2001

The influence of proficiency, extraversion, and interpersonal interaction on ESL writing

Julie A. Thornton
Iowa State University

Follow this and additional works at: https://lib.dr.iastate.edu/rtd

Part of the Bilingual, Multilingual, and Multicultural Education Commons, and the English Language and Literature Commons

Recommended Citation
https://lib.dr.iastate.edu/rtd/174

This Thesis is brought to you for free and open access by the Iowa State University Capstones, Theses and Dissertations at Iowa State University Digital Repository. It has been accepted for inclusion in Retrospective Theses and Dissertations by an authorized administrator of Iowa State University Digital Repository. For more information, please contact digirep@iastate.edu.
The influence of proficiency, extraversion, and inter-personal interaction on ESL writing

by

Julie Ann Thornton

A thesis submitted to the graduate faculty
in partial fulfillment of the requirements for the degree of

MASTER OF ARTS

Major: English (Teaching of English as a Second Language / Applied Linguistics)

Program of Study Committee:
Roberta Vann, Major Professor
Dan Douglas
Veronica Dark

Iowa State University
Ames, Iowa
2001

Copyright © Julie Ann Thornton, 2001. All rights reserved.
Graduate College
Iowa State University

This is to certify that the master's thesis of

Julie Ann Thornton

has met the thesis requirements of Iowa State University

Signature redacted for privacy

Major Professor
Signature redacted for privacy

For the Major Program
para Lucia,
con todo mi amor
# TABLE OF CONTENTS

## CHAPTER 1. INTRODUCTION
- Relevance of the Study .................................................. 1
- Research Questions ...................................................... 4
- Preview of the Study ..................................................... 5

## CHAPTER 2. LITERATURE REVIEW ............................................ 7
- Overview of the Chapter .................................................. 7
- Writing Development in First (L1) and Second Languages (L2): Similarities and Differences
  - Writing Development of Native Speakers .......................... 9
  - Writing Development of Non-Native Speakers: Similarities and Differences .......................... 11
- General Differences between Speech and Writing ................. 13
- Early Writing Studies on Non-Native Speakers .................... 14
- General Linguistic Features that Denote Speech as Contrasted to Writing and the Role of Register
  - Limitations of these Studies with respect to Specific Linguistic Features .......................... 17
  - Limitations of Previous Studies with respect to Register .............................................. 18
- Rationale for using a Multi-Feature Approach .................... 22
  - Recent Studies using Multi-Feature/Multi-Dimensional Approach ..................................... 26
  - Biber and Finegan's Study: Register Drift over Several Centuries ................................. 26
  - Reppen's Study: Written and Spoken Language Development in NSs .................................. 27
  - Haynes' Study: Variability of Speaking and Writing in NNSs ......................................... 28
- Background on Personality and Extraversion ....................... 29
- Overview of Previous Research on Extraversion .................. 31
- Previous Research on Extraversion, Language Proficiency, and Language Development .......... 32
- Personality and Non-Native Speakers of English ................ 33
- Extraversion and the Present Study .................................. 34
### Summary

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summary</td>
<td>35</td>
</tr>
</tbody>
</table>

### CHAPTER 3. METHODS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overview of the Chapter</td>
<td>37</td>
</tr>
<tr>
<td>Participants</td>
<td>37</td>
</tr>
<tr>
<td>Proficiency</td>
<td>39</td>
</tr>
<tr>
<td>The Personality Inventory</td>
<td>40</td>
</tr>
<tr>
<td>Development of the NEO PI-R</td>
<td>40</td>
</tr>
<tr>
<td>Pilot Testing and Revision of the NEO PI-R</td>
<td>43</td>
</tr>
<tr>
<td>The English Use Questionnaire</td>
<td>44</td>
</tr>
<tr>
<td>Writing Samples</td>
<td>47</td>
</tr>
<tr>
<td>Background on Dimension 1</td>
<td>48</td>
</tr>
<tr>
<td>Application of Dimension 1</td>
<td>50</td>
</tr>
<tr>
<td>Data Collection and Analysis</td>
<td>53</td>
</tr>
<tr>
<td>General Overview</td>
<td>53</td>
</tr>
<tr>
<td>Initial Steps in Data Analysis</td>
<td>55</td>
</tr>
<tr>
<td>Summary</td>
<td>58</td>
</tr>
</tbody>
</table>

### CHAPTER 4. RESULTS AND DISCUSSION

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overview of the Individual Instruments</td>
<td>60</td>
</tr>
<tr>
<td>Personality Inventory</td>
<td>61</td>
</tr>
<tr>
<td>English Use Questionnaire - Overview</td>
<td>62</td>
</tr>
<tr>
<td>Question 1 - English Use Questionnaire</td>
<td>63</td>
</tr>
<tr>
<td>English Use Questionnaire - Overview of Questions 2 through 7</td>
<td>64</td>
</tr>
<tr>
<td>Question 2 - English Use Questionnaire</td>
<td>66</td>
</tr>
<tr>
<td>Question 3 - English Use Questionnaire</td>
<td>66</td>
</tr>
<tr>
<td>Question 4 - English Use Questionnaire</td>
<td>67</td>
</tr>
<tr>
<td>Questions 5 and 6 - English Use Questionnaire</td>
<td>67</td>
</tr>
<tr>
<td>Question 7 - English Use Questionnaire</td>
<td>68</td>
</tr>
<tr>
<td>English Use Questionnaire - Discussion of Results</td>
<td>68</td>
</tr>
<tr>
<td>Dimension 1 Mean Score Distributions for the Descriptive and Process Essays</td>
<td>69</td>
</tr>
<tr>
<td>Dimension 1 Mean Score Comparisons for the Descriptive and Process Essays</td>
<td>70</td>
</tr>
<tr>
<td>Dimension 1 Mean Score Descriptive and Process Essay Correlations</td>
<td>71</td>
</tr>
<tr>
<td>Proficiency and the Essays</td>
<td>72</td>
</tr>
<tr>
<td>Conclusion - Individual Instruments</td>
<td>73</td>
</tr>
</tbody>
</table>

Correlations Between Individual Instruments | 73   |
ABSTRACT

The transfer of speech features to writing is a common problem in the writing development of non-native speakers of English because students often do not recognize when this transfer is occurring and how it can impact a piece of discourse. The purpose of this study is to investigate how the factors of proficiency, extraversion, and use of English influence this transfer in non-native speakers of English who are learning English for academic purposes. Proficiency was determined by the English as a second language writing course in which participants were enrolled at the time of the data collection. Participants also completed a measure of their level of extraversion and a questionnaire measuring the extent to which they use English, and submitted two pieces of writing, a descriptive essay and a process essay. The extent to which writing samples showed evidence of speech features was measured using a technique based on the concept that groups of co-occurring linguistic features in a text cause it to resemble speech rather than isolated features alone.

The major finding was that the extent to which learners used English appears to have more of an impact on the transfer of speech features to writing than does either proficiency or personality. Although previous studies (Vann, 1981; Mohan & Lo, 1985; Hansen-Strain, 1989; Peregoy & Boyle, 1997) indicate that proficiency level influences this transfer, the results of this study did not confirm this relationship due to the limited number of subjects representing each proficiency level. However, the finding that use of English may be significant suggests that a language learner's
environment can have a stronger influence on speech transfer than these other factors, which, in turn, suggests that personality traits may be less important than a learner's specific behaviors in the second language environment. Another major finding was that topic control is of extreme importance in studies investigating writing development because without this control, it is difficult to clearly understand how various factors contribute to the transfer of speech features to writing. Finally, the technique used to evaluate the extent to which writing samples exhibited features of speech was effective and is highly recommended in future studies.

Understanding the factors that contribute to the transfer of speech features to writing is important because such an understanding would ideally lead to better teaching strategies in the writing classroom to alleviate this transfer. The growing popularity of email, a mode in which oral and written features often overlap, gives the investigation of oral and written relationships renewed importance.
CHAPTER 1. INTRODUCTION

Relevance of the Study

The transfer of speech features to writing is a common occurrence in the writing development of non-native English speakers (NNSs); however, this transfer poses a potentially serious writing problem when learners are unaware that it is undesirable in more formal genres of writing, even though it may be entirely acceptable in less formal genres of writing. I became aware of this transfer when I began teaching composition to high-level English as a second language students (ESL) in the Intensive English and Orientation Program (IEOP) at Iowa State University (ISU). In one particular instance, a student responded to the following question, "How long have you been in the United States?" by writing, "I've been in the U.S. for like two months." As an ESL teacher, I was surprised by the student's use of the term like in writing, even though the word is commonly used in speech. Because this particular student seemed to be extremely extraverted, I wanted to pursue my interest in personality and second language acquisition by including extraversion in my investigation of some of the factors that may influence the transfer of speech features to writing.

From my own experiences as a language learner, I've always suspected that extraversion plays a key role in second language acquisition. Because it seems likely that extraverts would use English more extensively than their introverted counterparts, it seems probable that extraverts would tend to transfer more features
of speech to their writing than introverts. However, it is also likely that extraversion, combined with proficiency, may lead to an increased use of English, which may also influence the extent to which learners transfer features of speech to writing. Thus, in this study, students' proficiency levels in writing, their level of extraversion, and the extent to which they use English in their inter-personal interactions were investigated to better understand how these factors contribute to the transfer of speech features to writing.

Numerous researchers have investigated the various factors influencing the transfer of speech features to writing in both native English speakers (NSs) and NNSs (Kaplan, 1966; Lay, 1975; Clancy, 1980, 1982; Tannen, 1980, 1982, 1984; Chafe, 1982; Hansen-Strain, 1989; Wu & Rubin, 2000). Research on the writing development of NNSs has shown that a learner's proficiency level is of utmost importance in understanding the transfer of speech features to writing because at lower levels of proficiency, writing more closely resembles speech than at higher levels, depending on the particular genre of writing (Ochs, 1979; Kroll, 1981; Chafe, 1982). Additional research on both NSs and NNSs has attempted to identify the specific features that differentiate speech from writing (DeVito, 1965, 1966, 1967; Gibson et al., 1966; Preston & Gardner, 1967; Einhorn, 1978; Cayer & Sacks, 1979; Chafe, 1982; Beaman, 1984; Gumperz, Kaltman, & O'Connor, 1984; Tannen, 1984; Greenbaum & Nelson, 1995). This research has shown that the identification of these specific features is difficult because genre is of critical importance in attempting to identify the differences between speech and writing, as some genres, such as email, more closely resemble speech than others, such as research papers.
More recent research on both NSs and NNSs has shown that it is groups of co-occurring linguistic features in a piece of writing that cause it to resemble speech or writing rather than isolated linguistic features alone (Biber, 1986, 1988).

However, the current body of research has yet to fully consider the roles that a combination of factors including proficiency level, personality, and use of English plays in the transfer of speech features to writing. Additional research on the various factors that contribute to the transfer of speech features to writing could ideally lead to a more complete understanding of this issue. Moreover, such an understanding might enable ESL teachers to think beyond the proficiency factor and to more fully appreciate the additional factors that learners bring to the classroom that can influence such transfer. This would theoretically lead to the development of better teaching methods in the composition classroom to address and potentially alleviate this occurrence. Furthermore, the increased use of the internet and email, modes in which features of speech commonly overlap with those of writing, suggests that this problem may become even more pronounced than it has been in the past, which necessitates a better understanding of the problem itself. This understanding will ideally lead to the use of specific techniques in the classroom to reduce this sometimes unwanted transfer. Consequently, the purpose of this study is to investigate the roles that a combination of factors including proficiency, extraversion, and use of English may play in the transfer of speech features to writing.
Research Questions

To better understand a few of the factors that can contribute to the transfer of speech features to writing, the following research questions will be addressed in this study:

1. Does proficiency level impact the extent to which NNSs transfer speech features to writing?

2. Do students who would be classified as extraverts from personality tests tend to use English more often than introverts?

3. Do extraverted students transfer more features of speech to their writing than introverts?

4. Do students who use English more often in their daily activities transfer more features of speech to their writing than those who use it less often?

In order to answer these questions, information on participants' proficiency levels in English, along with a measure of extraversion, a measure of reported use of English, and writing samples from the non-native English-speaking participants were required. Participants' proficiency levels were determined by the level of English course in which they were enrolled at the time of the study. All participants were enrolled in ESL classes, either in IEOP, which are intensive courses designed for students studying ESL, or in English 101 writing courses, which are for undergraduate or graduate students who require additional writing practice in an ESL setting. In addition, all participants were literate in their native languages, which, according to literature, influences writing development and possibly the transfer of speech features to writing (Cummins, 1981; Carson & Kuehn, 1994;
Peregoy & Boyle, 1997). Extraversion was measured using Costa and McCrae's Neuroticism Extraversion Openness Personality Inventory Revised (NEO PI-R), while reported use of English was measured using an English use questionnaire that was created specifically for this study to gather information about students' use of English in their everyday activities. Finally, the writing samples were collected from class assignments and included a descriptive essay in which students were asked to describe their past and present experiences, along with their future goals, and a process essay in which students were asked to describe any type of process with which they were familiar. The two particular genres of description and process were chosen because they might lead to a more conversational style than would other genres, such as a traditional research paper, for example. As a result, these two genres would be better suited for this type of study than other genres since the purpose is to better understand the factors contributing to the transfer of speech features to writing.

**Preview of the Study**

To address these research questions, I will begin in Chapter 2 by reviewing literature which has investigated the factors influencing the transfer of features of speech to writing in order to argue that the combined factors of proficiency, extraversion, and use of English in inter-personal interaction appear not to have been investigated with respect to this transfer. In Chapter 3, Methods, I will explain how the study was designed and how the data were collected and analyzed. In
Chapter 4, these results will be presented and discussed. Finally, in Chapter 5, I will present a summary of the results and discuss implications of the study for future research.
CHAPTER 2. LITERATURE REVIEW

Overview of the Chapter

Understanding how the factors of proficiency, extraversion, and use of English impact the transfer of speech features to writing requires background in both the development of writing skills in NSs and NNSs, which involves similar stages, and the linguistic features that have been found to differentiate speech from writing identified in previous studies, including the role of register, which is defined as the language used based on the specific context of the communication situation. Because the study uses a multi-feature technique, which was developed using methods from corpus linguistics to determine the extent to which writing samples manifest features of speech, background on the development of this technique will also be included, along with previous research that has demonstrated the usefulness of this approach. In addition, the study involves personality, specifically extraversion, which necessitates background information on the role extraversion plays in second language acquisition. Finally, the extent to which models of personality can generalize to other cultures will be discussed, and the potential limitations of such generalizations will be explained.

The primary purpose of this literature review is to argue that, while the role proficiency plays in the transfer of speech features to writing has been investigated, the roles that the factors of extraversion and use of English, in addition to proficiency, play in such transfer appear not to have been investigated. With respect
to personality and second language acquisition, much research has focused on identifying the qualities of a good language learner and how extraversion influences the so-called good learner. As well, the findings of research on personality and language development suggest that personality has a greater impact on language proficiency than on language development. For the purposes of this literature review, proficiency refers to learners' skill in using what they know about a second language (Ellis, 1994); however, proficiency in this study was defined according to the level of writing class in which participants were enrolled at the time of the data collection. Because the role that extraversion plays in the writing development of NNSs, specifically in the transfer of speech features to writing, appears not to have been investigated, it merits further investigation. Moreover, it will be argued that understanding the literacy background that NNS participants bring to the task of learning a second language and attempting to ensure a homogeneous background is an important consideration in attempting to draw meaningful results from the various instruments used in the study. In addition, it appears that the multi-feature technique used in this study has not been used in studies focusing on the transfer of speech features to writing. Thus, it will be argued that such an approach is appropriate in a study examining multiple linguistic features and how they might transfer from speech to writing. Finally, it will be argued that controlling of register is of critical importance in any study examining the transfer of speech features to writing.
Writing Development in First (L1) and Second Languages (L2): Similarities and Differences

Writing Development of Native Speakers

Research on the writing development of NSs has shown several similarities with that of NNSs, which is why it is important to understand the writing development of NSs and how this developmental process transfers to NNSs. Numerous researchers (Werner, 1957; Emig, 1977; Hirsch, 1977; Olson, 1977; Shaughnessy, 1977; Kroll, 1981; Vann, 1981; Meier & Cazden, 1982; Dyson, 1983; Haynes, 1992;) have described the writing development of native English speakers in terms of a type of transition from speaking to writing. This process of development includes a varying number of stages, depending on the research that is examined, but in general, it involves a progression from writing that resembles speech to writing that acknowledges and appreciates the differences between speech and writing and the similarities and differences that various genres of speech and writing can share. Werner (1957) explains that as children learn how to write and begin to appreciate the differences between oral and written communication, they oscillate between the processes of differentiation and integration. This means that as children develop skills in writing, they proceed from relative globality or a lack of differentiation between speech and writing to a state in which they understand the differences between the two modes. In early stages, children are able to communicate freely through speech but only minimally through writing, but later they enter a stage in which writing closely resembles speech (Kroll, 1981). Meier and Cazden (1982) argue that this stage may be influenced by a child's cultural
background and that children from non-dominant, highly oral cultures are expected to proceed through this stage. In the next stage, children become aware that speech and writing have general or typical forms that are often stylistically and structurally different, which is followed by a final stage in which children become aware that speech and writing can have separate, distinct purposes, but can also have overlapping purposes as well (Kroll, 1981).

Studies that have specifically focused on examining the writing development of children have shown that syntactic complexity develops from a decreased level of complexity to an increased level of complexity as children become more skilled in writing (O'Donnell, Griffin & Norris, 1967; Hunt, 1970). In these studies, syntactic complexity was measured using the mean number of words per T-unit (thought unit), the mean number of clauses per T-unit, and the mean number of words per clause. Later research suggested that a connection exists between the purpose of a piece of discourse and syntactic complexity (Crowhurst & Piché, 1979; Rubin & Piché, 1979). In another study of oral and written syntactic complexity in children, Loban (1976) showed that initially, oral skills surpassed those of written in grade school-aged children, but that after approximately fourth grade, written skills surpassed oral skills. These studies confirm that as children gain skill in writing, syntactic complexity increases, along with an appreciation of how the type of discourse or the context in which a piece of discourse is produced influences syntactic complexity.
Writing Development of Non-Native Speakers: Similarities and Differences

The writing development of adult ESL students is similar to that of children, but differs with respect to the sets of skills that ESL learners bring to the writing task. Adult academic ESL students are typically literate in their native languages at the time they begin studying ESL, while native English-speaking children are not. However, native English-speaking children are fluent in English at the time they begin writing, whereas typical ESL students are developing skills in each of the four areas of reading, writing, listening, and speaking as they learn English. Thus, while academic ESL learners do not usually have the oral skills that children possess when they are learning to write, literate adult ESL learners have an advantage over those learners who are not literate because they appreciate the value of print (Peregoy & Boyle, 1997). Studies investigating the relationship between L1 and L2 literacy have shown that literacy skills may be key in the developing ESL writer. Of these studies, Cummins (1981) showed that L1 to L2 literacy transfer does emerge, but only after a particular learner has reached a threshold level of L2 proficiency. Additionally, in a 1994 study on transfer and loss in L2 writers, Carson and Kuehn (1994) found that illiteracy in L1 may handicap the L2 writer, whereas L1 writing ability does transfer to L2. Hansen-Strain (1989) also found that students from oral cultures focus more on interpersonal involvement in both speech and writing and that such students often use more difficult structures more often in speech than in writing. In addition, the background of adult learners differs in that some learners may have learned English focusing largely on oral skills, while others may have focused more on grammar and writing. Ellis sums up these findings concisely by stating, "learners
learn to learn in the kind of discourse they experience" (Hansen-Strain, 1989).

