Choosing Materials for a Writing Center Resource Library in an ELL Setting

John R. Baker
Indiana University of Pennsylvania

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CHOOSING MATERIALS FOR A WRITING CENTER

RESOURCE LIBRARY IN AN ELL SETTING

A Dissertation
Submitted to the School of Graduate Studies and Research
in Partial Fulfillment of the
Requirements for the Degree
Doctor of Philosophy

John R. Baker
Indiana University of Pennsylvania
May 2013
Indiana University of Pennsylvania
School of Graduate Studies and Research
Department of English

We hereby approve the dissertation of

John R. Baker

Candidate for the degree of Doctor of Philosophy

__________________  __________________
Jeannine M. Fontaine, Ph.D.
Associate Professor of English, Advisor

__________________  __________________
Mary R. Jalongo, Ph.D.
University Professor & Professor of Education

__________________  __________________
Lisya Seloni, Ph.D.
Assistant Professor
Department of English
Illinois State University

ACCEPTED

__________________  __________________
Timothy P. Mack, Ph.D.
Dean
School of Graduate Studies and Research
The purpose of this sequential mixed methods study was to gather three types of information the writing center staff at Mountain View University (pseudonym) in Taipei, Taiwan needs in order to select the best anthologies of paragraphs and essays for purchase as self-access materials. These are (a) what anthologies are available on the Taiwan Market, (b) whether these materials are suitable for the reading levels of the students who visit the center as indicated by the Lexile Readability Formula, and (c) what features beyond the two measured by the Lexile Readability Formula (i.e., vocabulary and sentence length) the students perceive as influencing text difficulty when interacting with exemplars found in the anthologies. The study found that 12 anthologies are available on the local market. It additionally found that (a) none of the anthologies are accessible to 53.85% of the students' reading levels and (b) only a limited number of the exemplars in the anthologies are accessible to the other 46.15%. It further found that the students who can access the texts feel that the two features measured by the Lexile Readability Formula and 14 others influence the difficulty they have with the exemplars.
DEDICATION

To everyone who contributed to this study, thank you.
ACKNOWLEDGEMENTS

I am grateful to my father who encouraged me to dream and to my mother who instilled me with the tenacity to complete the long-term projects those dreams inspired (e.g., this doctoral dissertation).

I am also thankful to the professors at Indiana University of Pennsylvania (IUP) whose well-conducted courses prepared me for the endeavor (especially Drs. Pat Bizzaro, David Hanauer, and Don McAndrew for the their research courses); my adviser Dr. Jeannine Fontaine for her counsel; committee members Drs. Mary Jalongo and Lisya Seloni for their contributions; Dr. Sharon Deckert for her guidance; Drs. Pat Bizzaro, Resa Bizzaro, Tina Purdue, and Michael Williamson for their friendship; and the IUP community for its support.

Innumerous acknowledgements are due, too, to the librarians and library services staff at IUP and other institutions whose patience and help made it possible for me to conduct the research (e.g., first hand examination of texts remote in both time and distance). Along this vein I would also like to thank the many researchers who sent me copies of their work that was otherwise unavailable: Drs. Thomas Andre (Iowa State University, U.S.A.), William Baden (Purdue University, U.S.A.), Carl Bereiter (University of Toronto, Canada), Ronald Leow (George Town University, U.S.A.), and Ole Lund (Gjøvik University, Norway).

Many thanks are also due to the international book publishers' local agents in Taiwan for sharing their records and helping me to obtain the
anthologies examined in this study and to the staff at Metametrics and Scantron for the many questions they answered.

A note of appreciation is also due to Yung Ying Hung and Wei Li Yang for the translations they provided, analysts Han Lin Ying and Christoph Maier for their help with the quantitative analyses used in this paper, and Chung Ying Hsien for her contributions as a research assistant.

My appreciation also goes out to my colleagues and classmates who read the many drafts of this study: Jocelyn Amevuvor, Brian Cope, Nathan Lindberg, and Michael O'Brian.

I would also like to thank the IUP Department Secretaries Bertha Cecconi, Cathy Renwick, and Maggie Shotts for guiding me through the day-to-day duties of graduate school.

