THE READING AND WRITING RELATIONSHIP: A CORRELATIONAL
STUDY OF ENGLISH AS A SECOND LANGUAGE LEARNERS
AT THE COLLEGIATE LEVEL

DISSERTATION

Presented to the Graduate Council of the
North Texas State University in Partial
Fulfillment of the Requirements

For the Degree of

DOCTOR OF PHILOSOPHY

By

Pratin Pimsarn, B.Ed., M.Ed.,
Denton, Texas
August, 1986

The major purpose of this study was to determine the possible correlation between reading and writing abilities of college students who are identified as second language learners. It was also aimed at determining the relationships between variables pertaining to the ESL college students, namely, their self-selected reading materials, their reading interests, the amount of time spent studying English, how they studied English, how they were taught English, and the length of residence in the United States.

The data needed to test the hypotheses consist of a standardized reading test (the Nelson-Denny Reading Test Form A), a writing sample developed through the mode of comparison/contrast, and a questionnaire, all of which were administered to forty international students taking a freshman English course at a southwest public university. As two kinds of variables are involved in this study, three different statistical analyses were computed: the Goodman-Kruskal Gamma Coefficients, the Pearson's Product Moment, and the chi-square. All hypotheses were tested at the .05 level of significance.
Two significant correlations were found in this study.

1. There is a statistically significant relationship between the ESL college students' reading ability levels and their writing ability levels. It can be assumed that while the above average readers tend to be good writers, the below average readers tend to be poor writers.

2. There is a statistically significant difference on the ESL college students' reading achievement as evaluated by the Nelson-Denny Reading Test Form A differentiated by their writing ability levels as assessed by a holistic scoring method for assessing writing.

There is no statistically significant relationship found in the other hypotheses when tested.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>LIST OF TABLES</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>v</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LIST OF ILLUSTRATIONS</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>viii</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chapter</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. THE READING AND WRITING RELATIONSHIP</td>
</tr>
<tr>
<td>Introduction</td>
</tr>
<tr>
<td>Statement of the Problem</td>
</tr>
<tr>
<td>Purpose of the Study</td>
</tr>
<tr>
<td>Hypotheses</td>
</tr>
<tr>
<td>Background and Significance of the Study</td>
</tr>
<tr>
<td>Definition of Terms</td>
</tr>
<tr>
<td>Limitation of the Study</td>
</tr>
<tr>
<td>Procedures for Collection of Data</td>
</tr>
<tr>
<td>Procedures for Analysis of Data</td>
</tr>
<tr>
<td>Organization of the Study</td>
</tr>
<tr>
<td>Chapter Bibliography</td>
</tr>
</tbody>
</table>

| II. REVIEW OF RELATED LITERATURE | 21 |
| Introduction | |
| Models of Reading and Writing Relationships | |
| Research Relating Reading and Writing | |
| Summary | |
| Chapter Bibliography | |

| III. METHODS AND PROCEDURES | 56 |
| Sample and Population | |
| Instrumentation | |
| Procedures for Scoring Questionnaires, Reading Tests and Writing Samples | |
| Summary | |
| Chapter Bibliography | |

<p>| IV. ANALYSES OF THE DATA | 63 |
| Research Hypothesis One | |
| Research Hypothesis Two | |
| Research Hypothesis Three | |
| Research Hypothesis Four | |
| Research Hypothesis Five | |
| Research Hypothesis Six | |
| Research Hypothesis Seven | |
| Research Hypothesis Eight | |
| Summary of Major Findings | |</p>
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS FOR FURTHER RESEARCH</td>
<td>90</td>
</tr>
<tr>
<td>Summary</td>
<td></td>
</tr>
<tr>
<td>Discussion</td>
<td></td>
</tr>
<tr>
<td>Conclusions</td>
<td></td>
</tr>
<tr>
<td>Recommendations for Further Research</td>
<td></td>
</tr>
<tr>
<td>A Proposed Model of Reading and Writing Relationship for ESL Situations</td>
<td></td>
</tr>
<tr>
<td>Bibliography</td>
<td></td>
</tr>
<tr>
<td>APPENDIXES</td>
<td>109</td>
</tr>
<tr>
<td>BIBLIOGRAPHY</td>
<td>122</td>
</tr>
<tr>
<td>Table</td>
<td>Description</td>
</tr>
<tr>
<td>-------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>I.</td>
<td>Goodman-Kruskal Gamma Coefficients between the Overall Reading and Writing</td>
</tr>
<tr>
<td></td>
<td>Ability Levels of the English as a Second Language Students</td>
</tr>
<tr>
<td>II.</td>
<td>Pearson's Product Moment Correlation Coefficients of the ESL College Students'</td>
</tr>
<tr>
<td></td>
<td>Reading Scores and Their Writing Ability Levels</td>
</tr>
<tr>
<td>III.</td>
<td>Chi-Square, Degrees of Freedom, and Significance of the ESL College Students'</td>
</tr>
<tr>
<td></td>
<td>Reading Ability Levels and Their Self-Selected Reading Materials</td>
</tr>
<tr>
<td>IV.</td>
<td>Chi-Square, Degrees of Freedom, and Significance of the ESL College Students'</td>
</tr>
<tr>
<td></td>
<td>Reading Ability Levels and Their Reading Interest (Science Fiction)</td>
</tr>
<tr>
<td>V.</td>
<td>Chi-Square, Degrees of Freedom, and Significance of the ESL College Students'</td>
</tr>
<tr>
<td></td>
<td>Reading Ability Levels and Their Reading Interest (Sport Type)</td>
</tr>
<tr>
<td>VI.</td>
<td>Chi-Square, Degrees of Freedom, and Significance of the ESL College Students'</td>
</tr>
<tr>
<td></td>
<td>Reading Ability Levels and Their Reading Interest (Mystery Type)</td>
</tr>
<tr>
<td>VII.</td>
<td>Chi-Square, Degrees of Freedom, and Significance of the ESL College Students'</td>
</tr>
<tr>
<td></td>
<td>Reading Ability Levels and Their Reading Interest (Romance Type)</td>
</tr>
<tr>
<td>VIII.</td>
<td>Chi-Square, Degrees of Freedom, and Significance of the ESL College Students'</td>
</tr>
<tr>
<td></td>
<td>Reading Ability Levels and Their Reading Interest (Historical Fiction)</td>
</tr>
<tr>
<td>IX.</td>
<td>Chi-Square, Degrees of Freedom, and Significance of the ESL College Students'</td>
</tr>
<tr>
<td></td>
<td>Reading Ability Levels and Their Reading Interest (Biography)</td>
</tr>
<tr>
<td>Table</td>
<td>Page</td>
</tr>
<tr>
<td>-------</td>
<td>------</td>
</tr>
<tr>
<td>X. Chi-Square, Degrees of Freedom, and Significance of the ESL College Students' Reading Ability Levels and Their Reading Interest (Informational)</td>
<td>75</td>
</tr>
<tr>
<td>XI. Chi-Square, Degrees of Freedom, and Significance of the ESL College Students' Reading Ability Levels and Their Reading Interest (Fantasy)</td>
<td>76</td>
</tr>
<tr>
<td>XII. Chi-Square, Degrees of Freedom, and Significance of the ESL College Students' Reading Ability Levels and Their Reading Interest (Adventure)</td>
<td>77</td>
</tr>
<tr>
<td>XIII. Chi-Square, Degrees of Freedom, and Significance of the ESL College Students' Reading Ability Levels and Their Reading Interest (Poetry)</td>
<td>78</td>
</tr>
<tr>
<td>XIV. Chi-Square, Degrees of Freedom, and Significance of the ESL College Students' Reading Ability Levels and Their Reading Interest (How-To-Do-It)</td>
<td>79</td>
</tr>
<tr>
<td>XV. Chi-Square, Degrees of Freedom, and Significance of the ESL College Students' Reading Ability Levels and Their Reading Interest (Jokes/Humor)</td>
<td>80</td>
</tr>
<tr>
<td>XVI. Chi-Square, Degrees of Freedom, and Significance of the ESL College Students' Reading Ability Levels and Their Reading Interest (Supernatural)</td>
<td>81</td>
</tr>
<tr>
<td>XVII. Goodman-Krauskal Gamma Coefficients Between the Overall Reading and Writing Ability Levels of the ESL College Students and the Amount of Time Spent Studying English</td>
<td>83</td>
</tr>
<tr>
<td>XVIII. Goodman-Krauskal Gamma Coefficients Between the Overall Reading and Writing Ability Levels of the ESL College Students and How They Studied English</td>
<td>84</td>
</tr>
<tr>
<td>Table</td>
<td>Page</td>
</tr>
<tr>
<td>-------</td>
<td>------</td>
</tr>
<tr>
<td>XIX.</td>
<td>Goodman-Kruskal Gamma Coefficients Between the Overall Reading and Writing Ability Levels of the ESL College Students and How They Were Taught in an English-Speaking Environment</td>
</tr>
<tr>
<td>XX.</td>
<td>Goodman-Kruskal Gamma Coefficients Between the Overall Reading and Writing Ability Levels of the ESL College Students and the Length of Residence in the United States</td>
</tr>
</tbody>
</table>
## LIST OF ILLUSTRATIONS

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Anderson's Writing and Reading as A Total Interacting System Model</td>
<td>22</td>
</tr>
<tr>
<td>2.</td>
<td>Page's Writing and Reading Relationship Model</td>
<td>23</td>
</tr>
<tr>
<td>3.</td>
<td>Ruddell's Communication Model</td>
<td>26</td>
</tr>
<tr>
<td>5.</td>
<td>A Proposed Model of Reading and Writing Relationship for ESL Situation</td>
<td>102</td>
</tr>
</tbody>
</table>
CHAPTER I

THE READING AND WRITING RELATIONSHIP

Introduction

Language, like other behavior, is determined by consequences (24, p. 21). According to Hall, Moretz, and Statom (14, p. 582), the general sequence for acquiring the four language processes is usually thought to be listening, speaking, reading, and writing, with the receptive preceding the productive. Writing, as claimed by Wilson (37, p. 897), is an outgrowth of reading; so reading must occur before writing can begin.

However, it is possible for a child to acquire reading skills before speaking (32, p. 198). According to Chomsky (5, p. 296) and McCarthy (20, p. 282), it is common to observe children show an interest and ability in writing before reading, and to recommend that instruction in writing should aid or precede instruction in reading.

Many observations have been made about reading and writing since these two skills are claimed to be essential components of literacy (27, p. 7). Practically, these two skills are not equally emphasized. More emphasis is usually placed on reading. Vygotsky states:

Until now, writing has occupied too narrow a place in school practice as compared to the enormous role that it plays in children's cultural
development. The teaching of writing has been conceived in narrowly practical terms. Children are taught to trace out letters and make words out of them, but they are not taught written language. The mechanics of reading what is written are so emphasized that they overshadow written language as such (36, p. 105).

However, reading and writing have long been recognized as interrelated skills by reading specialists as well as language teachers. They have not only been interested in how children learn to read and write but also in how reading and writing are interrelated.

Studies in reading and writing relationships have been conducted in various ways. Researchers like Marie Clay (6) and Frank Smith (29) have demonstrated that reading and writing are not only complementary language processes but that acquiring encoding and composing skills assist students in developing decoding and composing skills. Conclusions can be drawn from a number of studies that writing and reading share a close relationship to each other (1; 3; 19; 28). Evidence clearly shows that increased reading practice improves writing ability (7; 22), and that success in writing can be reliably predicted by reading achievement (8; 16; 17). Furthermore, results of experimental programs that have an emphasis on writing show that through writing students grow in their ability to read (33, p. 330).

While a large number of research studies in this field have been conducted, there is still a lack of studies
involving English as a Second Language learners and focusing on their reading and writing relationships especially at upper levels. To conduct a study on these reading and writing relationships of English as a second language learners will not only be fruitful to teacher educators, but the study will possibly lead to the same results as have been found with native speakers of English. As a result, this study was primarily intended to investigate the reading and writing relationships of English as a second language learners at the collegiate level.

Statement of the Problem

The problem of this study concerns the possible correlation between reading and writing ability of college students who are identified as second language learners.

Purpose of the Study

The purposes of this study were to determine the relationships between the following variables as they pertain to English as a second language learners:

1. The overall reading and writing ability levels
2. The ESL college students' reading scores and their levels of writing ability
3. The ESL college students' reading ability levels and their self-selected English reading materials
4. The ESL college students' reading ability levels and their reading interests
5. The ESL college students' reading and writing ability levels and the amount of time spent studying English

6. The ESL college students' reading and writing ability levels and the way they study English

7. The ESL college students' reading and writing ability levels and how they have been taught English

8. The ESL college students' overall reading and writing ability levels and the length of residence in the United States

Hypotheses

To carry out the purposes of the study, the following hypotheses were tested:

1. There will be a significant positive relationship between reading ability levels of the ESL college students based on the scores from the Nelson-Denny Reading Test Form A, and writing ability levels as assessed by a panel of experts.

2. There will be a significant difference on reading scores as measured by the Nelson-Denny Reading Test Form A among groups of ESL college students differentiated by levels of writing ability as assessed by the writing sample.

3. There will be a significant positive relationship between the ESL college students' reading ability levels and their self-selected reading materials.
4. There will be a significant positive relationship between the ESL college students' reading ability levels and their reading interests.

5. There will be a significant positive relationship between the ESL college students' reading and writing ability levels and the amount of time spent studying English.