In spite of the differences that adult ESL learners bring to the task of writing as contrasted with children, both literate and illiterate adult ESL learners and children share the same starting point in learning how to write because they typically lack an awareness of the differences between speech and writing (Peregoy & Boyle, 1997), even though literate adult ESL learners have a clear advantage over illiterate learners. In general, this lack of awareness can result in short sentences, redundant words, and a conversational style (Peregoy & Boyle, 1997). As learners gain skill in writing, they progress into a stage in which they may focus more on form, grammar, and error avoidance. Learners later use writing to express meaning, they develop an awareness of the features that different types of writing may require, and they demonstrate an ability to use vocabulary and syntactic knowledge while still following the conventions of writing (Vann, 1981).

Thus, there is evidence that at least some second language learners follow a pattern similar to that of first language learners. However, it is clear that the set of skills that a learner brings to the task contrasts native English-speaking children from adult ESL learners. Understanding these differences is important in this study when examining the writing development of adult ESL students and attempting to understand the roles that proficiency, personality, and English use play in the transfer of features of speech to writing. From what is known about the writing development of both native English speakers and ESL learners, it appears that both proceed through a step in which writing resembles speech. It also appears that both literate and illiterate ESL learners may proceed through this step. However, in order
to ensure that the literacy level of the participants does not impact the factors included in this study, the participants chosen were all literate in their first languages to reduce the number of factors influencing the results. This gives us a better understanding of the numerous factors influencing the transfer of speech features to writing.

**General Differences between Speech and Writing**

In addition to understanding the general similarities and differences between the writing development of native English-speaking children and adult ESL learners, it is also important to understand the general differences between speech and writing in order to appreciate why speech is sometimes transferred to writing and the various factors that can influence this transfer. This understanding will enable an accurate measurement of the extent to which a piece of writing manifests features of speech.

A number of researchers have discussed the similarities and differences between speech and writing. For example, Rubin (1975) states that "some authorities believe that written expression is simply speech 'written down'", while Harpin (1976) explains "to encourage pupils, as teachers often have done, to 'write as you speak' is to ask the impossible" (Kroll, 1981). However, Bloor and Bloor (1995) explain the general differences between speech and writing using Halliday's interpersonal and ideational functions, which are representative of speech and writing, respectively. The interpersonal function or the oral mode is immediate, transient, and improvised, and is accompanied by gestures and intonation. On the
contrary, the ideational function or the written mode is distant, permanent, and planned, and requires use of written stylistic devices in order to compensate for the lack of gestures or intonation.

Other researchers have also described the general differences between speech and writing. Emig (1981), among others (see also Givon, 1979; Kantor & Rubin, 1981; Schafer, 1981; Chafe, 1982; Tannen, 1982; Biber, 1986, 1988), explains that speech is interactive, it relies on the features of the immediate context of the situation, and it is generally more elaborated than writing. In oral communication, speakers typically share background knowledge of the particular topic under discussion and emphasize the interpersonal relationship between the communicator and the audience (Hansen-Strain, 1989), while in written communication, the writer, as Collins (1981) explains, must explicitly communicate the desired meaning because it cannot be assumed that the reader possesses enough background knowledge for complete understanding without such information.

**Early Writing Studies on Non-Native Speakers**

From what is known about the writing development of NNSs, the transfer of speech features to writing seems to be a natural phase in the process of becoming skilled at writing in a second language. Vann (1981) suggests that the transfer of speech features to writing represents an extensive writing problem, which includes understanding the relationship between speech, writing, context, and audience. However, much of the research in second language acquisition has not focused specifically on the transfer of speech features to writing, but on issues related to this
transfer. The various factors that contribute to writing development include the interference of L1 rhetorical patterns in L2 writing, the types of errors made by speakers of different languages and the specific textual features that prove difficult for mastery in the L2, and group differences and how this impacts writing development (Kaplan, 1966; Lay, 1975; Clancy, 1980, 1982; Tannen, 1980, 1982, 1984; Chafe, 1982; Hansen-Strain, 1989; Wu & Rubin, 2000).

Of this vast pool of research, Chafe's work (1980, 1982) on *The Pear Film*, which is a silent film that was created for the specific purpose of examining how different people talk and write about the same subject, is perhaps the most well-known research in this particular area. In the film, while a man is picking pears, a boy rides up to the three baskets of pears on his bike, takes a basket, and manages to spill the basket near a group of three boys. Later the man sees the boys walk by eating pears and notices that he now only has two baskets of pears. After viewing the film, oral narratives were collected from Americans, Chinese, Japanese, Malaysians, Thai, Persians, Greeks, Germans, Haitians, and Guatemalans. Written narratives were also collected from Americans, Greeks, and Japanese. With these data, Tannen (1980, 1982, 1984) examined the oral and written narrative strategies of Greeks and Americans, while Clancy (1980, 1982) examined those of Japanese and Americans. Tannen (1982) found that features of oral discourse are found in written discourse and that in the written narratives, the syntactic complexity often found in writing combines with involvement features that are typical of speech in the narratives by Greeks and Americans. Additionally, Tannen (1984) found that speakers acknowledge their interpersonal involvement to a greater extent than do
writers and that Greeks do this to a greater extent than do Americans. Clancy (1980, 1982) suggested that significant differences in the oral and written narratives of Japanese are caused by the differences in cognitive and social demands of speech and writing. This research suggests that the cultural background of learners could be a significant factor in differences between oral and written narratives and that features of speech commonly occur in writing, depending on the context of the specific writing situation.

Other research (Kaplan, 1966) suggests that the cultural conventions of an L1 often transfer to L2 writing, which implies that understanding cross-cultural writing patterns may be an important consideration in the transfer of speech features to writing. Wong's 1992 study of proverbs indicated that Chinese students often use proverbs in their L1 and transfer this use into their L2. This transfer, for the native English-speaker, may be similar to that of using formulaic expressions, such as "once upon a time," which, though common in writing, seem more closely associated with speech. This research seems to suggest that the transfer of speech features to writing is a very complex issue that involves numerous factors. Moreover, it seems that understanding the cultural background and the acceptable writing conventions of different cultures may be a significant factor in the transfer of speech features to writing.

In this study, however, the data collection took place at an American university in which the homogeneity of cultural background could not be ensured without significantly reducing the number of participants. Thus, it was not possible to completely investigate the impact that background and L1 rhetorical patterns
have on the transfer of speech features to writing. This research does, however, provide insight on some of the factors that can contribute to the transfer of speech features to writing, and thus provides other avenues for further research.

**General Linguistic Features that Denote Speech as Contrasted to Writing and the Role of Register**

To understand how a piece of writing shows evidence of features of speech, it is essential to examine previous research that has attempted to describe the relationship between specific linguistic features and their connection to the oral and written modes. Numerous researchers have attempted to describe this relationship (DeVito, 1965, 1966, 1967; Gibson et al., 1966; Preston & Gardner, 1967; Einhorn, 1978; Cayer & Sacks, 1979; Chafe, 1982; Beaman, 1984; Gumperz, Kaltman, & O'Connor, 1984; Tannen, 1984; Greenbaum & Nelson, 1995). From the results of these studies, it is possible to draw general conclusions regarding the differences between speech and writing. Biber (1988) summarizes some of the major findings in *Variation Across Speech and Writing*, as follows:

i. writing is more syntactically complex and elaborate than speech, as illustrated by longer sentences and a greater use of subordination in writing (O'Donnell et al., 1967; Chafe, 1982; Akinnaso, 1982; Tannen, 1982; Gumperz et al., 1984).

ii. writing is more autonomous than speech and consequently is less context-dependent (Kay, 1977; Olson, 1977).
iii. writing is less personally involved than speech (Chafe, 1982; Chafe & Danielewicz, 1987).

iv. writing is characterized by more new information than speech (Stubbs, 1980; Brown & Yule, 1983).

v. writing is more deliberately planned and organized than speech (Ochs, 1979; Akinnaso, 1982; Brown & Yule, 1983; Gumperz et al., 1984).

These generalizations are based on the general differences between speech and writing that were outlined in previous sections. However, Biber cautions that these generalizations are not universally accepted because, while they hold for some registers of speech and writing, they do not hold for all registers. Thus, the role of register is of critical importance in attempting to classify a piece of oral or written communication along the oral/written continuum. This will be explained in more detail in later sections.

Limitations of these Studies with respect to Specific Linguistic Features

While it is possible to draw general conclusions about the differences between speech and writing, as was shown in the previous section, it is difficult to draw universal conclusions about the differences between the two modes because of the importance of register. If we consider a few of the previous studies that have attempted to describe the differences between speech and writing in terms of the linguistic features of sentence length, subordination, passives, adverbs, and adjectives, the inconsistencies become obvious. The major results of these studies are summarized in Table 2.1.
Figure 2.1. Summary of Previous Studies examining specific linguistic features and differences between speech and writing.

<table>
<thead>
<tr>
<th>Linguistic Feature</th>
<th>Study</th>
<th>Major Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sentence Length</td>
<td>DeVito (1965)</td>
<td>No significant difference in speech and writing</td>
</tr>
<tr>
<td></td>
<td>Gibson et al. (1966)</td>
<td>Writing longer than speech</td>
</tr>
<tr>
<td></td>
<td>O'Donnell (1974)</td>
<td>Writing longer than speech</td>
</tr>
<tr>
<td></td>
<td>Einhorn (1978)</td>
<td>Writing longer than speech</td>
</tr>
<tr>
<td></td>
<td>Poole &amp; Field (1976)</td>
<td>Writing longer than speech</td>
</tr>
<tr>
<td>Subordination</td>
<td>Horowitz &amp; Newman (1964)</td>
<td>More ideas and subordination in speech than in writing</td>
</tr>
<tr>
<td></td>
<td>O'Donnell (1974)</td>
<td>Writing has a higher degree of subordination than speech</td>
</tr>
<tr>
<td></td>
<td>Poole &amp; Field (1976)</td>
<td>Higher index of embedding in speech</td>
</tr>
<tr>
<td></td>
<td>Kay (1977)</td>
<td>Writing has more subordination than speech</td>
</tr>
<tr>
<td></td>
<td>Cayer &amp; Sacks (1979)</td>
<td>Similar in speech and writing</td>
</tr>
<tr>
<td></td>
<td>Chafe (1982)</td>
<td>Writing has more subordination than speech</td>
</tr>
<tr>
<td></td>
<td>Brown &amp; Yule (1983)</td>
<td>Writing has more subordination than speech</td>
</tr>
<tr>
<td>Passives</td>
<td>Poole &amp; Field (1976)</td>
<td>Few passives in either speech or writing</td>
</tr>
<tr>
<td></td>
<td>Chafe (1982)</td>
<td>More in writing than speech</td>
</tr>
<tr>
<td></td>
<td>Brown &amp; Yule (1983)</td>
<td>More in writing than speech</td>
</tr>
<tr>
<td>Adverbs</td>
<td>DeVito (1967)</td>
<td>More in speech</td>
</tr>
<tr>
<td></td>
<td>Poole &amp; Field (1976)</td>
<td>More in speech</td>
</tr>
<tr>
<td></td>
<td>Cayer &amp; Sacks (1979)</td>
<td>More in writing</td>
</tr>
<tr>
<td></td>
<td>Stubbs (1980)</td>
<td>More in writing</td>
</tr>
<tr>
<td>Adjectives</td>
<td>DeVito (1967)</td>
<td>More in writing</td>
</tr>
<tr>
<td></td>
<td>Poole &amp; Field (1976)</td>
<td>More in writing</td>
</tr>
<tr>
<td></td>
<td>Cayer &amp; Sacks (1979)</td>
<td>More in writing</td>
</tr>
<tr>
<td></td>
<td>Chafe (1982)</td>
<td>More in writing</td>
</tr>
</tbody>
</table>

Of the results shown in this table, some of the discrepancies are easier to understand than others. For example, with respect to sentence length, the results of these studies show that sometimes sentence length is longer in writing (Gibson et al., 1966; O'Donnell, 1974; Poole & Field, 1976; Einhorn, 1978), while other times it is longer in speech or there is no difference between the two modes (Horowitz & Newman, 1964; DeVito, 1965). If we consider the registers that are used in just two of these studies, those of DeVito and Gibson et al., it becomes clear that such
differences make it difficult if not impossible to draw general conclusions between the results of different studies. For example, in DeVito's study, speech and writing samples were collected from native English-speaking members of the Department of Speech and Theatre at the University of Illinois, including published articles and oral interviews, while in Gibson et al.'s study, speech and writing samples were collected from native English-speaking students in beginning speech classes. Results from DeVito's study show no significant difference between speech and writing with respect to sentence length, while Gibson et al.'s study shows that sentence length is longer in speech than in writing. These results indicate that it is difficult to draw conclusions that can be generalized to the two modes of speech and writing because of the different registers used in the studies. If we consider the other linguistic features shown in the table, including frequency of subordination, passives, adverbs, and adjectives, similar results are evident.

Beaman (1984) sums up one of the central problems in attempting to draw general conclusions on the specific features that characterize speech in contrast to writing, along with the critical role register plays in these characterizations, by stating "the failure to control for differences in register, purpose, degree of formality, and planning contributes to the confusing picture emerging from previous quantitative studies" (Biber, 1988). In future studies, the researcher must carefully control the types of text and speech samples that are evaluated, among other things.

Limitations of Previous Studies with respect to Register

Other researchers (Ochs, 1979; Kroll, 1981; Chafe, 1982) have described how
differences between the written and oral modes reflect the various social contexts in which language is produced and used. Kroll (1981) explains that some types of writing resemble speech more closely, as an "expressive" form of writing might be considerably closer to oral language than would a "poetic piece". As Kroll suggests, journal writing, free writing, story-telling, descriptive essays, and sets of instructions are examples of types of writing that may be more closely related to conversation or informal speech than other forms of writing, such as persuasive essays or research papers. Like Kroll, Biber (1988) also questions the relationship between the different registers of speech and writing and argues that "there is no linguistic or situational characterization of speech and writing that is true of all spoken and written genres." Biber agrees that some spoken and written genres may be very similar to each other, for example, a public speech versus a written exposition, while some spoken genres may be very different from each other, for example, a conversation versus a public speech. Thus, while it appears that there are generally accepted features that distinguish speech from writing, as Biber's linguistic generalizations have shown, the significance of register must not be ignored when comparing features common in speech to those in writing.

In this study, then, controlling for register was of critical importance, and the two genres of description and process were chosen and controlled so that the problems evident in previous studies would be avoided. The issue then becomes which features to identify in the essays and how to limit the choices to a manageable number. This issue will be addressed in the next section, where the rationale for using a multi-feature approach, which was developed by Douglas Biber, is
explained. Consequently, the remaining portion of this section of the literature review focuses on Biber's work and on research that illustrates the effectiveness of the multi-feature approach.

**Rationale for using a Multi-Feature Approach**

The results from earlier studies that attempted to identify the specific linguistic features that differentiate speech from writing produced very contradictory findings (Horowitz & Newman, 1964; DeVito, 1965, 1967; Gibson et al., 1966; O'Donnell, 1974; Poole & Field, 1976; Kay, 1977; Einhorn, 1978; Cayer & Sacks, 1979; Stubbs, 1980; Chafe, 1982; Brown & Yule, 1983). Because of this, Biber (1986) argued that a multi-feature/multi-dimensional approach was needed to identify the textual dimensions that differentiate speech from writing. In his 1986 study, Biber showed how multivariate techniques can be used to determine the relationship between multiple linguistic characteristics in various texts. In this study, Biber's purpose was to identify the differences between speech and writing using large-scale corpora (Lancaster-Oslo/Bergen and London-Lund), and he subsequently used 41 lexical and syntactic features that represented a broad range of communicative functions. The combined corpora included sixteen major text types, ranging from press reports to professional letters in the written corpora, and face-to-face conversations to planned speeches in the spoken corpora. The methodology in the study involved the following steps (Biber, 1988):

1) using computer-based corpora that provide access to a wide range of variation in communicative situations and purposes
2) using computer programs to count the frequency of particular linguistic features so that the distribution of linguistic features across many texts and genres is possible

3) using multivariate statistical techniques, particularly factor analysis, to determine the co-occurrence of linguistic features, and

4) using microscopic analyses to interpret the functional parameters underlying the co-occurrence patterns

The identification of textual dimensions, which are defined as groups of linguistic features that consistently occur together, involved first identifying and grouping features that co-occurred with a high frequency and understanding their communicative function, and then, for each factor, computing a factor score for each text, analyzing the distribution of factor scores in the respective text types, and finally interpreting the dimensions with respect to the relationships between the text types and factor scores. With respect to Dimension 1, which is used to differentiate speech from writing, Biber explains that the communicative function of the co-occurring negative features relates to a high level of informational content, while the function of the positive features relates to a high level of interpersonal interaction and personal involvement. When the factor scores are converted into mean values, it is possible to understand the relationship among the different text types. For Dimension 1, this results in the telephone and face-to-face conversation samples scoring high on the level of interactiveness or interpersonal interaction, while the press reports and academic prose samples score high on the level of edited text or informational content. Biber sums up the Dimension 1 results by explaining that
essentially the spoken texts tend toward the high end of this dimension (positive features), while the written texts tend toward the low end of this dimension (negative features).

Biber's 1988 study, which appears in the book *Variations Across Speech and Writing*, was an expansion of the 1986 study, but differed in that three dimensions were identified in the 1986 study, while six dimensions were identified in this study. Additionally, the corpus and the analytical techniques differed slightly. For example, the corpus in this study included a collection of professional and personal letters since the corpus did not include any non-published texts (1988). In Biber's analysis, he found that the features listed in Table 2.2 co-occurred at a high frequency, meaning that the features on the positive end of the continuum are associated with a more involved, non-informational focus, which is representative of speech, while the features on the negative end of the continuum are associated with a highly informational function, which is representative of writing.

