reduced cues. These results caused Murray to hypothesize that e-mail was best used for short requests for action and for responses to these requests.

A further concern is that e-mail editors possess few facilities for writers; grammar and spell check, cut and paste feature, and a thesaurus are rare within the regular e-mail editor. As a consequence, the lack of facilities produces shortcomings that can affect students' writings. For example, Walker (1999) found that the absence of a spell checker and a cut and paste function manifested in many spelling errors and a lack of overall organization. Yet, in spite of the claims and counterclaims that beset this new form of communication, educators continue to inundate the second language writing classroom with technology that has unknown effects upon writers.

While electronic technology embodies both word processing programs and e-mail editors, the two platforms are not believed to yield the same results. Word processing programs are seen as powerful tools that enable the writer to produce a professional-looking document through the use of sophisticated editing features. In addition, structured features of word processing may lead writers to access new cognitive processes that aid in language acquisition. For example, the separation of composition from production allows greater focus by partial viewing of the written work. E-mail, on the other hand, has the capacity to instantly connect users throughout the world for communication purposes. This interpersonal communication produces original texts that can address varied and real topics and that contain genuine language. As a result of the distinct
capabilities of these two media, researchers have argued that there are unique differences between the language produced within the resulting texts (Murray, 1985; Telia, 1992b; Weasenforth & Lucas, 1997; Yates & Orlikowski, 1993). However, these same researchers have been unable to agree upon the exact nature of what these unique characteristics and differences are.

This line of investigation was started by Murray (1985), who argued that an oral-literate continuum exists between the electronic texts written with a word processing program and those produced with an e-mail editor. This hypothesis of a literacy continuum manifests from the observation of a professional computer scientist using a word processing program and e-mail editor over a 3 week period. The results of this study led Murray to believe that there are four discourse features exhibited within off-line and on-line communication. These discourse features are a means of organization and include turn-taking and expressing voice, which facilitates interaction of discourse, while the organization of information is accomplished through topic shifting and referencing. Furthermore, the occurrence of turn-taking, expressing voice, topic shifting, and referencing demonstrates that electronic communication, in the form of either a word processing program or e-mail editor, borrows features from both oral and written traditions. Ultimately, this led Murray to postulate that an oral-literate continuum exists within computer communication.

The first feature that helps to organize interaction within discourse is the distinctive feature of turn-taking. Although Murray (1985) found that electronic communication allows standard turn-taking conventions to violate face-to-face
communication norms, this circumstance is not considered to be negative. For example, a writer using an on-line program asks a question and then introduces another before the first question is answered by the receiver. This type of behaviour, Murray argues, contravenes the regular question/answer technique of turn-taking. In addition, questions are often completely ignored when the intended recipient initiates a new question or a new topic. Furthermore, time restrictions do not exist because responses can occur within minutes or they could be delayed for days. The life of a message is as ephemeral as the spoken word because it lasts only as long as it appears on the computer monitor, to be replaced by a subsequent question or an adequate response. This characteristic appears to result in a contradiction because, although messages are as transient as speech, these same messages also display the permanence of writing. Therefore, due to these observations, Murray argues that expressions of turn-taking often display characteristics found within both written and oral language.

Expressing voice is the second feature that aids in the organization of discourse and also points to an oral-literate continuum existing within electronic language. Murray (1985) contends that on-line communication results in language that she refers to as talker-style, in contrast to the written style of off-line language. Talker-style or talker-type language contains traits found within oral conversation and is mainly an informal voice. Written-style or written-type language manifests in passive verbs and a more formal voice. These hypotheses mirror Chafe’s (1982) personal involvement (spoken) and detachment (written), and fragmentation (spoken) and integration (written)
hypotheses, and Murray points out that these features are a means to
demonstrate that computer communication moves along an oral-literate
continuum.

Murray (1985) found many examples of linguistic features that reflect
personal involvement within electronic communication, and analysis of the
interactants' language revealed the use of active verbs, personal pronouns,
informal diction, hedging, and vagueness. On the other hand, the similarities to
written language, or detachment, included a more clearly defined purpose and a
number of paralinguistic clues. For example, she noted that speakers used rising
intonation as a sign to denote questions within oral discourse, but within
electronic communication questions were indicated by the use of multiple vowels
or numerous question marks. Moreover, exclamation marks were used to imply
sarcasm. The above observations demonstrate that off-line and on-line
messages have characteristics of written and oral language, as hypothesized by
Chafe (1982).

Chafe's (1982) integration and fragmentation hypotheses are features that
Murray (1985) argues are a means of expressing voice within computer
communication. Integration, typically found within written language, is the result
of the inherent characteristics of computer communication that allows writers
more time than speakers for planning and organization. As a consequence of
extra planning and organizing time, Chafe contends that such features as
nominalizations, participles, and relative clauses appear more frequently within
written than oral language. In contrast, speakers make use of ellipsis and
contractions more often than writers. Within her study, Murray found examples of the characteristics of both written and spoken language to be present within off-line and on-line writings. Therefore, she argued that computer communication is situated along an oral-literate continuum somewhere between the formality of academic writing and the casualness of dinner conversations.

Topic shifting helps to organize the content of discourse found within electronic communication. However, the means by which writers and speakers signal topic shifting are different. For example, written texts explicitly mark topic shifts not by lexical choices but by other means, such as new paragraphs. By contrast, speakers usually signal topic shifts by pauses or by the use of certain discourse markers. Because off-line and on-line writers do not follow regular turn-taking conventions, topic shifts are easily ignored. Therefore, explicit marking as found within written language must occur within electronic communication in order to prevent miscommunication (Murray, 1985). For example, Murray's subject used such markers as also, by the way, and however, although these markers are normally found only within oral discourse. As a result, off-line and on-line language contained traits attributed to oral discourse (markers) and written texts (explicitness) in order for topic shifts to be recognized by both senders and receivers.

Referencing is another feature to aid in the organization of off-line and on-line language. This organizational feature is defined as the person or object that is being referred to within written or spoken discourse. Again, both written and spoken language demonstrate unique methods for referencing. Murray (1985)
contends that speakers interacting in a face-to-face conversation understand what is being referred to because of the context and shared knowledge of the interactants. However, writers use explicit contextualization, such as *this + noun*, because of temporal and spatial differences. Therefore, because off-line and on-line writings lack the visuals usually found within spoken interaction, and because turn-taking is very complex, Murray argues that electronic communication uses explicit referencing as found in written language.

Murray's (1985) findings suggest that a new mode of communication occurs within computer writings. Word-processing and e-mail writings exhibit the formality and planned characteristics of written texts in addition to the immediacy and interactivity of spoken discourse. The language within electronic communication is not static because, according to Murray, the language "moves back and forth between writer-style or talker-style" (p. 224). Therefore, a new form of communication exists that straddles the literacy continuum and that exhibits features more formal than face-to-face and telephone conversations but less formal than written memos and documents.

Murray's (1985) belief that an oral-literate continuum exists within computer texts is in contrast with Tella's (1992b) linguistic dichotomy theory. Tella (1992a) proposed this theory as a result of an investigation of the electronic writings of international high school students. His research spanned from November 1989 until May 1990 and included 134 Finnish students and foreign participants from schools in Britain, the U.S.A., Canada, Germany, Austria, Iceland, Sweden, and Japan. The investigation of texts completed with a word
processing program revealed that these off-line writings resembled written language because they contained "textual and linguistic coherence and organization and were more hierarchically organized wholes" (p. 247). As a consequence, it appeared that off-line texts were more formal and businesslike in nature.

On the other hand, although e-mail messages were "a written product, [they] may resemble oral language that contained more ellipsis and omitted personal and possessive pronouns" (Tella, 1992b, p. 204). He attributed to e-mail messages characteristics similar to a casual and informal type of discourse. In Tella's study, participants used frequent repetition and exclamation marks to make their opinion known to the receiver, which Tella argued was another indication of the informal aspect of the e-mail messages. The writers typed parentheses and block capitals to compensate for the lack of nonverbal clues. Furthermore, the initial greetings of the e-mail messages contained the first name of the receiver and ended with the sender's first name, which is considered rather unconventional in formal letter writing. Therefore, overall, Tella argued that off-line writings resembled the planned formal aspect of written language, and on-line messages shared certain characteristics with spoken language, especially in that they were informal and lacked organization and planning.

In addition to the linguistic differences found between on-line and off-line essays, Tella (1992b) discovered that off-line texts were greater in length than on-line writings because writers using word processing programs developed their ideas to a greater extent than did e-mail users. Furthermore, contextualization
provided initial information to the reading audience and occurred more frequently off-line than on-line. Telia argued that, because of the reported differences between the linguistic features found within off-line and on-line texts, the disparities in the overall lengths of texts, contextualization methods, and textual quality, a linguistic dichotomy is evident in the language within electronic texts. Within the linguistic dichotomy, features found within off-line and on-line texts do not coexist but are separate and distinct within each medium.

Telia's (1992b) study was not the final answer, however. The research of Yates and Orlikowski (1993) rejected Telia's linguistic dichotomy and argued that e-mail texts resemble a hybrid of informal conversational (omission and spontaneity) and formal written (complex sentences and text editing) texts. These observations were based upon the investigation of linguistic and textual patterns within asynchronous communication between computer language designers. Although the group of participants in the study numbered several hundred, the majority of the 1,353 e-mail messages investigated had been generated by 17 participants and occurred over a 27-month period. The researchers analyzed these messages in relation to graphical elements, lists, humor, and word or phrase emphasis. These features of investigation appeared to demonstrate a hybrid of language derived from both written and oral language.

Yates and Orlikowski (1993) argue that graphic and typographical features and subject line humor, as found within their study, are not found within written or oral discourse but are distinctively characteristic of on-line communication. First, emoticons are an example of a new graphic feature. The
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smiling face, :-), is the sender's attempt to suggest that what is written should not be taken seriously. Although only a diminutive number of messages contained emoticons (.67%), the researchers argued that this visual representation demonstrates a new form of electronic language within computer communication that is not to be found within written or oral language. Second, within the study, humor was based upon typographical errors and subject line humor. For example, a participant erroneously wrote obviosu for obvious, and this drew many humorous comments on the mistake from other participants. In addition, subject line humor manifests from the subject line of written messages. One occurrence of this humor was based upon a message indicating that the group needed to complete a project by midnight. A message was then sent at one minute past midnight and the sender wrote the word "Bong" 12 times as if a clock had struck midnight.