6. There will be a significant positive relationship between the ESL college students' reading and writing ability levels and how they study English.

7. There will be a significant positive relationship between the ESL college students' reading and writing ability levels and how they are taught English.

8. There will be a significant positive relationship between the ESL college students' overall reading and writing ability levels and the length of residence in the United States.

Background and Significance of the Study

Based on the processes of reading and writing, the following conclusions are derived from various assumptions and research findings.

1. Reading and writing, according to Goodman (11, p. 58), are language processes. Reading is receptive, while writing is generative. Both reading and writing, as stated by Squire (31, p. 584), require attention to the various modes and functions of language.
2. Reading and writing are both language processes where the use of a language cue system must operate in an interdependent manner if meaning is to be found (21, p. 7). That is, they are processes of meaning construction (35, p. 568).

3. According to Flower and Hayes (9, p. 366), writing is a goal-directed process. So is reading. This means writing and reading are geared toward goals. A writer's goal may be procedural, substantive, or intentional. So may a reader's goal be procedural, substantive, or intentional or some combination of all three.

4. Reading and writing are acts of composing according to Tierney and Pearson (35, p. 568). We see acts of composing as involving continuous recurring and recursive transactions within readers and writers, within their receptive inner selves, and their perceptions of each other's goals and desires.

5. Reading and writing are both processes where learners must be active participants (21, p. 8). It is believed that development in reading and writing can occur only if people actively participate in reading and writing experiences which have significant and personal meaning for the user (12, p. 599). That is, learning to read and write, as pointed out by Blackburn (2, p. 372), is a recursive process. Revision is the stage of the process where its recursive nature is most evident. To develop skill in
revision, learners need to linger over their reading and writing products.

6. Reading and writing are claimed to be language and thinking processes through which learners grow and learn (10, p. 207). Both language skills need to be part of the learners' endeavors in observing, experiencing, and relating.

7. According to Moffett (23, p. 315), reading and writing are ways of modifying inner speech. Moffett states,

Reading assimilates one person's composed inner speech into another person's on-going inner stream so that one's composition temporarily restructures the other's consciousness. Writing temporarily restructures one's own consciousness as one focuses, edits, and revises the inner stream so as to act on another's. Reading and writing have another functions such as to restructure about mundane matters, but even these take place in the bigger picture of terms-forming oneself, or raising consciousness; and the more reading and writing represent unforced personal choice the more this analysis is true (23, p. 315).

8. Both reading and writing are learned processes (1, p. 810). The reader's reactions during reading and the writer's creations during writing are a function of both cognitive and affective operations (1, p. 811). This means that in both reading and writing the learner struggles to maintain a proper balance between feeling and logical criteria for establishing intended meaning.

9. Reading and writing are sociopsycholinguistic processes (15, p. 127). That is, the learners bring all they know about the world (experience), then they encounter
the language process facilitated by their personal knowledge of linguistic capacities to arrive at their goals.

10. According to Chall and Jacobs (4, p. 625), not only is writing important for itself, but the strong relationship between writing and reading language suggests that the development of writing may also enhance reading and language. In other words, not only do people learn to read by reading and write by writing, but they also learn to read by writing and write by reading (12, p. 592).

Research findings indicate that substantial increase in reading activity alone has no apparent beneficial outcome on reading achievement. DeVries (7) conducted an experimental study in which one group completed reading and writing activities while the other group only completed writing activities. It was concluded in this study that the amount of reading done by students along with the writing activity seems to have more positive influence on writing ability than just the amount of writing done. This tends to convince one that reading and writing are interdependent; one skill can enhance the other.

Similarly, after having made a study of remedial writing, Lundsford (18) suggested the advantage of seeing the activities of reading and writing as inseparable, and came to the conclusion that "the teacher of writing must automatically and always be a teacher of reading as well" (p. 49). The implications of her observations are that:
language skills are related -- the level of reading comprehension is related to complexity of sentence formation (or syntactic maturity) and that both are related to mature, syntactic thought-process. Our students were all both poor readers and poor writers, and their gains in these two areas clearly paralleled each other. Furthermore, as our students' ability to manipulate syntactic structures improved, so did their ability to draw inferences and make logical connections (18, p. 51).

The most interesting study on reading and writing relationships was made by Stotsky (34). She made a synthesis of research on reading and writing relationships as well as suggested directions for further research in this area. A conclusion made from her study is that research on reading and writing relationships has been done in two major categories: correlational and experimental.

Correlational studies fall into three subcategories: those correlating measures of reading achievement with measures of writing abilities; those correlating measures of reading experience with measures of writing abilities; and those correlating measures of reading ability with measures of syntactic complexity in students' comprehension.

The experimental studies are those studies examining the influence of writing upon reading and the influence of reading upon writing. Studies examining the influence of writing upon reading are those attempting to improve writing through writing instruction, considering its effect on reading; and those attempting to improve reading through the use of writing. Studies examining the influence of reading
upon writing are those attempting to improve only reading, considering its effect on writing; and those attempting to improve writing through reading instruction, the use of literary models, or additional reading experiences.

However, the studies conducted in this field are mainly of native speakers of English. Apparently, there is no research at the upper elementary and secondary levels examining the writing of English as a second language students and the relationships between traits in their writing and their reading scores in English (34, p. 638). Research in this area at different developmental levels might provide significant data with which to assess the relative influence of reading and speech on writing.

This study may prove to be one of the first studies in this area of the reading/writing relationship of ESL college students. It should result in beneficial contributions to educators, especially language arts teachers who are primarily concerned with providing the teaching of English. Additionally, this study should help English teachers to provide the appropriate teaching/learning materials as well as the effective teaching/learning activities for students who have English as their second language.
Definition of Terms

For clarification purposes and handling the data, the following terms are operationally provided as such:

**ESL College Student** - In this study, the college students who do not have English as their first language are identified as second language learners.

**Reading Comprehension** - Refers to the fundamental intellectual process of understanding what one reads (30, p. 548).

**Level of Reading Competency** - Refers to above average, average, and below average reading comprehension scores achieved by ESL college students under study as measured by the Nelson-Denny Reading Test (NDRT) Form A (26).

**Writing Quality** - Refers to the overall writing expression about the theme provided and assessed by the impressions of a panel of experts. This writing quality is classified into above average, average, and below average.

**Holistic Scoring** - Refers to the method of assessing writing by using an overall impression to rate paper on a numerical scale (25, p. 1). A sample of a numerical scale is provided in Appendix D. It is believed to be one of the most productive ways to assess writing.

**Self-Selected Reading Materials** - Refers to the preferences of self-selected reading materials the ESL college students enjoy reading, such as books, magazines, or newspapers.
Reading Interests - Refers to the dominant subject content of self-selected reading materials read by the ESL college students.

Limitations of the Study

This study is subject to the following limitations:

1. This study is basically designed to investigate the relationships between reading and writing abilities of ESL college students at North Texas State University, Denton, Texas, for whom English is a second language.

2. The subjects studied are the international students who enrolled in the English course ENGL 1312, Grammar and Composition for International Students, during the fall semester 1984. This English course is basically designed for the international students based upon certain testing scores by the English Department.

3. The findings of this study are subject to the three different scores obtained from the Nelson-Denny Reading Test Form A for evaluating reading achievement, a theme writing of the mode of comparison/contrast for assessing writing ability, and a questionnaire for assessing general information concerning the subjects studied (See Appendix A).
Basic Assumptions

It is assumed that:

1. The ESL college students at North Texas State University are appropriate to represent the ESL college students at large.

2. The subjects studied respond properly to the Nelson-Denny Reading Test Form A, a theme writing, and a questionnaire.

3. The instructions or directions of the reading test, a theme writing, and a questionnaire are clearly understood by the subject studied.

4. The reading test, a theme writing, and a questionnaire are properly provided for the subjects studied.

5. The responses received on the reading test, the theme writing, and the questionnaire used in this study are a reflection of the typical ESL college students who are identified as second language learners at North Texas State University.

6. The findings of this study are likely to be the same results as have been found with native speakers of English. That is, reading and writing are interdependent processes -- necessary to one another and mutually beneficial for one another. The relationship between reading and writing is an alliance based on communication.
Procedures for Collection of Data

The correlational technique was used in this study.

Borg and Gall state:

The correlational method is highly useful in studying problems in education and in other behavioral sciences. Its principle advantage is that it permits one to measure a great number of variables and their relationships simultaneously. Another advantage of correlational method is that it provides information concerning the degree of relationship between the variables being studied (3, pp. 477-78).

To correlate reading achievement and writing ability, three different scores were secured from the following: the Nelson-Denny Reading Test Form A, a writing sample, and a questionnaire. The process of collecting data was as follows:

First, the investigator secured permission to conduct the study from the chairperson of the English Department at North Texas State University in two sections of the English course ENGL 1312, Grammar and Composition for International Students, during the fall semester 1984 (See Appendix B). Later, two sections of the English course ENGL 1312 consisting of forty students were randomly selected. The subjects studied are all international students regardless of gender, nationality, and level of education.

Next, a questionnaire asking general information from the subjects studied was administered to the students during the tenth week of the fall semester (See Appendix A). Then a reading test, recommended by the North Texas State
University Testing Service, was administered. This reading test consists of 100 items to measure vocabulary, and 36 items to measure reading comprehension. The reading tests were scored and subjects were classified into three categories: above average, average, and below average readers.

A writing sample was collected in the period following the one in which students took the reading test. The subjects were asked to write in the mode of comparison and contrast. Then writing samples were typed and distributed to a panel of experts to be graded. The subjects studied were then classified into the three categories of above average, average, and below average writers, based on holistic scoring of writing assessment.

Procedures for Analysis of Data

The reading scores were calculated and then classified into three categories by using the percentile rank provided in the test manual (Nelson-Denny Reading Test Form A). In the same manner, the writing scores were classified into three categories, based on the holistic scoring of writing assessment. Next, the degree of association was made between reading scores and writing scores. The responses from the questionnaires were analyzed according to the following variables: self-selected reading materials, reading interests, number of years spent studying English.
the way of studying English, the way the subjects were taught English, and the length of residence in the United States. The degree of association was again calculated between reading scores with the variables mentioned previously. The final results for all hypotheses were systematically tabulated.

Organization of the Study

Chapter I includes an introduction, a statement of the problem, purposes of the study, the background and significance of the study, definition of terms, and limitation of the study. It also contains the hypotheses that provide the direction of the study. Chapter II contains models of reading and writing relationship with a proposed model of reading and writing relationship for second language learners, and a review of selected literature and research relevant to the study. Chapter III describes the method of the study, the population, the instrumentation and procedures of data collection and data analysis. Chapter IV contains an analysis of the data and interpretations of the results of the analysis. Chapter V summarizes the major findings and presents the conclusion and recommendations for further research.
1. Aulls, Mark W., "Relating Reading Comprehension and Writing Competency," Language Arts, LII (September, 1975), 808-812.


19. Maya, Antonia Y., "Write to Read: Improving Reading through Creative Writing," The Reading Teacher, XXXII (April, 1979), 813-817.


23. Moffett, James, "Reading and Writing as Meditation," Language Arts, LX (March, 1983), 315-322.


CHAPTER II

REVIEW OF RELATED LITERATURE

Introduction

During the past ten years there has been an increase in educational research focusing on the relationship between reading and writing. Reading and writing relationships have been widely studied as these relationships are one of the major trends in reading education. The subjects studied range from kindergarten to the college level. As a result, many models of reading and writing relationships as well as suggested teaching methods of these two skills have been developed. The research reviewed in this chapter consists of two parts. Part I presents models of the reading and writing relationship. Part II contains selected research studies on reading and writing relationships dating back as early as 1976.

Models of Reading and Writing Relationships

It has been evident that reading and writing are interrelated. In response to this belief, several interactional models of these two skills have been established.
Anderson's Model

Anderson (1) designed a model which he labels the Writing - Reading Process -- a Total Interacting System. He concluded that the writing-reading process may be conceived as comprising four subsystems. First, there is the writer or encoder; second, the text or message encoded by the writer; third, the reader who decodes the text; and finally, the context or communicative environment in which the encoding and decoding take place (See Figure 1).

In communication terms, Anderson states that writers are the source of the message; they have certain ideas and thoughts they wish to communicate. In encoding or expressing these, the information is transformed into words which in turn are transformed into graphic symbols. In so doing, writers bring to the writing task all their encoding habits -- the product of their accumulated knowledge and
experience, knowledge of the world and knowledge of language, their purpose, as well as their assumptions about language and about text. In order to decode the expression of thoughts and ideas, readers bring to the reading task the same things that writers do, namely, their accumulated knowledge, their background and experience, including their facility with language, knowledge of vocabulary and syntax, all their assumptions about language and about text, their attitudes, values, associations and purposes.

**Page's Model**

According to Page (28), language formed concepts play a predominant role in the processes of writing and reading each of which is considered a constructive process. The constructive process is subject to variation due to experiential differences of the author (writer) and the reader, including knowledge and experiences in constructing and interpreting language. Furthermore, Page believes that surface structure, deep structure, meaning, and knowledge are related to one another in the process of writing and reading. In short, Page views writing and reading processes as constructive. In his model (See Figure 2), he assumes that the process performed by the writer starts from knowledge in which specific concepts are selected that suit the purposes the writer seeks to meet in writing. These concepts are developed into a tapestry of meaning, some of
which are selected for encoding into writing. Deep structures and other grammatical relationships are assigned to the selected meanings. Once deep structure or clause and phrase relationships have been assigned to meanings, the writer's language rules permit the internal production of conceived surface structure. By applying the orthographic rules, the writer transforms the conceived surface structure, his thought sentence, into observable writing, or a graphic surface structure.