Biber's work also included identifying as many as six dimensions, which are as follows: identification of narratives from non-narratives (Dimension 2), explicit versus situation-dependent reference (Dimension 3), overt expression of persuasion (Dimension 4), abstract versus non-abstract information (Dimension 5), and on-line informational elaboration (Dimension 6). Because this study focuses on Dimension 1, which is used to characterize the extent to which a piece of writing manifests features of speech, only Dimension 1 is described in detail. Since using Biber's multi-feature technique is much more comprehensive than simply counting the individual linguistic features by hand, this technique will be used in the present
study. In order to better understand how the technique itself can be used, the next section will discuss three recent studies in which the technique was applied. I will only discuss those results that relate to Dimension 1, as this dimension is of primary importance to this research project.

Table 2.2. Dimension 1 Positive (Speech) and Negative (Writing) Features

<table>
<thead>
<tr>
<th>Positive Features (Involvement)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private verbs</td>
</tr>
<tr>
<td>THAT deletion</td>
</tr>
<tr>
<td>Contractions</td>
</tr>
<tr>
<td>Present tense verbs</td>
</tr>
<tr>
<td>2nd person pronouns</td>
</tr>
<tr>
<td>DO as pro-verb</td>
</tr>
<tr>
<td>Analytic negation</td>
</tr>
<tr>
<td>Demonstrative pronouns</td>
</tr>
<tr>
<td>General emphatics</td>
</tr>
<tr>
<td>1st person pronouns</td>
</tr>
<tr>
<td>Pronoun IT</td>
</tr>
<tr>
<td>BE as main verb</td>
</tr>
<tr>
<td>Causative subordination</td>
</tr>
<tr>
<td>Discourse particles</td>
</tr>
<tr>
<td>Indefinite pronouns</td>
</tr>
<tr>
<td>General hedges</td>
</tr>
<tr>
<td>Amplifiers</td>
</tr>
<tr>
<td>Sentence relatives</td>
</tr>
<tr>
<td>WH questions</td>
</tr>
<tr>
<td>Possibility modals</td>
</tr>
<tr>
<td>non-phrasal coordination</td>
</tr>
<tr>
<td>WH clauses</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Negative Features (Information)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nouns</td>
</tr>
<tr>
<td>Word length</td>
</tr>
<tr>
<td>type/token ratio</td>
</tr>
<tr>
<td>Attributive adjectives</td>
</tr>
</tbody>
</table>
Recent Studies using Multi-Feature/Multi-Dimensional Approach

The following studies illustrate the effectiveness of the multi-feature technique in examining specific registers of English. These studies include one that investigates relations among speech-based and written registers in English (Biber & Finegan, 2001), another that examines register variation in student and adult speech and writing (Reppen, 2001), and the last study that considers the development of speaking/writing variability in narratives of non-native English speakers (Haynes, 1992).

Biber and Finegan’s Study: Register Drift over Several Centuries

In the first study, Biber and Finegan (2001) attempted to confirm that registers have drifted to a more oral style over several centuries. The results of this study indicated that while the speech-based registers have evolved toward a more oral style, the written registers have evolved in the opposite direction. In order to show this, the authors used a corpus called A Representative Corpus of Historical English Registers to examine patterns of historical change in written and speech-based registers from 1650 to the present. This corpus consists of 10 major register types with samples taken each 50 years. The authors found that, with respect to Dimension 1, comparisons of medical prose, a highly informational type of text, to drama, a highly involved type of text, multi-dimensional analysis results showed that medical prose has become more information-packed from 1650 to 1990, while drama has become more involved. Thus, the two register types appeared to be
evolving in opposite directions. The authors then considered two speech-based registers, drama and sermons, and three personal written registers, diaries, letters, and fiction. These results showed that both the speech-based and written registers seemed to use more involvement features over the years. Additionally, the authors examined four expository written registers, medical research writing, science research writing, legal prose, and news reportage, all of which showed a trend toward use of more informational features over the years. The authors pointed out that the results of their pilot study did not necessarily hold since expository registers seemed to follow a different developmental pattern than other popular written registers. This study showed how a multi-feature approach can be used to examine how registers change over time, but that use of a limited corpus can produce results that cannot be generalized across a large number of registers.

Reppen's Study: Written and Spoken Language Development in NSs

In Reppen's study (2001), student language development was examined by analyzing both written and spoken language samples that cover a wide range of tasks and development. The written portion of the corpus used in this study is called the Corpus of Elementary Student Speech and Writing and represents language either produced by or for fifth graders, while the oral portion of the corpus comes from parts of a student language database called CHILDES. A new factor analysis was conducted in order to identify the dimensions of variation in student texts because Biber's 1988 dimensions were based on adult speech and writing.
With respect to Dimension 1, one end of Dimension 1 was called “On-line Informational Discourse” because even though some of the features have an interpersonal focus, the goal is information production. Spoken interactions and monologues are representative of this end of Dimension 1. The other end of Dimension 1 was called “Edited Informational Discourse” and represents an informational focus. Texts representative of this end of the dimension include social studies and science textbooks. Reppen compared her results from students to those obtained by Biber in his 1988 study and showed that the first two dimensions of both studies had similar purposes relating to production circumstances and informational focus. Additionally, Reppen explained that the functions represented by the dimensions in the adult and student studies may be realized in different ways and that some of the functions evident in the adult model were only minimally realized in the student model. In summary, this study showed how a corpus can be created and analyzed in order to investigate the variation of adult and child speech.

**Haynes’ Study: Variability of Speaking and Writing in NNSs**

The purpose of Haynes’ study (1992) was to investigate the variability of speaking and writing in non-native English speakers. In this study, the author collected a total of 164 spoken and written narratives from three groups of non-native English speakers, which represented three levels of language proficiency in English, and analyzed and compared these results to those of native English speakers. Haynes used eleven of Biber’s linguistic features to represent three
dimensions and found that as non-native English speakers become more proficient in English, they include more abstract content and more reported style in speech and writing. Additionally, results indicated that non-native speakers develop systematically in the same way as native speakers.

This study is particularly interesting due to its relationship to the present study, as Haynes investigated the writing development of ESL students using Biber's dimensions and attempted to correlate them to native English speakers. In the present study, I will use Biber's Dimension 1 and attempt to correlate the results to proficiency, extraversion, and reported use of English, which has not been investigated using Biber's technique. In the next section, I will provide a review of previously conducted literature on personality, specifically focusing on extraversion and second language acquisition.

**Background on Personality and Extraversion**

Psychologists are interested in understanding, predicting, and controlling behavior (Morris, 1979). In order to do this, they must have a means by which to understand an individual's personality or the characteristic behavior patterns that differentiate one individual from the next. The personality behaviors of most interest are those that are: 1) consistent across situations, 2) consistent across time, and 3) indicative of the uniqueness of the individual (Morris, 1979). In order to understand the stability of personality, the meaning of the terms genotype and phenotype must be understood. Genotype refers to the dimensions of personality that are consistent over time, while phenotype refers to the expression of personality.
at any particular moment (Piedmont, 1998); however, genotype generally becomes more stable at the age of approximately 30 years old. Thus, genotype and phenotype combine to produce an individual's overall personality.

Through decades of research on personality, researchers have identified what they refer to as the "big five" or the five dimensions of personality, which include extraversion, neuroticism, openness, agreeableness, and conscientiousness (Costa & McCrae, 1993). Although researchers may disagree on the significance of some of the five factors, all agree on the first factor, extraversion-introversion (Digman, 1990). Extraversion, as defined by Costa and McCrae, represents "the quantity and intensity of interpersonal interaction, the need for stimulation, and the capacity for joy" (Piedmont, 1998). An extraverted individual may be described as being sociable, active, and person-oriented, while an introverted individual may be described as being reserved, sober, retiring, and quiet (Piedmont, 1998). Eysenck and Eysenck (1964) presented the following description of the highly extraverted and highly introverted individual:

The typical extravert is sociable, likes parties, has many friends, needs to have people to talk to, and does not like reading or studying by himself. He craves excitement, takes chances, often sticks his neck out, acts on the spur of the moment, and is generally an impulsive individual. He is fond of practical jokes, always has a ready answer, and generally likes change; he is carefree, easy-going, optimistic, and likes "to laugh and be merry." He prefers to keep moving and doing things, tends to be aggressive and lose his temper quickly; altogether his feelings are not kept under tight control, and he is not always a reliable person.

The typical introvert is a quiet retiring sort of person, introspective, fond of books rather than people; he is reserved and distant except to intimate friends. He tends to plan ahead, "looks before he leaps," and distrusts the impulse of the moment. He does not like excitement, takes matters of everyday life with proper seriousness, and likes a well-ordered mode of life. He keeps his
feelings under close control, seldom behaves in an aggressive manner, and does not lose his temper easily. He is reliable, somewhat pessimistic, and places great value on ethical standards. (Eysenck & Eysenck, 1964, 8).

Thus, while Eysenck and Eysenck's description of the highly extraverted and highly introverted individual is much more extensive than that of Costa and McCrae, both definitions are very similar as extraverts basically tend to enjoy being around people more than introverts.

Overview of Previous Research on Extraversion

Surprisingly little research has been conducted on the impact personality has on second language acquisition (Ellis, 1994; Furnham, 1990), although researchers including Madeleine Ehrman have been investigating personality and other affective factors at the Foreign Service Institute (FSI) for many decades (Ehrman, 1990a, 1990b; Ehrman & Oxford, 1990). According to Dewaele and Funham (1999), it has been difficult to make comparisons between studies investigating personality because research on personality has been conducted by researchers in various disciplines using different hypotheses and methodologies. Most of the research involving extraversion and introversion and L2 learning has been based on the following two hypotheses (Ellis, 1994):

1. Extraverted learners will do better in acquiring basic interpersonal communication skills (BICS), which Ellis explains are skills necessary for oral fluency and sociolinguistic appropriateness, than introverted learners. This means that because extraverts desire sociability, they
will consequently have more opportunities to practice, more input, and more success in everyday kinds of communication in their L2.

2. Introverted learners will do better in developing cognitive academic language ability (CALP), which Ellis defines as "linguistic knowledge and literacy skills required for academic work" (1994), than extraverted learners. The rationale for this is that introverted learners typically have more academic success than extraverts.

These hypotheses suggest that extraverted learners would be better at activities involving interpersonal communication than their introverted counterparts, who would be better at activities involving reading and writing. Research has shown some support for the first hypothesis, but little support for the second (Strong, 1983). Strong's study of Spanish-speaking kindergartners showed that a relationship exists between extraversion and the acquisition of BICS, specifically that the more extraverted students acquired BICS more quickly than the introverted students. However, the finding was not necessarily because the extraverted students sought relationships with Anglophones to a greater extent than did the introverted students, but because they made better use of the input they received from Anglophones (Strong, 1983).

**Previous Research on Extraversion, Language Proficiency, and Language Development**

Other researchers have examined the role that extraversion has on language
proficiency and language development (Rubin, 1975; Naiman et al., 1978; Helode, 1985; Ely, 1986; Oxford & Ehrman, 1992). From this research, it appears that extraversion has a greater impact on language proficiency than on language development, where proficiency is defined as the learner's ability to use internalized knowledge or competence in different tasks, while language development is the process of gaining competence and proficiency in an L2. The results of linguistic research examining extraversion and language learning were based on measuring the performance of second language students and classifying them into two categories, good learners or bad learners. Researchers expected that extraverts would be classified as good language learners because they would be more linguistically motivated outside of the classroom. However, this hypothesis was not found to be true as extraversion did not correlate with language superiority (Smart et al., 1970; Naiman et al., 1978; Busch, 1982). More recent research (Galbraith & Gardner, 1988; Skehan, 1989; Ehrman, 1990a, 1990b; Ehrman & Oxford, 1990; Oxford, 1992; Scarcella & Oxford, 1992; Oxford & Ehrman, 1993) has shown that success in second language learning is due to aptitude along with a combination of many other factors.

Personality and Non-Native Speakers of English

Researchers have also investigated and described the distribution of personality in non-native speakers of English to better understand if these distributions are similar to those of native speakers (Carrell et al., 1996; Piedmont, 1998). In Carrell et al.'s (1996) study, the Myers-Briggs Type Indicator (MBTI) was
translated into Indonesian, and results indicated an almost even distribution of extraverts and introverts. Additionally, the researchers found correlations between extraversion, introversion, and scores on vocabulary tests. Specifically, introverts scored high on vocabulary tests, while extraverts scored low. Both the introverts and the extraverts showed statistically significant results. Piedmont also explains that, although the five-factor model has its origins in English, "these dimensions certainly represent important personality qualities for those individuals who speak English" (1998). Finally, Piedmont explains that research has shown that the five-factor model can be "useful for understanding culture-specific phenomena (Heaven et al., 1994; Paunonen et al., 1992). Understanding the relationship between the five-factor model and how it generalizes to non-native English speaking populations is critical to this study because a model that cannot be generalized would not provide any conclusive data on how personality relates to second language acquisition. Research seems to suggest that although the model does originate in English, it can be successfully applied to understanding personality in other cultures.

**Extraversion and the Present Study**

It thus appears that the majority of previous research in personality and second language acquisition attempted to correlate extraversion to success in language learning with inconclusive results. On the other hand, the topic of this study, the transfer of speech features to writing, appears not to have been investigated with respect to personality. Thus, in this study, I will investigate this relationship. From previous research, it also appears that most researchers
interested in personality have used the Eysenck Personality Inventory (EPI), which measures extraversion, neuroticism, and psychoticism, or the MBTI, which measures introversion-extraversion, thinking-feeling, sensing-intuiting, and judging-perceiving. However, I have chosen to use a more recent inventory, the NEO PI-R, which was published in 1985 and further revised in the 1989, over the EPI or the MBTI, which were both published in the 1960s.

**Summary**

This chapter has discussed previous research on a variety of areas that are related to this study. First, understanding the writing development of NNSs and how the set of skills learners bring to the task influences this development is crucial in understanding the transfer of speech features to writing. Additionally, previous studies on the writing development of NNSs have indicated the significance that cultural background, along with other factors, plays in this transfer. From the previous studies on the specific linguistic features that differentiate speech from writing, it is evident that the examination of isolated features has resulted in contradictory findings, which is why Biber's multi-feature technique was used in this study. The value of this technique is that groups of co-occurring linguistic features are identified in writing samples and it is the extent to which these groups of features are present that distinguish writing samples as more speech-like or writing-like on the speech-writing continuum. With this technique, it is then possible to examine the influence that proficiency, extraversion, and use of English play in the transfer of speech features to writing.
Finally, research on personality and second language acquisition has shown that personality seems to have a greater effect on language proficiency than on language development. As well, the trait of extraversion has been used as a means of distinguishing the good language learner from the bad learner. However, this research suggests that the influence extraversion has on the transfer of speech features to writing has not been investigated. Specifically, it has not been investigated using Biber's multi-feature technique. The next chapter will focus on the participants of this study and the data collection, which was ultimately analyzed using Biber's technique.
CHAPTER 3. METHODS

Overview of the Chapter

In this chapter, I will begin by presenting the participants in the study, which will be followed by an explanation of how proficiency levels were determined. Next, the various instruments that were used in the data collection will be presented, including the personality inventory, the English use questionnaire and the writing samples. The presentation of each of these instruments will include the assumptions and rationale behind their use. This will be followed with an in-depth explanation of the technique used to determine the extent to which the essays showed evidence of features of speech and writing. Finally, the steps involved in the data collection and analysis will be described.

Participants

The 57 participants were non-native speakers of English who were enrolled in ESL writing classes at ISU at the time of the study. These particular participants were chosen because I wanted investigate the factors influencing the transfer of speech features to writing in students studying academic ESL. The participants included two groups of students: 1) those who were studying ESL in IEOP because they lacked a high enough Test of English as a Foreign Language (TOEFL) score to enter university, and 2) those who were taking English 101 courses, which are
academic writing courses for ESL students, who, though they have passed the TOEFL, they have not passed the English Placement Exam (EPT), which is an exam that NNSs must take to determine if they need additional ESL writing courses. Both groups of participants represent students learning academic ESL, which means that such students are studying English for the specific purpose of studying at the university. These details suggest that the background of all learners is somewhat homogeneous, in spite of first language differences, because all learners are literate in their first languages. Literacy in L1 is an important consideration because, as suggested in the literature, the sets of skills individual students bring to the ESL environment is key as illiteracy in L1 may handicap the L2 writer, whereas literacy in L1 does transfer to the L2 (Carson & Keuhn, 1994). Therefore, the participants in the study include learners who are literate in their L1s and who are studying academic ESL, but who represent varying degrees of proficiency in English.

Of the fifty-seven participants in the study, 17 were enrolled in IEOP, while the remaining 40 were enrolled in English 101 courses. Participants ranged from first-year undergraduates to Ph.D. students and ranged from 17 to 42 years of age. A total of 15 first languages were represented. These languages and the number of students represented by these languages are as follows: Chinese (19), Korean (10), Indonesian (6), Japanese (4), Spanish (4), Turkish (3), Arabic (2), Bahasa Malay (2), Burmese (1), Dutch (1), Cambodian (1), Italian (1), Nyanja (1), Portuguese (1), and Urdu (1). Twenty-two of the participants were female and 35 were male. The diversity in first languages and the approximately even mixture of females and males appears to represent the variety of NNS students at ISU and many other
American universities.

Proficiency

While proficiency is typically determined by a measure such as the TOEFL, in this study, the writing course in which participants were enrolled at the time of the data collection was used as an indicator of proficiency. The proficiency levels were divided into five levels, three for IEOP and two for 101. The lowest level is IEOP Low, which is followed by IEOP High and Advanced, respectively. The 101 courses were divided into 101 Low and 101 High. Because students in IEOP have not passed the TOEFL, their proficiency levels are generally lower than those in 101. However, there is some overlap between IEOP advanced and 101 low, as students in the advanced class are typically close to passing the TOEFL or could pass it if they took it, while students in 101 Low have recently passed the TOEFL. The proficiency levels and the number of participants in each level are as follows:

- IEOP Low had five students
- IEOP High had three students
- IEOP Advanced had nine students
- 101 Low had 29 students
- 101 High had 11 students

The numbers of participants representing each proficiency level were not uniform due to limited enrollments in IEOP at the time of the data collection.
The Personality Inventory

The personality inventory used in this study consisted of the section of the NEO PI-R that measures the extent to which a participant exhibits traits of extraversion, including high levels of sociability, activity, and energy. The NEO PI-R was designed as a measure of normal personality traits in a clinical psychology setting (Costa & McCrae, 1992). The complete NEO PI-R measures the five major dimensions or domains of personality including neuroticism, extraversion, openness, agreeableness, and conscientiousness and consists of 30 facet scales, as each domain is subdivided into six separate areas or facets, totaling 240 questions. Since only the extraversion domain of the inventory was used, the six facets of extraversion, which include warmth, gregariousness, assertiveness, activity, excitement-seeking, and positive emotions were measured, totaling 48 questions.