Yates and Orlikowski's (1993) study was the first to challenge the previous assumption that a written and oral language dichotomy existed within off-line and on-line writings. Rather, these researchers argued for a hybrid theory where linguistic features, attributed to both written and oral discourse, had melded to produce a new form of language within electronic communication. For example, e-mail writings displayed both formal (planned, edited) and informal (ellipsis, subject humor) characteristics. Furthermore, their study found that within the messages were linguistic features commonly attributed to written texts (planned, edited sentences) as well as to oral communication (informal, omissions). As a result of these unique features found within on-line messages, Yates and
Orlikowski argue that a new form of language has evolved within electronic communication that does not appear within either written or oral language.

Weasenforth and Lucas (1997) further confused the issue of what characterizes electronic texts when they found little differences between the writings in ESL students’ off-line and on-line essays. In their study, Weasenforth and Lucas asked 14 intermediate level English as Foreign Language (EFL) students from two classes at George Washington University to write six assignments alternating between a word processing program (*Word 6.1*) and an e-mail editor (*Pine*). The subjects wrote on identical, formal topics that included immigration, multiculturalism, and religion. Participants read authentic texts based upon these topics prior to the writing assignments and then wrote an initial assignment off-line, followed a few days later by a second essay on-line. Task authenticity was replicated in that the off-line texts were saved to diskette and the on-line writings were sent directly to the instructor. Because the researchers hypothesized that editing features found within the word processing programs would affect the linguistic features employed by the writers, they considered only the first drafts of the writings for final analysis.

Analysis of the texts revealed that there were “no obvious differences between on-line and off-line writings” when the frequency counts of the 12 preselected linguistic features were tallied (Weasenforth & Lucas, 1997, p. 8). Moreover, their findings were consistent with the findings of Telia (1992a), inasmuch as the overall lengths of off-line essays tended to be longer than on-line writings. They attributed this to the fact that off-line essays contained a
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greater degree of contextualization than did on-line messages. This additional introductory information, in the form of personal experience or background information, resulted in longer off-line essays. Although the overall lengths of texts and contextualization methods found within their study concurred with Tella’s (1992b) study, differences in the frequencies of the 12 linguistic features found by Weasenforth and Lucas (1997) were not statistically significant.

Various studies have suggested that off-line and on-line writings are differentiated by dichotomous linguistic features (Belisle, 1996; Slaouti, 1998; Tella, 1992b). A comparison of linguistic features found within off-line and on-line writings suggested that a difference in textual lengths resulted from this dichotomy. For example, Tella’s (1992b) analysis of off-line essays revealed a greater number and variety of cohesive devices (pronouns and conjunctions) than did on-line texts. As a consequence, increased cohesive density produced a higher degree of textual organization that resulted in more developed ideas and increased textual lengths. In contrast, he found that e-mail texts contained a greater number of ellipsis and fragmentation, features that are similar to oral discourse, which led to fewer words being written. Therefore, as a result of this proposed language dichotomy, researchers have argued that off-line essays contain a greater number of words than on-line writings (Tella, 1992b; Weasenforth & Lucas, 1997).

Researchers have also argued that the quality of electronic essays differs as a result of the medium used by the writer. For example, Sommers (1985) hypothesized that the overall quality of word-processed essays within her study
improved as a result of the medium. In addition, Sullivan and Pratt (1996)
reported “a small but significant increase in writing ability was found for the
computer-assisted class” (p. 500). These improvements were similar within on-
line classes, in which 60% of virtual immersion electronic pen pals believed that
their writing skills improved due to e-mail communication with native Italian
speakers (Oliva & Pollastrini, 1995). As well, Chun (1994) discovered that e-mail
writers produced more lexical and syntactical language that resulted in better
quality writings.

As in written and oral language, writers using a word processing program
or e-mail editor also use contextualization to signal introductory information to
readers. And, just as within written and oral language, the methods of
contextualization writers use differ within electronic media. Biesenbach-Lucas
and Weasenforth (2001) argue that ESL writers might contextualize their off-line
and on-line texts differently due to students’ assumptions. In their study, off-line
writers assumed that their essays were to be read by a larger audience, and they
consequently included initial information. This rationale of the writer manifests
into characteristics that are typical of written language wherein reference is made
to a third party for introductory information. On the contrary, because only
familiar readers had access to on-line texts, on-line writers’ initial information was
not required and seldom used within these essays. As a result of the inclusion or
exclusion of initial information to readers, off-line and on-line essays displayed
different characteristics. These characteristics may help to determine any
differences or similarities within off-line and on-line essays.
...
Overall, just as in written and spoken language, there are differences and similarities to be found within off-line and on-line texts. For example, the quantity of text that writers produce with a word processing and e-mail editor differs in length. Second, the quality of texts is also different when written off-line and on-line. Finally, the methods of contextualization differ due to assumptions by the writers. However, just as was found within written and spoken language, the only agreement is disagreement among various researchers.

Summary of the Literature Reviewed

Although the computer and electronic communication have had a brief history, researchers observe that there are both advantages and disadvantages with this new form of technology within the second language writing classroom. Word processing programs contain editing facilities that are believed to give the opportunity for ESL writers to access cognitive areas that are not possible with traditional writing methods. Nevertheless, researchers caution that the technology, in and of itself, does not meet high expectations, nor does it dramatically increase the proficiencies of language students. In fact, e-mailing at times yields a large amount of original text that contains errors which could hinder the proficiency of ESL writers. Furthermore, researchers argue that different language results from the use of off-line and on-line programs within an ESL writing classroom, but the exact nature of this language remains unclear.

Tella's (1992b) international study found that off-line texts contained a greater number of cohesive devices, yielded a more coherent and organized product, and resembled a more formal style of writing. Alternatively, on-line
messages appeared to be of an informal nature, displayed less complex ideas and ellipsis, and exhibited characteristics of unplanned oral discourse. These observations resulted in Tella's linguistic dichotomy theory. In contrast, Murray (1985) argued that word processing and e-mail texts straddled an oral-literate continuum rather than collapsing into a dichotomy. A third position is presented by Yates and Orlikowski (1993), who dispute the existence of an oral and written language dichotomy or an oral-literate continuum. Instead, they propose that off-line and on-line language have melded to create a hybrid linguistic pattern. Finally, Weasenforth and Lucas's (1997) study revealed that the language produced within ESL students' off-line and on-line texts did not vary when the purpose of a computer writing class was to draft academic essays on the same topics. This study calls into question all three theories about the different natures of off-line and on-line language.

Therefore, in light of these contradictory hypotheses, it was the intent of the study being reported in this document to investigate the differences and similarities between off-line and on-line texts. The methodology used to conduct this study is described in the next chapter.
CHAPTER THREE: METHODOLOGY AND PROCEDURES

Overview

This chapter describes the methodology and procedures used to complete the study, which was designed to examine the possible differences and similarities between the language found within off-line and on-line essays written by ESL students. The chapter presents the research design, instrumentation, recording and analysis of the data, and reliability and validity concerns within the methodology. The chapter concludes with an explanation of limitations and ethical considerations and a restatement of the problem under consideration.

Description of Research Methodology

This research sought to explore the differences and similarities between essays written with a word processing program and those written with an e-mail editor. It entailed a quasi-experimental design that used instruments modified from other studies or designed by the researcher.

The independent variable was the writing medium with two levels, word processing programs (off-line) and e-mail editors (on-line). The dependent variables were the 12 preselected linguistic features that included demonstrative pronouns, demonstrative pronoun phrases, sentence connectors, clause coordinators, clause subordinators, phrase subordinators, discourse particles, lexical repetition, synonyms, pronouns, ellipsis, and summative expressions. Embedded in the study were several confounding variables: sex, age, ethnic background, English language experience, and previous knowledge of academic
essays. However, there was no control over these variables due to the sample used.

Five questions were addressed within this study, and, stated as null hypotheses, were as follows:

Hypothesis #1: There will be no difference between off-line and on-line frequency counts of 12 preselected linguistic features.

Hypothesis #2: An equivalent number of simple and complex sentences will be found within the paragraphs written off-line and on-line.

Hypothesis #3: Student essays, written off-line or on-line, will be of equal lengths.

Hypothesis #4: Contextual categories will not vary between off-line writing and on-line writing.

Hypothesis #5: The quality of students' texts generated with a word processing program or an e-mail editor will not differ.

Selection of Participants

The subjects of this study were all full-time, noncredit course students enrolled in the Fall 1999 semester at Brock University. Participants were selected from the general population of students registered in the Intensive English Language Program (IELP). All students completed a listening and comprehension exam, the Michigan Test, during the first week of the semester. The Michigan Test was designed to measure English language proficiency, and students' proficiency levels were determined as a result of this test. The target
population selected for this study scored between 60 and 69 (out of a possible 100) on the Michigan Test, which placed them in the Intermediate Level (Level 3) of English proficiency. There were sufficient numbers of students within Level 3 to randomly form three classes by the Intensive English Language Program manager. As a result, the researcher labeled these classes either Group 1, 1A, or 1B.

A total of 48 students \( (N=48) \) participated in this research, with 29 females and 17 males. Ages of the students ranged from 19 (4), 20-29 (38), to 30-40 (6) years. In addition, various first languages were represented, including Spanish (23), Korean (11), Japanese (9), Chinese (2), Croatian (1), Russian (1), and French (1).

Instrumentation

The following instrumentation was used within this research. A General Information Questionnaire was developed by the researcher and was administered to the participants preceding the first weekly writing exercise (Appendix A). The information from the respondents enabled the researcher to identify the participants’ sex, age, first Language, level of education, field of study, occupation, duration and origin of English training, and enrolment in the IELP at Brock University. In addition to this personal information, the researcher posed additional questions in order to assess both off-line and on-line writing experience. For example, students were asked of their experience with e-mail editors and word processing programs.
Participants were required to write essays that addressed the topics of immigration, economics, and multiculturalism. Instructors supplied the participants with brief texts on these topics to read one week prior to the scheduled computer writing class (Appendixes B-G). These readings were selected from a number of Intermediate Level writing textbooks, thus deemed appropriate for the students' level of English proficiency. Carrell (1984) suggests that reading texts aid in the activation of one's background information (schema). Furthermore, Bereiter and Scardamalia (1982) hypothesize that a transfer occurs from knowledge derived from previous readings to new material, which in turn provides a link to new ideas. On the basis of these suggestions, it was concluded that the reading activity was necessary to activate personal schemas, thereby helping in the coherence and comprehension of texts. This understanding was expected to provide the students with new ideas and a framework that could be related to their own personal experiences to aid in the writing process (Cook, 1994).