In turn, Page generates the process performed by the reader in a way that, once the reader perceives the written surface structure, it is transformed into an internal, unobservable circumstance. In reading, language knowledge predicts and guides the selection of images the reader will perceive. Page believes that at this point reading is a sampling process in that not all of the graphically displayed information is used or even required. Page also assumes that reading may be conceived of as a psycho-linguistic guessing game wherein the reader samples information from print and then constructs guesses that are verified, rejected, or held in abeyance. Additional sampling, language knowledge, and experiential background are the sources of verification or rejection of guesses. Page completes the model by assuming that the reader uses the rules of personal language knowledge to assign deep structure to the perceived surface structure by which
meaning is constructed. The constructed meaning will become knowledge for the reader. The observable link between the domains of the writer and the reader can be found at the point labelled "graphic surface structure". In summary, the writing process proceeds from knowledge to print, while the reading process goes from print to knowledge (comprehension).

Figure 2 -- A General Concept of Writing and Reading
Another model of the reading and writing relationship is Ruddell's communication model (35). Ruddell concentrates on decoding strategies, meaning strategies, and interpretation abilities (See Figure 3).

Figure 3 -- Ruddell's Communication Model
As shown in Ruddell's model, reading and writing are dual processes, as are speaking and listening. Reading goes from visual perceptions to meaning construction and interpretation processes; then the reader's interests, attitudes, values, and knowledge will cause one to conceptualization what has been read. In the same manner, writing is assumed to be expressed through the writer's interests, attitudes, values and language knowledge in order to form his meaning and interpretative construction into graphic symbols. The basic interaction of reading and writing process is viewed as a communicative model is that the affective mobilizers and cognitive strategies are the main link between these two skills.

**Marshall and Glock's Model**

Another model of communication emphasizing the relationship between reading and writing was proposed by Marshall and Glock (22). They viewed comprehension as part of a circle of communication between writer and reader (See Figure 4).
Figure 4 -- Model of the Communication Process
Figure 4 shows the communication act as an unbroken circle with only two points of entry, the mind (at the top) and the actual discourse (at the bottom). It is presented as a circle because, for comprehension to be tested, regardless of the type of test, the person comprehending must produce, in part or whole, discourse. Marshall and Glock stated that one of the important aspects of the comprehension act is that the arrows in the model go in two directions: from discourse to memory and from memory to discourse. The bidirectionality is intentional. It allows for the fact that there are two participants in the comprehension act: the writer, through the discourse and the reader.

Starting from the point of entry at the top of the model and moving in a clockwise direction, writing is viewed as a linear progression moving from the mind (memory) through the processes to determine content which is extracted as semantic memory bits from the mind. Then processes to determine structure are employed to provide the message base. From the message base, processes to determine staging are used to achieve the text base. Finally, processes to determine syntax are involved in deriving the text.

In reading, moving from the point of entry at the bottom of the model in a clockwise direction, perceptual processes are made use of to get the feature code; then
syntactic processes are applied to result in textual representation (surface structure). Next, semantic interpretation processes are applied and result in a message base. Inferential processes are finally employed to arrive at semantic memory.

When examining Marshall and Glock's model, reading and writing processes are considered a vital part of a circle communication in which discourse and memory are interrelated. Marshall and Glock believe that the memory of the reader can affect the way in which text is processed just as the semantic structure of discourse can affect the memory (p. 50).

The four models of the interrelationships between reading and writing discussed previously are all for native speakers of English. No model of the interrelationships between reading and writing in a second language learning has been proposed.

Being a second language learner, the writer will propose a model of reading and writing relationship in a second language learning situation in Chapter V.

Research Relating Reading and Writing

Research studies in reading and writing relationships can be categorized under three major headings: firstly, those dealing with correlational studies of reading achievement with writing achievement; secondly, those
dealing with the effects of writing on reading; and finally, those dealing with the effects of reading on writing.

**Correlational Studies**

In 1976, Thomas (36) investigated the relationship between reading achievement among college freshmen by using the *Scholastic Aptitude Test of the College Entrance Examination Board* for measuring reading comprehension and vocabulary, and a 500-word writing sample for writing and sentence maturity. It was concluded that: (1) the student's ability to read is only negligibly related to student's ability to write; (2) the more reading a student does and the kinds of materials a student reads are only slightly related to a student's writing achievement; (3) a negligible relationship appears to exist between the level of sentence maturity found in a student's writing and the student's ability to read; and (4) there is very little or a negligible relationship between sentence maturity and amount of reading, and sentence maturity and diversity of reading.

In contrast, a strong relationship between reading and writing was found among children at the kindergarten level. In 1979, Leone (20) investigated the relationships between writing and reading in the beginning stages of the development of kindergarten children, to ascertain whether or not writing ability was a significant factor in assessing readiness for reading in nine kindergarten classes. All
subjects were classified as writers and non-writers by using the results of a checklist of writing behaviors and scores from the Lippincott Writing Sample. The PMA Readiness Level, and the Metropolitan Achievement Test were employed to measure reading ability. It was concluded that those subjects classified as writers achieved significantly higher rating scores from teachers on checklists of actual reading performance and on reading achievement tests than did those subjects designated as non-writers.

In 1979, a study of the relationship between the reading and writing abilities of forty-nine underprepared college students was made by Tang (35). Reading ability was assessed at the beginning of writing instruction with the Nelson-Denny Reading Test. Writing ability was assessed before and after instruction with the Test of Standard Written English and a writing sample rated by a team of graders. It was found that the amount of gain in writing increased as reading ability increased. It was concluded that the reading ability of underprepared college students is a factor in the amount of progress made by such students in learning to write. There is substantial evidence that reading and writing are related.

In 1980, Shanahan (33) examined the relationship of learning to read and learning to write at the second and fifth grade. Measures of phonics knowledge, reading vocabulary, spelling, reading comprehension, and grammatical
and organizational complexity of writing were employed. It was found that there is a significant relationship between reading and writing at these two levels. Reading level differences distinguish more clearly the nature of the reading-writing relationships than do the grade level differences. This study suggested that the third grade level is best described as a word recognition-word production (spelling) relationship. For proficient readers, fifth grade level and above, the relationship is more a reading comprehension-prose production relationship. The relationship at this level is based essentially on the vocabulary diversity and organizational complexity of children's writing.

In 1980, another study at the elementary level was made by Arthur (2). It was to investigate whether children's reading and writing performance was affected by writing practice. It was concluded that the reading and writing of third graders is not influenced by mere practice without feedback or instruction.

In 1981, Baden (3) investigated the relationships between composition ability, measured with both a checklist and a normed test of writing, and variables of reading ability, prekindergarten verbal ability, self-concept, and sex of third graders. Baden determined that: (1) a significant relationship existed between composite skills of writing and composite skills of reading; (2) a significant
relationship existed between prekindergarten verbal and third-grade writing performance; and (3) a significant relationship existed between self-concept and composition ability. The findings of this study tend to support the conclusion that language arts skills are interrelated and reciprocal, giving credence to the theory underlying the methods which combine reading and writing, such as the language experience approach.

In 1981, O'Neill (27) conducted a study to determine whether a positive correlation existed between reading and writing performance; how the strategies of good and poor readers, and good and poor writers differ, during and after reading and writing; and the responses of readers and writers to determine what commonalities existed in these processes of ninth grade students. Subjects were classified into good readers and poor readers evaluated by the Criterion Reference Test of Reading while good and poor writers were selected from the students who scored one or more standard deviations from the mean on a writing sample.

The results showed that there was a moderate correlation between reading and writing performance of the students, and significant differences existed between good and poor readers in writing performance and between good writers and poor writers in reading performance. That is, good readers were more likely to decide in advance what a selection would be about and to use the print in order to
make this decision while poor readers were more likely to use the pictures than the print. Good readers verbalized a strategy for deriving meaning from print as picturing the action or mentally following the sequence of a selection, while poor readers were likely to make global or general statements. Good writers appeared more likely to consider the organization, form, and writing techniques as well as subject matter while poor writers indicated that getting a topic was a primary concern. Good writers were more likely to make internal revisions in their compositions while poor writers more likely mentioned proofreading changes during the revision phase.

It was concluded in this study that: (1) effective reading performance appeared to involve a thinking process in which a reader approaches a selection with questions, looks for information within the print, forms a mental image while reading, and make judgments about key points and relationships within the selection; (2) effective writing performance appeared to involve a thinking process in which the writer organizes the subject matter into some plan before beginning to write, follows a prewriting plan during writing, and restructures and rewords the composition after writing the first draft; (3) poor readers and poor writers appeared to give more attention to words in reading and to mechanics in writing than good readers and good writers did; and (4) good readers and good writers exhibited a more active involvement in the reading and writing tasks.
In 1982, Hill (14) conducted a study to determine whether specific skills of reading were significantly related to specific skills in writing, providing implications for reading instruction. The subjects were thirty-six seventh graders and sixty-three eighth graders. The Metropolitan Achievement Test (MAT), and the National Assessment of Educational Progress (NAEP) were used. It was found that reading and writing performance was correlated, and it was recommended that reading and writing should be integrated.

In 1982, another correlational study of the effects of instruction in organizational patterns on studies of writing competence, reading competence, and attitudes toward writing, of randomly selected seventh grade students was investigated by Hull (16) In this study, four control classes were taught a composition program based on a widely used commercial composition program, while four experimental classes were taught a composition designed to teach paragraph and essay patterns and designed to integrate students' writing with reading assignments in social studies and science classes. Results of instruction on students' writing competence were measured with both pre-test/post-test writing samples. Results of instruction on students' reading competence were measured with the Paragraph Pattern Test and the Iowa Silent Reading Test.
It was found that students who received instruction in organizational patterns improved more in writing skills than students who did not receive that instruction, and students who read selections containing the organizational patterns taught in writing classes improved more in reading competence than students who did not read selections containing those patterns. The development of an interdisciplinary writing-reading program in which the paragraph and essay patterns read for social studies and other assignments correspond to the patterns was suggested to be taught in writing classes.

In 1982, Hurley (17) investigated the applicability of a set of language measures, those measures which assess the reading and writing abilities of 126 adults at a community college. It was found that there is a significant relationship between the reading and writing abilities of adult community college students. It was concluded that both reading and writing teachers should consider the possible uses of top-level structuring in their teaching because there is a significant correlation between students' use of top-level structure in text and writing ability. In other words, reading is an essential factor of writing ability.
Studies Examining the Effects of Writing on Reading

The effects of writing on reading have been widely studied. In 1978, Phelps (29) examined the results of combining two promising instructional techniques: the sentence-combining exercises designed to increase the syntactic maturity of students' writing, and guided reading instruction to increase students' ability to acquire contentrelated facts and concepts of eighth grade students. However, the analysis yielded no significant differences between treatment groups on any of the variables.

In 1979, Heller (13) investigated the reading comprehension of thirty-four university freshmen in relation to twenty-one syntactic elements of written language produced through their expository writing. Language samples included one silent reading comprehension test which identified high and low readers, and two expository in-class themes, one developed through classification, the other through comparison and contrast. Themes were subjected to syntactic analysis of twenty-one elements of written language chosen for their known contribution to syntactic maturity and their possible relationship with reading comprehension.

Results of statistic comparison indicated that there are at least eleven elements of written language significantly related to reading comprehension. Good
readers' writing was characterized by long T-unit expanded through such non-clausal structures as prepositional phrases, intra T-unit coordination of detail, and passive verb phrases. Generally, the good readers' writing contained more deletion transformations than did poor readers' writing. The low reading group produced shorter T-units expanded primarily through the addition of subordinate clauses. This group also used more coordinated main clauses and run-on sentences than did the high group.

In 1979, Collins (5) studied the effect of writing experiences in the expressive mode upon the reading, self-esteem, attitudes, and academic achievement of freshmen in a college reading course. It was found that expressive writing practice combined with reading instruction in a semester-long course for a group of college freshmen improved their reading comprehension significantly more than did reading instruction alone for a control group.

In 1980, McAffee (23) examined the results of sentence-combining instruction on the reading comprehension and writing maturity of fifth grade students. It was found that children who received sentence-combining instruction had significantly improved reading and written language scores. It was concluded that sentence-combining instruction has significant effects on the reading comprehension as well as writing maturity.
In the same year, Johnson (18) studied the relationship between the syntactic writing maturity and the reading achievement of 283 students in the third, fourth, fifth, and sixth grades. SRA Achievement Series 1978 edition was used to measure reading achievement. A free writing sample of at least 100 words was to measure syntactic maturity. It was found that all the three syntactic writing measures: the number of words/T-units, the number of words/clause, and the number of clause/T-unit, correlated significantly with one or more of the reading measures although more non-significant correlations than significant ones were found.

In 1981, Conlins (6) investigated the relationship between syntactical complexity of expository writing and reading comprehension levels of community college students. The findings of the study indicated that a significant relationship between the syntactical complexity of expository writing and reading comprehension levels does exist. The implications of the findings are that high reading comprehension tends to occur with high written syntactical complexity production. Based on the findings, it appears that written syntactical complexity production is related to reading comprehension.