In psychotherapy, the NEO PI-R can aid the therapist in understanding the client, in providing diagnosis, empathy, rapport, feedback, and insight, in anticipating the course of therapy, and in selecting optimal treatment. Besides the clinical setting, the NEO PI-R can be used in vocational counseling and industrial/organizational psychology, and educational research, which is the area in which it was applied in this study.

Development of the NEO PI-R

The research used in the development of the NEO PI and the NEO PI-R was conducted using several diverse subject samples. The samples included the
normative aging study, which consisted of over 2,000 subjects who were mostly white, male veterans, the Augmented Baltimore Longitudinal Study, which consisted of 300 women and 400 men working in or retired from professional, managerial, or scientific occupations, the Employment sample, which consisted of over 1,800 women and men employed by a large national organization, and other samples including patients with psoriasis, clinical samples, and college students (Costa & McCrae, 1992). The development of the scale construction was based on six general principles (Costa & McCrae, 1992):

1. Hierarchical structure. This is based on the concept that traits are arranged in hierarchies ranging from the very broad (domain) to the very specific (trait).

2. Basis in the psychological literature. The constructs measured by the NEO PI-R are based on literature from personality theorists and are not original discoveries.

3. Rational scale construction. In designing the NEO PI-R, the items were created for the specific construct of interest.

4. Psychometric requirements. The final items appearing in the NEO PI-R are based on extensive item analyses and the application of principles of psychometrics.

5. Parallel forms. This is based on the concept that the same approach used in the scale construction used in the self-reports would also work for observer ratings. Note that observer ratings was not a part of the present study.
6. Construct validation. In any type of testing, the real value lies in its ability to make valid inferences about scale scores. Thus, much research has focused on studies of the construct validity of the domain and facet scales. Construct validity testing of the NEO PI-R shows that the individual scales are generally successful in measuring the intended construct; however, this does not mean that the results of the NEO PI-R are valid, as some individuals may deliberately misrepresent themselves or may respond carelessly (Costa & McCrae, 1992). Some validity checks are included in the test itself, including checks of acquiescence, nay-saying and random responding, but these checks are not as extensive as those used in clinical instruments (Costa & McCrae, 1992).

Regarding cross-cultural generalizability, numerous researchers have shown that the dimensions of the five-factor model generalize fairly well to different cultures including Italian, German, Spanish, Indian, Finnish, Polish, Japanese, Chinese, Korean, and Filipino (Piedmont, 1998). However, it is important to acknowledge that the five-factor model does originate in the English language and that generalizations of the model to cultures other than English have been questioned, even though numerous researchers have shown that such generalization is possible.

With respect to the research questions in this study, as one purpose of the study was to correlate extraversion to the extent to which speech features were transferred to writing, the scores for the individual facets that make up extraversion were not calculated; rather, the net score for the combined extraversion facets was used. In addition, the answer scale consisted of a five-point scale with choices
ranging from 0 to 4, including the following: disagree, somewhat disagree, neutral, somewhat agree, and agree.

Pilot Testing and Revision of the NEO PI-R

Prior to using the inventory on the participants, I pilot tested it on several non-native speakers of English to identify problematic comprehension areas. This testing revealed that numerous questions could prove difficult for the non-native English-speaking participant, as they used somewhat advanced vocabulary or idiomatic expressions that NNSs might not be familiar with. For example, the following questions utilize either advanced vocabulary or idiomatic expressions that were problematic for several students in the pilot:

- I love the excitement of roller coasters.
- I am not a cheerful optimist.
- Sometimes I bubble with happiness.
- I tend to avoid movies that are shocking or scary.

Thus, in the inventory, such words or expressions appeared in bold-face type and were followed with an explanation or paraphrase of the expression in parenthesis on the inventory. The above statements appeared in the questionnaire as follows:

- I love the excitement of roller coasters (a kind of small railroad with sharp slopes and curves that is popular at amusement parks).
- I am not a cheerful optimist (someone who believes that whatever happens will be good, that things will end well or happily).
- Sometimes I bubble with happiness (show great joy or happiness).
• I tend to avoid (to be likely to avoid, to have a tendency to avoid) movies that are shocking or scary.

For a complete list of the problematic words and expressions and the paraphrase included in the revised personality inventory, see Table 3.1.

I did not translate the inventory or use versions that were already translated because of time and monetary constraints. A complete copy of the extraversion section of the NEO PI-R is available in Appendix A.

The English Use Questionnaire

The English use questionnaire (see Appendix B) was designed to elicit responses from participants on their estimated usage of English during an average week in everyday activities using each of the four skills (reading, writing, listening, and speaking) and was created specifically for this study. The questionnaire was created based on the hypothesis that learners who use English more extensively in their everyday activities would also be likely to score as extraverts on the personality inventory. It then could be assumed that because extraverts use English more extensively, they would tend to transfer more features of speech to writing than their introverted counterparts. However, it is also possible that extraverts could spend extensive time conversing in their native languages. Thus, the purpose of the questionnaire was to understand the participants' typical habits using English, which would then make it possible to understand the role that extraversion plays in their daily activities.

In the questionnaire, participants were asked to estimate their usage of
<table>
<thead>
<tr>
<th>Question #</th>
<th>Problematic Term</th>
<th>Paraphrase</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>shy away from</td>
<td>don’t enjoy being around</td>
</tr>
<tr>
<td>3</td>
<td>dominant</td>
<td>controlling, powerful</td>
</tr>
<tr>
<td>3</td>
<td>forceful</td>
<td>strong, powerful</td>
</tr>
<tr>
<td>3</td>
<td>assertive</td>
<td>showing or expressing strong opinions or claims</td>
</tr>
<tr>
<td>4</td>
<td>leisurely</td>
<td>casual, relaxed</td>
</tr>
<tr>
<td>5</td>
<td>crave</td>
<td>desire, wish, or want</td>
</tr>
<tr>
<td>6</td>
<td>jumped for joy</td>
<td>felt great joy or happiness</td>
</tr>
<tr>
<td>7</td>
<td>I don’t get much pleasure from</td>
<td>I don’t enjoy</td>
</tr>
<tr>
<td>9</td>
<td>fail to assert myself</td>
<td>not showing or expressing opinions</td>
</tr>
<tr>
<td>10</td>
<td>vigorously</td>
<td>energetically, powerfully</td>
</tr>
<tr>
<td>12</td>
<td>joy or ecstasy</td>
<td>happiness</td>
</tr>
<tr>
<td>16</td>
<td>steady</td>
<td>stable, consistent, not extremely changing from day to day</td>
</tr>
<tr>
<td>17</td>
<td>done things just for &quot;kicks&quot; or &quot;thrills&quot;</td>
<td>doing something just for the excitement or pleasure of it</td>
</tr>
<tr>
<td>18</td>
<td>cheerful optimist</td>
<td>someone who believes that whatever happens will be good, that things will end well or happily</td>
</tr>
<tr>
<td>19</td>
<td>cold and distant</td>
<td>unfriendly</td>
</tr>
<tr>
<td>20</td>
<td>by myself</td>
<td>alone</td>
</tr>
<tr>
<td>22</td>
<td>bursting with energy</td>
<td>overflowing, filled</td>
</tr>
<tr>
<td>23</td>
<td>tend to avoid</td>
<td>to be likely to avoid, to have a tendency to avoid</td>
</tr>
<tr>
<td>24</td>
<td>bubble with happiness</td>
<td>show great joy or happiness</td>
</tr>
<tr>
<td>26</td>
<td>bothered</td>
<td>interrupted, troubled, to cause anxiety</td>
</tr>
<tr>
<td>27</td>
<td>look to me</td>
<td>turn to me, expect me</td>
</tr>
<tr>
<td>28</td>
<td>lively</td>
<td>full of movement, energy</td>
</tr>
<tr>
<td>29</td>
<td>where the action is</td>
<td>where there is a lot of excitement or action</td>
</tr>
<tr>
<td>30</td>
<td>&quot;light-hearted&quot;</td>
<td>cheerful, carefree</td>
</tr>
<tr>
<td>31</td>
<td>be outgoing</td>
<td>be friendly</td>
</tr>
<tr>
<td>33</td>
<td>go my own way</td>
<td>be independent, think for myself</td>
</tr>
<tr>
<td>35</td>
<td>roller coaster</td>
<td>a kind of small railroad with sharp slopes and curves that is popular at amusement parks</td>
</tr>
<tr>
<td>36</td>
<td>high-spirited</td>
<td>lively, energetic</td>
</tr>
<tr>
<td>37</td>
<td>strong emotional attachments to</td>
<td>deep feelings for</td>
</tr>
<tr>
<td>40</td>
<td>fast-paced</td>
<td>to move along rapidly</td>
</tr>
<tr>
<td>41</td>
<td>attracted to</td>
<td>like</td>
</tr>
<tr>
<td>42</td>
<td>rarely</td>
<td>almost never</td>
</tr>
<tr>
<td>45</td>
<td>use words like &quot;fantastic&quot; or &quot;sensational&quot;</td>
<td>to use words that show positive emotions</td>
</tr>
<tr>
<td></td>
<td>take charge</td>
<td>act as a leader, take the position of leader</td>
</tr>
</tbody>
</table>
English in various activities during an average week using a 7-point scale where 1 stood for 0-2 hours, 2 for 3-5, 3 for 6-10, 4 for 11-15, 5 for 16-20, and 7 for 30+ hours per week of a given activity. The specific activities participants were questioned about include the following:

- talking on the phone
- watching television, movies, and listening to the radio, CDs
- sending and receiving email
- writing assignments and papers for class
- reading for class or for personal enjoyment
- speaking English outside of class

Participants were also asked to estimate the percentage of their friends and acquaintances with whom they usually spoke English. Again, a 7-point scale was used with percentages ranging from less than 10% to more than 95%. Besides the English use questions, participants were asked their gender, native language, age, whether they live in the dorms, whether they have an English-speaking roommate, spouse, or partner, and how many hours per week they are in class at Iowa State. The combined results of these questions create an overall picture of the extent to which participants use English in their daily activities, which then can be considered with respect to the results of the other instruments used in the data collection to better understand how each of the factors can influence the transfer of speech features to writing. This questionnaire was not pilot tested prior to use on the NNS participants.
Writing Samples

Participants in the study were asked to submit two pieces of writing, including a descriptive essay and a process essay. Two writing samples were collected because they provide a stronger basis for examining the relationship between the transfer of speech features to writing, proficiency, personality, and reported use of English than one writing sample would, while still remaining manageable. With two writing samples, I would expect that if one of the factors of interest showed significant results with respect to one of the essays, the same results should be obtained for the other essay. This would consequently result in a significantly stronger result than would be evident from considering one essay alone. In the descriptive essay, students were asked to describe their past experiences, what they are currently doing at ISU, and their goals for the future. The particular genre of description was chosen because the type, combined with the particular subject, an autobiographical essay, was thought to yield a more conversational style of writing than a more formal genre, such as a research paper. In writing an autobiographical descriptive essay, participants would most likely use the first person, an involvement feature that is typical of conversation. Due to the likelihood of participants' use of the first person and the personal nature of the topic, participants might then be inclined to use other features typical of conversation, including private verbs such as think, guess or feel or expressions that ensure information is flowing smoothly, such as well, I mean, or you know, for example (Cayer & Sacks, 1979).

In the process essay, participants were asked to describe any type of process
with which they were familiar, such as preparing a particular type of food, building a computer, or planting a garden, for example. The particular genre of process was chosen because when participants are asked to give a step by step description of a process, they can explain the process using a conversational style in which they use either the first or second person, or they can use a style more typical of writing in which they address a less concrete speaker or listener (Kroll, 1981).

Thus, the two genres of description and process were chosen specifically because they might lead to a more conversational style than would other types. In addition, the descriptive essay was written as an in-class activity, which may in itself lead to a more conversational style, since students have less time to plan their essay and to take their audience into consideration, while the process essay, in most classes, was written at home, which may lead to a more formal, planned style. Thus, while the two genres of description and process might lead to a more conversational style than other genres, it is also possible that the descriptive essay will prove to show more features of speech than the process essay simply because participants had less time to plan their descriptive essays than their process essays.

**Background on Dimension 1**

As explained in the literature review, Dimension 1 is a textual dimension, which is defined as a group of linguistic features that consistently occurs together, that is used to differentiate speech from writing. Biber first identified Dimension 1 along with several other dimensions in his 1986 study and further refined the dimension in his 1988 study. From a total of 41 lexical and syntactic features, Biber
used large-scale corpora (Lancaster-Oslo/Bergen and London-Lund) to identify the
groups of co-occurring linguistic features that represent speech and writing.

The identification of textual dimensions first involved identifying and
grouping features the co-occurred with a high frequency and understanding their
communicative function, and then, for each factor, computing a factor score for each
text, analyzing the distribution of factor scores with respect to text types, and finally,
interpreting the dimensions with respect to the relationships between text types and
factor scores. This means that the identification of Dimension 1 resulted from
determining that a particular group of features represented speech at one end of the
continuum, while another group of features represented writing at the other end of
the continuum. The group of positive linguistic features relates to speech and a high
level of interactiveness and interpersonal involvement, while the group of negative
linguistic features relates to writing and a high level of informational content. When
positive features are evident in a piece of writing, the negative features are not,
which means that a piece of writing more closely resembles speech than writing.
The contrary is true for a piece of writing that shows evidence of many negative
linguistic features. The factor scores that are computed from the extent to which
positive and negative linguistic features are evident in a piece of writing are then
converted to mean values, which make it possible to understand the relationship
among the different text types. For Dimension 1, this results in the telephone and
face-to-face conversation samples scoring high on the level of interactiveness and
interpersonal involvement, while the press reports and academic prose samples
score high on the level of edited text or informational content. The groups of
features that make up Dimension 1 are available in Table 2.2 in Chapter 2.

Application of Dimension 1

In this study, the linguistic features making up Dimension 1 were applied to writing samples submitted by participants in the study. This means that the frequency of linguistic features representing Dimension 1 were determined for each of the writing samples used in the study. Thus, the initial features that represent Dimension 1 were found using an extensive corpus of both speech and writing samples, but then Dimension 1 was applied to the ESL writing samples to determine the extent to which a writing sample manifested features of speech. From the frequency counts of the ESL essays, mean scores representing the linguistic characterization of a text along the speech/writing continuum were then found. It is these mean scores from Dimension 1 that are used to designate the extent to which a piece of writing more closely resembles speech or writing and are correlated to both the results of the personality inventory and English use questionnaire, along with the proficiency levels of the participants in the study.

In order to better understand how Dimension 1 actually classifies texts along the speech/writing continuum, four essays will be examined in more detail. These essays represent the extreme ends of this continuum and include the descriptive and process essays with the highest Dimension 1 scores and those with the lowest Dimension 1 mean scores. The positive scores indicate that a writing sample shows evidence of speech features, while the negative scores indicate the contrary. Of these four essays, the descriptive essays had Dimension 1 mean scores of 24.25 and
-13.96, while the process essays had scores of 32.20 and -17.79. In the descriptive essays, participants were asked to describe their past experiences, what they are currently doing at ISU, and their goals for the future, while in the process essays, participants were asked to describe any type of process with which they were familiar. For a complete copy of each of the essays, refer to Appendix C.

In the first of the descriptive essays, which had a Dimension 1 mean score of 24.25, the author describes the difficulties he is encountering with the weather in Ames. This essay is dominated by interpersonal involvement features, which is evident in the use of the first person "I" and "me" and the use of BE as the main verb. As well, there is evidence of private verbs, such as think, emphatics such as so, and that-deletions. The following short excerpt shows the use of the first person BE verbs and private verbs:

\[
\text{Although the weather is still a big problem for me, but I think everything will gets better later because I never stay at a cold place like these.}
\]

This excerpt shows how the author writes in a very conversational manner, which makes it seem as if the piece of discourse is recorded speech rather than writing.

In the second descriptive essay, which had a mean score of -13.96, the author describes his life in China and how he later moved to Panama. This essay seems to be highly informational in content, as the author systematically describes his past experiences in a somewhat factual manner. Although the author uses the first person, the essay's informational content is evident in the lack of hedges, private verbs, amplifiers, etc. that are typical of conversation. The following excerpt illustrates this type of content:
My parents moved to Aquadulce county in 1990 and I continued my study in the Abelarda Herrera schools.

This excerpt shows how the author relies on nouns and attributive adjectives, which are typical of writing, to describe his past experiences.

In the first of the process essays, which had a mean score of 32.20, the author describes the personal topic of how to overcome frustration. The essay exhibits a high level of interpersonal interaction, which is evident in the extensive use of the second person in the numerous references to “you” and “yourself.” Other features that are indicative of a high level of interpersonal content also occur, including the use of private verbs (think, feel), causative subordination (because), hedges (a little, just), and emphatics (really). Moreover, the essay includes a question and is written in the present tense, which also is typical of interpersonal content. The following excerpt illustrates this type of content:

> With a little distance, you might be able to see what areas in your life could use the most simplifying... think about whom and what you really value then decide how you can be present for those people and activities.

Clearly the author of this essay is attempting to personally connect with the reader using the second person pronoun “you.” As well, the author seems to be giving advice in a piece of written communication that could almost be considered as speech written down.

In the second process essay, which had a mean score of -17.79, the author describes the process of making roasted potatoes. This essay is highly informational and shows little evidence of interpersonal involvement, which is evident in the
absence of personal references, thinking verbs, hedges, emphatics, and other features that are typical of interpersonal content. However, the essay shows extensive use of attributive adjectives and nouns that are indicative of highly informational content, which is shown in the following excerpt:

*Clean the baking pan and dry it using a dry cloth. Grease the pan with a little oil to prevent the potatoes from sticking on the pan.*

In this short excerpt, the absence of the writer from the text is obvious, as the recipe consists of a series of commands given to an unseen audience.

Although these essays represent the extreme ends of the scale, differences in the extent to which some authors use features typical of speech, while others use those of writing, is evident. Moreover, in these essays, we see how groups of co-occurring linguistic features, the concept on which dimensional analysis is built, can be used to determine the extent to which a piece of writing manifests features of speech.

**Data Collection and Analysis**

*General Overview*

After obtaining permission from the Human Subjects Committee at ISU (see Appendix D), the data were collected during spring semester of 2001 at ISU. Individual instructors teaching 101 and IEOP writing courses were first contacted, told about the research, and asked if they would allow me to collect data from their classes. Once this permission was obtained, the instructors and I negotiated and
agreed on the writing assignments. I then attended the 101 and IEOP classes, told potential participants about the project, and requested that they sign consent forms if they agreed to participate (for a complete copy of the consent form, refer to Appendix E).