In the past, writing was considered to be product oriented, with a focus on the use of correct structures (Reid, 1993). However, process writing has become the principal tenet of current ESL writing pedagogy (Raimes, 1991), which includes generating ideas, drafting, and revising through student collaboration (Susser, 1993). As a result of these pedagogical considerations, participants in this study were placed into pairs, given questions that focused upon the readings, and asked to brainstorm ideas central to the issues of the texts (see
Appendix H). Subsequently, the participants shared their answers to these questions and wrote their individual responses with either a word processing program or an e-mail editor.

The three writing classes met weekly for 6 weeks to complete the scheduled assignments. The groups alternated their writings with a word processing program or an e-mail editor (Table 1). This schedule is a crossover design adapted from Dam et al (1990) and Kern (1995). Data collection occurred between the second and seventh weeks of the fall semester, 1999.

Data Collection and Recording

Participants wrote essays over a 6 week duration. These weekly writing sessions occurred during the subjects' regularly scheduled computer writing classes. Writing sessions were 50 minutes in duration, with the regular instructor presiding over the class to provide assistance and instructions. During this 6 week period, the three groups within this study wrote six initial essay drafts on three different topics alternating between an off-line and on-line program (Table 1). In Weeks 1 and 4, the groups addressed multiculturalism; in Weeks 2 and 5, they wrote about economics; in Weeks 3 and 6, questions focused upon immigration. In Weeks 1, 3, and 5, Groups 1 and 1B used an on-line e-mail editor while Group 1A used an off-line word-processing program. Groups 1 and 1B wrote off-line in Weeks 2, 4, and 6 while Group 1A wrote on-line. Although the number of participants in the study totaled 48, when the researcher matched the off-line and on-line essays on the same topics, only 37 students contributed
<table>
<thead>
<tr>
<th>Week</th>
<th>Topics</th>
<th>On-line</th>
<th>Off-line</th>
<th>Dates</th>
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<td>(Pine)</td>
<td>(WP 6.1)</td>
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<td>1</td>
<td>The Knowledge of Experience</td>
<td>Group 1</td>
<td>Group 1A</td>
<td>9.23.99</td>
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<td>Group 1B</td>
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<td>2</td>
<td>Female Employment In Europe</td>
<td>Group 1A</td>
<td>Group 1</td>
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<td>Group 1B</td>
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<td>3</td>
<td>Things that Affected Me when I Came to the United States</td>
<td>Group 1</td>
<td>Group 1A</td>
<td>10.07.99</td>
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<td>4</td>
<td>An Interview with Mr. Kawashima</td>
<td>Group 1A</td>
<td>Group 1</td>
<td>10.14.99</td>
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<td>Group 1B</td>
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<td>The Benefits of Working</td>
<td>Group 1</td>
<td>Group 1A</td>
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<td>6</td>
<td>Nu Phong Moves to America</td>
<td>Group 1A</td>
<td>Group 1</td>
<td>10.28.99</td>
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<td></td>
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<td>Group 1B</td>
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</table>
matched pairs of essays (Table 2). This discrepancy is attributed to absence of participants from class during the 6 week writing schedule.

One week prior to the writing class, participants were given texts to read on preselected topics (Appendixes B-G). At the beginning of each writing class, the students were placed into pairs and provided with a question about the topic from their instructor. Then the participants were asked to brainstorm ideas about the questions that were based upon the prior readings. The preselected questions were of the open-ended type, for example, "Compare and contrast the working conditions of women in your country to European women" (Appendix H). This type of question could not be addressed by memorized speech learned from a textbook or spoken by an instructor. Thus, the respondents were required to use their social, language, and life skills to complete these tasks. Subsequently, the subjects wrote answers to the questions upon either a word processing program or an e-mail editor.

Data collection of the writings completed with a word processing program and e-mail editor were compiled differently to replicate the original task of the two media. Student-generated texts in the word processing program were saved directly to a diskette and given to the regular instructor in order to replicate the original task of a word processing program. In contrast, since e-mailing communication depended upon sending a message to another writer, on-line essays were sent directly to the students' instructors. These responses were saved to a diskette by the researcher and made into paper copies. Upon
Table 2

Matched Pairs of Word and E-mail Essays

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Trial 1</th>
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completion of the six weekly writing exercises, the researcher possessed an electronic version and paper copy of the entire corpus of students' off-line and on-line texts.

Data Processing and Analysis

Data were collected, codified, and analyzed as follows:

1. In order to insure anonymity, each participant was provided with a subject number.

2. Because of differences in text length, percentage scores were used for linguistic features and sentence complexity.

3. Descriptive statistics were used to calculate the means and standard deviations of the linguistic and grammatical features, lengths of texts, and holistic ratings. The means for off-line and on-line writings were compared using a parametric test, the paired samples t test.

4. The methods of contextualization were analyzed with a nonparametric Wilcoxon test in order to determine any differences or similarities between the language found within off-line and on-line texts.

Quantitative Data Analysis

In order to proceed with data analysis, the raw and normalized frequencies of the 12 preselected linguistic features were determined. The researcher manually counted the frequencies of the selected linguistic features from the matched pairs of student essays. These counts were recorded and provided the raw frequencies of the cohesive devices. Next, the raw counts from
each topic (multiculturalism, economics, immigration) were added together and then averaged to yield the average count for each feature produced with a word processing program or an e-mail editor. The data from the individual writing sessions were also kept separate in order to compare the occurrences in individual trials during statistical analysis.

These raw scores were normalized, which "is crucial for any comparison of frequency counts across texts, because text length can vary widely. A comparison of non-normalized counts will give an inaccurate assessment of the frequency distribution in texts" (Biber, 1988, p. 75). The normalized frequencies of the individual linguistic features were determined as follows. The actual frequency count of the linguistic feature was divided by the total number of words in the text and then multiplied by 100. This number resulted in a normalized frequency count per 100 words of text. This procedure eliminated the problem of greater frequency counts resulting from longer texts. Normalized frequencies were tallied for each matched pair of essays and averaged to provide the final normalized count of each feature from the different electronic media. Next, the raw data were entered into a paired samples t test for statistical analysis in order to compare the means of the communicative features found within the essays. The comparison between the linguistic features found within off-line and on-line texts was completed to establish the statistical significance of the differences in the frequencies of the 12 selected linguistic features.
The next step in quantitative data analysis was to compile the data on sentence complexity. The researcher manually inspected the essays in order to determine the sentence complexity within the off-line and on-line texts. Again, sentence complexity was normalized. First, the total number of simple and complex sentences was added up for each writing session. Second, the number of these occurrences was divided by the total number of sentences per writing session. This figure was then multiplied by 100, which produced the normalized count per 100 occurrences. Next, the normalized count per each writing session was averaged. Finally, a paired samples t test was performed to establish the statistical significance of any differences between off-line and on-line essays in relation to sentence complexity.

In order to determine the overall lengths of the individual essays, the total number of words per essay were counted with a word processing program. Then a paired samples t test was used to identify statistical significance between the lengths of the texts written with a word processing program or an e-mail editor.

Contextualization is accomplished by either first or third person source. Due to the complex nature of contextualization, the researcher inspected the texts for the different contextual categories provided by the writers. Explicit phrases such as "I believe" and "In my opinion" expressed first person source. Third person source was indicated by various methods including reference to the title or author of an article, the researcher's question, or personal experience. For example, student 4 from Group 1 was asked to answer a question about
multiculturalism during week 4 of the study. The writer titled the essay "What are the differences between the cultures of your country and Canada?" which was the exact wording of the question from the researcher. The first line of the essay corresponded to the question: "The cultures of Hong Kong and Canada are totally different." This is an example of third person source that reflected back to the question posed by the researcher. After identifying the individual occurrences of first and third methods of contextualization, a Wilcoxon nonparametric test was conducted to compare the frequencies of this linguistic feature.

Qualitative Data Analysis

Qualitative analysis was completed by three experienced instructors employed at Brock University's Intensive English Language Program (IELP) using a holistic rating form adapted from Witte and Faigley (1981) in order to determine if there was a difference in the quality of texts written with an off-line or on-line program. The final grades were determined based upon results from four categories: grammar/mechanics, organization, content, and language (Appendix I). The raters arrived at a final grade for off-line and on-line essays with equal consideration of these categories: grammar/mechanics included verb tenses and agreement and lengths of the texts; organization was made up of topic and concluding sentences, as well as supporting ideas; content dealt with the student's interpretation of the questions and relevant information; and language focused upon transitions, vocabulary, and appropriate register. As a result of
analysis using the above categories, the essays were to be given a holistic mark ranging from 0 to 5.

Prior to analysis, the raters received a copy of the rating form, but they were not given detailed instructions for the use of this instrumentation. The researcher rationalized that the raters would rely upon their own interpretation of the grading form and personal experiences teaching ESL writing to justify the final grades allocated to the off-line and on-line essays. After being provided with the grading form, the raters received paper copies of the entire corpus of the matched pairs of off-line and on-line essays. Only the matched pairs of essays written off-line and on-line and upon the same topic were holistically rated by the IELP instructors. As a result, the raters compared 63 matched pairs of student essays. The raters read these texts and allocated final grades. Next, according to the media used by the writers, the grades for each week were added up by the researcher and averaged per writing session. Finally, a paired samples t test was conducted to compare means of the holistic rating grades.

Methodological Assumptions

In educational research, as in other disciplines, it is difficult to control all aspects of the methodology within a study. Therefore, in order to conduct this study, a number of assumptions were made. First, with the completion of the General Information Questionnaire (Appendix A), it was discovered that all participants had general knowledge of computers (operation and capabilities) and varied degrees of experiences (wrote academic essays or e-mailed friends
and family members). Therefore, it was assumed that the use of the computer in the writing classroom was not an innovation for the student writers.

Second, it was assumed that differences existed between written and oral language. In addition, it was assumed that differences occurred within ESL students' writings completed with a word processing program or an e-mail editor. Therefore, due to the association between written language and word processing texts, and oral discourse and e-mail writings, there should be differences in the linguistic features used by writers to differentiate electronic texts (Biber, 1986; Chafe, 1982; Murray, 1985; Tella, 1992b; Weasenforth & Lucas, 1997; Yates & Orlikowski, 1993).

Limitations

The limitations within this study were found in (a) the population sample, (b) the possible effect of social context upon the participants, (c) the potential influence of practice and think time, (d) the reliability of the final holistic scores based upon the subjectivity of three raters, and (e) participants' access to an e-mail editor.