In 1981, Walker-Lewis (38) studied the use of writing to improve reading comprehension of academically underprepared college students. The subjects were composed of experimental and control groups whose reading instruction
emphasized integrated reading/writing strategies and traditional methods, respectively. The major findings showed that significant differences were observed in the two groups in the direction of the experimental subjects: (1) written responses to an investigator-constructed reading/writing comprehension test as measured by holistic evaluation; (2) reading comprehension as measured by Sequential Test of Educational Progress Test and (3) attitudes toward reading and attitudes toward writing. The conclusions of the study are that it appears feasible to use writing to improve reading comprehension of the academically underprepared college students, and subjects in the integrated reading/writing group demonstrated more positive attitudes toward reading and writing than subjects in the traditional non-integrated group.

Another study conducted in 1981 to investigate the role of syntax in reading comprehension and in writing ability of seventh grade students is done by Stilley (34). The Gates-MacGinitie Reading Tests, 50-item cloze passages, and the Test of Reading Comprehension were used in this study. It was found that there is a relationship between reading comprehension and writing ability; however, that relationship is not especially strong. It was concluded that while all poor readers were also poor writers, all good readers were not good writers. It was, therefore, suggested that while reading and writing seem to have common
underlying processes, there are also differences that need to be kept in mind.

In 1982, Mackie (21) studied the effects of a sentence-combining program on the reading comprehension and written composition of fourth grade students when compared with the effects of a program traditional instruction in written composition. The main conclusion drawn from this study was that instruction in sentence-combining appears to contribute to achievement in both reading comprehension and written composition. Sentence-combining instruction may well be a valuable component of a broader reading/writing program at the elementary level.

In 1982, Fox (12) examined the effect of sentence construction on children's reading comprehension of fifty-two fourth graders who completed a reading achievement test to determine their grade levels: average or below average readers. It was found that adjusting sentence, or simplifying sentence constructions appeared to improve the comprehension of the fourth grade students tested in this study.

In 1982, Lamm (19) made a case study of the effect of sentence combining on the reading ability of four students in a community college. Three measures were used: the Stanford Achievement Test (forms A and B), general cloze tests, and oral miscue analysis. Results showed that practice in sentence combining had a relatively in-
significant effect on the reading comprehension of the four students involved. It was concluded that while practice in sentence combining did provide students with a large repertoire of structure words to draw upon in making relationships among sentences clear, it had relatively little effect on their ability to comprehend written syntax.

In 1982, another study of sentence combining affecting reading comprehension was conducted. Moeller (24) investigated whether there was a significant relationship between sentence-combining ability and reading comprehension for good, average, and poor readers among sixth grade students. It was also to investigate whether there were significant differences among good, average, and poor readers in the number of T-units, number of sentence-combining transformations, and scores on a sentence-combining task. It was found that: (1) sentence-combining ability appeared to be significantly related to reading comprehension scores for good, average, and poor readers; (2) significant differences were found among good, average, and poor readers in numbers of sentence-combining transformations and scores on a sentence-combining task; and (3) there were no significant differences in number of T-unit in written compositions among good, average, and poor readers. It was concluded that sentence-combining ability seemed related to level of reading comprehension and that this ability may discriminate among good, average, and poor readers.
In 1982, Yusuf (39) made a study to determine the effect of the Writing and Reading Program on reading performance test scores. The conclusions were that there is a relationship between reading evaluated by scores on the California Test of Basic Skills, and writing as assessed by Teachers. The implication of this study is that concentration on the acquisition of writing competency can result in higher reading scores. Similarly, in 1982, Hinton (15) studied the impact of a writing program on reading performance test scores of tenth grade students. The results showed that writing as assessed by teachers, and reading as evaluated by the California Test of Basic Skills were evidently correlated.

In 1983, Trivelli (37) examined the relationship between traditional grammar instruction and transformational generative sentence-combining program with respect to reading comprehension and written syntactic maturity of eighth grade students. It was found that there were statistically significant correlations between gain scores in written syntactic maturity with gains in the Stanford Achievement Test in Reading Comprehension and the Difficult Cloze Test. There was a significance for written syntactic ability in favor of students using the sentence-combining methods of instruction.

In 1983, Chall and Jacobs (4) concluded from the results of their study on writing and reading achievement of
low SES children that above average readers were generally better in writing than below average readers. It is also claimed that not only is writing important in itself, but the strong relationship of writing to reading and language suggests that the development of writing may also enhance reading and language.

In the same year, 1983, Ross (30) examined responses from a group of fifth grade students to specially selected books of historical fiction for children, and asked the students to record their responses in writing. It was found that literature is an excellent stimulus as a springboard for writing experiences. Age and maturity as well as past writing experiences were reflected in the writing of the students. This implies that reading can be reflected in writing.

In 1984, Culp and Spann (8) conducted an experimental study on the effect of writing on reading comprehension, vocabulary, and attitude of college freshmen enrolled in a reading course. Thirty-eight students were randomly assigned to either an experimental or a control group. Reading instruction varied only in the use of a writing component for the experimental group. The Nelson-Denny Reading Test and the Estes Attitude Scales were used in this study. An analysis of covariance on reading test scores resulted in significant differences between groups on vocabulary and comprehension. No significant differences
were found between the groups on the reading portion of the attitude scales. Although results indicated that writing has a positive influence on reading, they leave unanswered a number of questions about the long-term effects of the instruction.

Studies Examining the Effects of Reading on Writing

The last group of studies dealing with reading-writing relationships concerns the effects of reading on writing. Although little research has examined the relationships between reading and writing in this category, the findings are of great satisfaction because of the practical contribution to teachers.

Starting from 1979, De La Rosa (10) examined the effects of creative writing and sustained silent reading with creative writing on reading achievement at the intermediate level. Two reading classes were used for this study. The experimental group consisted of twenty-one students engaged in 30-minute creative writing sessions three times a week. The control group of twenty students participated in 30-minute sustained silent reading periods three times a week with a creative writing session substituted for the reading in one period every other week. It was concluded that when both instructional reading level scores and reading mastery scores were considered, gains produced by one approach to reading were not significantly
better than gains produced by the other approach. Basal reading instruction combined with creative writing or with sustained silent reading was effective in producing reading achievement gains.

In 1980, Nielson (26) investigated the effectiveness of literature as a stimulus for the writing of narrative composition by fourth grade students, as measured by the Glazer Narrative Composition Scale (GNCS) and as compiled from the subjective evaluation of participant responses to the study. The research findings indicated that there was a significant difference in the literary quality of students' writing between girls and boys. The findings also indicated that there was no significant difference in the literacy quality of the students' narrative writing among groups when students read silently or were read to, with or without questions before writing, over a period of ten treatment sessions.

In 1980, Couture (7) demonstrated through a study with freshmen students in college composition classes that analytic reading can help writers control of the language conventions that good writers use to make their writing effective. In 1982, Mohler (25) studied the interrelationships existing among reading achievement, written language production and oral language generation of fourth grade students. It was found that there was no statistically significant relationship between fourth grade students'
total reading achievement scores and their writing levels as measured by the Lorge Readability Formula, the Lzdowski Sample Survey, or the Fog Index. There was a statistically significant relationship between fourth grade students writing levels as measured by the Lzdowski Sample Survey and their reading comprehension levels. There was a statistically significant relationship between fourth grade students' total reading achievement scores and their writing levels as measured by the Botel and Granowsky Syntactic Complexity Formula.

In 1981, Deford (9) made a longitudinal study of three first graders who were taught by phonics skills, and whole language models. They were observed to explore the impact varying language environments might have upon developing reading and writing strategies. The major findings are as follows: (1) language instruction is necessary to becoming literate; and (2) there is supportive, integrative relationship between the reading and writing processes.

In 1982, Hinton (15) studied the impact of a writing program on reading performance test scores of the 703 tenth-grade students. Based on the pretest of the California Test of Basic Skills and writing assessment, students were grouped by their ability levels. There were eleven experimental and twelve control group classes taught by regularly appointed teachers. The results showed that writing as assessed by teachers and reading as evaluated by
the California Test of Basic Skills were evidently correlated.

In 1983, Eckhoff (11) explored the possible effects of children's reading on their writing by analyzing texts and writing samples from two second-grade classes. One class was in a school where teachers used a series of texts closely matching the style and complexity of literary prose (the Basal A Group), and the other was in a school where teachers used a different series of texts containing the simplified style found in many basal reading texts (the Basal Group B). The writing samples were obtained from the two writing stimuli adapted from the 1960-70 National Assessment of Educational Progress. One was narrative and the other expository. Results showed that the children in Basal A group tended to use more elaborate sentence structures, whereas the children in Basal B group tended to use more simple sentences. The Basal A children wrote more words per T-unit than did the Basal B children. Besides, the Basal A children added to the linguistic complexity of their sentences by using complex verb forms, subordinate clauses, and infinitive and participial phrases. It was concluded that using a series of texts closely matching the style and complexity of reading texts helps the students write better. It was suggested not to oversimplify the text or to introduce stylistic features and text formats that are uncharacteristic of written English.
Summary

Reading and writing relationships have been widely studied as these relationships are one of the major trends in reading education. Traditionally, these research studies fall into three major headings: those dealing with correlational studies of reading and writing achievement; those dealing with the effects of writing on reading; and those dealing with the effects of reading on writing. Experimental and correlational techniques are mainly used in these studies. The subjects studied ranged from kindergarten to college levels. As a result, several models of reading and writing relationships as well as new teaching techniques to improve these two skills have been established. Generally, most studies yield significant relationships between reading and writing in many aspects. However, there is apparently little research focusing on the relationships between reading and writing in English as a second language learners, especially at the collegiate level.
CHAPTER BIBLIOGRAPHY


7. Couture, Barbara Ann Zawacki, "Reading to Write: An Exploration of the Uses of Analytic Reading to Teach Composition," unpublished doctoral dissertation, the University of Michigan, Ann Arbor, Michigan, 1980.


12. Fox, Sandra McDavid, "The Effects of Varied Sentence Constructions on the Reading Comprehension of Intermediate Grade Readers," unpublished doctoral dissertation, the University of Texas at Austin, Austin, Texas, 1982.


32. Ryan, Sheilla Ne Smith, "An Examination of Reading and Writing Strategies of Selected Fifth Grade Children," unpublished doctoral dissertation, Georgia State University, Atlanta, Georgia, 1983.


CHAPTER III

METHODS AND PROCEDURES

Introduction

The primary purpose of this study was to determine the relationships between reading and writing achievement of English as a second language college students. It was also intended to study the variables pertaining to English as a second language learners at the collegiate level, namely, self-selected reading materials, reading interests, the amount of time spent studying English, the style of studying English, the style of being taught English, and the length of residence in the United States.

Described in this chapter are the methods and procedures utilized in the study. Included are the sample and population of the study, description of the instrument, method of data collection, and explanation of the statistical treatment of the data.

Sample and Population

Two classes of English 1312, Grammar and Composition for International Students, were randomly drawn in the fall semester 1984 at North Texas State University, Denton, Texas. This English course is basically designed for international students with admittance based upon certain
scores on a test administered by the Intensive English Language Institute of North Texas State University.

Two sections of English 1312, consisting of forty students, were involved in this study. All subjects studied are international students although gender, nationality, and level of education vary.

Instrumentation

As this study is a typical correlational study, three different scores were secured from the Nelson-Denny Reading Test Form A, from a writing sample, and from a questionnaire. The questionnaire was developed by the investigator and reviewed by experts from the English Department and the College of Education at North Texas State University. The questionnaire consists of sixteen items requesting subjects to respond to the following areas: the amount of time spent studying English, the way they had studied English, the way they had been taught English, their self-selected reading materials, and their reading interests (See Appendix A).

The Nelson-Denny Reading Test Form A (NDRT) consists of 100 items to measure vocabulary, and 36 items to measure reading comprehension. The test, as noted in the test manual, serves predictive, screening, and diagnostic purposes with students in grades nine through sixteen (4, p. 3). This test has the validity of 47.5 for the vocabulary subtest, and 44.6 for the comprehension subtest. The
reliabilities for the vocabulary subtest and the comprehension subtest are .93 and .81, respectively. The total reliability of the test is .93. Orr and Townsend's reviews of the NDRT for Buros' Sixth Mental Measurements Yearbook (6, pp. 1077-81), indicated that the NDRT represents a revision and improvement on a prior NDRT, already well known and widely used. The test shows evidence of careful construction. Data on the development and standardization of the revised forms are presented along with reliability, difficulty, and errors of measurement. In general, Orr and Townsend state that the format is clear and workable, and the items seem well constructed and unambiguous. The revised NDRT will probably be welcomed by those who have been using the original NDRT, such as teachers of college-bound pupils in grade eleven and twelve, and those of college English classes; it may also be useful for college placement.

A writing sample developed through the rhetoric mode of comparison-contrast for assessing writing skills was used in this study. This mode of discourse was chosen for the subjects due to the fact that it is believed to be a crucial component of critical thinking. Critical thinking, one of the most important processes of the cognitive domain (2, p. 228), requires the ability to analyze, to detect, to discriminate, or to distinguish the facts, the assumptions, or the points of view.
Procedures for Scoring Questionnaires, Reading Tests, and Writing Sample

Questionnaires were administered to the subjects at the beginning of the study. The reading test was administered to the subjects during the tenth week of the fall semester of 1984. Students participating in this study responded to the standardized reading test (NDRT) on the IBM standard answer sheet. The students were given one hour to complete the test. Answer sheets were then scored by the North Texas State University Testing Service. The subjects were classified into three categories based on the scores: the above average, the average, and the below average readers.