Once the consent forms were signed, participants completed the personality inventory and the English use questionnaire in class. With respect to the personality inventory, participants were instructed in how to correctly complete each question and the participants completed question 1 together as an example to ensure that everyone understood how to successfully and correctly complete the inventory. As well, participants were told that potentially problematic terms were printed in bold-face type and were followed with an explanation of the term in parenthesis. Participants were also told that if they encountered any unknown vocabulary, they should not hesitate to ask for clarification of the term. None of the participants had questions about vocabulary or idiomatic expressions when they were completing the inventory, which suggests that the revised version of the inventory worked fairly well. When the personality inventory had been completed, participants completed the English use questionnaire.

The writing samples of students agreeing to participate in the study were collected by the instructor of the course and given to me. Because the writing samples were collected from several instructors and because the assignments were given at different points during the semester, gathering the writing sample data was a much longer process. In most cases, the descriptive essay was completed at the beginning of the semester, as instructors used the writing assignment as a means of
getting to know their students, while the process essay was given at various points later in the semester.

**Initial Steps in Data Analysis**

When the personality inventories, English use questionnaires, and writing samples had been collected, I removed the participants' names and replaced them with code numbers to ensure confidentiality, and then the data entry and analysis began. Prior to entering the personality inventory and English use questionnaire data into a spreadsheet, both the inventories and surveys were visually inspected to ensure that all blanks had been filled in. With respect to the personality inventory, I performed three validity checks to be sure that participants completely and accurately completed the inventory. The validity checks included a check of acquiescence, nay-saying, and random responding (Costa & McCrae, 1992). Acquiescence involves counting the number of agree or somewhat agree responses. If participants agreed with more than 30 of the 48 items, Costa and McCrae state that the inventory “should be interpreted with caution because a strong acquiescence bias may have influenced the results” (1992). Nay-saying refers to a paucity of agree or somewhat agree responses and is evident when 10 or fewer such items are answered. Finally, random responding means that the inventory is completed in a random or careless manner, which can be evident by visually inspecting the answer sheet to determine if the same response has been used over a long series of items. Consecutive patterns of more than six disagree, nine somewhat disagree, ten neutral, fourteen somewhat agree, or nine agree would invalidate an inventory
(Costa & McCrae, 1992). The validity check resulted in four of the inventories being thrown out due to acquiescence. Thus, of the total 61 complete sets of inventories, English use questionnaires, and writing samples, four were thrown out because of evident validity problems with the personality inventories, resulting in a total of 57 complete sets of data for analysis.

The first part of the data analysis consisted of typing the writing samples into word files, tagging the parts of speech using Biber's Dimension 1 computer program, and then calculating Dimension 1 mean scores for each writing sample. The program first counts the frequencies of the linguistic features making up dimension 1 for each of the essays. These frequencies are then used to determine the extent to which a text shows evidence of speech or writing features. This means that a text that is unmarked with respect to speech and writing would have a Dimension 1 mean score of zero because the frequency counts of the linguistic features were the same as the results Biber found in his analysis. However, if the Dimension 1 mean score is positive, the text is marked with respect to speech features. The contrary is true if the Dimension 1 mean score is negative, as the text is marked with respect to writing features. When this analysis was complete, the data from the personality inventory, the English use questionnaire, and Dimension 1 mean scores for the descriptive and process essays were analyzed to determine if the data represented normal distributions. Once this was complete, the data from the personality inventories, the English use questionnaires, and the Dimension 1 mean scores were analyzed using JMP and SAS to determine Pearson correlation coefficients and significance levels. For the purposes of this study, P-values less than 0.05 were
considered statistically significant. This means that numerous correlations were analyzed, including the following:

1. Dimension 1 descriptive and process mean score comparisons and correlations
2. Proficiency level and Dimension 1 descriptive mean scores
3. Proficiency level and Dimension 1 process mean scores
4. Personality inventory and English use questionnaire (questions 1 - 7)
5. Personality inventory and Dimension 1 descriptive mean scores
6. Personality inventory and Dimension 1 process mean scores
7. English use questionnaire (questions 1 - 7) and Dimension 1 descriptive mean scores
8. English use questionnaire (questions 1 - 7) and Dimension 1 process mean scores

The first of the analyses was performed to better understand the Dimension 1 data and included comparing the means of the Dimension 1 descriptive and process essays to determine which genre yielded more speech features and then determining if a correlation existed between the two essays. Such a correlation would indicate that any relationship found between proficiency, personality, and English use and the Dimension 1 mean scores of one essay should be true for both essays. Moreover, this correlation would indicate the importance of controlling for topic. The second and third correlations were performed to understand and confirm the relationship between proficiency level and the Dimension 1 mean scores from the descriptive and process essays. The purpose of the fourth correlation was to determine if a
relationship exists between personality type and actual use of English, as it is suspected that extraverted students would be more likely than introverted students to use English frequently in their daily activities because of their social nature. This particular analysis consists of determining if there is a relationship between personality and any of the seven questions asked in the English use questionnaire. The fifth and sixth correlations were performed in order to determine if a relationship exists between personality type and the transfer of speech features to writing in the descriptive and process essay mean scores from Dimension 1. The seventh and eighth correlations were performed in order to examine the relationship between actual use of English in everyday activities and the transfer of speech features to writing in the descriptive and process essays. Again, the analysis in parts seven and eight consisted of determining if correlations exist between each of the seven questions on the English use questionnaire and the Dimension 1 mean scores for the descriptive and process essays. From the results of each of these analyses, it will be possible to understand some of the factors that influence the transfer of speech features to writing.

Summary

In order to answer the research questions regarding the factors that influence the transfer of speech features to writing, participants completed a personality inventory and an English use questionnaire and submitted two writing samples. The personality inventory was modified for this study after determining that numerous vocabulary words and idioms could prove difficult for NNSs, while the
English use questionnaire was specifically created for this study to gather information on the participants' everyday use of English. In addition, the participants' proficiency level was determined by the English course in which they were enrolled at the time of the study. With respect to the writing samples, the two genres of description and process were chosen for this study because they might lead to the transfer of more speech features to writing than would other genres. The statistical analyses were performed using JMP and SAS and Pearson correlation coefficients and significance levels were determined. For the purposes of this study, P-values less than 0.05 were considered statistically significant.
CHAPTER 4. RESULTS AND DISCUSSION

The results presented in this chapter are divided into two main sections. In the first section, I present and discuss the results obtained from each of the individual instruments used in the data collection. Understanding the data from the individual instruments and the distribution of such data is of critical importance before determining if correlations exist between the instruments. This section also includes a description of the writing samples by proficiency level. In the second section, I present the results obtained from correlations of the individual instruments, and I discuss the possible reasons that a factor contributes to the transfer of speech features to writing.

Overview of the Individual Instruments

Before examining the relationship between proficiency, personality, use of English, and the transfer of features of speech to writing, the data from the individual instruments used in the data collection, including personality, English use, and the extent to which writing samples show evidence of speech features, must first be examined to determine if the data represent normal distributions. The existence of normal distributions of data is critical considering the number of participants in the study because relationships between the instruments will not be possible to investigate if problems exist in the data from each of individual instruments. Checking the distribution of the data is a means by which to
understand if such relationships or correlations can be examined with any degree of certainty in the results.

**Personality Inventory**

The personality inventory used in this study consisted of the extraversion section of the NEO PI-R. In attempting to use any type of personality inventory on non-native English speaking participants, of utmost concern is the possibility that the participants’ language level will cause comprehension problems and consequently lead to unreliable results. Because the personality inventory was not translated into the native languages of each of the participants in the study, this was especially critical. Another potential problem is determining if participants responded honestly and accurately to the questions in the inventory. If the data did not represent a normal distribution, this could indicate that participants did not fully understand numerous questions on the inventory or that the inventories were completed in a careless manner. The lack of a normal distribution would indicate that attempting to correlate these results with the results of the English use questionnaire and Dimension 1 scores would not be possible. However, if the data represent a normal distribution, which would be expected considering the number of participants in the study, then further analyses could be performed. There is, however, always the possibility that although the data represent a normal distribution, that the results are not accurate because of chance. Thus, the first step in the data analysis consisted of examining the results of the personality inventories and checking for a normal distribution for the 57 subjects in the study.
The analysis of the personality inventory results from the Shapiro-Wilke test, which is used to determine the extent to which data represent a normal distribution, indicated that 95.99% of the data fell into the range of a normal distribution. In this analysis, the data were treated as continuous. The range of possible scores on the inventory was between 0, which represents an extremely introverted individual, to 192, which represents an extremely extraverted individual. Of the participants in the study, the scores ranged from a low value of 81, which represents a high level of introversion, to a high value of 154, which represents a very high level of extraversion. The mean was 114.16, which falls into the average range, the standard deviation was 19.05, and the median was 112. The normal distribution suggests that any suspected problems involving comprehension or the careless completion of the inventories were probably not significant, which means that correlations involving the results of the personality data are possible.

**English Use Questionnaire - Overview**

The English use questionnaire was used to gather information on the extent to which participants use English in their daily activities. Analysis of the responses to each of the seven questions on the English use questionnaire was similar to that of the personality inventories because the Shapiro-Wilke test was performed to determine the normality of the distributions. The results of these analyses are summarized in Table 4.1.

These results show that the data from each of the questions seems to represent a normal distribution except for question 2, which deals with using the
telephone. Results from each question are explained in the following paragraphs.

<table>
<thead>
<tr>
<th>English Use Question #</th>
<th>Shapiro-Wilke Normality Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.90</td>
</tr>
<tr>
<td>2</td>
<td>0.54</td>
</tr>
<tr>
<td>3</td>
<td>0.90</td>
</tr>
<tr>
<td>4</td>
<td>0.84</td>
</tr>
<tr>
<td>5</td>
<td>0.90</td>
</tr>
<tr>
<td>6</td>
<td>0.89</td>
</tr>
<tr>
<td>7</td>
<td>0.84</td>
</tr>
</tbody>
</table>

**Question 1 - English Use Questionnaire**

In the first question, participants were asked “What percent of your friends and acquaintances do you usually speak English with?” Answer choices ranged from a value of 1, which represents less than 10%, to a value of 7, which represents more than 95%. The data from each of the participants’ responses to this question are available in Table 4.2, which includes the answer choice, the percentage of time represented by the particular choice, the number of participants who responded using a particular choice, and the percentage of participants who responded using a particular choice.

This figure shows that 45.62% of participants speak English with 25% and 40% of their friends and acquaintances, while only 5.25% speak English with 85% of their friends. The results suggest that the majority of NNSs speak English with less than half of their friends and acquaintances, which probably means that the
remainder of the time, the learners are communicating in either their first language or another language, although the questionnaire did not capture this information. Results of the Shapiro-Wilke test show that 90.16% of the data were normal.

Table 4.2. Participant responses to question 1 on English Use Questionnaire.

<table>
<thead>
<tr>
<th>Answer Choice</th>
<th>Meaning of Choice in Percent</th>
<th>Number of Participants</th>
<th>Percentage of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Less than 10</td>
<td>6</td>
<td>10.53</td>
</tr>
<tr>
<td>2</td>
<td>25</td>
<td>15</td>
<td>26.32</td>
</tr>
<tr>
<td>3</td>
<td>40</td>
<td>11</td>
<td>19.30</td>
</tr>
<tr>
<td>4</td>
<td>55</td>
<td>8</td>
<td>14.04</td>
</tr>
<tr>
<td>5</td>
<td>70</td>
<td>9</td>
<td>15.79</td>
</tr>
<tr>
<td>6</td>
<td>85</td>
<td>3</td>
<td>5.25</td>
</tr>
<tr>
<td>7</td>
<td>More than 95</td>
<td>5</td>
<td>8.77</td>
</tr>
</tbody>
</table>

English Use Questionnaire - Overview of Questions 2 through 7

In the remaining six questions, participants were asked to estimate the amount of time they spent taking part in various activities during a one-week period. Answer choices range from a value of 1, which represents 0-2 hours per week, to a value of 7, which represents more than 30 hours per week. The data from each of the participants' responses to these six questions are available in Table 4.3, which again includes the answer choice, the number of hours represented by the particular choice, the number of participants who responded using a particular choice, and the percentage of participants who responded using a particular choice. In addition, Table 4.3 includes the particular area of English use that is addressed in each question, which is stated below the number of the respective question.

General results from this questionnaire seem to indicate that an
<table>
<thead>
<tr>
<th>Answer Choice</th>
<th>Meaning of Answer Choice in Hours</th>
<th>Number of Participants</th>
<th>Percentage of Participants</th>
<th>Number of Participants</th>
<th>Percentage of Participants</th>
<th>Number of Participants</th>
<th>Percentage of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Telephone</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>0-2 hours</td>
<td>43</td>
<td>75.44</td>
<td>7</td>
<td>12.28</td>
<td>15</td>
<td>26.32</td>
</tr>
<tr>
<td>2</td>
<td>3-5 hours</td>
<td>5</td>
<td>8.77</td>
<td>11</td>
<td>19.3</td>
<td>16</td>
<td>28.07</td>
</tr>
<tr>
<td>3</td>
<td>6-10 hours</td>
<td>4</td>
<td>7.02</td>
<td>17</td>
<td>29.83</td>
<td>12</td>
<td>21.05</td>
</tr>
<tr>
<td>4</td>
<td>11-15 hours</td>
<td>2</td>
<td>3.52</td>
<td>9</td>
<td>15.79</td>
<td>8</td>
<td>14.04</td>
</tr>
<tr>
<td>5</td>
<td>16-20 hours</td>
<td>1</td>
<td>1.75</td>
<td>3</td>
<td>5.27</td>
<td>1</td>
<td>1.75</td>
</tr>
<tr>
<td>6</td>
<td>21-30 hours</td>
<td>1</td>
<td>1.75</td>
<td>8</td>
<td>14.04</td>
<td>2</td>
<td>3.51</td>
</tr>
<tr>
<td>7</td>
<td>30+ hours</td>
<td>1</td>
<td>1.75</td>
<td>2</td>
<td>3.51</td>
<td>3</td>
<td>5.26</td>
</tr>
<tr>
<td>Question 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Television/Radio</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>0-2 hours</td>
<td>7</td>
<td>12.28</td>
<td>8</td>
<td>14.04</td>
<td>13</td>
<td>22.81</td>
</tr>
<tr>
<td>2</td>
<td>3-5 hours</td>
<td>15</td>
<td>26.32</td>
<td>14</td>
<td>24.56</td>
<td>14</td>
<td>24.56</td>
</tr>
<tr>
<td>3</td>
<td>6-10 hours</td>
<td>20</td>
<td>35.09</td>
<td>16</td>
<td>28.07</td>
<td>11</td>
<td>19.3</td>
</tr>
<tr>
<td>4</td>
<td>11-15 hours</td>
<td>7</td>
<td>12.28</td>
<td>10</td>
<td>17.55</td>
<td>7</td>
<td>12.28</td>
</tr>
<tr>
<td>5</td>
<td>16-20 hours</td>
<td>5</td>
<td>8.77</td>
<td>3</td>
<td>5.26</td>
<td>2</td>
<td>3.51</td>
</tr>
<tr>
<td>6</td>
<td>21-30 hours</td>
<td>2</td>
<td>3.51</td>
<td>3</td>
<td>5.26</td>
<td>3</td>
<td>5.26</td>
</tr>
<tr>
<td>7</td>
<td>30+ hours</td>
<td>1</td>
<td>1.75</td>
<td>3</td>
<td>5.26</td>
<td>7</td>
<td>12.28</td>
</tr>
<tr>
<td>Question 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Email</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>0-2 hours</td>
<td>7</td>
<td>12.28</td>
<td>8</td>
<td>14.04</td>
<td>13</td>
<td>22.81</td>
</tr>
<tr>
<td>2</td>
<td>3-5 hours</td>
<td>15</td>
<td>26.32</td>
<td>14</td>
<td>24.56</td>
<td>14</td>
<td>24.56</td>
</tr>
<tr>
<td>3</td>
<td>6-10 hours</td>
<td>20</td>
<td>35.09</td>
<td>16</td>
<td>28.07</td>
<td>11</td>
<td>19.3</td>
</tr>
<tr>
<td>4</td>
<td>11-15 hours</td>
<td>7</td>
<td>12.28</td>
<td>10</td>
<td>17.55</td>
<td>7</td>
<td>12.28</td>
</tr>
<tr>
<td>5</td>
<td>16-20 hours</td>
<td>5</td>
<td>8.77</td>
<td>3</td>
<td>5.26</td>
<td>2</td>
<td>3.51</td>
</tr>
<tr>
<td>6</td>
<td>21-30 hours</td>
<td>2</td>
<td>3.51</td>
<td>3</td>
<td>5.26</td>
<td>3</td>
<td>5.26</td>
</tr>
<tr>
<td>7</td>
<td>30+ hours</td>
<td>1</td>
<td>1.75</td>
<td>3</td>
<td>5.26</td>
<td>7</td>
<td>12.28</td>
</tr>
</tbody>
</table>

Table 4.3. Participant responses to questions 2 through 7 on English Use Questionnaire
overwhelming majority of participants spent little time talking on the phone in English and that few spent extensive time speaking English outside of class. With respect to television and email, the responses were more evenly distributed, as were those regarding the amount of time participants spend reading and writing outside of class. A more detailed examination of the results from each of the questions is presented in the following paragraphs.

**Question 2 - English Use Questionnaire**

With respect to the second question, which involves the amount of time spent talking on the telephone, 43 of the 57 participants or 75.44% of participants responded that they talked on the telephone in English between 0 and 2 hours per week. Results of the Shapiro-Wilke test indicate that 53.88% of the data fell into the range of a normal distribution. This lack of normality is problematic. However, if we consider that talking on the telephone in a second language is an extremely daunting task for NNSs, the unequal distribution of responses is probably not surprising. These results seem to suggest that participants responded accurately and honestly to this question because of the difficulties that are inevitably encountered in attempting to communicate on the telephone in a second language.

**Question 3 - English Use Questionnaire**

In the third question, which deals with watching television and movies and listening to the radio, tapes, and CDs, responses were more evenly distributed than
the second question, as 29.83% of participants responded that they took part in this activity 6-10 hours per week, which was followed by 19.30% for 3-5 hours per week. Only 3.51% spent 30 or more hours per week doing this activity in English. Results of the Shapiro-Wilke test show that 90.28% of the data were normal.