First, the participants of this study were from a random selection of the general population of applicants of the Intensive English Language Program at Brock University. This resulted in a sample of intermediate level students (N=48), which limits the generalizability of the study. The results of this study were specific to the participants of three intermediate ESL classes and perhaps are not indicative of a larger population of ESL writers. Furthermore, some participants
did not write an off-line and on-line essay upon the same topic. For example, 18 students wrote 1 matched pair, 12 wrote 2 matched pairs, and only 7 wrote three matched pairs of essays (Table 2). As a result, out of a possible 144 pairs of matched essays, the subjects produced only 63 matched sets of essays to be analyzed (43.75%). Therefore, the sample population that wrote matched pairs of essays can be viewed as a limitation.

Another limitation of this research was the possibility that social context would affect the textual features found within students' writings. In other words, familiarity of instruction from the same teacher over an extended period could result in students being able to read social clues and, once these clues had been determined, they could adjust their communication responses to the situation (Sproull & Kiesler, 1986). Therefore, there was the potential for different linguistic structures written by students at the beginning, middle, and end of the semester. To offset this limitation, the study was conducted early in the semester, the second through seventh weeks of the term, thereby minimizing the impact of social context.

The third limitation within this study was the possibility of practice and think time because the participants of this study wrote six consecutive weekly essays that addressed a limited number of topics. Two techniques were introduced to address these threats. First, a crossover method was designed for the scheduled writing exercises (Table 1). As a result, students alternated the writing medium weekly to complete their essays. Second, three different topics
were selected for student essays (immigration, multiculturalism, and economics). This diversity of topics provided a 3 week interval in which the participants did not write upon the same topic. In addition, participants were provided with different texts to read prior to their writing assignments as well as different questions for each topic. It was conjectured that writing multiple essays that addressed diverse questions on various topics over an extended interval of time could lessen the effects of practice and think time.

The fourth limitation is that with qualitative analysis there is the risk of error due to human subjectivity. This limitation is specifically directed toward the holistic rating of the essays. The researcher selected three experienced instructors to grade the essays completed by the student writers. However, a rater's objectivity can be compromised due to biological, cognitive, cultural, and educational factors (Gamaroff, 2000). Even though the raters were provided with the criteria for assigning grades, marks may differ from one rater to another. Although the background, age, and teaching experience varied amongst the raters, it was believed that three raters increased the chance of rating reliability than a single rater. Therefore, three raters graded the essays to lessen this perceived limitation within the study.

Finally, a number of participants who initially wrote with an e-mail editor had difficulty accessing off-line accounts because Brock University was in the process of making changes to the Pine system. Subsequently, all students were required to possess passwords for personal on-line access. This new regulation
was disruptive to many students because forgotten passwords meant denied access to on-line accounts, which affected the results of the first writing sessions of Groups 1 and 1B. Therefore, the results of Trial 1 for Groups 1 and 1B compromised the study.

Reliability

Reliability is defined as the measure of consistency and accuracy of a test. In other words, will a test result in the same score with repeated testing (Seliger & Shohamy, 1989)? With respect to the count of specific linguistic features, reliability was not a concern because the count was objective. However, reliability was a concern for the holistic rating because human subjectivity manifests with the introduction of raters and results in the opportunity for inconsistencies and inaccuracies in test grading. In general, it is hypothesized that if a study has more than one rater, there is greater reliability (Henning, 1987). As a result, three raters were assigned to grade the essays to increase test reliability.

Another consideration was the design of the grading instrument used by the raters (Appendix I). This instrument was designed to provide equal weighting for the four selected categories of grammar/mechanics, organization, content, and language. This equal weighting of marks took into account any unequal importance raters might place upon the different categories. Furthermore, because the researcher allowed for partial scores, for example 2.5 or 3.35, this enabled in the raters to be more precise in their determination of final grades.
Therefore, this strategy was expected to offer an increased opportunity for reliability.

In order to increase reliability within the study, a number of other considerations were addressed. First, the researcher did not discuss the hypotheses under examination with the participants, the instructors, or the raters within this study. As a result, all persons associated with the study were unaware of the focus of the research and were blind to the purpose. This lack of knowledge was expected to decrease bias in the participants, the instructors, and the raters. Second, members of the rating team did not confer with each other nor were they informed of the final grades allocated to the students' essays by other members. Therefore, a rater's personal decision to allocate grades could not be influenced by the scores of other members of the rating team. Third, the raters were unaware of the writers' identities because all names were removed from the texts and each essay was assigned a number. Fourth, the use of electronic writing reduced the extent to which superficial factors, such as handwriting or neatness, might influence the decisions of the raters.

The final strategy for reliability was a correlation test conducted to determine the degree of reliability that existed among the raters. Each individual rater's scores for the entire corpus of essays, written either off-line or on-line, were averaged. These averages were correlated with the averages of the other two raters. The results indicated that there was low interrater reliability for the average grades assigned to the off-line essays (Appendix J). Specifically, there
was low reliability between the final grades of Rater 1 and Rater 2 ($r=.543$), and between Rater 1 and Rater 3 ($r=.485$). However, there was an acceptable degree of reliability between Rater 2 and Rater 3 ($r=.720$). In contrast, there was a high degree of reliability for the average on-line grades between Rater 1 and Rater 2 ($r=.816$), between Rater 1 and Rater 3 ($r=.805$), and between Rater 2 and Rater 3 ($r=.880$). As a result of the correlation test, there were indications that interrater reliability could affect the overall reliability of the results of the study. This limitation should be kept in mind when reading the results associated with the holistic rating of the essays.

Validity

Validity is defined as the appropriateness of an instrument to measure what it is intended to measure. Acknowledging that this appropriateness can be compromised due to various factors, this research addressed the following: (a) subject variability; (b) size of subject population; (c) history, attrition, and maturation; and (d) matched pairs of essays. First, as previously discussed, the population selected for this research was chosen as a result of final scores on the Michigan Test (60-69). There were approximately 200 students enroled in the Intensive English Language Program (IELP) at the time this study was conducted. As a result, almost one quarter of these students ($N=48$) were placed within the intermediate level of English proficiency, which placed them as participants in this study. Therefore, with a quarter of the general population who
entered the IELP as participants within this research, this should produce results that are reasonably generalizable.

Second, another consideration for validity was the size of the population. Although it is difficult to ascertain what is the ideal number of participants, Seliger and Shohamy (1989) maintain that a larger group results in a lesser effect upon individual variability, which ultimately could affect the outcome of a study. The size of the subject population in this study totaled 48, which the researcher believed was a sufficient number to be representative of the population as a whole. Thus, validity would be increased within the study.

Third, history, attrition, and maturation of subjects were a concern for validity. It is argued by Seliger and Shohamy (1989) that history, attrition, and maturation effects upon a longitudinal study were greater than on a study over a shorter duration of time. The present study was conducted over a brief 6 week period; thus, it is believed that the study was less affected by the above factors.

Finally, validity within this study might be compromised due to the comparison of matched pairs of essays written off-line and on-line. Twelve lexical features were compared upon the basis of occurrences within matched pairs of essays. However, the participants completed only 44% of matched essays due to student absenteeism. Therefore, this inconsistency in the participation rate of the writers resulted in an incomplete set of data. Ultimately, these results could affect the validity of this study.
Ethical Considerations

The Department of Applied Language Studies and the Ethics Review Board from Brock University approved the proposal for this research (Appendix K). Therefore, participants’ welfare was given careful consideration. First, participation in this research was voluntary. Although participation was strictly on a volunteer basis, participants were asked to read and sign a consent form prior to data collection. The *Informed Consent Form* advised the students of the title of the study, the researcher’s name, the procedures of the study, and the date and location of a voluntary information session (Appendix L). In addition, students could withdraw at any time and were under no obligation to answer any invasive questions that appeared on the *Informed Consent Form* or on any data collection instrument.

Second, to insure participant anonymity, a subject number was provided to the diskettes that contained the entire 6 weeks’ texts. Data from the texts were entered into a computer program in numeric form only. The researcher alone had access to the writings and, upon completion of the research, the entire corpus of data was destroyed.

Third, participants of this study were required to write one assignment per week during a 6 week duration. Students did not experience any inconvenience to their normal routine in that the assignments occurred during normal class time at the regularly assigned location and with their assigned writing instructor. Therefore, participants took part in this study as part of their normal university
routine. Participation in the study, or withdrawal from participation, did not affect the students' experiences or performance in the regular ESL courses.

Restatement of the Problem

The main focus of this study was to discover the potential differences and similarities in the writings of ESL students with off-line and on-line programs. Although computer technology has inundated second language classrooms, contemporary theories and pedagogical practices have been based upon few and contradictory studies. Therefore, it was hypothesized that an investigation of differences or similarities within students' essays would aid in determining what differentiates off-line and on-line texts.

Summary of Chapter

This chapter described the methodology and procedures used within this study. In addition, participants, data collection and analysis, and the null hypotheses under investigation were described. The issues of reliability and validity were also discussed. Finally, the chapter concluded with the methodological assumptions and design limitations. The following chapter presents and summarizes the findings that resulted from these procedures.
CHAPTER FOUR: RESEARCH FINDINGS

The purpose of this project was to investigate what linguistic and grammatical differences and similarities existed within students’ essays written within two different electronic media. During the fall 1999 term, 48 intermediate level ESL students alternately wrote six off-line and on-line essays addressing the formal topics of immigration, economics, and multiculturalism. The participants produced 63 matched pairs of essays, which were analyzed by quantitative and qualitative methods that included descriptive statistics, t tests, nonparametric tests, and holistic rating. The results of these analyses are presented in this chapter.

Linguistic Features of Communication

The linguistic features of communication used within written and oral discourse are often found to differ in type and to vary in frequency according to the method of communication. Therefore, in order to determine the differences between off-line and on-line texts, this study examined the following linguistic features of communication: cohesive devices, grammatical structures, quantity of texts, contextualization, and quality of texts.

Cohesive Devices

One purpose of the study was to investigate differences between word processed and e-mail essays in relation to 12 linguistic features. The features of interest were demonstrative pronouns, demonstrative noun phrases, sentence connectors, clause coordinators, clause subordinators, phrase subordinators,
discourse particles, lexical repetition, synonyms, pronouns, ellipsis, and summative expressions.