The writing sample was administered to the subjects in the period following the one in which they took the reading test. The subjects were given one hour and twenty minutes to finish the writing test. Then the writing samples were typed, and xeroxed, and distributed to be graded by a panel of three experts from the English Department at North Texas State University. With specially trained in the holistic scoring method, the panel of judges graded writing samples following the analytic scale provided. This method of scoring writing is considered to be one of the most productive ways to assess writing (3, p. 1). The average writing scores were then obtained from the three judges and classified into three categories: the above average, the average, and the below average writers.
All the data obtained from three different scores were then analyzed at the North Texas State University Computing Center by using the Statistical Package for Social Science (SPSS) Program (8). As two kinds of variables were involved in this study, ordinal and nominal, three different statistical analyses were employed.

The Goodman-Kruskal Gamma Coefficient was used to test the differences between the following variables: the overall reading ability levels of the ESL college students and their writing ability levels; the ESL college students' reading and writing ability levels and the amount of time spent studying English; the ESL college students' reading and writing ability levels and how they study English; the ESL college students' reading and writing ability levels and how they have been taught English; and the ESL college students' reading and writing ability levels and their length of residence in the United States. The significant value of the gamma coefficient was determined through the use of a chi-square contingency table (7, p. 268). As the ESL college students' self-selected reading materials and their reading interests are research data in the form of frequency count, the chi-square was the most appropriate to assess their relationships to reading achievement (1, p. 464). Pearson's Product Moment Correlation Coefficient was used to calculate the degree of correlation between the ESL college students' reading scores and their levels of writing ability as they are an ordered metric level (5, p. 6).
Summary

This chapter has provided a description of the sample, and of the population of the study, and of the employed instrument, and the methods of data collection. Included are the procedures of data analyses and explanations of the statistical treatment. The findings are presented in Chapter IV.
CHAPTER BIBLIOGRAPHY


CHAPTER IV

ANALYSES OF THE DATA

Introduction

This chapter presents the analyses of data obtained from administering the Nelson-Denny Reading Test Form A for evaluating reading achievement, a theme writing for assessing writing abilities, and a questionnaire administered to forty ESL college students at North Texas State University, Denton, Texas. Based on the data obtained from the reading test and the writing sample, the subjects were classified, as to both their reading and writing capabilities, into three categories: the above average, the average, and the below average. For the questionnaire, the subjects were asked to provide a specific response to each item except the item concerning their reading interests. The subjects were asked to choose five out of thirteen reading interests, and then rank them from the most preferred to the least preferred.

These data are presented in the order in which the research hypotheses were stated in Chapter I. The Goodman-Kruskal Gamma Coefficients was used to determine if there were any significant differences between the ESL college students' reading ability levels and their writing ability.
levels. It was also used to test the correlations between the ESL college students' reading and writing achievement and the following variables: the amount of time spent studying English, how they study English, how they have been taught English, and the length of residence in the United States. The Pearson's Product Moment Correlation Coefficients was used to determine if there is a significant difference on the ESL college students' reading scores differentiated by their levels of writing achievement. The Chi-Square was used to test the significant differences between the ESL college students' reading ability levels and their self-selected reading materials, and their reading interests. All hypotheses were tested at the .05 level of significance. The following is a presentation of those data.

Research Hypothesis One

Research Hypothesis One predicts that there will be a significant positive relationship between the ESL college students' reading ability levels based on the scores from the Nelson-Denny Reading Test Form A, and their writing ability levels as assessed through their writing samples. Table I presents the correlations between the overall reading and writing ability levels of the ESL college students using the Goodman-Kruskal gamma coefficients. The reading and writing ability levels are labeled as either above average, average, or below average.
As shown in Table I, the computed gamma coefficient value between the ESL college students' reading ability levels and their writing ability levels is .782. When determined through the use of a Chi-Square contingency table, the significant value is 15.203 which is greater than the table value. Therefore, Research Hypothesis One is retained. The ESL college students' reading ability levels are significantly related to their writing ability levels. The above average ESL readers (as classified by their reading level) tend to be good writers, while the below average readers tend to be poor writers.
Research Hypothesis Two

Research Hypothesis Two predicts that there will be a significant difference on reading scores measured by the Nelson-Denny Reading Test Form A among groups of ESL college students differentiated by their writing levels as assessed by a writing sample test. Table II shows the statistical analysis of the ESL college students' reading scores and their writing ability levels using the Pearson's Product Moment correlation coefficient.

TABLE II

PEARSON'S PRODUCT MOMENT CORRELATION COEFFICIENTS OF THE ESL COLLEGE STUDENTS' READING SCORES AND THEIR WRITING ABILITY LEVELS

<table>
<thead>
<tr>
<th>N*</th>
<th>Reading Scores</th>
<th>Writing Levels</th>
<th>N</th>
<th>Reading Scores</th>
<th>Writing Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>43</td>
<td>2**</td>
<td>21</td>
<td>79</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>37</td>
<td>1**</td>
<td>22</td>
<td>79</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>48</td>
<td>1</td>
<td>23</td>
<td>66</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>49</td>
<td>1</td>
<td>24</td>
<td>65</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>63</td>
<td>3**</td>
<td>25</td>
<td>92</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>41</td>
<td>2</td>
<td>26</td>
<td>25</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>66</td>
<td>2</td>
<td>27</td>
<td>49</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>67</td>
<td>3</td>
<td>28</td>
<td>99</td>
<td>3</td>
</tr>
<tr>
<td>9</td>
<td>66</td>
<td>1</td>
<td>29</td>
<td>56</td>
<td>1</td>
</tr>
<tr>
<td>10</td>
<td>57</td>
<td>2</td>
<td>30</td>
<td>59</td>
<td>1</td>
</tr>
<tr>
<td>11</td>
<td>51</td>
<td>1</td>
<td>31</td>
<td>72</td>
<td>2</td>
</tr>
<tr>
<td>12</td>
<td>94</td>
<td>2</td>
<td>32</td>
<td>41</td>
<td>2</td>
</tr>
<tr>
<td>13</td>
<td>59</td>
<td>3</td>
<td>33</td>
<td>48</td>
<td>1</td>
</tr>
<tr>
<td>14</td>
<td>79</td>
<td>3</td>
<td>34</td>
<td>51</td>
<td>2</td>
</tr>
<tr>
<td>15</td>
<td>68</td>
<td>3</td>
<td>35</td>
<td>85</td>
<td>3</td>
</tr>
<tr>
<td>16</td>
<td>75</td>
<td>2</td>
<td>36</td>
<td>37</td>
<td>1</td>
</tr>
<tr>
<td>17</td>
<td>81</td>
<td>3</td>
<td>37</td>
<td>66</td>
<td>2</td>
</tr>
<tr>
<td>18</td>
<td>89</td>
<td>3</td>
<td>38</td>
<td>66</td>
<td>2</td>
</tr>
<tr>
<td>19</td>
<td>79</td>
<td>2</td>
<td>39</td>
<td>67</td>
<td>2</td>
</tr>
<tr>
<td>20</td>
<td>87</td>
<td>2</td>
<td>40</td>
<td>56</td>
<td>1</td>
</tr>
</tbody>
</table>

* N = 40  Pearson's Value = .631  Significance = .0001*

**I = Below Average, 2 = Average, 3 = Above Average
As shown in Table II, the computed value of the Pearson's Product Moment correlation coefficients of the ESL college students' reading scores differentiated by their writing levels is .632, which is greater than the table values at .01 and at .05 levels. Therefore, Research Hypothesis Two is retained. There is a significant difference on reading scores measured by the Nelson-Denny Reading Test Form A among groups of ESL college students differentiated by their writing levels as assessed by a writing sample.

Research Hypothesis Three

Research Hypothesis Three predicts that there will be a significant positive relationship between the ESL college students' reading ability levels and their self-selected reading materials. The self-selected reading materials are categorized as books, magazines, newspapers, and comics. The ESL college students were asked to choose only one of the reading materials mentioned as their favorite reading material. Table III contains the Chi-Square, degrees of freedom, and significance of the ESL college students' reading ability levels and their self-selected reading materials.
TABLE III

CHI-SQUARE, DEGREES OF FREEDOM, AND SIGNIFICANCE OF THE ESL COLLEGE STUDENTS' READING ABILITY LEVELS AND THEIR SELF-SELECTED READING MATERIALS

<table>
<thead>
<tr>
<th>Reading Materials</th>
<th>Reading Ability Levels</th>
<th>Chi-Square</th>
<th>DF</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Below Average</td>
<td>Average</td>
<td>Above Average</td>
<td></td>
</tr>
<tr>
<td>Books</td>
<td>4</td>
<td>5</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Magazines</td>
<td>4</td>
<td>8</td>
<td>5</td>
<td>2.91</td>
</tr>
<tr>
<td>Newspapers</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Comics</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>17</td>
<td>11</td>
<td></td>
</tr>
</tbody>
</table>

p > .05

The data shown in Table III indicate that the computed Chi-Square value of the ESL college students' reading ability levels and their self-selected reading materials is 2.91, which is less than the table value at .05 level (12.59). There is no significant positive relationship between these two variables. Therefore, Research Hypothesis Three is rejected. The above average, the average, and the below average ESL college readers share similar preference in their self-selected reading materials.

Research Hypothesis Four

Research Hypothesis Four predicts that there will be a significant positive relationship between the ESL college
students' reading ability levels and their reading interests. Tables IV to XV illustrate the Chi-Square, degrees of freedom, and significance of the ESL college students' ability levels and their reading interests. The reading interests are classified as science fiction, sports, mystery, romance, historical fiction, biography, informational, fantasy, adventure, poetry, how-to-do-it, jokes/humor, and supernatural.

TABLE IV

CHI-SQUARE, DEGREES OF FREEDOM, AND SIGNIFICANCE OF THE ESL COLLEGE STUDENTS' READING ABILITY LEVELS AND THEIR READING INTEREST (SCIENCE FICTION)

<table>
<thead>
<tr>
<th>Science Fiction</th>
<th>Reading Ability Levels</th>
<th>Chi-Square</th>
<th>Df</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Below Average</td>
<td>Average</td>
<td>Above Average</td>
<td></td>
</tr>
<tr>
<td>First</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Second</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Third</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>5.936</td>
</tr>
<tr>
<td>Fourth</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Fifth</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>4</td>
<td>9</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

As shown in Table IV, the computed chi-square value of the ESL college students' reading ability levels and their reading interest, science fiction type is 5.936, which is less than the table value (15.51). Therefore, there is no
significant positive relationship between the ESL college students' reading ability levels and their reading interest in science fiction.

**TABLE V**

**CHI-SQUARE, DEGREES OF FREEDOM, AND SIGNIFICANCE OF THE ESL COLLEGE STUDENTS' READING ABILITY LEVELS AND THEIR READING INTEREST (SPORT TYPE)**

<table>
<thead>
<tr>
<th>Sports</th>
<th>Reading Ability Levels</th>
<th>Chi-Square</th>
<th>DF</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Below Average</td>
<td>Average</td>
<td>Above Average</td>
<td></td>
</tr>
<tr>
<td>First</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Second</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Third</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Fourth</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Fifth</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>7</td>
<td>5</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

* p < .05

As shown in Table V, the computed chi-square value of the ESL college students' reading ability levels and their reading interest, sport type, is 17.000, which is greater than the table value (15.51). Therefore, there is a significant positive relationship between the ESL college students' reading ability levels and their reading interest, sport type.
TABLE VI

CHI-SQUARE, DEGREES OF FREEDOM, AND SIGNIFICANCE OF
THE ESL COLLEGE STUDENTS' READING ABILITY LEVELS
AND THEIR READING INTEREST (MYSTERY TYPE)

<table>
<thead>
<tr>
<th>Mystery</th>
<th>Reading Ability Levels</th>
<th>Chi-Square</th>
<th>DF</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Below Average</td>
<td>Average</td>
<td>Above Average</td>
<td></td>
</tr>
<tr>
<td>First</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Second</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Third</td>
<td>0</td>
<td>4</td>
<td>1</td>
<td>13.416</td>
</tr>
<tr>
<td>Fourth</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Fifth</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>6</td>
<td>8</td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

p > .05

As shown in Table VI, the computed chi-square value of the ESL college students' reading ability levels and their reading interest, mystery type, is 13.416, which is less than the table value (15.51). Therefore, there is no significant positive relationship between the ESL college students' reading ability levels and their reading interest, mystery type. The below average, the average, and the above average ESL college readers share a very close preference in reading mystery type materials. However, none of the below average ESL college readers showed an interest in reading this kind of material as their first preference.
As shown in Table VII, the computed chi-square value of the ESL college students' reading ability levels and their reading interest, romance type, is 17.009, which is greater than the value table (15.51). Therefore, there is a significant positive relationship between the ESL college students' reading ability levels and their reading interest, romance type. The below average, the average, and the above average ESL college readers vary in their interests in reading romance type materials. However, there are no below average and average ESL college readers indicating an interest in reading this kind of material as their first preference.
TABLE VIII

CHI-SQUARE, DEGREES OF FREEDOM, AND SIGNIFICANCE OF THE ESL COLLEGE STUDENTS' READING ABILITY LEVELS AND THEIR READING INTEREST (HISTORICAL FICTION)

<table>
<thead>
<tr>
<th>Historical Fiction</th>
<th>Reading Ability Levels</th>
<th>Chi-Square</th>
<th>DF</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Below Average</td>
<td>Average</td>
<td>Above Average</td>
<td></td>
</tr>
<tr>
<td>First</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Second</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Third</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Fourth</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Fifth</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>6</td>
<td>6</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