**Question 4 - English Use Questionnaire**

In the fourth question, which concerns email use, results indicated that over 70% of participants used English between 0 and 10 hours per week in this activity. Specifically, 28.07% of participants indicated that they spent 3-5 hours per week sending and receiving email using English. This was followed by 26.32% who took part in this activity 0-2 hours per week and 21.05% of participants at 6-10 hours per week. Results of the Shapiro-Wilke test indicate that 84.08% of the data fell into a normal distribution.

**Questions 5 and 6 - English Use Questionnaire**

Results from the fifth and sixth questions, which involve writing and reading, show remarkably similar distributions. With respect to writing, 35.09% of participants spent 6-10 hours per week on this activity outside of class, whereas with respect to reading, 28.07% of participants spent the same amount of time reading outside of class. These percentages were followed by 26.32% and 24.56% of participants who spent 3-5 hours per week writing and reading outside of class, respectively. The third highest percentage of participants spent 11-15 hours writing
and reading outside of class, which was followed by 0-2 hours. The similarities in the distribution of participants and the numbers of hours spent outside of class writing and reading each week suggest that the two skills are closely related. This is not surprising, as all students were enrolled in either IEOP or ISU and were taking courses in intensive English or in their major, and it suggests that NNSs spend similar amounts of time working on these activities outside of class. Results of the Shapiro-Wilke test indicate that 90.46% of the data were normal with respect to writing, while 89.26% was normal with respect to reading.

**Question 7 - English Use Questionnaire**

In the final question regarding the actual number of hours spent speaking English outside of class, 24.56% of participants responded that they spent 3-5 hours per week using English outside of class, which was followed by 22.81% and 19.30% of participants who spent 0-2 and 6-10 hours per week using English outside of class, respectively. These results indicate that the majority of participants spent less than 10 hours per week speaking English outside of class. Results of the Shapiro-Wilke test indicate that 84.15% of the data were normal.

**English Use Questionnaire - Discussion of Results**

The overall results of this questionnaire suggest that participants seemed to understand the questions and that they responded honestly and accurately to the individual questions. However, the possibility always exists that participants did
not fully understand the questions and that the results of the questionnaire may not reflect the participants actual use of English, as they are asked to estimate the amount of time per week that they spent doing a particular activity in English. Moreover, participants may not have been completely truthful in their responses because they may have wanted to appear as if they actually used English more often than they reported. In spite of these possibilities, the results of the English use questionnaire seem believable and truthful because on most questions, few students responded that they spent more than 16 hours per week taking part in a particular activity in English, and even fewer reported that they spent more than 21 hours per week taking part in a particular activity in English. Results of the Shapiro-Wilke tests confirm these observations, as values of greater than 84.00% were obtained for all questions except that involving talking on the telephone, which is understandable considering the difficulty involved in talking on the telephone in a second language. Thus, the results appear to indicate that further statistical analyses between these results and those of the other instruments used in the study can be conducted and that valid results can be drawn from subsequent correlations.

**Dimension 1 Mean Score Distributions for the Descriptive and Process Essays**

The results of the Dimension 1 mean scores were analyzed for both the descriptive and process essays. Results from the Dimension 1 mean scores of the descriptive essays indicated that the distribution of the data represented a normal distribution, as 96.14% of the data were normal according to the Shapiro-Wilke test. The Dimension 1 scores for these essays ranged from negative values, which
indicate that pieces of writing show evidence of writing features, to positive values, which indicate that pieces of writing show evidence of speech features. These scores ranged from a minimum of -13.96 to a maximum of 26.31, with a mean of 7.92, a standard deviation of 9.84, and a median of 7.49. Results of the Dimension 1 mean scores of the process essays indicated that the data also represented a normal distribution, as the Shapiro-Wilke test indicated that 98.01% of the data represented a normal distribution, making correlations with the other instruments possible. Scores on the process essays ranged from a minimum of -17.79 to a maximum of 32.20, with a mean of 5.62, a standard deviation of 11.17, and a median of 6.02.

**Dimension 1 Mean Score Comparisons for the Descriptive and Process Essays**

An additional analysis of interest with respect to the Dimension 1 results of the descriptive and process essays was comparing the means of each, because I suspected that the descriptive essays would have more evidence of speech features than the process essays, based on what is known about the differences between speech and writing (Biber, 1986, 1988). For example, because the descriptive essays were written in class, many features typical of unplanned discourse, or speech, would be expected. The contrary is true for the process essay, because in most classes, participants planned and wrote their essays at home. This proved to be the case, as the average Dimension 1 score for the descriptive essay was 7.29, as compared to that of the process essay, which was 5.62. Although the difference between the means is not that great, the descriptive genre was more speech-like than the process genre; however, both genres were more speech-like than writing-like on
the speech-writing continuum. Pearson correlation coefficients and P-values confirm this relationship, with values of 0.22 and 0.09, respectively. The weak P-value indicates that there is a relationship between the descriptive and process essays, but that it is marginally significant.

Based on the Biber's (1988) research on Dimension 1, in which he characterizes specific genres along the speech-writing continuum, the Dimension 1 mean scores of the essays are not surprising. On this continuum, telephone conversations and face-to-face conversations have Dimension 1 mean scores of greater than 35, while official documents, academic prose, and press reports have Dimension 1 mean scores of less than -15. The writing samples from this study fall into the range of romantic fiction and prepared speeches, according to Biber's continuum. And, although Biber does not specifically classify the genres of description and process, the mean scores do confirm the hypothesis that the descriptive essays would have a higher mean score than the process essays.

*Dimension 1 Mean Score Descriptive and Process Essay Correlations*

The Pearson correlation coefficients and significance levels found in the previous section were also used to understand the relationship between the essays. A relationship between the mean scores would aid in understanding the importance of topic and would suggest that any correlations found between proficiency, personality, and English use should be true for both essays. This analysis indicates that a correlation exists between the descriptive and process essays, but that the
correlation is somewhat weak, as the P-value was 0.09, with a Pearson correlation coefficient of 0.22. Consequently, we might not expect that any correlations found between proficiency, personality, and English use would hold for both essay types. Moreover, the weak correlation underscores the effect of topic.

Proficiency and the Essays

As explained in Chapter 3, proficiency in this study was determined by the ESL class in which participants were enrolled at the time of the data collection. The number of students in each proficiency level, the average number of words by proficiency level, and the corresponding standard deviations are presented in Table 4.4.

<table>
<thead>
<tr>
<th>Level</th>
<th># of Students</th>
<th>Average # of Words/Descriptive Essay</th>
<th>Standard Deviation/Descriptive Essay</th>
<th>Average # of Words/Process Essay</th>
<th>Standard Deviation/Process Essay</th>
</tr>
</thead>
<tbody>
<tr>
<td>IEOPLow</td>
<td>5</td>
<td>250.60</td>
<td>76.17</td>
<td>142.20</td>
<td>245.57</td>
</tr>
<tr>
<td>IEOPHigh</td>
<td>3</td>
<td>219.67</td>
<td>58.45</td>
<td>215.00</td>
<td>60.09</td>
</tr>
<tr>
<td>IEOPA</td>
<td>9</td>
<td>224.00</td>
<td>105.17</td>
<td>242.44</td>
<td>62.32</td>
</tr>
<tr>
<td>Advanced</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>101 Low</td>
<td>29</td>
<td>257.86</td>
<td>112.64</td>
<td>546.79</td>
<td>258.39</td>
</tr>
<tr>
<td>101 High</td>
<td>11</td>
<td>213.82</td>
<td>128.88</td>
<td>216.36</td>
<td>85.59</td>
</tr>
</tbody>
</table>

This table shows that as proficiency level increases, the average number of words per essay does not necessarily increase. Statistical analyses did not indicate any significant results, which may be due to the limited number of participants in each
proficiency level. As well, the means from the essays do not show any of the expected patterns. This suggests that the lack of strictly controlling the amount of time participants spent writing these essays seems to have influenced the results, as we would expect to see participants at higher proficiency levels write longer essays than those at lower levels.

Conclusion - Individual Instruments

In summary, then, the analysis of each of the individual instruments used in the study did not reveal any problematic results because, in the cases of the personality inventories and the Dimension 1 scores for the descriptive and process essays, the data represented normal distributions. The results from the detailed examination of the individual questions on the English use questionnaire do not suggest any abnormalities in the data. Thus, because the data seem normal and appear to be measuring what they are intended to measure, correlations between each of the instruments can now be examined in more detail. The results of these correlations will be explained and discussed in more detail in the following sections.

Correlations Between Individual Instruments

The analysis of the data from the individual instruments will be used to better understand the possible roles that proficiency, personality, and English use play in the transfer of speech features to writing. In order to understand the influence each factor may have on such transfer, the data from the proficiency levels
and the Dimension 1 mean scores from the descriptive and process essays will be first examined to attempt to confirm what literature suggests. Next, the data from the personality tests and English use questionnaires will be examined to determine if extraverted students actually use English more often than introverts. The purpose of this analysis is to better understand the relationship between extraversion and reported use of English. Then, data from the personality inventories and Dimension 1 mean scores from the descriptive and process essays will be examined to determine if extraverted students transfer more features of speech to writing than introverted students. The objective behind this analysis is to understand how personality influences the transfer of speech features to writing. Finally, data from the English use questionnaires and the Dimension 1 mean scores from the descriptive and process essays will be examined to better understand the relationship between any of the individual questions on the questionnaire and the transfer of speech features to writing.

Proficiency and Dimension 1 Mean Scores: Results and Conclusion

The first analysis that was conducted on the Dimension 1 mean scores of the descriptive and process essays was comparing the mean scores of each respective class level to determine if the low-level students had higher Dimension 1 mean scores than the other levels, as would be expected according to research on the writing development of NNSs of English (Vann, 1981; Mohan & Lo, 1985; Hansen-Strain, 1989; Peregoy & Boyle, 1997). The English level of participants in the study were divided into IEOP and English 101. The IEOP levels consisted of low, high,
and advanced and are based on the results of their English test results, which are taken at the beginning of the semester. The English 101 classes are divided into 101 Low and 101 High, which means that the 101 Low students scored lower on the EPT than the 101 High students. Results of the mean scores are available in Table 4.5 and include the level, the number of participants in a particular level, and the means of the Dimension 1 mean scores from the descriptive and process essays. In this table, IEOP Low is the lowest proficiency level, which is followed by IEOP High and Advanced, respectively. The 101 classes require higher levels of ESL proficiency than IEOP and are divided into 101 Low and 101 High, which is the highest proficiency level.

<table>
<thead>
<tr>
<th>Level</th>
<th># of Students</th>
<th>Dimension 1 Descriptive Mean</th>
<th>Dimension 1 Descriptive Standard Deviation</th>
<th>Dimension 1 Process Mean</th>
<th>Dimension 1 Process Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>IEOP Low</td>
<td>5</td>
<td>9.82</td>
<td>15.18</td>
<td>3.43</td>
<td>12.95</td>
</tr>
<tr>
<td>IEOP High</td>
<td>3</td>
<td>-3.74</td>
<td>6.66</td>
<td>9.76</td>
<td>10.35</td>
</tr>
<tr>
<td>IEOP High</td>
<td>9</td>
<td>7.05</td>
<td>6.99</td>
<td>7.72</td>
<td>9.73</td>
</tr>
<tr>
<td>Advanced</td>
<td>29</td>
<td>8.62</td>
<td>10.45</td>
<td>5.77</td>
<td>11.65</td>
</tr>
<tr>
<td>101 Low</td>
<td>11</td>
<td>9.10</td>
<td>7.13</td>
<td>3.37</td>
<td>11.73</td>
</tr>
<tr>
<td>101 High</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The statistical analyses of the descriptive and process essay mean scores by proficiency level do not confirm that proficiency level is a factor in the transfer of speech features to writing, as no significant results were found. However, considering the number of participants at each level, this is not surprising, as the only class with approximately 30 subjects was the 101 Low class. Thus, Pearson correlation coefficients and P-values were not calculated for these results. In the
initial design of the study, I hoped to gather data from at least 100 participants at a variety of proficiency levels. Unfortunately, this was not possible, as a total of 57 individuals participated in the study. It was also impossible to find equal numbers of participants to represent each of the proficiency levels because IEOP classes, on the most part, are small with sometimes less than 10 students, while 101 classes are much larger with over 20 students in each class. At the time the data were collected, IEOP had extremely small enrollments, which made it impossible to achieve a more uniform number of participants at each proficiency level. An additional problem was the measure of proficiency. Since all students had not taken the TOEFL, this information was not available to determine their proficiency levels, which is why I used participants' writing level class as a measure of proficiency. Thus, while previous research has shown the significance that proficiency level plays in the transfer of speech features to writing, this research was unable to confirm previous findings due to the limited number of subjects. Future researchers may consider designing a study that requires a larger number of subjects at varying levels of proficiency in order to confirm the findings of previous literature. Additionally, researchers may choose a better means of evaluating proficiency by using TOEFL scores or another evaluation technique.

**Personality and English Use Correlations: Results and Discussion**

Data analysis of the personality inventories and the English use questionnaires consisted of determining if correlations existed between the personality inventories and each of the seven questions on the English use
questionnaire. The analyses consisted of determining Pearson Correlation Coefficients and P-values. No correlations were found between the personality inventories and any of the seven questions on the English use questionnaire. A summary of the results are available in Table 4.6.

This table shows that none of the P-values are less than 0.05. With respect to the second research question, which asks: do students who would be classified as extraverts from personality tests tend to use English more often than introverts, results from this study do not confirm this hypothesis.

<table>
<thead>
<tr>
<th>English Use Question #</th>
<th>Pearson Coefficient</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.03</td>
<td>0.85</td>
</tr>
<tr>
<td>2</td>
<td>0.12</td>
<td>0.36</td>
</tr>
<tr>
<td>3</td>
<td>0.17</td>
<td>0.19</td>
</tr>
<tr>
<td>4</td>
<td>-0.02</td>
<td>0.86</td>
</tr>
<tr>
<td>5</td>
<td>0.09</td>
<td>0.48</td>
</tr>
<tr>
<td>6</td>
<td>-0.13</td>
<td>0.32</td>
</tr>
<tr>
<td>7</td>
<td>0.10</td>
<td>0.44</td>
</tr>
</tbody>
</table>

There are many possible reasons why correlations do not exist between extraversion and reported use of English, but before discussing some of these, I will examine the results from the English use questionnaire of those participants who scored at the extreme ends of the extraversion scale. Of the 57 participants in the study, I will examine the four highest and four lowest scorers on the extraversion-introversion scale in order to gain insights into the possible relationship between
personality and English use. First, three of the four very high-level extraverts were females in their late twenties, whereas all high-level introverts were males in their late teens to early twenties. Other than gender differences, there are not any obvious trends in these results. If the mean scores are considered from the personality inventories and English use questions for both the very high-level extraverts and high-level introverts, it appears that for six out of the seven questions on the English use questionnaire, the participants who scored as high-level introverts generally rated themselves as using English more often in their everyday activities than the very high-level extraverts. On only one question, that in which participants are asked to rate how much time they spend watching television and movies and listening to the radio and to tapes and CDs in English, did the very high-level extraverts actually use English more than the high-level introverts. This result is counter to intuition because extraverts would be expected to be more active and energetic than introverts, but the results from this particular question suggest the opposite.

If we look at the very highly extraverted Arabic speaker and the highly introverted Nyanja speaker, the results are interesting. The Arabic speaker seems to use English to a greater extent in most of his daily activities than the other three very high-level extraverts. It is also not entirely unexpected that of all of these activities, he spends the least amount of time reading for class or personal enjoyment in English. This, as Vann’s 1981 study suggests, is due to his cultural background and the preference Arabic speakers generally have for orality. However, a comparison of the Arabic speaker to the highly introverted Nyanja speaker reveals that the
Nyanja speaker uses English to a much greater extent than the Arabic speaker, except concerning watching television and listening to the radio. Considering the high level of introversion of the Nyanja speaker, these results are unusual; however, they are understandable considering there are few native Nyanja speakers at ISU. This would seem to necessitate greater communication in English for the Nyanja speaker than for the Arabic speaker. However, we must also remember that English as a Second Language is commonly spoken in Malawi, which may also influence the Nyanja speaker’s use of English. From considering these cases, it seems that not only extraversion, but the opportunities for interaction in the second language are key.

Considering the results of the 57 participants as a whole, then, there are several potential reasons for this lack of correlation between personality and reported use of English. Clearly having a very high level of extraversion does not mean that those individuals are necessarily going to spend more time communicating in English, rather they seem to spend more time communicating in their native languages than their more introverted counterparts. This result is not entirely unexpected because, as Strong’s (1983) study indicated, extraverts do not necessarily seek relationships with English speakers to a greater extent than introverts. However, these results do suggest that environmental factors may be stronger indicators of English use than personality alone. This, in turn, suggests that personality does not dictate an individual’s behavior in a second language setting. Rather, environmental factors may play a stronger role in English use than personality. The Nyanja speaker illustrates this scenario very clearly, as he was in
an environment in which few native Nyanja speakers lived. This means that in spite of being introverted, he had to use English frequently in his daily activities. This finding is important because it suggests that by examining the specific circumstances and environment of individual learners, seemingly unexpected findings become more understandable, as this examination has suggested how environment may interact with personality in English use.

The results of the correlations between extraversion and use of English suggest that numerous factors seem to play a role in an individual's use of English, of which the most important seems to be an individual's environment or the specific circumstances surrounding language use. However, we must remember that although the English use questionnaire was created as a means of capturing participants' personality at a particular moment, it is highly unlikely that the questionnaire completely fulfilled this purpose because it was not exhaustively tested prior to use and it was created as a means of determining participants' reported use of English rather than as a measure of extraversion at a particular moment in time. Moreover, neither of the instruments were translated into the native languages of the participants in the study, which also may have affected the results. However, it is also possible that because the personality inventory was designed to measure traits of personality that become stable at approximately the age of 30, that the personality test results are not entirely reliable because the ages of most of the participants in the study were under 30 (Piedmont, 1998). This suggests that in order to capture the traits of a more stabilized personality, only those participants over the ages of 30 should theoretically be included in the data analysis.
This, however, was not possible, and it is one drawback in attempting to measure personality.

In summary, there are numerous reasons that a correlation between the personality inventory and the English use questionnaire did not exist. These results suggest that the environment or circumstances surrounding an individual's language use seem to have a greater influence on language use than personality. In future studies, researchers may translate both the personality inventory and the English use questionnaire to ensure the validity of the results. In addition, more extensive research needs to be conducted to fully understand the numerous factors that influence actual use of English and its relationship to personality. The results of this study suggest that environment and cultural background may play a role in such use; however, these factors must be more thoroughly investigated in order to understand the relationship between extraversion with English use.