To determine if the frequencies of these linguistic features differed between off-line and on-line writing, paired samples $t$ tests were conducted to compare the means of the linguistic features. Prior to these $t$ tests, the frequencies of the features were normalized and then averaged per writing session to arrive at the means for each feature. These analyses yielded no statistically significant differences in all but one of the 12 features. A statistically significant difference ($t_{25} = -2.187, p < .05$) was found within demonstrative noun phrases during Trial 2, with word processor essays ($M = .8338, SD = .7940$) showing higher frequencies than e-mail essays ($M = .4208, SD = .6389$). This was the only statistically significant difference in the cohesive devices written off-line and on-line. Overall, it appears that the medium did not influence the language choices of off-line and on-line writers. Refer to Table 3 for these results.

Although a comparison of the linguistic features found within off-line and on-line texts revealed little difference between media, it was discovered that writers preferred one linguistic feature over the others. Analysis determined that pronouns were the most preferred cohesive device within this study. Essays written off-line averaged 10.1 occurrences for every 100 words, while on-line essays averaged slightly greater with 10.6 pronouns per 100 words of text. By
Table 3

Comparison of Means on Linguistic Features

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<td>SD</td>
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</tr>
<tr>
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</table>

* insufficient examples to conduct statistical analysis.

* p < .05.
contrast, clause coordinators, which were the second most popular method to
provide cohesion within this study, showed the following frequencies: off-line
essays averaged 4.06 words per normalized count and on-line 4.3 words. All
other features yielded frequencies of less than 1.5 words per normalized count.
In short, the lack of statistically significant differences in the linguistic features of
communication in on-line versus off-line writing did not mean that writers did not
favor certain forms of cohesive devices.

**Grammatical Structures**

This study investigated the occurrences of simple and complex sentences
found within the essays written upon word processing programs and e-mail
editors. To determine if a writer's choices were affected by the medium used, a
paired samples t test was conducted to compare the means of simple and
complex sentences within off-line and on-line texts. The means were calculated
by counting the number of simple and complex sentences found in off-line
essays from individual writing sessions. Then the sentences were counted within
the on-line essays. Finally, the results counted within each medium were divided
into the total occurrences per writing session. Again, analysis revealed there
was no statistically significant difference between off-line and on-line texts in
sentence complexity. However, Trial 2 was notable because simple sentences
were found within both off-line (M 29.27) and on-line essays (M 21.29) to a much
greater extent than in Trial 1 (M off-line 17.38, M on-line 11.62) and Trial 3 (M off-
line15.20, \( M \) on-line 18.33). By contrast, complex sentences in Trial 1 (\( M \) off-line 79.45, \( M \) on-line 86.255) and Trial 3 (\( M \) off-line 82.39, \( M \) on-line 78.89) were found more often in off-line and on-line texts than Trial 2 (\( M \) off-line 75.56, \( M \) on-line 78.29). Table 4 presents these results.

**Quantity of Text**

In order to determine if the media affected the lengths of off-line and on-line texts, a paired sample \( t \) test was conducted to compare the means of quantity of text. Means were calculated by adding the total words of the essays per individual writing session and then dividing these totals to arrive at an average number of words per essay. Analysis showed the mean of the off-line essays had a greater number of words than the on-line writings. The average number of words within word-processed essays was 204.96 words (\( SD = 81.9268 \)), while e-mail texts were much shorter, with an average of only 163.66 words (\( SD = 68.3646 \)). Analysis indicated a statistically significant difference between off-line and on-line writings in Trial 1 (\( t_{15} = -7.055, p < .05 \)) and Trial 3 (\( t_{13} = -3.400, p < .05 \)). Table 5 summarizes the results of the off-line and on-line writings for Trials 1, 2, and 3.

There were additional findings to illustrate the differences of the overall lengths of the off-line and on-line texts. First, it was found that 18 (22.68%) on-line essays were less than 100 words in length, while only 8 (10.08%) off-line essays were that short. Furthermore, 14 truncated on-line essays (less than 100
Table 4

_Comparison of Means on Sentence Complexity_

<table>
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<th></th>
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<th>Trial 3</th>
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Table 5

Comparison of Means on Quantity of Text

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<td>13</td>
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*p < .05.
words) and 7 truncated off-line essays were written during the initial writing session. Refer to Table 6 for these results. Second, it was also discovered that off-line essays averaged 11.86 sentences per attempt. By contrast, on-line essays averaged only 9.20 sentences or, 22% less. Table 7 shows these differences in the number of sentences found within the two media.

**Contextualization**

The researcher manually counted the occurrences of either first- or third-person method of introduction found within each writing session. To determine if the subjects preferred one method of introduction over another, a Wilcoxon nonparametric test was conducted to compare the frequencies of the two types of contextualization. Although the results of the comparison showed no statistically significant differences in frequency in Trials 1 and 2, the results of Trial 3 were statistically significant \((W = -1.897, p < .01)\). This significance is shown by the fact that within Trial 3 there were only 7 occurrences of first person contextualization within the off-line essays, while on-line contained 18. Refer to Table 8 for these results.

**Quality of Texts**

To determine if the quality of the writer's texts varied due to the media, a paired samples \(t\) test was conducted to compare the means of final grade averages given by three raters. Each rater's grades for the corpus of essays were compared between the off-line and on-line essays. Analysis revealed that
Table 6

Number of Words Written per Essay

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<td>7</td>
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<td>4</td>
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<td>2</td>
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<tr>
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<td>3</td>
</tr>
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<tr>
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Table 7

Average Number of Sentences per Essay

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Table 8

Comparison of Frequencies of Contextualization

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<tr>
<td></td>
<td>E-mail</td>
<td>11</td>
<td>15</td>
<td>8</td>
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</table>

\[W\]  

- .816  
- .577  
- 1.897**

**p < .01.
there were no statistically significant differences in the quality of most texts written off-line and on-line. A statistically significant difference \( t_{10} = 2.390, p < .05 \) was found in the results of Trial 2 for Rater 3. In this case, the grade for off-line essays \( (M = 3.5455, SD = .6876) \) was higher than the on-line essays \( (M = 3.1818, SD = .6030) \). These numbers are shown in Table 9. It is interesting to note that although the on-line essays were shorter in length than the off-line essays, the final holistic grades were equivalent in value. Moreover, further investigation revealed that the number of spelling errors within the word-processed and e-mail texts were of little difference. For example, the average number of spelling errors for off-line essays was 4.45 per essay while e-mail was 5.09. Table 10 illustrates the average number of spelling errors for the three groups.
### Table 9

**Comparison of Means on Holistic Ratings**

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<td>1.000</td>
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<td>9</td>
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<td>t</td>
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<td>2.390*</td>
<td>1.809</td>
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<td></td>
<td>df</td>
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*p < .05.
Table 10

*Average Number of Spelling Errors per Essay*

<table>
<thead>
<tr>
<th>Medium</th>
<th>Trial 1</th>
<th>Trial 2</th>
<th>Trial 3</th>
<th>Average</th>
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<td>3.77</td>
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<td>6.66</td>
<td>5.09</td>
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</table>
Educators have embraced the potential of modern technology, but the investigation of the relationship between computers and second language is still in its infancy. Although this relationship has been under scrutiny for a short period of time, some researchers believe that computer language compares with the modalities of written and spoken language and that these differences result in the generation of language that differs from one mode of electronic medium to another. For example, word processing programs have a variety of editing facilities, including cut and paste. Researchers hypothesize that these features result in formal, organized texts that contain more developed ideas, as is demonstrated within written language. On the other hand, due to situational constraints, e-mailers do not see the writer or hear the words from the other e-mailer. This feature manifests in texts that contain frequent topic shifts and ellipses, as characterized within spoken discourse. Even though the resultant language within word-processed and e-mail texts are different, researchers are not in agreement about how and to what extent the language is differing. Therefore, the objective of this study was to investigate the differences and similarities in the frequencies of preselected linguistic features of communication found within electronic texts in order to distinguish what characterizes the language within off-line and on-line essays.
Summary

To investigate differences and similarities between students' essays written with a word processing program and those written with an e-mail editor, this study addressed the following questions. First, are there any differences or similarities in the frequency counts of certain lexical features within texts written by students with a word processing program or e-mail editor? Second, does sentence complexity vary within the essays? Third, is there any variation in the overall lengths of these texts? Fourth, do students' contextualization methods differ within electronic media? Finally, is there a difference in the holistic ratings of essays written off-line or on-line? The answers to these questions were expected to demonstrate the characteristics of electronic texts in off-line and on-line media.

The participants of this study were 48 full-time, international students from seven countries. The group consisted of 29 females and 17 males ranging from ages 19 to 40. Prior to this research, students completed the Michigan Test to test their level of English proficiency. As a result of this test, the participants were assessed as intermediate learners. Students were required to alternately write three essays on a word processing program and three on an e-mail editor upon three formal topics (multiculturalism, immigration, and economics). Preceding the individual writing exercises, students read brief texts that addressed the formal topics on which they were to write. It was hypothesized that varying linguistic features would manifest in the different writing media.
The weekly writing sessions took place during the fall 1999 term. Data collection of the texts was compiled differently to duplicate the original tasks of the media. That is, off-line texts were saved on diskettes while on-line writings were sent directly to the students' regular instructor. Once the corpus of data was collected, both quantitative and qualitative analyses were undertaken. Quantitative analysis was completed with a statistics computer program, whereas qualitative analysis was conducted by three IELP instructors.

Analysis of the writings of ESL students revealed few differences in the language patterns found within word-processed and e-mail texts. Results indicated that, first, the frequencies of 12 preselected linguistic features were not different within essays written with a word processing program as compared to those written with an e-mail editor. Second, analysis of students' essays also revealed that there were no differences in the means of simple and complex sentences. Third, the lengths of off-line and on-line texts did vary in length, with off-line essays having a greater average number of words and sentences per writing session. That is, off-line essays averaged 204 words per essay while on-line texts were considerably shorter, averaging only 163 words. Fourth, writers' choices of first and third person methods of contextualization varied in only one of three trials. Finally, holistic grades allocated by three raters indicated that there was no difference in the quality of the word-processed and e-mail essays. In addition to having equal grades, the spelling errors found in these essays did not vary according to the medium used. Even though there appeared to be few
differences in the linguistic features found within ESL students’ off-line and on-line essays, these findings provided information to propose some practical and theoretical recommendations.

Discussion

Although electronic technology inundates ESL writing classrooms, the influence of a word processing program or e-mail editor upon the lexical choices within students’ texts is inconclusive. Some researchers, such as Tella (1992b), Slaouti (1998), and Walker (1999), suggest that a linguistic dichotomy results from the use of different electronic medium. Even though these researchers have reported observed differences in writers’ lexical choices, the findings of the study reported in this document indicate that there are few differences in the linguistic features of communication between essays written using a word processing program and those written using an e-mail editor. These results place this study in agreement with Weasenforth and Lucas (1997), who have not observed differences in the language produced with electronic media.