As shown in Table VIII, the computed Chi-Square value of the ESL college students' reading ability levels and their reading interest, historical fiction, is 8.01, which is less than the table value (15.51). Therefore, there is no significant positive relationship between the ESL college students' reading ability levels and their reading interest, historical fiction type. The below average, the average, and the above average ESL college readers share similar interests in reading historical fiction materials. However, there are no above average ESL college readers indicating an interest in reading this kind of material as their first choice.
TABLE IX

CHI-SQUARE, DEGREES OF FREEDOM, AND SIGNIFICANCE OF THE ESL COLLEGE STUDENTS' READING ABILITY LEVELS AND THEIR READING INTEREST (BIOGRAPHY)

<table>
<thead>
<tr>
<th>Biography</th>
<th>Reading Ability Levels</th>
<th>Chi-Square</th>
<th>DF</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Below Average</td>
<td>Average</td>
<td>Above Average</td>
<td></td>
</tr>
<tr>
<td>First</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>3.759</td>
</tr>
<tr>
<td>Second</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Third</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Fourth</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Fifth</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2</td>
<td>4</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

As shown in Table IX, the computed Chi-Square value of the ESL college students' reading ability levels and their reading interest, biography type, is 3.750, which is less than the table value (7.82). This indicates that there is no significant positive relationship between the ESL college students' reading ability levels and their reading interest in biography. However, due to the small number of subjects selecting this interest category, the expected frequency in all cells of the table was less than three; therefore, this analysis cannot be regarded as valid. Very few below average and average ESL college readers show an interest in reading biography materials. No above average ESL college readers indicate an interest in reading this kind of material.
As shown in Table X, the computed Chi-Square value of the ESL college students' reading ability levels and their reading interest, informational type, is 9.034, which is less than the table value (15.51). Therefore, there is no significant positive relationship between the ESL college students' reading ability levels and their reading interest of informational type materials. When compared to the other reading interests, there are more ESL college students who show their interests in reading informational type materials than the other reading interests. There are four above average, two average, and only one below average ESL college readers indicating, as a first choice in reading, informational type material.
TABLE XI

CHI-SQUARE, DEGREES OF FREEDOM, AND SIGNIFICANCE OF THE ESL COLLEGE STUDENTS' READING ABILITY LEVELS AND THEIR READING INTEREST (FANTASY)

<table>
<thead>
<tr>
<th>Fantasy</th>
<th>Reading Ability Levels</th>
<th>Chi-Square</th>
<th>DF</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Below Average</td>
<td>Average</td>
<td>Above Average</td>
<td></td>
</tr>
<tr>
<td>First</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Second</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>6.851</td>
</tr>
<tr>
<td>Third</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>6.851</td>
</tr>
<tr>
<td>Fourth</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Fifth</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>6</td>
<td>6</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

As shown in Table XI, the computed chi-square value of the ESL college students' reading ability levels and their reading interest of fantasy type, is 6.851, which is less than the table value (12.59). Therefore, there is no significant positive relationship between the ESL college students' reading ability levels and their reading interest of fantasy. The below average, the average, and the above average ESL college readers show similar interests in reading fantasy type materials. However, there are no above average, average, or below average ESL college students indicating an interest in reading this kind of material as first preference.
### TABLE XII

CHI-SQUARE, DEGREES OF FREEDOM, AND SIGNIFICANCE OF THE ESL COLLEGE STUDENTS' READING ABILITY LEVELS AND THEIR READING INTEREST (ADVENTURE)

<table>
<thead>
<tr>
<th>Adventure</th>
<th>Reading Ability Levels</th>
<th>Chi-Square</th>
<th>DF</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Below Average</td>
<td>Average</td>
<td>Above Average</td>
<td>6.607</td>
</tr>
<tr>
<td>First</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Second</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Third</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Fourth</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Fifth</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>4</td>
<td>7</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

$p > .05$

As shown in Table XII, the computed chi-square value of the ESL college students' reading ability levels and their reading interest in adventure type materials, is 6.607, which is less than the table value (15.51). Therefore, there is no significant positive relationship between the ESL college students' reading ability levels and their reading interest in adventure type materials. The below average and the above average ESL college readers share equal interests in reading adventure type materials. There are no below average ESL college readers showing an interest in reading this kind of material as first preference.
As shown in Table XIII, the computed Chi-Square value of the ESL college students' reading ability levels and their reading interest in poetry is 6.000, which is less than the table value (7.82). This indicates that there is no significant positive relationship between the ESL college students' reading ability levels and a reading interest in poetry. Very few ESL college readers indicate interest in reading poetry. Only three below average and three above average ESL college readers indicate that they enjoy reading poetry. No average ESL college readers indicate an interest in reading this kind of material.
TABLE XIV

CHI-SQUARE, DEGREES OF FREEDOM, AND SIGNIFICANCE OF THE ESL COLLEGE STUDENTS' READING ABILITY LEVELS AND THEIR READING INTEREST (HOW-TO-DO-IT)

<table>
<thead>
<tr>
<th>How-To-Do-It</th>
<th>Reading Ability Levels</th>
<th>Chi-Square</th>
<th>DF</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Below Average</td>
<td>Average</td>
<td>Above Average</td>
<td></td>
</tr>
<tr>
<td>First</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Second</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Third</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>5.625</td>
</tr>
<tr>
<td>Fourth</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Fifth</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2</td>
<td>5</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

p > .05

As shown in Table XIV, the computed Chi-Square value of the ESL college students' reading ability levels and their reading interest in how-to-do-it materials is 5.625, which is less than the table value (12.52). This indicates that there is no significant positive relationship between the ESL college students' reading ability levels and their reading interest in how-to-do-it type materials. However, due to the small number of subjects selecting this interest, the expected frequency for all cells in the table is less than three; therefore, this analysis cannot be regarded as valid. Only nine ESL college students prefer reading how-to-do-it materials. The below average, the average, and the
above average ESL college readers share equal interests in reading this kind of material.

**TABLE XV**

*CHI-SQUARE, DEGREES OF FREEDOM, AND SIGNIFICANCE OF THE ESL COLLEGE STUDENTS’ READING ABILITY LEVELS AND THEIR READING INTEREST (JOKES/HUMOR)*

<table>
<thead>
<tr>
<th>Jokes/Humor</th>
<th>Reading Ability Levels</th>
<th>Chi-Square</th>
<th>DF</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Below Average</td>
<td>Average</td>
<td>Above Average</td>
<td></td>
</tr>
<tr>
<td>First</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Second</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Third</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>3.298</td>
</tr>
<tr>
<td>Fourth</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Fifth</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>7</td>
<td>12</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

*p > .05*

As shown in Table XV, the computed Chi-Square value of the ESL college students' reading ability levels and their reading interest in jokes/humor type materials is 3.298, which is less than the table value (15.51). Therefore, there is no significant positive relationship between the ESL college students' reading ability levels and their reading interest in jokes/humor type materials. Of all the thirteen reading interests, jokes/humor type material was selected most often by the ESL college readers. The below
average, the average, and the above average ESL college readers all show their proportional interests in reading this kind of material.

**TABLE XVI**

**CHI-SQUARE, DEGREES OF FREEDOM, AND SIGNIFICANCE OF THE ESL COLLEGE STUDENTS' READING ABILITY LEVELS AND THEIR READING INTEREST (SUPERNATURAL)**

<table>
<thead>
<tr>
<th>Supernatural</th>
<th>Reading Ability Levels</th>
<th>Chi-Square</th>
<th>DF</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Below Average</td>
<td>Average</td>
<td>Above Average</td>
<td></td>
</tr>
<tr>
<td>First</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>3.937</td>
</tr>
<tr>
<td>Second</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Third</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>3.937</td>
</tr>
<tr>
<td>Fourth</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fifth</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>5</strong></td>
<td><strong>4</strong></td>
<td><strong>0</strong></td>
<td><strong>3.937</strong></td>
</tr>
</tbody>
</table>

As shown in Table XVI, the computed Chi-Square value of the ESL college students' reading ability levels and their reading interest in supernatural type materials is 3.937, which is less than the table value (7.820). Therefore, there is no significant positive relationship between the ESL college students' reading ability levels and their reading interest in supernatural type materials. Even though the below average and the average ESL college readers
share almost an equal preference in reading supernatural
type materials, there are no above average ESL college
readers who show an interest in reading this kind of
material.

To sum up, there is no significant positive
relationship between the ESL college students' reading
ability levels and their reading interests as of science
fiction, mystery, historical fiction, biography,
informational, fantasy, adventure, poetry, how-to-do-it,
jokes/humor, and supernatural. However, it is found that
there is a significant positive relationship between the ESL
college students' reading ability levels and their reading
interests as of sports and romance. Therefore, Research
Hypothesis Six is rejected.

Research Hypothesis Five

Research Hypothesis Five predicts that there will be a
significant positive relationship between the ESL college
students' reading and writing ability levels and the amount
of time spent studying English. The amount of time spent
studying English is categorized as: less than three years;
four to six years; seven to nine years; ten to twelve years;
and more than twelve years. Table XVII presents the
statistical analysis of these data using the Goodman-Kruskal
gamma coefficients.
As shown in Table XVII, the computed gamma coefficient value of the ESL college students' reading and writing ability levels and the amount of time spent studying English is .344. When determined through the use of a chi-square contingency table, the significant value is 3.464, which is less than the table value (9.49). Therefore, Research Hypothesis Five is rejected. There is no significant positive relationship between the ESL college students' reading and writing ability levels and the amount of time spent studying English. There are three below average, three average, and eight above average ESL college students.
who indicate that they have been studying English for more than twelve years. There are similar numbers of the below average and the above average ESL college students who indicate that they have been studying English for about four to six years.

Research Hypothesis Six

Research Hypothesis Six predicts that there will be a significant positive relationship between the ESL college students' reading and writing ability levels and how they studied English. How they studied English is defined as how much effort they employ when studying English, whether slightly, moderately, or intensely. The statistical analysis of these data is presented in Table XVIII.

TABLE XVIII

GOODMAN-KRUSKAL GAMMA COEFFICIENTS BETWEEN THE OVERALL READING AND WRITING ABILITY LEVELS OF THE ESL COLLEGE STUDENTS AND HOW THEY STUDIED ENGLISH

<table>
<thead>
<tr>
<th>How To Study English</th>
<th>Reading And Writing Ability Levels</th>
<th>Gamma Value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Below Average</td>
<td>Average</td>
<td>Above Average</td>
</tr>
<tr>
<td>Slightly</td>
<td>7</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Moderately</td>
<td>5</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Intensely</td>
<td>4</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
<td>8</td>
<td>16</td>
</tr>
</tbody>
</table>

p > .05
As shown in Table XVIII, the computed gamma coefficient value of the ESL college students' reading and writing ability levels and how they studied English is .000. When determined through the use of a chi-square contingency table, the significant value is 3.333, which is less than the table value (9.49). Therefore, Research Hypothesis Six is rejected. There is no significant positive relationship between the ESL college students' reading and writing ability levels and how they studied English.

Research Hypothesis Seven

Research Hypothesis Seven predicts that there will be a significant positive relationship between the ESL college students' reading and writing ability levels and the amount of teaching in English they have had. The amount of teaching in English is classified as: they have never been taught in an English-speaking environment; they have occasionally been taught in an English-speaking environment; they have usually been taught in an English-speaking environment; and they have always been taught in an English-speaking environment. Table XIX shows the computed gamma coefficient value of the ESL college students' reading and writing ability levels and the amount of teaching in English.
As shown in Table XIX, the computed gamma coefficient value of the ESL college students' reading and writing ability levels and the amount of teaching in English is .318. When determined through the use of a chi-square contingency table, the significant value is 6.20, which is less than the table value (12.59). Therefore, Research Hypothesis Seven is rejected. There is no significant positive relationship between the ESL college students' reading and writing ability levels and the amount of teaching in English they have had.
Research Hypothesis Eight predicts that there will be a significant positive relationship between the ESL college students' reading and writing ability levels and the length of residence in the United States. Table XX presents the correlations between these data.

<table>
<thead>
<tr>
<th>Length of Residence</th>
<th>Reading And Writing Ability Levels</th>
<th>Gamma Value</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Below Average</td>
<td>Average</td>
<td>Above Average</td>
</tr>
<tr>
<td>Less than 6 mths</td>
<td>3</td>
<td>0</td>
<td>8</td>
</tr>
<tr>
<td>6 mths - 1 year</td>
<td>3</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>1 year - 2 yrs</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2 yrs - 3 yrs</td>
<td>4</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>3 yrs - 4 yrs</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Over 5 years</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
<td>8</td>
<td>16</td>
</tr>
</tbody>
</table>

Data in Table XX show that the computed gamma coefficient value of the ESL college students' reading and writing ability levels and the length of residence in the United States is -0.422. When determined through the use of
a chi-square contingency table, the significant value is 8.162, which is less than the table value (9.49). Therefore, Research Hypothesis Eight is rejected. There is no significant positive relationship between the ESL college students' reading and writing ability levels and the length of residence in the United States. Data indicate a trend for length of residence, in that the shorter the length of residence, the more improvement in reading and writing skills, but this did not reach significance.

Summary and Data Findings

This chapter has presented the analysis of data obtained from the reading test, the writing sample, and the questionnaire of the ESL college students. An analysis and interpretation of the data reveal the following major findings.