**Personality and Descriptive Essay Correlations: Results and Discussion**

The results of the personality inventories and the Dimension 1 mean scores from the descriptive essays were analyzed to determine how extraversion contributes to the transfer of speech features to writing. A plot of the personality test results versus Dimension 1 mean scores from the descriptive essays is available in Figure 4.1. In this figure, personality, which ranges from 75, or a high level of introversion, to 175, or a very high level of extraversion, is on the x-axis. The y-axis indicates Dimension 1 mean scores, which range from -20, or writing that resembles writing, to 30, or writing that resembles speech. The levels of extraversion are as
Figure 4.1 Personality vs. Dimension 1 Descriptive Mean Scores
follows:

- very highly extraverted participants' scores on the personality inventories ranged from 142-192
- highly extraverted individuals scored between approximately 124-141
- average-level extraverts scored between approximately 102-123
- low-level extraverts or high-level of introverts scored from approximately 84-102.
- very low-level extraverts or very high-level introverts scored from 0-83; however, none of the participants scored in this range

Statistical analyses indicate that a negative correlation exists between extraversion and the transfer of speech features to writing, as the Pearson correlation coefficient was -0.28 with a P-value of 0.04. The low P-value indicates that the results are statistically significant, while the negative correlation suggests that on the extraversion-introversion continuum, introversion influences the transfer of speech features to writing. Thus, the third research question driving this study asks about the relationship between extraversion and the transfer of speech features to writing, and results show a relationship between introversion and the transfer of speech features to writing.

There are many possible reasons why a relationship exists between introversion and the transfer of speech features to writing. To better understand these possible reasons, the four very highly extraverted individuals and the five highly introverted individuals who had Dimension 1 mean scores greater than 20 will be examined in more detail. This examination includes considering data from
the English use questionnaire because this information might lead to insights on the actual English use of participants in the study, regardless of personality type. The average Dimension 1 mean scores from the descriptive essays are much higher for the five high-level introverts at a value of 23.24, as compared to 10.45 for the very high-level extraverts, the underlying reasons behind these differences are not clearly understood. With respect to the results from the English use questionnaire, of the five high-level introverts, on only two questions, questions 1 and 7, which involve the percent of friends and acquaintances participants usually speak English with and the total hours of time spent speaking English per week outside of class, respectively, did the high-level introverts use English more frequently than the very high-level extraverts. Because these two questions specifically involve speaking English and because the five introverts did this more often than the four extraverts, this may suggest that a relationship exists between speaking English and transferring speech features to writing.

In the previous discussion of the results from the correlation between personality and the English use questionnaire, major findings suggested that environment or the specific circumstances surrounding language use seem to be more important than personality traits. Results from the correlations between personality and the Dimension 1 mean scores also suggest the importance of English use as well, as the five highly introverted individuals had higher mean scores for questions 1 and 7 than the very highly extraverted. These results suggest that participants who speak English more often with native speakers will transfer more features of speech to writing, which is intuitively logical.
Of the remaining questions on the English use questionnaire, which include gender, native language, age, whether a participant lives in the dorms or not, and whether a participant has an English-speaking roommate, none seems to offer any insight as to why introverts would transfer more features of speech to writing than the extraverts.

**Personality and Process Essay Correlations: Results and Discussion**

The analysis of the personality inventories and Dimension 1 mean scores for the process essays show no relationship between extraversion and the transfer of speech features to writing. A plot of the personality inventory results versus the Dimension 1 mean scores of the process essays is shown in Figure 4.2. In this figure, personality, which ranges from 75, or a high level of introversion, to 175, or a very high level of extraversion, is on the x-axis. The y-axis indicates Dimension 1 mean scores, which range from -20, or writing that resembles writing, to 30, or writing that resembles speech. Statistical analyses of the personality data and the Dimension 1 mean scores indicate that the Pearson correlation coefficient was -0.03 and the P-value was 0.83. The lack of correlation between personality and the process essays could be due to many reasons. First, as the data were collected in numerous classes, inevitably assignments slightly differed from class to class, in spite of all efforts to ensure that they were identical. As well, in some classes, the process essays were written at home, while in others, the essays were written in class, whereas all
Figure 4.2  Personality vs. Dimension 1 Process Mean Scores
correlation between personality and the Dimension 1 mean scores of the process essays is that topic was minimally controlled. In the descriptive essays, participants were given explicit instructions regarding the topic of their essays because they were instructed to write about their past and present experiences and their future goals. In the process essays, however, students were given much more freedom in topic selection, which undoubtedly has influenced these results. Had students been instructed to write about a specific process, perhaps the results would have been much more conclusive; however, this was not the case in this study.

In future studies, the writing assignments must be more tightly controlled as far as the instructions given for the assignment itself, where the assignment is to be written, and topic selection. Results from the process essays suggest that such control can significantly influence a study's results and consequently is an important consideration in any research involving writing.

Use of English and the Descriptive and Process Essay Correlations: Overview

To understand how actual reported use of English relates to the transfer of speech features to writing in both the descriptive and process essays, correlations were performed on the individual questions on the English use questionnaire and the Dimension 1 mean scores for the descriptive and process essays. The results are explained in the following two sections, which are divided by essay type.
Use of English and Descriptive Essay Dimension 1 Mean Scores: Results and Discussion

Results for the Pearson correlation coefficients and P-values for each of the English use questions and the mean scores of the descriptive essays are available in Table 4.7.

<table>
<thead>
<tr>
<th>English Use Question #</th>
<th>Pearson Correlation Coefficient</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-0.10</td>
<td>0.46</td>
</tr>
<tr>
<td>2</td>
<td>-0.16</td>
<td>0.25</td>
</tr>
<tr>
<td>3</td>
<td>0.03</td>
<td>0.85</td>
</tr>
<tr>
<td>4</td>
<td>0.01</td>
<td>0.93</td>
</tr>
<tr>
<td>5</td>
<td>0.09</td>
<td>0.48</td>
</tr>
<tr>
<td>6</td>
<td>0.01</td>
<td>0.96</td>
</tr>
<tr>
<td>7</td>
<td>-0.31</td>
<td>0.02</td>
</tr>
</tbody>
</table>

In the analyses of each of the questions on the English use questionnaire and the Dimension 1 mean scores for the descriptive essays, only one question proved to be statistically significant. Question 7, which asks, "How many hours per week do you speak English?" was significant with a P-value of 0.02 and a correlation coefficient of -0.31. This is not surprising considering this is the question in which participants are asked to comment on their overall active use of English, which would naturally seem to relate to the transfer of speech features to writing. Literature also confirms what these results suggest, as Hansen-Strain (1989) found a relationship between learners from oral cultures using more interpersonal involvement, which is typical of speech, in both their speech and writing. Ellis adds that the learner’s
environment is key in second language acquisition because learner's learn from the
type of language that they experience. This result also confirms what previous
results have suggested, as English use or the learner's specific environment may be
more significant than personality in the transfer of speech features to writing.

Use of English and Process Essay Dimension 1 Mean Scores: Results and Discussion

Results for the Pearson correlation coefficients and P-values for each of the
English use questions and the mean scores of the process essays are available in
Table 4.8. In the analyses of each of the questions on the English use questionnaire
and the Dimension 1 mean scores for the process essays, again only one question
was statistically significant. Question 3, which asks, "How many hours per week do
you spend watching television and movies, and listening to the radio and to your
own tapes and CDs in English?" was significant with a P-value of 0.01 and a
correlation coefficient of 0.34. That this particular question would correlate to
Dimension 1 mean scores of the process essays is surprising since watching
television and movies and listening to the radio or CDs would seem to be less
related to the transfer of speech features to writing than, for example question 7,
which involves the overall amount of time spent speaking English, which was
significant in the descriptive essay analysis.

From the previous discussion of the problems associated with the data
collection of the process essay, namely, that the topic was not tightly controlled, that
assignments differed from class to class, and that in some classes, students wrote the
Table 4.8. Correlations and P-values for the English use questionnaire and mean scores of the process essays.

<table>
<thead>
<tr>
<th>English Use Question #</th>
<th>Pearson Correlation Coefficient</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-0.02</td>
<td>0.88</td>
</tr>
<tr>
<td>2</td>
<td>0.16</td>
<td>0.25</td>
</tr>
<tr>
<td>3</td>
<td>0.34</td>
<td>0.01</td>
</tr>
<tr>
<td>4</td>
<td>0.08</td>
<td>0.56</td>
</tr>
<tr>
<td>5</td>
<td>0.09</td>
<td>0.48</td>
</tr>
<tr>
<td>6</td>
<td>-0.03</td>
<td>-0.07</td>
</tr>
<tr>
<td>7</td>
<td>0.80</td>
<td>0.62</td>
</tr>
</tbody>
</table>

essay in class, while in others, students wrote it at home, it seems more than likely that the relationship between television and radio and the high Dimension 1 scores on the process essays is not entirely believable and rather may be due to chance. Moreover, that watching television and listening to the radio would influence the Dimension 1 mean scores of the process essays, which were slightly more formal than the descriptive essays, does not support our intuitions. For these reasons, this correlation, though it was found to be significant, seems suspicious when specific aspects of the data collection are better understood.

**Research Questions Revisited – Summary of Major Findings**

The primary results of this study are as follows:

- The relationship between proficiency and the transfer of speech features was not confirmed.
- No correlation was found between extraversion and the English use questionnaire.
• A negative correlation existed between extraversion and the transfer of speech features to writing in the descriptive essays, while no correlation was found between extraversion and the transfer of speech features in the process essays.

• A correlation was found between the hours per week spent speaking English from the English use questionnaire and the Dimension 1 mean scores of the descriptive essays.

• A correlation was found between the hours per week spent watching television and movies and listening to the radio or CDs in English and the Dimension 1 mean scores of the descriptive essays; however, this finding is suspicious due to the lack of topic control in the process essay.

These results seem to suggest that of numerous correlations were found between the individual instruments used in the data collection, the most significant finding seems to be that the learner’s environment or the circumstances surrounding their use of English may be important in the transfer of speech features to writing. Other important results included that control of topic is an extremely important consideration in a study using writing samples, as the results involving the process essay are suspicious because of the lack of topic control, and that use of Biber’s Dimension 1 was an effective means of evaluating the extent to which a writing sample showed evidence of speech features.
CHAPTER 5. CONCLUSIONS AND IMPLICATIONS

This study was designed to better understand the possible roles of proficiency, personality, and use of English in the transfer of speech features to writing. Results suggest that this transfer is a much more complex problem than anticipated. In this chapter, the major results will be summarized and the implications for further research will be presented.

Major Findings

The purpose of the research questions was to attempt to better understand the relationship between proficiency, personality, and English use and the transfer of speech features to writing in NNSs. The first question involved the relationship between proficiency and the transfer of speech features to writing, as students at lower levels of proficiency were expected to transfer more speech features to writing than those at higher levels. These results were inconclusive due in part to the limited number of participants representing the various proficiency levels.

The second question, which addressed the relationship between extraversion and use of English, was answered by correlating the results of the personality inventory to those of the English use questionnaire. These results indicated that a clear relationship was not evident between extraversion and actual use of English by NNSs. However, from this analysis, it appears that a learner's environment may be more important than personality concerning their actual use of English.

Results of the third question, in which it is hypothesized that extraverts
transfer more features of speech to writing than introverts, indicated that this hypothesis is not necessarily true. With respect to the descriptive essay, introverts rather than extraverts transferred more features of speech to their writing. However, results from the process essays did not reveal a significant relationship between either extraversion or introversion and the transfer of speech features to writing. It is unclear why the introverts in this study transfer more features of speech to their writing than extraverts, but the results suggest that actual use of English may have more impact on this transfer than personality.

In the fourth question, the relationship between use of English and the transfer of speech features to writing was examined. Results indicated that a correlation existed between speaking English outside of class and the transfer of speech features to writing in the descriptive essays. An additional correlation was found between watching television and listening to the radio and the transfer of speech features to writing in the process essays.

The results of these questions seem to suggest that the transfer of speech features to writing is complex and cannot be fully understood from the results of this study. However, results suggest that a language learner's environment may have a stronger influence on speech transfer than proficiency or personality. Another finding was that topic control is of extreme importance because without strictly controlling the topic, it is difficult to clearly understand how various factors contribute to the transfer of speech features to writing. A final result was that the use of Biber's Dimension 1 was effective in evaluating the extent to which a writing sample exhibited features of speech and consequently is highly recommended in future studies.
Limitations of the study

In a study examining three of the factors that may contribute to the transfer of speech features to writing, limitations of the study make it difficult to completely understand the relationships that resulted from the data analysis.

**Proficiency**

The relationship between proficiency and the transfer of speech features to writing could not be confirmed due to the limited number of participants representing each respective proficiency level. In order to successfully understand this relationship, a larger subject sample that represents a broad range of proficiency levels is required. Additionally, a better means of evaluating proficiency is needed in future studies. In this study, participants' writing levels were used as indicators of proficiency; however, using TOEFL scores or another measure is recommended because these measures are much more valid than the English placement scores that were used to place these participants in their respective writing courses.

**Personality Inventory**

The use of a personality inventory in English on NNSs may not be entirely valid even though the results from the inventory indicate that the data were normal. It is possible, considering the combination of difficult vocabulary and idiomatic expressions, that NNSs may not have fully understood what each individual question was asking, though it seems unlikely given the distribution of the data. In future studies, it seems preferable to use translated versions of the inventory to ensure the validity of the data. Although obtaining translated versions and ensuring that these versions have been appropriately tested is a daunting task, it is a means of
ensuring that the results accurately reflect the personalities of the participants.

Additionally, it is possible that because the inventory was designed to measure personality traits that become stable at the approximate age of 30, this may have led to problems because most subjects in the study were under the age of 30. However, this is one of the inevitable drawbacks of using a personality inventory and cannot necessarily be avoided if researchers plan to use these inventories on participants younger than 30 years of age.

As well, whenever using a personality inventory, it is difficult to determine if participants are responding accurately and honestly. In the analysis of the personality inventory data, three validity checks were performed to reduce this possibility, but it is always a potential source of problems.

Finally, use of the English version of the inventory on non-native speakers is problematic because it is difficult to fully understand the variability of personality traits from first language to second language and whether participants are responding to the questions based on their behaviors in their native languages or in English. Researchers have yet to investigate the possibility that personalities change depending on the language being used at a given moment; however, it is probable that participants behaviors may change depending on the particular language being used and the environment in which the language is used. Future researchers may consider using both translated and English versions of the inventory to better understand personality variability with respect to the language being used.

**English Use Questionnaire**

Usage of the English use questionnaire also poses several problems that are similar to those of the personality inventories. First and most obvious is the
difficulty participants might have in assessing their behaviors accurately and truthfully. Because there is no means of ensuring that the responses are accurate and truthful, it is difficult to assume that the data actually reflect participants' behaviors. Additionally, there is the question of the comprehensibility of the questionnaire and whether or not it should have been translated for the study.

The design of the English use questionnaire may need modification in future studies as well. In this study, participants were asked about the amount of time they spent per week doing various activities in English. From these results, it was clear that extraverts do not necessarily use English more extensively than their introverted counterparts. However, in future studies, it would be beneficial to include a section in which participants are asked about their behaviors in both English and in their first languages. This information may help to clarify the relationship between personality and English use.

In future studies, researchers could use individual interviews in which they ask participants specific questions about their language use as a means of confirming the results of the questionnaire and of evaluating the likelihood that comprehension problems influenced the results. Although such interviews are impractical in a large study, individual case studies of participants scoring at the extreme ends of scales would be effective in confirming the results of the questionnaire. Additionally, researchers may consider using behavioral diaries in which participants record their specific daily activities in English.
Topic Control in the Essays

A negative relationship between extraversion and the Dimension 1 mean scores of the descriptive essays, but no correlation between extraversion and the Dimension 1 mean scores of the process essays was unexpected. Because the topic of the descriptive essay was strictly controlled, all students wrote about the same subject. However, the topic of the process essay was left to the choice of students, so discrepancies in the data are not surprising. This suggests that the variety of topics in the process essays may have affected these results. Because the essays used in this study were collected from actual class assignments and because it is easier for students to write about processes with which they are familiar, the topic of the process essay was not strictly controlled. Moreover, such control would have necessitated individual instructors to modify their writing assignments and to force students to write about processes with which they were possibly unfamiliar. These results suggest that in future studies, it is advisable to control for topic as much as possible.

Conclusion – Limitations

In spite of all of these limitations, use of Biber’s Dimension 1 appears to be an accurate means of determining the extent to which a writing sample manifested features of speech. Because this technique is based on groups of co-occurring linguistic features that have been tested and refined by numerous researchers, it seems to be the best technique that is currently available. Thus, although there are
Implications for Future Research

The answers to the research questions seem to suggest that the transfer of speech features to writing is a complex problem that needs further investigation. From my experience with this research project, it seems that control of topic is of utmost importance when examining the factors that may contribute to the transfer of speech features to writing. Future researchers might also consider collecting data from either an extremely large number of subjects or from a smaller number of subjects with the same first language and the same level of literacy. With a large number of subjects, it would be possible to conduct a multi-factor investigation using multi-variate statistical analysis techniques, which would allow for a more thorough investigation of the roles that numerous factors play in the transfer of speech features to writing. With a smaller number of subjects with identical first languages and literacy backgrounds, it might be possible to better understand how the writing conventions of a first language may transfer to a second language and how control of the literacy factor affects the transfer of speech features to writing. In both of these types of studies, using a combination of quantitative and qualitative analyses perhaps holds the best opportunity for a greater understanding of the various factors that contribute to this phenomenon. For example, in a large study, a few of the participants represented by the outlying data points could be carefully interviewed to determine a participant’s specific behaviors or attitudes that could
have affected the results.

Another possible direction for future research is using longitudinal studies combined with multi-factor techniques to track the writing development of participants over a longer period of time and to understand how the specific factors of interest may change over time with respect to the transfer of speech features to writing. During this time, it would also be possible to monitor a participant's use of English, attitude, and motivation, among a number of additional factors.

Although there are numerous possibilities for future research with respect to understanding the various factors that contribute to the transfer of speech features to writing, it does seem that the application of Biber's Dimension 1 is the best means of determining the extent to which writing samples show evidence of speech features that is currently available. As research in corpus linguistics is rapidly advancing and corpora consisting of second language learners' writing samples are being created, it will soon be possible to more fully understand some of the numerous factors that influence the transfer of speech features to writing. Although such investigations will provide insights on the precise role of proficiency or cultural background in this transfer, it will still be necessary to have actual participants rather than simply writing samples in order to fully understand the role that personality and other factors contribute to such transfer.

Conclusions

This study investigated the factors of proficiency, extraversion, and English use, and their influence on the transfer of speech features to writing. The most
important results are as follows:

- Use of English appears to have more of an impact on the transfer of speech features to writing than does either proficiency or extraversion.