The results of this study also contradicted other theoretical relationships that experts argue exist between written and off-line texts, and between oral discourse and on-line writings. For example, Chafe (1982) and Weissberg (1984) argue that both clause coordinators and pronouns occur most frequently within on-line texts. However, the findings of this study indicate that these features did not vary within the media. Next, Murray (1985) found that simple sentences occur more often within on-line texts, while complex sentences occur more frequently
within off-line texts. However, results show that within both off-line and on-line texts, writers preferred to use complex sentences 80% of the time. Finally, Tella (1992b) maintains that word-processed essays are higher in quality than e-mail essays. The results of this study showed no difference in the quality of the writings produced with off-line and on-line programs, because the final grades allocated by three raters were equivalent.

Although there were few differences in the mean of cohesive devices, the average overall length of the off-line texts (204 words) was found to be greater than the length of on-line essays (164 words). These findings are in agreement with the research of Tella (1992b), Weasenforth and Lucas (1997), and Biesenbach-Lucas and Weasenforth (2001) that off-line texts are greater in length than on-line texts. However, the disparity in textual lengths found in this study may be due more to extraneous factors than to the influence of the media. The following circumstances may have contributed to the uneven lengths. First, the initial session for data collection was disruptive for the research participants because the university was in the process of updating the e-mail system, wherein all currently registered students were required to hold a personal password in order to access their personal e-mail accounts. Even though the participants had previously received and recorded their passwords in order to gain access, a large number of students misplaced or forgot their personal codes. As a result, these students were unable to begin essay writing immediately. Second, forgotten passwords meant that students were required to leave the computer classroom
and formally request new passwords from computer administration. Valuable time was forfeited, and the full period was not available for the writing task. In several cases, students did not complete the first on-line writing exercise.

The impact of these distractions within the first writing session is evident in the results of Trial 1. Off-line essays (184.73 words) averaged more than twice the length of the on-line essays (82.80 words). As a result of these administrative difficulties, attention was deflected from the writing exercise and resulted in a large number of truncated texts (less than 100 words). In sum, the average on-line messages may be shorter in length than off-line texts due to administrative problems and not the influences of electronic media.

Another interesting point about this study is the issue of the nature of the software used to make comparisons of the language found within electronic texts. The researcher selected Word 6.1 (word processing program) and Pine (e-mail editor) to make these comparisons. Although the computers and the monitors for word processing programs and e-mail editors were identical, the viewing areas within the monitors were uniquely different due to programming format. Once the Word 6.1 program was accessed, the viewing area was devoid of any text contained on the screen except information that was typed by the writer (Appendix M). In contrast, the e-mail screen (Pine) contained extraneous information at the top of the screen that included the sender’s e-mail address, CC, attachment, and subject. In addition, at the bottom of the e-mail screen were 12 prompts of various miscellaneous tasks, including Get Help, Send, and Delete.
(Appendix N). Thus, this extra text cluttered the screen and reduced the writing area. As a result, an unfair comparison could have resulted due to the nature of the software used within the study.

The difference in off-line and on-line viewing screens also may have affected the quantity of texts produced upon the medium. With the smaller viewing area within Pine, as compared to Word 6.1, a student might write both fewer and shorter sentences that, ultimately, will yield fewer words and shorter texts. Furthermore, the difference in the facilities provided within Word 6.1 and Pine might also have influenced final text lengths. This issue has been debated in prior literature. Murray (1985), for example, contends that editing facilities do not result in the production of texts of varying lengths within different electronic media. However, Tella (1992b) and Weasenforth and Lucas (1997) argue to the contrary: that the lack of editing facilities within an e-mail editor results in shorter texts when compared to word-processed writings. Although these authors do not elaborate on the reasons, it is safe to note that mechanical editing saves time over manual correction, which can leave participants more time to write. The increased time can be expected to yield longer text lengths.

Within this study, it was discovered that the frequencies of spelling errors found within on-line and off-line texts were not significantly different. This result is noteworthy because, if on-line writers spend more time rereading written texts for the purpose of correcting spelling errors, this activity takes away valuable writing time; thus, fewer words will be written. As a result of these findings, this research
argues that a lack of editing facilities within the chosen e-mail editor results in the on-line essays being shorter in length than the off-line texts.

The preceding observations suggest that, although this study found differences in text length, it is unwise to draw conclusions while making language comparisons across programs with different features. In other words, compromised data could lead to inaccurate comparisons being made when the software programs differ. This issue raises the question: What if the results of other studies were driven by the differences in software features and not by the influences of media? These reported differences, which may have been produced from compromised data, have pedagogical and theoretical ramifications for the second language learners, and therefore need more careful scrutiny.

In summary, the results of the research reported in this document fall clearly on one side of the controversy as to what kinds of language are found within electronic texts. The present study agrees with Yates and Orlikowski (1993) that a linguistic dichotomy does not occur within students' essays written with a word processing program or an e-mail editor; therefore, the media does not appear to be the main influence upon writers. If, however, the medium does not influence the choices of the writer, it begs the question of what the key influences are. Beaman (1984) and Granger (1998) argue that the main influences upon writers' linguistic choices are purpose and topic, which is similar to Hidi and Hildyard's (1983) assertion that audience and genre are the main
influences of writers. These influences, however, have been relatively neglected in studies of electronically mediated writing because of the intense interest in the medium. Consequently, additional research needs to be undertaken to further illuminate the influences on language in off-line and on-line texts.

Recommendations for Practice

This study demonstrated that a linguistic dichotomy did not occur within off-line and on-line essays. Thus, there is potential for the use of e-mailing within the second language classroom. Although e-mail probably will not replace current teaching practices, this form of electronic technology can be used to augment the present tools of language learning. On-line use should be added to second language syllabi because it is useful for helping ESL students to produce essays that contain similar features of the conventions of academic writing as in off-line texts. Therefore, e-mail writing is an appropriate academic tool for the second language student.

There are many practical suggestions for the implementation of e-mail programs within the second language writing classroom: responding to discussion boards, writing e-mail letters to companies concerning environmental issues, composing student newsletters, producing personal biographies, producing web pages, writing academic essays, and answering international key-pals. These practical suggestions provide opportunities for students to converse with native speakers in the target language.
E-mail editors are not to be perceived as a panacea for all learners and all situations, nor will electronic software, in and of itself, make better writers. However, on-line instruction can be viewed as another useful tool to augment the facilitation of language learning in the writing classroom. Furthermore, this teaching aid is of little difference from others. This similarity implies that sound pedagogical forethought is required to optimize the benefits of e-mail for the second language students. Ultimately, the success of this device for second language learners manifests from the thoughtful positioning within the curriculum and not just from accessibility to modern technology.

Recommendations for Theory

The findings of this study reveal that the theoretical bases of electronic media influences remain questionable because the study confirms some hypotheses while it refutes other hypotheses that have been set forth by second language experts. This study points to two main theoretical considerations. First is the hypothesis that electronic media influence the writer’s choice of linguistic features of communication, which results in dichotomous language occurring in off-line and on-line essays. Second is the proposed relationship between written language and off-line texts, and between oral discourse and on-line texts.

First, proponents of mutual exclusivity for the language found within off-line and on-line texts contend that the main influence for writers’ linguistic choices is the medium. That is, the medium, in and of itself, dictates the types of language found within the texts produced upon the medium. However, as shown
[The text content is not legible due to the image quality.]

within this study, a mutual exclusivity theory is questionable because dichotomous language results did not manifest in the off-line and on-line writings of the participants. Instead, it appears that writers are affected by a complex set of influences, which could include the medium, task, topic, audience, and genre. In the face of such complexity, it is naïve to consider only one influence that might affect the language found within off-line and on-line texts. Therefore, theories dealing with the characteristics of language in electronic texts need to be multifaceted.

Second, as a result of the findings within this study, the proposed relationships between written language and off-line texts and between oral discourse and on-line texts are questionable. For example, Murray (1985) hypothesizes that e-mailers produce simple sentences as a result of their undeveloped ideas, while word processors produce texts that have a greater number of complex sentences. However, within this study, both off-line and on-line writers used complex sentences approximately 80% of the time. These contrary findings suggest that the relationships between written and oral language and electronic media have not yet been established.

Recommendations for Further Research

The potential for ESL students composing essays with a word processing program and e-mail editor indicates further possibilities for this path of research. One path, for example, could continue to investigate what characterizes the language found within off-line and on-line texts. This path could be followed by
comparing the writings completed with four different e-mail editors. These off-line programs need to have the same features so that the results can not be compromised due to the difference in technology. A comparison of a variety of similar programs would help to identify the characteristics of on-line essays.

In addition, research could be conducted to determine if any linguistic differences occur in students’ texts written upon formal and informal topics. Future studies might have ESL students alternately compose off-line and on-line essays based upon diametrically opposite topics. For example, formal topics could include racism, politics, human rights, the environment, economics, and the rights of women. In contrast, topics of an informal nature might be music, youth culture, clothing, drugs, television, and movie stars. Comparing frequency counts of selected textual features within the electronic media used to compose the essays could shed additional light on the influences of the topic upon writers.

Conclusion

This study is not an end in itself, but represents another step to gain understanding of the effects of electronic media upon the writings of ESL students. The potential for electronic technology is immense, and the possible influences upon the lexical choices of writers within the second language classroom are only beginning to be understood. However, the placing of computers within the second language writing classroom requires educators to address the goals that teaching can help students achieve. Overall, it appears that electronic writing helps students achieve the goals of additional experience
and knowledge, which are necessary for all types of writing and, ultimately, for communication and language learning. Even though the opportunity for learning is great, researchers and educators must be cautious and conduct additional studies that yield firm empirical information with which to determine the most beneficial application of electronic technology for ESL writers.
References


Pennington, M. C. (1996a). The power of the computer in language education. In M. C. Pennington (Ed.), *The power of CALL* (pp.1-14). Houston, TX: Athelstan.


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Appendix A

General Information Questionnaire

1. Name: ____________________________________________________________

2. Male/Female: (circle appropriate one)  3. Age: ______________________

4. First Language spoken: ____________________________________________

5. Field of Study or Occupation: ______________________________________

   a) Graduate ______   b) Undergraduate _____   c) Other ________________

6. For how long have you studied English?

   a) In your country: years ___________ months _________________

   b) In Canada: years ___________ months _________________

7. Is this your first semester at Brock University? yes ______ no ______

8. Which language skill(s) are you most comfortable with?

   a) Speaking ______   b) Reading ______

   c) Listening ______   d) Writing ______

   e) Grammar study/practice __________________________

9. a) Have you ever used e-mail?

   yes ______ no ______

   b) What e-mail editor do you use to send your messages?