1. There is a statistically significant relationship between the ESL college students' reading ability levels and their writing ability levels. It can be assumed that while the above average ESL college readers tend to be good writers, the below average ESL college readers tend to be poor writers.

2. There is a significant difference on the ESL college students' reading scores as evaluated by the Nelson-Denny Reading Test Form A differentiated by their levels of writing ability.
3. There is no statistically significant relationship between the ESL college students' reading ability levels and their self-selected reading materials.

4. There is no statistically significant correlation between the ESL college students' reading ability levels and their reading interests in science fiction, mystery, historical fiction, biography, informational, fantasy, adventure, poetry, how-to-do-it, jokes/humor, and supernatural. However, there is a statistically significant difference between the ESL college students' reading ability levels and reading interests in sports and romance types.

5. There is no statistically significant relationship between the ESL college students' reading and writing ability levels and the amount of time spent studying English.

6. There is no statistically significant relationship between the ESL college students' reading and writing ability levels and how they studied English.

7. There is no statistically significant relationship between the ESL college students' reading and writing ability levels and the amount of teaching in English.

8. There is no statistically significant relationship between the ESL college students' reading and writing ability levels and the length of residence in the United States.

A detailed summary of the findings, the conclusions, the discussions, and recommendations for further research are presented in Chapter V.
This chapter presents a summary of the purposes of the study, the descriptions of the sample and the population, descriptions of the instruments utilized in this study, and procedures for collecting data as well as the procedures of data analysis. Included are the findings of the study, the conclusions drawn from the data analyses, and recommendations for future research.

SUMMARY

The major purpose of this study was to determine the possible correlation between reading and writing abilities of college students who are identified as second language learners. It was also aimed at determining the relationships between variables pertaining to the ESL college students, namely, their self-selected reading materials, their reading interests, the amount of time spent studying English, their style of studying English, how they were taught English, and the length of residence in the United States.

The data needed to test the hypotheses consist of a standardized reading test (the Nelson-Denny Reading Test Form A), a writing sample, and a questionnaire, which were
all administered to forty international students taking English course, ENGL 1312, during the fall semester of 1984, at North Texas State University, Denton, Texas. Based on the scores obtained from the reading test and the writing sample, subjects studied were classified into the three categories of above average, average, and below average readers and writers. The responses from the questionnaires were analyzed according to the variables needed to be tested in this study, such as self-selected reading materials, reading interests, the amount of time spent studying English, the style of studying English, how English was taught, and the length of residence in the United States.

In order to accomplish the purposes of this study, eight hypotheses were formulated as follows:

1. There will be a significant positive relationship between the ESL college students' reading ability levels based on the scores from the Nelson-Denny Reading Test Form A and their writing ability levels as assessed by a writing sample.

2. There will be a significant positive relationship on the ESL college students' reading achievement differentiated by their levels of writing ability.

3. There will be a significant positive relationship between the ESL college students' reading ability levels and their self-selected reading materials.

4. There will be a significant positive relationship between the ESL college students' reading ability levels and their reading interests.
5. There will be a significant positive relationship between the ESL college students' reading and writing ability levels and the amount of time spent studying English.

6. There will be a significant positive relationship between the ESL college students' reading and writing ability levels and how they have studied English.

7. There will be a significant positive relationship between the ESL college students' reading and writing ability levels and how they have been taught English.

8. There will be a significant positive relationship between the ESL college students' reading and writing ability levels and their length of residence in the United States.

As two kinds of variables are involved in this study, three different statistical analyses were computed. The Goodman-Kruskal Gamma Coefficients was used to test the Research Hypotheses One, Five, Six, Seven, and Eight. The Research Hypothesis Two was tested by the Pearson's Product Moment Correlation Coefficients. The chi-square was calculated to test the Research Hypotheses Three and Four. All hypotheses were tested at the .05 level of significance.

The findings that resulted from the statistical analyses are as follows:

1. There is a statistically significant relationship between the ESL college students' reading ability levels and their writing ability levels. It can be assumed that the
above average ESL college readers tend to be good writers, and the below average ESL college readers tend to be poor writers.

2. There is a significant difference on the ESL college students' reading scores as evaluated by the Nelson-Denny Reading Test Form A, differentiated by their levels of writing ability.

3. There is no statistically significant relationship between the ESL college students' reading ability levels and their self-selected reading materials.

4. There is no statistically significant correlation between the ESL college students' reading ability levels and their reading interest in science fiction, mystery, historical fiction, biography, informational, fantasy, adventure, poetry, how-to-do-it, jokes/humor, or supernatural. However, there is a statistically significant difference between the ESL college students' reading ability levels and reading interests in sports and romance types of materials.

5. There is no statistically significant relationship between the ESL college students' reading and writing ability levels and the amount of time spent studying English.

6. There is no statistically significant relationship between the ESL college students' reading and writing ability levels and how they studied English.
7. There is no statistically significant relationship between the ESL college students' reading and writing ability levels and how they were taught English.

8. There is no statistically significant relationship between the ESL college students' reading and writing ability levels and their length of residence in the United States.

Discussion

Reading and writing are considered part of a total language process, and a relationship between them has long been recognized by specialists in both fields. Although the relationships between reading and writing have been widely studied, most of those studies are mainly of native speakers of English. Very few studies have been conducted in English as a second language situations. The present study is considered to be one among very few which are primarily concerned with the relationships between the reading and writing achievement of the ESL college learners. Even though it is a correlational study, this study assures us that the relationships between reading and writing achievement do exist in the ESL learners as well as native speakers. The result of the present study strongly confirms the research studies done by Globe and Globe (17), Tang (21), O'Neill (19), Hurley (18), and Conlin (7) in the sense that there is a significant relationship between reading and writing.
Due to the fact that the strong relationship between reading and writing does exist, several researchers strongly recommend the integration of reading and writing in classroom teaching and suggest how to make use of one skill to enhance the other. Stotsky (20) outlines the following writing activities which are assumed to be effectively workable in improving reading abilities, namely, dictation, reproduction, sentence combining, precis writing, and copying. Sentence combining is the most popular among those activities. Combs (5), and Culp and Spann (9) strongly recommend sentence combining activities to improve reading achievement.

In addition, Abartis (1), Gebhard (16), Evans and Ballance (14), and Coley (5) suggest that writing be taught with reading. Researchers like Ebel (13), Christiansen (4), and Blount (3) believe that reading also plays an important role in writing achievement, and recommend that writing programs should encourage students to read extensively.

Since the present study has employed the holistic scoring method for assessing the ESL college students' writing ability and the Nelson-Denny Reading Test Form A for evaluating reading achievement, the research findings may have been influenced on the limitations of these instruments. Judging from the ESL college students' reading scores, the investigator would like to suggest that a reading test for the ESL students be carefully constructed so that the context is highly related to their cultures and
experience so that it will be more comprehensible. In this study as in most students, these students tended to make mistakes on the questions dealing with inferential answers. Most of them got the right answers for the questions dealing with explicit facts from the reading passages.

The holistic scoring method for assessing writing ability is strongly favored due to the fact that it is the most valid and direct means of ranking students by writing ability (8, p.1). In another vein, the students' writing achievement in terms of effective communication.

When examining the ESL college students' writing samples very closely, the investigator found that there is evidence of language development found in their writing in that the language patterns of native speakers of English are frequently employed (See Appendix E). The ESL college students' writing samples truly represent their writing skills in general. There are grammatical mistakes found in their writing samples, and these mistakes are primarily those which deal with the standard English grammar. Thus it can possibly be assumed that these ESL students involved in this study applied their grammatical knowledge from their first language in writing English composition.

This study is a typical correlational study. The size of a correlation coefficient is used to determine the degree of correlation. However, the size of a correlation coefficient is dependent in part upon the variability of the measured values in the correlation samples. Any time that a
sample is restricted in the range on either or both of the measures, the correlations between those two measures will tend to be lowered as compared to the same correlation based upon a representative sample of the population (2, p. 305). There are forty students from a highly selected population involved in this study. The degree of variability is considered to be low. Therefore, the obtained correlation coefficients should be considered to be a low estimate of the degree of association since they were not obtained from a sample unrestricted in size.

This study employed a chi-square to test the correlation between the ESL college students' reading ability levels and their reading interests. The subjects were asked to choose only five out of thirteen reading interests and then rank them from the greatest preference to the least preference. The degrees of preference for each reading interest vary according to individual responses. Some reading interests received more responses and ranked consistently higher than others. Some did not receive any responses at all. This causes empty cells in the tables. These empty cells effect statistical bias and may have contributed to the non-statistically significant differences in the data analyses.

This study also employed the Goodman-Kruskal gamma coefficients to test the correlations between the ESL college students' reading and writing achievement, their reading and writing ability levels and the amount of time
spent studying English, their reading and writing ability levels and how they studied English, their reading and writing ability levels and how they were taught English, their reading and writing ability levels and the length of residence in the United States. Hypotheses V to VIII are found to be of non-statistically significant difference when tested at .05 level of significance. However, when judging from the raw data on the amount of time spent studying English and the overall reading and writing ability levels of the ESL college students, it clearly indicates that there are more above average ESL college readers and writers than either average or below average readers and writers who claim that they had studied English for more than twelve years (8, 3, 3, respectively). Although no significant correlation was found when reading and writing abilities were used together, ESL college students’ writing ability levels are highly related to the amount of time spent studying English while reading ability levels are not when computing the data separately (See Appendix D).

As 80 per cent of the students (32 in all) involved in this study indicates residence in the United States for periods of six months to three years, the statistical result relies more heavily on this group of students than on the remaining 20 per cent of the students who indicated having been in the United States for more than three years. This may explain why the statistical analysis yields a non-statistically negative difference. Further research should
depend heavily on the suggestion that the selection of subjects to be studied should possibly provide sufficient variability for the data needed to be studied. In general, all hypotheses were tested at .05 level of significance.

Conclusions

Based on the findings from the study, the following conclusions appear to be warranted:

1. In regard to the statistically significant relationship between the ESL college students' reading and their writing ability levels, the integration of reading and writing in classroom teaching and learning is strongly recommended.

2. In regard to the high significant positive relationship between the ESL college students' reading and their writing abilities, it is believed that one skill may enhance the other.

3. In regard to the second language acquisition theory, to acquire a target language effectively, it is functional to view language as a means of communication. That is, learning a language should strongly emphasize its functional act—to communicate a language.

4. In view of second language learning and teaching, learning and teaching a language in a natural way is considered to be one of the most effective methods. Therefore, when teaching the ESL learners, they should be properly motivated to be exposed to a target language as
naturally as possible. It is also believed that the language experience approach may possibly play a vital role in learning a language.

5. In regard to grammatical mistakes found in the ESL college students' writing samples, it is evidently proved that languages are different, and these differences are causes of language learning interference. Therefore, teaching a second language should employ a contrastive analysis technique in some certain strategies.

Recommendations for Further Research

Based on the findings of this study, the following recommendations are made.

1. Since this study is primarily conducted to determine the relationships between reading and writing of the ESL college students by using their writing quality as criteria for judging their writing ability, and the scores obtained from the Nelson-Denny Reading Test Form A for judging their reading ability, it is recommended that a parallel study should be conducted by using different instruments.

2. Since this study has involved only the international students taking the English course ENGL 1312, it is recommended that different groups of students taking different English courses be studied so that more variations can be obtained.

3. A replication of the present study should be made in different institutions.
4. An experimental study examining the effectiveness of different teaching methods of teaching reading and writing for ESL students should be conducted.

5. A model of reading and writing relationship for the ESL learners should be established.

A Proposed Model of Reading and Writing Relationship for the ESL Situations

Being an English as a second language learner, the writer presents a proposed model of the reading and writing relationships, drawn from the learning procedure encountered while learning a second language. It must be understood that this model is not applied to the truly bi-lingual. The writer believes that translation plays a vital role in learning a second language. While the translation process from the native language to the second, or from the second to native is an evitable procedure when one is first beginning to learn the language, as one's linguistic competence and fluency increase, the translation process diminishes as the learner becomes truly bi-lingual, or fluent (See Figure 5).
Figure 5 -- A Proposed Model for ESL Reading and Writing Relationship
In writing, second language learners have to make use of their knowledge (memory) about what is to expressed in a written form, then meaning will derive from their memory. Meaning will be translated into a target language through the use of the language knowledge and then in a graphic surface structure.

Similarly, in reading, second language learners perceived the graphic surface structure first, then they employ the semantic interpretation process. Next, translation is applied to get meanings in their first language, and then meanings will be stored as memory. Writing and reading for second language learners can be viewed as a dual process.

**Rationale and Modifications of the Proposed Model**

Several research studies and assumptions of a second language acquisition have been made. Some proponents of the theory of second language acquisition claim that the process of acquiring a second language has a similar developmental sequence to that of first language acquisition (10, 11, and 12). Although the process of second language acquisition is not completely different from first language acquisition, they are not entirely alike either (15, p. 50). Some certain aspects of second language acquisition appear to be uniquely different from the first language acquisition. When learning a second language, one has to decipher a new language phonologically, semantically, and syntactically.
Moreover, one has to learn how to use the second language appropriately in a given setting.