- Topic control is of extreme importance because without this control it is difficult to clearly understand how various factors contribute to the transfer of speech features to writing.

- Use of Dimension 1 was effective and is highly recommended in future studies.

It is essential to consider these findings with respect to the numerous limitations of the study, although the findings suggest that use of English appears to play a role in the transfer of speech features to writing. Thus, it appears extraversion may be less important in the transfer of speech features to writing than language learners’ specific behaviors and use of English in this environment. However, additional research is needed to confirm this observation so that the transfer of speech features to writing can be addressed in the ESL writing classroom. With respect to the writing classroom, although Biber’s Dimension 1 is based on groups of co-occurring linguistic features, in the classroom, teachers will have to address this transfer feature by feature because it will be difficult to impress upon students the influence that the combined features have on a piece of discourse. Thus, while Dimension 1 is an effective technique in research, it will still be necessary for ESL teachers to address the transfer of speech features to writing on a feature by feature basis.
APPENDIX A

Personality Questionnaire

Please rate the extent to which you agree with the following statements by placing the corresponding number (0, 1, 2, 3, or 4) in the blank next to the question number.

NOTE: Some words might be difficult to understand. The words in **bold face type** are defined in parenthesis. Please raise your hand if you find additional vocabulary words that you do not understand and they will be explained to you.

<table>
<thead>
<tr>
<th>Disagree</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>___ 1.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>I really like most people I meet.</td>
</tr>
<tr>
<td>___ 2.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>I <strong>shy away from</strong> (don't enjoy being around) crowds of people.</td>
</tr>
<tr>
<td>___ 3.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>I <strong>am dominant</strong> (controlling, powerful), <strong>forceful</strong> (strong, powerful), and <strong>assertive</strong> (showing or expressing strong opinions or claims).</td>
</tr>
<tr>
<td>___ 4.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>I have a <strong>leisurely</strong> (casual, relaxed) style in work and play.</td>
</tr>
<tr>
<td>___ 5.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>I often <strong>crave</strong> (desire, wish, or want) excitement</td>
</tr>
<tr>
<td>___ 6.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>I have never literally <strong>jumped for joy</strong> (felt great joy or happiness).</td>
</tr>
<tr>
<td>___ 7.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>I <strong>don't get much pleasure from</strong> (I don't enjoy) chatting with people.</td>
</tr>
<tr>
<td>___ 8.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>I like to have a lot of people around me.</td>
</tr>
<tr>
<td>___ 9.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>I sometimes <strong>fail to assert myself</strong> (not showing or expressing opinions) as much as I should.</td>
</tr>
<tr>
<td>___ 10.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>When I do things, I do them <strong>vigorously</strong> (energetically, powerfully).</td>
</tr>
<tr>
<td>___ 11.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>I wouldn't enjoy vacationing in Las Vegas.</td>
</tr>
<tr>
<td>___ 12.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>I have sometimes experienced intense <strong>joy or ecstasy</strong> (happiness).</td>
</tr>
<tr>
<td>___ 13.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>I'm known as a warm and friendly person.</td>
</tr>
</tbody>
</table>

15. I have often been a leader of groups I have belonged to.

16. My work is likely to be slow but steady (stable, consistent, not extremely changing from day to day).

17. I have sometimes done things just for "kicks" or "thrills" (doing something for kicks means doing something just for the excitement or pleasure of it).

18. I am not a cheerful optimist (someone who believes that whatever happens will be good, that things will end well or happily).

19. Many people think of me as somewhat cold and distant (unfriendly).

20. I really feel the need for other people if I am by myself (alone) for long.

21. In meetings, I usually let others do the talking.

22. I often feel as if I'm bursting with energy (overflowing, filled).

23. I tend to avoid (to be likely to avoid, to have a tendency to avoid) movies that are shocking or scary.

24. Sometimes I bubble with happiness (show great joy or happiness).

25. I really enjoy talking to people.

26. I prefer jobs that let me work alone without being bothered (interrupted, troubled, to cause anxiety) by other people.

27. Other people often look to me (turn to me, expect me) to make decisions.

28. I'm not as quick and lively (full of movement, energy) as other people.

29. I like to be where the action is (where there is a lot of excitement or action).

30. I don't consider myself especially "light-hearted" (cheerful, carefree).

31. I find it easy to smile and be outgoing (be friendly) with strangers.
32. I'd rather vacation at a popular beach than an isolated cabin in the woods.

33. I would rather go my own way (be independent, think for myself) than be a leader of others.

34. I usually seem to be in a hurry.

35. I love the excitement of roller coasters (a kind of small railroad with sharp slopes and curves that is popular at amusement parks).

36. I am a cheerful, high-spirited (lively, energetic) person.

37. I have strong emotional attachments to (deep feelings for) my friends.

38. Social gatherings are usually boring to me.

39. In conversations, I tend to do most of the talking.

40. My life is fast-paced (to move along rapidly with excitement).

41. I'm attracted to (I like) bright colors and flashy styles.

42. I rarely (almost never) use words like "fantastic!" or "sensational!" (to use words that show positive emotions) to describe my experiences.

43. I take a personal interest in the people I work with.

44. I enjoy parties with lots of people.

45. I don't find it easy to take charge (act as a leader, take the position of leader) of a situation.

46. I am a very active person.

47. I like being part of the crowd at sporting events.

48. I laugh easily.
APPENDIX B

English Usage Questionnaire

Name ______________

Part I. Please respond to the following questions.
1. What is your gender? ____
2. What is your native language?
3. How old are you? ____

Part II. Please respond to the following questions using yes or no.
1. Do you live in the dorms (Buchanan, Maple Willow Larch, etc.)? ______ yes ______ no
2. Do you have an English speaking roommate/spouse/partner? ______ yes ______ no
3. How many hours per week are you in class at Iowa State? ____

Part III. Read the following questions and rate yourself on a scale of 1 to 7.
1. What percent of your friends and acquaintances do you usually speak English with?
   1 2 3 4 5 6 7
   less than 10% 25% 40% 55% 70% 85% more than 95%
2. How many hours per week do you spend talking on the phone in English?
   1 2 3 4 5 6 7
   0-2 hours 3-5 hours 6-10 hours 11-15 hours 16-20 hours 20-30 hours 30+ hours
3. How many hours per week do you spend watching television and movies, and listening to the radio and to your own tapes and CDs in English?
   1 2 3 4 5 6 7
   0-2 hours 3-5 hours 6-10 hours 11-15 hours 16-20 hours 20-30 hours 30+ hours
4. How many hours per week do you spend sending and receiving email using English?
   1 2 3 4 5 6 7
   0-2 hours 3-5 hours 6-10 hours 11-15 hours 16-20 hours 20-30 hours 30+ hours
5. How many hours per week do you spend writing assignments and papers for class in English?
   1 2 3 4 5 6 7
   0-2 hours 3-5 hours 6-10 hours 11-15 hours 16-20 hours 20-30 hours 30+ hours
6. How many hours per week do you spend reading for class and for your personal enjoyment in English?
   1 2 3 4 5 6 7
   0-2 hours 3-5 hours 6-10 hours 11-15 hours 16-20 hours 20-30 hours 30+ hours
7. How many total hours per week do you speak English outside of class?
   1 2 3 4 5 6 7
   0-2 hours 3-5 hours 6-10 hours 11-15 hours 16-20 hours 20-30 hours 30+ hours
APPENDIX C

Writing Samples

Writing Sample 1: Descriptive Essay with High Dimension 1 Score

In the past one year, I came to this country and studied the collage. It was the first time I studied at American and everything was so uncomfortable. Actually this is also the first time I leaved home for long time.

Now, one year pass, seems everything get familiar and start going better. I get used to collage life time and the course. Although the weather is still a big problem for me, but I think everything will gets better later because I never stay at a cold place like these. My country usually is hot, at lease hotter than here. In the future, I think I will like to continue my collage lift and trying to study more harder so I can finish my degree as soon as possible. It doesn’t mean that I want to go back to my country but if I can finish my collage faster than other people I can have more time to get social experience and more chance to find a job.

Writing Sample 2: Descriptive Essay with Low Dimension 1 Score

I’m born in China in September 13, 1982 and often went to the Panama City. I study in the Cleuia F. Matinez School situated in Penonome county. My parents to move Aguadulce county in 1990 and I continue my study in the Abelarda Herrera schools. After I change to the Saint George College and after the Saint Ross Academie. In this Academie, I finish my primary cycle. In 1998 I went to the Rodalfo Chionie College to study Business and finish my study in 2000. I was to one course of Electronic for installation of audio sound for car. I was to one course of Mechanical in the Taller Nicho M. and practice Electric Wittmur Juan Ortega.

In my functions I went to the Discoteca in Panama and play billar, swimming, soccer, and run bicycle.

I worked in the Supermarket of my father and worked in the Electronic the Mayo. And I have my own Discotec in Panama. The name is Corruption Way Musical.
How to Overcome Frustration

In the busy life, people often get frustration and stress. Life would be seemed harder than it should be. How to overcome our frustration so we can enjoy it in this complicated world? There are six steps that would help you: 1) Step back, 2) Be present, 3) Appreciation of process, 4) Just be yourself, 5) Life focus and 6) Do it yourself.

First, step out of the complex things before you get some more stress by giving yourself some time out. Smell the air and enjoy the view. With a little distance you might be able to see what areas in your life could use the most simplifying. Write its and pick just one to start with. If it is seemed too difficult for you to reach by yourself, seek an objective friend or professional person to work with and try to gain some perspective from them.

Second, as you simplify the number of things that you are accounted for in your life, you will have more energy and ability to really be present for the things that remain. Think about whom and what you really value then decide how you can be present for those people and activities.

Third, when you are busy in your work and study, find ways to appreciate the moment. Enjoy the process whatever you are doing, not just the outcome. Because you do not only have to reach the goal but you also have to understand what the meant of the goal for you is.

Fourth, it is a lot simpler to be yourself and not worry than to try to be another person. "A life of integrity is one lived as your natural self, not as some fictional character made up to accommodate and please those around you." (By Lynn Gordon, 1997) So be yourself in all the way you are with all of your weaknesses. You may be surprised how many people like you for just that.

Fifth, what do you want to do in your lifetime? Make a list of all your goals and dreams. Depending on how big your goals are, pick three that interest you most right now. Focus on just these. Every time you are thinking up more goals, just add them to your list of all your goals and then return your attention to do the project at hand.

Sixth, every time you find yourself telling yourself that you cannot do something and relying on other person to do it for you, you have missed the opportunity to improve yourself. You just afraid of it and you are used to paying to have it done for you. Think of something that you can start doing for yourself again or can learn how to do for the first time. You might enjoy it and you may be proud of what you have done.

Those are some steps that maybe could help you to overcome your frustration. Just think that life is simpler than your thought. You can feel happier than before.
Writing Sample 4: Process Essay with Low Dimension 1 Score

How to make roast potatoes

Ingredients:
6-8 medium potatoes
2 tablespoons oil
salt
pepper

Procedure:

Turn the oven on to pre-heat at 425 degrees (F), as you prepare the potatoes to set the right temperature and to save time. Wash your hands to get rid of dirt in your hands. Wear an apron to protect your clothing and cover your head with a headscarf to ensure that no hair falls on the food. Clean the baking pan and dry it using a dry cloth. Grease the pan with a little oil to prevent the potatoes from sticking on the pan.

Wash, peel and cut the potatoes lengthwise into 8 pieces or the desired number of pieces. One can also cook them whole. Toss the potatoes in oil or use a kitchen brush. Oil enhances the golden color that makes the potatoes appetizing. Sprinkle salt, pepper and any other seasoning for flavor. Arrange them onto the pan and cover with foil. Foil paper helps to retain the steam, which then enhances the tenderness of the potatoes. Use oven gloves to protect your hands from the intense heat from the oven. Cook the potatoes for 45 minutes. Clear up the working table, and wash any dirty utensils ready for the next step.

Set the table, by placing forks and knives at either side of the mat. Also there should be the napkins in case of any spills. Put water glasses at the top right hand side of the mats. Remove the potatoes carefully, from the oven, using the oven gloves. Remove the foil and using a fish slice, transfer the potatoes onto a serving dish. You will notice that the oil has been used up and that the potatoes are tender. Serve immediately.

Switch off the oven to conserve energy! Serve the roast potatoes with tomato and carrot soup, chicken wings and vegetables. Place the dishes at the middle of the dining table, including the water or juice jugs. After the meal, prepare and serve a fruit salad dessert, using the fruits in season.

Clear up the table, and re-set for the next meal. Clean all the dishes to maintain a hygienic environment. Then, dry the utensils and store them in their appropriate places.
APPENDIX D

Human Subjects Committee Approval

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

DATE: February 19, 2001

TO: Julie Thornton

FROM: Jami McDermott, IRB Administrator

RE: "The role of extraversion in the transfer of speech to writing" IRB ID 01-380

TYPE OF APPLICATION: [x] New Project  [ ] Continuing Review  [ ] Modification

The project, "The role of extraversion in the transfer of speech to writing" has been approved for one year from its IRB approval date February 19, 2001. University policy and Federal regulations (45 CFR 46) require that all research involving human subjects be reviewed by the Institutional Review Board (IRB) on a continuing basis at intervals appropriate to the degree of risk, but at least once per year.

Any modification of this research project must be submitted to the IRB for prior review and approval. Modifications include, but are not limited to: changing the protocol or study procedures, changing investigators or sponsors (funding sources), changing the Informed Consent Document, an increase in the total number of subjects anticipated, or adding new materials (e.g., letters, advertisements, questionnaires).

You must promptly report any of the following to the IRB: (1) all serious and/or unexpected adverse experiences involving risks to subjects or others; and (2) any other unanticipated problems involving risks to subjects or others.

You are expected to make sure that all key personnel who are involved in human subjects research complete training prior to their interactions with human subjects. Web-based training is available from our web site.

Ten months from the IRB approval, you will receive a letter notifying you that the expiration date is approaching. At that time, you will need to fill out a Continuing Review Form and return it to the Human Subjects Research Office. If the project is or will be finished in one year, you will need to fill out a Project Closure Form to officially end the project.

Both of these forms are on the Human Subjects Research Office web site at: http://grants-svr.admin.iastate.edu/VPR/human-subjects.html.
Checklist for Attachments and Time Schedule

The following are attached (please check):

12. □ Letter or written statement to subjects indicating clearly:
   a) the purpose of the research
   b) the use of any identifier codes (names, #s), how they will be used, and when they will be removed (see item 17)
   c) an estimate of time needed for participation in the research
   d) if applicable, the location of the research activity
   e) how you will ensure confidentiality
   f) in a longitudinal study, when and how you will contact subjects last
   g) that participation is voluntary; nonparticipation will not affect evaluations of the subject

13. □ Signed consent form (if applicable).

14. □ Letter of approval for research from cooperating organizations or institutions (if applicable)

15. □ Data-gathering instruments

16. Anticipated dates for contact with subjects:

<table>
<thead>
<tr>
<th>First contact</th>
<th>Last contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>February 15, 2001</td>
<td>April 30, 2001</td>
</tr>
</tbody>
</table>

Month/Day/Year

17. If applicable: anticipated date that identifiers will be removed from completed survey instruments and/or audio or visual tapes will be erased:

   | March 15, 2001 |
   | Month/Day/Year |

18. Signature of Departmental Executive Officer: □ Project approved □ Project not approved □ No action required

   | □ Project approved |
   | Date | Department or Administrative Unit |
   | 2/5/01 | |

19. Signature of Committee Chair:

   | □ Project not approved |
   | Name of Human Subjects in Research Committee Chair | Date | Signature of Committee Chair |
   | Patricia M. Keith | 2/19/01 | |
APPENDIX E

Consent for Participation Form

IOWA STATE UNIVERSITY
19 February 2001

Dear Student:

I am requesting your voluntary participation in research that is part of my M.A. thesis. The purpose of this project is to investigate the role personality plays in the writing development of English as a Second Language students. As fellow students, I am certain you understand the significance research plays in further developing our understanding of how individuals best learn English, which, in turn, can affect the methods used in the ESL classroom. Thus, it is my hope that you will decide to participate in this research project.

Your participation in this project will involve the following: 1) completion of a short personality inventory, 2) completion of a short questionnaire in which you are asked to evaluate how much you use English on a weekly basis in your everyday activities, and 3) the submission of two pieces of your writing homework that are part of the writing course you are currently taking. This means that you will not have to complete writing samples outside of the classroom in order to participate in this research. Thus, the total amount of time that it will take for you to participate in this study is approximately one class period (50 minutes).

If you choose to participate in this research project, please be aware that your responses to the questionnaires and your writing samples will be kept confidential. In order to ensure confidentiality, your name will be removed from the questionnaires and writing samples after completion and will be replaced with a code number. I will be the only researcher who has access to this information. Please also be aware that your participation in this project is voluntary and will have absolutely no impact on your course evaluation. Note: if you choose not to participate in the research, your writing teacher will not turn the two writing samples over to me. Also, if you do not participate in the study, you will still be required to attend class on the day the questionnaires will be completed, but you will work on homework instead. Finally, please note that you may withdraw from participation in the study at any time.

If you have further questions about the research itself or about anything else, please contact me or my major professor, Roberta Vann, who is supervising my research project. I can be contacted at sorcier@iastate.edu or at 294-5628, while Roberta Vann can be contacted at rvann@iastate.edu or at 294-3577. Thank you.

Sincerely,

Julie Thornton

I agree to participate in Julie Thornton's thesis research project. I am aware that my participation is voluntary and will have no affect on my evaluation or grade in this course. I am also aware that the research will include submitting two of my writing samples and the completion of a personality inventory and a questionnaire about the extent to which I use English on a daily basis. I understand that my identity will be confidential and that I may withdraw from participation at any time. I also understand that I may obtain a summary of the results from my participation in the study.

Signed: __________________________ Date: ________________

Name (printed): ____________________
WORKS CITED


ACKNOWLEDGEMENTS

I would first like to thank my major professor, Roberta Vann, who provided direction and offered insights and support in this research project. I would also like to thank the members of my committee, Dan Douglas and Veronica Dark, who provided numerous suggestions in this project. As well, I would like to thank Susan Conrad, who introduced me to corpus linguistics and Dimension 1 and assisted in the Dimension 1 analysis.

Thanks also goes to the IEOP and 101 teachers who allowed me to conduct research in their classes – thanks Mary, Hoyt, Suzanne, Federica, and Suzanne. Thanks also to Jessica and Bob, my own personal cheer squad in Landscape Architecture. An additional thanks goes to Heidi and Kristi in IEOP, who helped with technical difficulties 😊.

I also want to thank Sarah, Viviane, and Rappe, my buddies who helped with editing and mostly with providing support. Thanks also to my mom and dad.