      1) Badger ______   2) Pine ______

      3) Eudora ______   4) Other ______

   c) How much time do you spend writing e-mail messages weekly?

      1) less than 30 minutes per week _________________

      2) one hour to four hours per week _________________

      3) five to ten hours per week _________________

      4) more than ten hours per week _________________
d) To whom do you send e-mail messages?

1) family ______________________ 2) friend(s) ______________________
3) classmate(s) ______________________ 4) teacher(s) ______________________
5) other ______________________

e) What is the main language used for sending e-mail messages?

1) English ______________________ 2) Other (name) ______________________

f) Do you think that writing e-mail messages regularly will improve your English?

yes ______ no ______

10. What word-processing program(s) have you used regularly?

1) Microsoft Word ______________________ 2) WordPerfect ______________________
3) Other ______________________

11. In your current writing class do you prefer to hand-write assignments or to type them using a word-processing program?

a. hand-write ________ b. word-processing program ________

12. Do you enjoy working on the computer in your English writing class?

yes ________ no ________
Appendix B

The Knowledge of Experience

Nowadays, a student's academic record plays a major role in his or her college acceptance. I feel that a good academic record should not only be the deciding factor. A student who does extremely well in learning only from books may not be successful in the real world. Knowledge is not only learned through books but is also obtained through experience and observation.

I was born in the People's Republic of China in 1975. I grew up in a completely different environment from the one I am living in now. To a child of ten, the enormous difference between China and the U.S.A. was not too great, except for the fact that I could not understand what everyone was saying. As I grew older, I began to notice the vast difference between two contrasting cultures. Every day, I feel the conflict between the Chinese and American cultures in my life. From five o'clock in the afternoon to seven in the morning, Chinese is my official language. I am surrounded by Chinese arts and music. But for the rest of the day, I become part of the American society. With such a schedule, the two nonuniform cultures cannot be severed completely. During the period when I am at home, I will get phone calls from English-speaking friends. Almost everyone on television is in English as well. At school, I have many Chinese friends. Sometimes we will mention issues concerning China where Chinese has to be used to explain a point. There is hardly any time when the two cultures can be completely separated. I live in a world of two divergent cultures, but the American society has many dissimilar cultures tossed together.

Ever since I began taking courses in social science, I have learned that the American society is a gigantic "salad bowl". In the beginning of my middle-school years, this expression was just another locution I had to memorize for the upcoming history exam. I did not understand the entire meaning of the "salad bowl" until one of my most memorable experiences. I took dancing lessons from the sixth grade until the ninth grade. These lessons included ballet lessons as well as Chinese folk dances. Every year my dancing school would perform in the Houston International Festival. It was there that I gained my full understanding of the "salad bowl". I saw tents filled with souvenirs from countries all over the world. There were calligraphy writings from China, wooden sandals from Japan, blue porcelain decorative plates from the Netherlands, and much, much more. People walked from tent to tent gazing at the many souvenirs, tasting the different types of food, and experiencing the various cultures from around the globe. Diverse cultures all merged together for
a few days beneath the skyscrapers in downtown Houston before everything returned to normal everyday life. But for those few days, Houston was a "salad bowl" of mixed cultures.

After this rewarding experience, I began to take more notice of my surroundings. In Houston, there is hardly any major street that does not have at least one foreign restaurant or shop. There are also many ethnic restaurants where food they serve has taken on American styles. One Chinese restaurant I visited served fried shrimp with the typical Chinese sweet and sour sauce. Chinese chefs usually do not fry anything except egg rolls. Due to the American's love of fried food, the chefs created their own culinary style of cooking, in which both Chinese and American tastes are satisfied.

A history book may be able to describe the "salad bowl" very well, but reading a book is completely different from experiencing it yourself. After my experience at the Houston International Festival and my many observations, I find that the phrase "salad bowl" is most appropriate for the American society. The diverse cultures are like the different ingredients which have been mixed in a bowl to make a salad. Indeed, books are good sources of basic knowledge, but once that knowledge has been learned, a better understanding of the knowledge can be obtained through real experiences and observations. This is the wisdom I have gained in my life. I value my excellent academic records as well as experiences. I will further improve my education and gain more experiences in my academic future.

Appendix C

Mr. Kawashima Visits the United States.

Interviewer: Can you tell me something about your experience? What were some of the things that surprised you about life there - let's say social life.

Mr. Kawashima: One thing that surprised me a great deal was that people who work together don't socialize on weekends as we do in Japan, for example playing golf on Saturdays. They'll have occasional get-togethers like a barbeque or dinner...but then the whole family is invited.

Interviewer: Yes, it's true, in Japan the family is rarely invited to a business affair. Did you get used to that?

Mr. Kawashima: Well, I did, but one embarrassing thing happened the first time my boss invited me and my family to a barbeque at his home. Because it was a party at my boss's house, I wore business clothes - suit, shirt, and tie. When I got there, I discovered that all the other men were wearing shorts or blue jeans! I'm afraid I added to a Japanese stereotype, that we never take off our "uniforms". My wife had a hard time at first, too, with these kinds of parties. You know, she wasn't used to socializing with the wives of my colleagues. She rarely, if ever, did that in Japan. But now she likes and expects to be included. She'll have a hard time getting used to the Japanese way again, I'm afraid.

Interviewer: Is there anything else that was different for you or your family?

Mr. Kawashima: Yes. In Japan, my wife was not used to having me home at dinnertime every night because, as you know, in Japan many men work late and then have a drink out with colleagues. That didn't happen often where I worked in the United States, so my wife had to adjust to my being home at six-thirty every night instead of nine-thirty or ten o'clock, as in Japan.

Interviewer: What about your work situation? What was different there?

Mr. Kawashima: Well, I was impressed with the way business people in the United States make demands, like asking for a raise or a promotion. We would never think of doing that so directly in Japan.

Interviewer: Do people always get what they ask for in the United States?

Mr. Kawashima: No, of course not. But they do tend to take more initiative in their
professional careers. In fact, I was amazed that people who are high up in a company sometimes switch to a rival company or even to a company in a completely different line of work.

Interviewer: And in Japan, people usually stay with the same company all of their lives. How does that compare with the United States?

Mr. Kawashima: It's hard to say. But it seems to me that people in the United States are more likely to change companies quite often in order to get a raise or a promotion. In fact, in the United States, I've met only one or two people who have been at the same company their whole lives.

Interviewer: Is there anything else that struck you during your time there?

Mr. Kawashima: I could add one thing about personal relations on the job. As you know, in Japan, if you have a personal problem, you often talk it over with your boss. In contrast, people in the United States don't do that much. Oh yes, my colleagues in the U.S. also kept photos of their families on their desks!

Interviewer: Well, these are interesting differences! Thank you, Mr. Kawashima. I'm sure our readers will find this very informative.

Appendix D

Female Employment in Western Europe

Between 1975 and 1985 the number of men in the European work force fell, while the number of women rose by 9.8 million. The percentage of women working varies widely across the continent: almost 60 percent of Danish women work compared with fewer than 30 percent of Spanish women.

The rise of women in the work force coincides with the growth in Europe's service sector over the past few years. Of the women in Europe who work, 73 percent are employed in the service sector, while their numbers almost equal those of men. Service sector growth also accounts for the fact that 75 percent of newly created jobs went to women.

Although companies may be eager to employ them, European women are far from fully integrated into the workplace. "Women are concentrated in a restricted number of lower-paying, less prestigious occupations," says Employment in Europe, a report prepared by the European Commission's directorate general for employment, industrial relations, and social affairs. "In West Germany, for example, 90 percent of women are employed in just 12 occupational groups, generally those with lower skills, despite the greater success of girls at school." An Irish Employment Equality Agency study found that in Irish electronics factories "the best-paid jobs are filled almost entirely by men and the worst-paid almost entirely by women."

Women also tend to work in unprotected sectors such as "outwork" and "work at home." Outwork - making crafts for tourists, for example - encompasses work at home and includes any work performed outside company premises. Such work may take place in a subcontractor's factory and is usually of the sweatshop variety. Employees are paid by the piece, though sometimes a base salary is given as well. Outwork is especially prevalent in southern Europe.

Work at home is concentrated in the clothing, textile, leather goods, fur, and toy industries. In northern Europe, home work is used for metal and electrical goods manufacturing. Many firms have recruited women to work at home to avoid costs of building new factories.
Although these alternative work arrangements are widely practiced in Europe, no official statistics exist on the number of women so employed. Most of such work is paid off the books, with employees receiving no benefits of any kind, which perpetuates the impression that women are a casual part of the labor force.

Appendix E

The Benefits of Working

Nowadays many college students work out of necessity. All students need money to pay for tuition and books as well as other living costs. For many, the only way to do this is to work. In a recent survey, twenty-five American students at the University of Houston-Downtown said that although working is difficult, it has several advantages.

Of course, the main benefit that students get from working while going to school is financial support. Many students said that they could not afford to attend college if they did not find work, even though most of them received financial assistance from their families. Sandra Webb, a junior in mathematics, said, "Working and studying is really hard, but I couldn't stay in school if I didn't work." Mike Matthews, a senior and an English major, agreed. He said that his parents paid for his first year of college but that they weren't able to help him after that. He explained, "I started working full-time and going to school at night. It's been a lot slower this way, but at least I'm still in school."

Another important advantage of working is gaining work experience. Most students said that they had learned important job skills while they worked. Some students said they had gotten positions that would help them in their career. John Askins, a freshman majoring in business, works at Mr. Gatti's Pizza in the evenings and on weekends. He said the work is not prestigious, but it will give him some job experience and a reference for his resume. Askins added, "I've learned a lot about how a food business operates." Eric Connors, a junior in computer science, said his job as a student assistant in the university's computing lab brought him a great deal of practical knowledge about computer software and hardware. Connors stated, "Every day I find out something new. This job will give me a definite plus when I finish school and start job hunting."

Finally, many students reported that they think their work has helped them learn other adult skills. Jessica McKay, a senior who is majoring in applied engineering, said she worked at Randall's as a cashier during her first year of college. McKay said, "This was the first job I ever had. I was pretty naive about how to get along with people and how to be responsible. I mean, you have to handle a lot of money, and if you make a mistake, you have to pay. That taught me a lot." McKay added that her later job, as a waitress and as a department-store clerk, taught her responsibility. Tanya Roberts, a sophomore in computer science, said her job as a cashier at the university bookstore has helped her manage her money better. She said, "When I first started working, I didn't even
know how to stay in a budget. I couldn't even balance my checkbook! Now, I watch what I spend, and I'm even more serious about my studies, because I know I'm working to help pay for them.”