Focusing on reading, Vorhaus (22, p. 413) clarified that first language readers are interactors, who use the author's language as a basis for developing concepts and understanding an author's ideas, while second language readers are mostly receivers, who are constantly trying to develop more linguistic knowledge and insights about that particular author's language. In addition, first language readers have the linguistic resources that allow enough mental flexibility to understand what the author is saying, while the second language readers have fewer linguistic resources to draw upon in order to understand what the author is saying. Moreover, reading strategies used by second readers are initially different from those of first language readers. This is because first language readers' use of their own language in all communicative situations provides them with the advantage of also being to concentrate on comprehensible ideas and concepts presented by the words they are reading. Readers in a second language feel constrained by their limited knowledge of vocabulary and grammatical rules, and concentrate mainly on translating meaning word for word into understandable linguistic information. Meaning can be derived only after translation takes place, especially, in a very complex situation.

In the writing process, the second language writers possess the same linguistic resources as the second language
readers. They are only able to make use of their knowledge about what is to be expressed in writing to the extent of their linguistic competence. The meaning of what is to be expressed in a written form must come from their memory. Meaning will be translated from the first into the target language using what the individual knows of that language and only then be put in a graphic format.

Second language readers and writers cannot avoid the translation process from first language to second, or from second language to first, especially in a very complex situation. Meaning and translation can be viewed as a dual process for them. At any particular stage of learning a second language, the second language learners employ language generalization, the linguistic guessing game, as well as imitation of native speakers. The more the second language readers and writers are exposed to the target language, the better they will be, and less time will have to be spent on the translation process. The translation process will diminish as the learner become fluent in the second language.
CHAPTER BIBLIOGRAPHY

1. Abartis, Carsarea and Cathy Collins, "The Effect of Writing Instruction and Reading Methodology upon College Students' Reading Skills," Journal of Reading, XXIII (February, 1980), 408-413.


APPENDIXES
APPENDIX A

A QUESTIONNAIRE
QUESTIONNAIRE

Instruction: Please provide the appropriate response to this questionnaire by checking your answer or filling the blank provided.

1. My name is ________________________________.

2. I am ____________________ years old.

3. I am a ___ male ___ female student at North Texas State University.

4. I am a/an ___ undergraduate student, majoring _________
   ___ graduate student, majoring _________
   ___ other, ________________________________

5. I am from ________________________________ (country).

6. My native language is ________________________________.

7. I first started studying English when I was in grade ______.
   ______ one.
   ______ five.
   ______ seven.
   ______ nine.
   ______ eleven.
   ______ college.
   ______ other.

8. Since then, I have been studying English for ________.
   ______ less than 3 years
   ______ 4 to 6 years
   ______ 7 to 9 years
   ______ 10 to 12 years
   ______ more than 12 years

9. During my coursework in English, I study ________
   ______ slightly (1 hour/day, 3 days/week)
   ______ moderately (1 hour/day, 5 days/week)
   ______ intensely (more than 2 hours/day, 5 days/week)

10. My study in English has ______ taught in English-speaking
    environment.
    ______ never
    ______ occasionally
    ______ usually
    ______ always

11. I have been studying/living in the U.S.A. for ________.
    ______ less than 6 months
    ______ 6 months - 1 year
    ______ 1 year - 2 years
    ______ 2 years - 3 years
    ______ 3 years - 4 years
    ______ more than 5 years
12. My reading skills are ___ poor  
    ___ OK  
    ___ good.

13. My writing skills are ___ poor  
    ___ OK  
    ___ good.

14. I prefer to read (choose only one)  
    ___ books  
    ___ magazines  
    ___ newspapers  
    ___ comics

15. When I read, I like ___ a challenge.  
    ___ something easy.  
    ___ to read for entertainment.  
    ___ to learn about something.

16. The types of books I would like most enjoy reading are ___  
    (choose 5, then rank as the most preference to the least preference by putting numbers 1 to 5 in front of them)  
    ___ science fiction  
    ___ sports  
    ___ mystery  
    ___ romance  
    ___ historical fiction  
    ___ biography  
    ___ informational  
    ___ fantasy  
    ___ adventure  
    ___ poetry  
    ___ how-to-do-it  
    ___ jokes/humor  
    ___ supernatural

THANK YOU
APPENDIX B

LETTER TO THE ENGLISH DEPARTMENT CHAIRPERSON
Dr. David B. Kesterson  
Chairperson of English Department  
North Texas State University  
Denton, TX 76203  

October 17, 1984  

Dear Dr. Kesterson:

I am a doctoral candidate of the College of Education at North Texas State University, currently pursuing a degree in college teaching.

Presently, I am engaged in a study of "Reading and Writing Relationships of the International Students at North Texas State University". This study seeks to determine whether a positive correlation exists between reading and writing achievements of the students.

The subjects being studied will randomly selected from the English class ENGL 1312 during the fall semester 1984. Two sections will be selected. The subjects being studied will consist of about 40 students, regardless of sex, level of education, and nationality.

Three instruments will be used in this study, namely, a reading test, a writing sample, and a questionnaire.

This letter serves two purposes:
1. To ask for your permission to conduct a study in two sections of the English class ENGL 1312.
2. To request your help and cooperation in providing a panel of judges to grade the writing samples by using the holistic scoring for writing assessment from the English Department.

Without your cooperation, this study will not be able to be accomplished.

Thank you very much.

Sincerely,

Pratin Pimsarn
APPENDIX C

ANALYTIC SCALE FOR HOLISTIC SCORING
## Analytic Scale for Holistic Scoring

<table>
<thead>
<tr>
<th>General Merit</th>
<th>Low</th>
<th>Middle</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ideas</td>
<td>2</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Organization</td>
<td>2</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Wording</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Flavor</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

### Mechanics

<table>
<thead>
<tr>
<th></th>
<th>Low</th>
<th>Middle</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Usage</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Punctuation</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Spelling</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Handwriting</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Total

(Diederich, Paul B., "Measuring Growth in English", Urbana, Ill., National Council of Teachers of English, 1974)
APPENDIX D

TABLES XXI AND XXII
### TABLE XXI

**AN ANALYSIS OF VARIANCE OF THE ESL COLLEGE STUDENTS' WRITING ABILITY LEVELS AND THE AMOUNT OF TIME SPENT STUDYING ENGLISH**

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Square</th>
<th>F</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>1054.580</td>
<td>2</td>
<td>527.290</td>
<td>3.785</td>
<td>.0319</td>
</tr>
<tr>
<td>Linearity</td>
<td>917.723</td>
<td>1</td>
<td>917.723</td>
<td>6.588</td>
<td>.0144</td>
</tr>
<tr>
<td>Dev. from Linearity</td>
<td>136.857</td>
<td>1</td>
<td>136.857</td>
<td>0.982</td>
<td>.3280</td>
</tr>
</tbody>
</table>

### TABLE XXII

**AN ANALYSIS OF VARIANCE OF THE ESL COLLEGE STUDENTS' READING ABILITY LEVELS AND THE AMOUNT OF TIME SPENT STUDYING ENGLISH**

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Square</th>
<th>F</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>707.818</td>
<td>2</td>
<td>353.909</td>
<td>1.166</td>
<td>.3228</td>
</tr>
<tr>
<td>Linearity</td>
<td>320.221</td>
<td>1</td>
<td>320.221</td>
<td>1.055</td>
<td>.3110</td>
</tr>
<tr>
<td>Dev. from Linearity</td>
<td>387.596</td>
<td>1</td>
<td>387.596</td>
<td>1.277</td>
<td>.2657</td>
</tr>
</tbody>
</table>
APPENDIX E

ESL WRITING SAMPLES
Austin and Denton

Austin and Denton are both cities within Texas state. Even so, these two cities, 120 miles apart, have quite a number of differences between them. Geographically, Denton is located north of Austin and in the upper part of the state. So the climate of these two cities is slightly different. In general, Denton is colder than Austin in winter. On the other hand, Austin is larger than Denton so it is easy to visualize that the former one has a larger population. Actually, the population density of Austin is higher than that of Denton. There is more urban areas in Austin and it is more prosperous than in Denton. Since Austin is larger and it is an important city in Texas, so it has got a larger and branchy road system. There are streets assigned one to sixty in Austin but there are only Avenues A to G in Denton. The roads in Austin are wider and has more lanes. The road surface is plain so it is easier to drive on it. But the roads in Denton are narrower, the road surface is not very even and the lanes are not very clear cut.

Although these two cities differ a lot, they are quite alike in some aspects. Both of them have a high percentage of students in their population. As we all know, there are about 50,000 students in the University of Texas at Austin, and there are about 22,000 students in North Texas State University. Moreover, there are other colleges and universities in these two cities so they can be regarded as college city or college town. Furthermore, both of them are quite calm and quiet on the whole. As compared with the big cities such as New York, they are really plain.

Living in these two cities only for a short period of time, I like both of them. Maybe the most important reason that they are plain, calm, and quiet.
Living in a Small Town Is Better Than
Living in a Big City

There are lots of difference between living in a small
town and living in a big city. Although both places are
good for living, it depends on different tastes.

The first distinction of living in a small town is the
cleaness of weather. It is very obvious that in most small
towns the weather is better than large towns. And the
reason of it is that most of the population and industrial
factories are gathered in large cities so the weather is so
horrible. By looking at a small town, we can precisely see
the lovely silence of the town. On the contrary, there is
lots of noise in a big town. Good weather and silence are
the most important facts that small town has. But besides
these preference there are other things that has counts as a
fact such as traffic, the way of living, and behavior.

Standing the rush hour traffic is one of the things
that people who live in a big town have to stand. On the
contrary, people who live in a small town have a peace while
they are driving. However, there are lots of differences
between living in a small or a big town, both places are
made in order to make people feel better, live better, and
enjoy better.

Having different tastes, people decide to live either
in a small town or a big city. But I like to live in a
small town because I want to live in peace. So in order to
have a wonderful weather, natural peace, and silence, the
things that is impossible to find in a big town, I prefer to
live in a small town.
BIBLIOGRAPHY

Books


Myers, Miles, A Procedure for Writing Assessment and Holistic Scoring, Urbana, ILL, National Council of Teachers of English, 1980.


Articles

Abartis, Carsarea and Cathy Collins, "The Effect of Writing Instruction and Reading Methodology upon College Students' Reading Skills," Journal of Reading, XXIII (February, 1980), 408-413.

Aulls, Mark W., "Relating Reading Comprehension and Writing Competency," Language Arts, LII, (September, 1975), 808-812.

Bryant, N. Dale and Sunanda Gokhale, "Correcting Correlations for Restrictions in Range Due to Selection on An Unmeasured Variables," Educational and Psychological Measurement, XXXII (Summer, 1972), 305-310.


Christiansen, Mark, "Tripling Writing and Omitting Reading in Freshman English: An Experiment," College Composition and Communication, XVI (May, 1965), 123-124.


DeVries, Ted, "Reading, Writing Frequency and Expository Writing," Reading Improvement, VII (Spring, 1970), 14-19.


Gebhard, Ann O., "Teaching Writing in Reading and the Content Area," Journal of Reading, XXVII (December, 1983), 207-211.

Globe, Shelley F., and Cary H. Globe, "Reading Skills as A Correlate of Writing Ability in College Freshmen," Reading World, XXVII (October, 1977), 50-54.

Goodman, Kenneth and Yetta Goodman, "Reading and Writing Relations: Pragmatic Functions," Language Arts, LX (May, 1983), 590-599.

Hall, Mary Ann and Sara A. Moretz and Jodillan Statom, "Writing before Grade One; A Case Study of Early Writers," Language Arts, LIII (May, 1976), 582-585.

Lunsford, Andrea A., "What We Know - And Don't Know - About Remedial Writing," College Composition and Communication, XXIX (February, 1978), 47-52.


Maya, Antonia Y., "Write to Read: Improving Reading through Creative Writing," The Reading Teacher, XXXII (April, 1979), 813-817.


Michael, William; Metfessel, Newtons; and Kersner, Donald A., "Instrumentation of Bloom's and Krathwohl's Taxonomies for the Writing of Instructional Objectives," Psychology in the Schools, VI (July, 1989), 227-231.


Moffett, James, "Reading and Writing as Meditation," Language Arts, LX (March, 1983), 315-322.


Steinberg, Danny and Miho T. Steinberg, "Reading before Speaking," Visible Language, IX (Summer, 1975), 197-224.


Reports


Encyclopedia Articles


Unpublished Materials


Conlin, Mary Louise, "The Relationship between the Syntactic Complexity of Expository Writing and Reading Comprehension Levels of Community College Students," unpublished doctoral dissertation, Case Western Reserve University, Cleveland, Ohio, 1981.

Couture, Barbara Ann Zawacki, "Reading to Write: An Exploration of the Uses of Analytic Reading to Teach Composition," unpublished doctoral dissertation, the University of Michigan, Ann Arbor, Michigan, 1980.


Fox, Sandra McDavid, "The Effects of Varied Sentence Constructions on the Reading Comprehension of Intermediate Grade Readers," unpublished doctoral dissertation, the University of Texas at Austin, Austin, Texas, 1982.


Hull, Arthur J., "The Effects of Instruction in Organizational Patterns on Student Writing Competence, Reading Competence, and Other Attitudes towards Writing," unpublished doctoral dissertation, Boston University, Boston, Massachusetts, 1982.


Mohler, Lynette eilben Zuroff, "The Interrelationships of Fourth Grade Reading Achievement, Oral Generation and Written Production as Determined by Factors Found in Four Readability Formulas," unpublished doctoral dissertation, Montana State University, Bozeman, Montana, 1982.


Ryan, Sheilla Ne Smith, "An Examination of Reading and Writing Strategies of Selected Fifth Grade Children," unpublished doctoral dissertation, Georgia State University, Atlanta, Georgia, 1983.