For all students, working and going to college at the same time was difficult. But they said the pluses outweighed the minuses. In my opinion, it would be better if students didn't have to work. Then they could concentrate on their studying. However, if a student has to work, he or she should try to work only part-time. When I begin academic classes, I may have to get a job, but I hope that it will have some benefits for me too.

Appendix F

Things That Affected Me When I Came to the United States

It doesn't matter to which country you go. You are always going to find some things different from things in your country of origin. When I came to the United States, three things affected me.

The first thing that affected me was the language. My native language is Spanish, so I didn't know how to speak English and I had to learn it. I knew a little English but just the basics, and I needed to practice a lot. Because I wasn't able to speak English fluently, I felt inferior to the people that were around me. As a result, I got depressed frequently. My personality changed from talkative to quiet. Each time that my husband and I went to a party where the people spoke only English, I just listened to what the people said, and I never gave my opinion on the subject that they were talking about because I thought that I wouldn't be able to explain my thoughts. Many times I imagined myself making the sentence in English of what I wanted to say. If it sounded good, I said it, but if it did not, I just looked at everyone talking, hoping that someone said what I was thinking. I felt like a child.

Another thing that affected me when I came to the United States was the cold relationship among people. In Mexico, my country of origin, the people are warm. If they don't know you, they might say, "hello" to introduce themselves and start a conversation. Different from my compatriots, however, Americans are very emotionless. In general, U.S. citizens don't care if they talk to you or not. They live their own lives, and whether you are their friend or not is irrelevant. The most I can get from American people is a smile. This month will celebrate my first year living in my townhouse, and I don't know my neighbors. On the left side of the house lives a girl named Angie, whom I just talked about plants once in April. On the other side lives a couple with a little girl, whom I have never talked to. I don't know what my neighbors do for a living, where they are from, or what they like to do in their free time. This coldness made me feel lonely when I was alone during those days before I started school.

Finally, the last thing that has affected me since I came to the United States is my professional status. When I decided to come to the United States, I didn't realize that I was throwing my journalism career in the trash can. There are several reasons why it is difficult for me to find a job in my profession. First, my career depends on writing, which means I have to dominate the English language. Second, there are only a few TV stations where I can work in Houston. And finally, my degree is not valid here. I feel that I lost four years of studying since a lot of my classes are not accepted for credit here. Also, I don't
have previous employment experience in the United States, and it is very important to have a work record. I have to start working in grocery stores or in a mall while I study a different major. This is very frustrating.

In conclusion, when I came to the United States, three things affected me: the English language, coldness of American people, and my professional status. The first one I have overcome. For the second one, I just have to find the right warm people and get used to the remainder. The third one just depends on me. I hope that in the near future I will be working in a field that I like.

Appendix G

Nu Phong Moves to America

When Nu Phong was very young she lived in a small village in Vietnam with her parents and her brothers and sisters. Her parents were farmers. They grew rice and vegetables. Sometimes her parents would talk about the war but only a few soldiers came to Nu Phong's village, so her family felt safe. Nu Phong's older brother decided not to fight in the war. Then one day bombs began to fall on their village and many soldiers came to fight there. Nu Phong's parents died in the fighting. Nu Phong and her sister went to live with their grandparents in Saigon. One day when Nu Phong was fourteen their grandmother came and told them that they were going to go to the United States to live with their aunt.

At first, Nu Phong's life in the United States was very difficult. She went to an American high school and she felt very uncomfortable there. She went to John F. Kennedy High School in Houston, Texas. Learning English wasn't easy, and the other students were very different from her. Gradually, Nu Phong began to make friends, first with other foreign students and finally with some Americans. She learned to speak English well and became comfortable with the American way of life. Although Nu Phong still thought about her life in Vietnam, she didn't feel homesick anymore. Nu Phong's sister was planning to return to Vietnam. Today Nu Phong is eighteen years old. When she graduates from high school, she plans to go to college to become a nurse.

Appendix H

Essay Questions

Multiculturalism
Sample question for on-line essay.

"The Knowledge of Experience"

Directions:

1. Read the attached article, "The Knowledge of Knowing".
2. Pair up with a partner and make notes as you brainstorm ideas on this reading.
3. Using Badger respond to the following question:

   "What does the term 'salad bowl' mean to you?"

4. E-mail completed essay to your instructor.

Multiculturalism
Sample question for off-line essay

"An Interview with Mr. Kawashima."

Directions:

1. Read the attached article, "An interview with Mr. Kawashima."
2. Pair up with a partner and make notes as you brainstorm ideas on this reading.
3. Using Word Perfect 6.1 respond to the following question:

   "What are the differences and similarities between the cultures of your own country and Canada?"

4. Save on a diskette and give to your instructor.
Economics
Sample question for on-line essay

“Female Employment in Europe.”

Directions:

1. Read the attached article, “Female Employment in Western Europe.”
2. Pair up with a partner and make notes as you brainstorm ideas on this reading.
3. Using Badger write about the following:

“Compare and contrast the working conditions of women in your country to European women.”

4. E-mail completed essay to your instructor.

Economics
Sample question for off-line essay

“The Benefits of Working”

Directions:

1. Read the attached article, “The Benefits of Working.”
2. Pair up with a partner and make notes as you brainstorm ideas on this reading.
3. Using Word Perfect 6.1 respond to the following question:

“Is it beneficial or harmful for a student to work?”

4. Save on a diskette and give to your instructor.
Immigration
Sample question for on-line essay

"Things that affected me when I came to the United States."

Directions:

1. Read the attached article "Things that affected me when I came to the United States."
2. Pair up with a partner and make notes as you brainstorm ideas on this reading.
3. Using Badger respond to the following:

"Describe the things that affected you when you moved to another country."

4. E-mail completed essay to your instructor.

---

Immigration
Sample question for off-line essay

"Nu Phong Moves to America."

Directions:

1. Read the attached article, "Nu Phong moves to America."
2. Pair up with a partner and make notes as you brainstorm ideas on this reading.
3. Using Word Perfect 6.1 answer the following:

"Describe the process, beginning to arrival, of getting to study in a new country."

4. Save on a diskette and give to your instructor.
Appendix I

Holistic Rating Scale

This form is to be used to holistically rate the off-line and on-line student essays. The rating scale contains the numbers one to five, one being very poor on the continuum while five will represent excellent.

1. -very poor
2. - poor
3. - average
4. - good
5. - excellent

Consider the following to arrive at a final rating for the student-generated essays. There are four categories to evaluate and they are of equal consideration toward the final rating. These categories include: grammar/mechanics, organization, content, and language.

Grammar/mechanics: a. grammar errors (tenses, agreement)
           b. length - more or less than 100 words

Organization: a. topic sentence
              b. supporting details
              c. concluding sentence

Content: a. interpretation of question
        b. contains relevant information

Language: a. transitions
         b. variety of vocabulary used
         c. register appropriate
Appendix J

*Rater Correlation*

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* reliability is significant if correlation is < .70
| FROM: | Robert Ogilvie, Chair  
Standing Subcommittee on Research with Human Participants |
| TO:   | Hedy McGarrell, Dept. of Applied Language Studies |
| FILE: | 98-002  Roger Charles Kenworthy |
| DATE: | October 14, 1998 |

The Brock University Standing Subcommittee on Research with Human Participants has reviewed the research proposal:

"On-Line and Off Line Texts: Differences and Similarities"

The Subcommittee finds that your revised proposal conforms to the Brock University guidelines set out for ethical research.

RO/tar
Appendix L

Informed Consent Form

Title of study: 
"ESL Students' Off-Line and On-Line Texts: Differences and Similarities"

Researcher: Roger Charles Kenworthy
Supervisor: H. M. McGarrell

Name of Participant: __________________________ (please print)
I agree to release six (6) short essays to the researcher for analysis of textual features. I also agree to permit researcher access to pre/post Michigan Test scores. I will complete a questionnaire seeking background information on my computer writing experience.

I understand that my participation in this study is voluntary and that I may withdraw from the study at any time for any reason without penalty.

I understand that there is no obligation to answer any question/participate in any aspect of this project that I consider invasive.

I understand that all personal data will be kept strictly confidential and that all information will be coded so that my name is not associated with my answers. I understand that only the researchers named above will have access to the data, which will be destroyed upon conclusion of the research.

__________________________  __________________________
Participant Signature        Date

If you have any questions or concerns about your participation in the study, you can contact Roger C. Kenworthy, extension 4614, or H. M. McGarrell, extension 3757, at Brock University (905) 688-5550. An information session is offered in room PE 276 (Brock University), from 10:00 a.m. to 12:00 p.m. on December 6, 1999.

Thank you for your help! Please take one copy of this form with you for further reference.

******

I have fully explained the procedures of this study to the above volunteer.

__________________________  __________________________
Researcher Signature        Date
Working conditions of Mexican women Vs European Women

Comparing the work conditions of Mexican women Vs European women, we can find a lot of things to explain, for example in this time in Mexico there are different kinds of jobs that the women can develop, like secretary, lawyer, electronic, mechanic, chemical, civil or other kind of engineering, counter, teacher, doctor, nurse, dentist etc. In fact in those last years, you can see a lot of women in the universities studying careers that in the past you have not seen.

However, there are many women jobs in a lower-paying, for instance, those underpaid jobs are cleaning services, factory employees, seamstress, etc. Generally those jobs are the more percentage of the women working in Mexico, even though is not a strong percentage like in Europe where the 60 percent of women are working in lower paying jobs, but I think that, in Mexico in general the greater women population is not working in established jobs, it means that the most of women in Mexico are Housewife. In addition in these last years the world population women is taking important roles.
The benefits of working while you're studying

The benefits of working while you're studying are very important in my opinion. First, you can afford your parents to pay the school as well as you can increase your budget, so you will have financial support. Second, you will have an idea of the work environment and you will know about booses, manager and too many things that in the school you do not have yet and those situations are very important, because when you will have started to work, you will know how to work with a partners and managers. Finally, other advantage that is important to mention is the work experience, communications decisions and leadership skills that you will develop, but, the most important thing that you would develop, is the responsibility, even is not a very important job, I mean that job is not related with yours studies or your major, you will learn to be responsible. Therefore the benefits of working while you are studying are very essential.