Lastly, I would like to express a limitless amount of gratitude to my colleagues and students at Mountain View University (a pseudonym) without whose helpful participation this paper never could have come to fruition.
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CHAPTER ONE

INTRODUCTION

You can't learn much from books you can't read

(Allington, 2002, p. 16)

No path to a major life decision is neatly linear. Such paths meander throughout many significant moments (Muncey, 2005), and it was much the same for the one that led to my decision to conduct this study: a sequential mixed methods exploration of what anthologies of paragraphs and essays¹ are appropriate for the writing center staff at Mountain View University (pseudonym) in Taipei, Taiwan to purchase and supply as self-access materials² for the students who potentially visit the center. It was the result of interacting with some very special people I met along the way and what I learned from each of them. In this section, I will provide an autoethnographic view of that journey.

The odyssey began when I was an adolescent in North America. As a boy, I was deeply moved by the elderly mother of one of my friends, a Hmong woman with almost no formal education who interacted in several languages on a weekly basis. Working from the back of an old truck at farmers’ markets in west coast towns, she used Hmong, Lao, Thai, and Vietnamese and was quickly developing competencies in English in order to sell the vegetables she grew so that she could support her family. I marveled at and deeply respected this woman. Honoring both her hardships and successes, one day I got the courage to ask her how she had accomplished so much.
Puzzled at a question I do not think she had ever considered and obviously viewed as the naive result of my being born in the safety of a community who used a globally powerful language (i.e., English), my friend's mother answered quite simply that it was a matter of necessity: Her ability to keep her family fed--and alive--in war ravaged Laos and South East Asia depended upon her gaining a command of multiple languages. Once in the U.S. as a Vietnam War refugee, her and her family’s survival continued to be contingent on her linguistic flexibility. Recognizing this, she was intent on doing what she had always done to learn a new language: Far removed from any formal educational settings, she, as a self-directed learner, autonomously made the most of whatever language input was available to her to develop a functional amount of literacy in the language of her new home, English.

As I grew up, became a teacher, and traveled to twenty some odd countries around the world, I finally made it to the school rooms in the mountain villages of my childhood friend's mother's home, Laos. Along the way and since, I have met two different kinds of self-directed learners who greatly impressed me. The first, like my friend’s mother, successfully learned the language skills they needed without the benefit of a formal language education. The second did so in spite of it.

The successful learners in the latter group are students who have undergone less than ideal formal foreign language education training, yet succeeded. While there is no single paradigmatic answer to why some students in this second group succeed in attaining the various English competencies they
seek, I have noted one method common to many of the successful students I have observed. It is that they (like my friend’s mother), instead of relying on a classroom to supply their sole means of learning, seek opportunities to educate themselves: They take charge of their own learning, find a place to study on their own, and choose materials they believe will help them. For many of these learners, that means seeking large amounts of input in the form of outside reading. These folks sit by themselves in libraries, bookshops, coffee shops, and cafeterias; ride on trains, busses, and taxis; stand in lines; and crouch over meals at their desks. And they read. They read a large amount of materials which they feel are appropriate for their levels and will meet their needs, and they use this textual input to improve.

Reflecting on the self-directed learners I came across during my travels and the way they learned (i.e., via reading), I was greatly impressed; so much so that I decided to learn as much as I could about my own teaching environment (i.e., Taiwan), self-directed learning, and reading’s place in self-access learning environments.

Looking at the problems the students in my teaching environment were experiencing, I concluded that traditional classroom settings are not always the best place for learning; that is, while classrooms are most certainly a place where teaching takes place, learning is not always the result (Baker & Hung, 2003). Postsecondary students in Taiwan, for example, have had (despite the very well-intentioned efforts of the government, schools, and teachers) a very difficult time. In addition to having had to sit in the oversized teacher-centered classes typical
in the greater Asian context (Chen, Warden, & Chang, 2005) and adjust to the gamut of educational trial and error to navigate the well-meaning but changing language teaching policies and methods the government, schools, and educators put them through (Baker, Lou, & Hung, 2007), these students have been the object of regimented educational curricula designed to prepare them for the English portions of high school and college admission exams (Chen, 2007).

These sorts of traditional curricula present two important difficulties. First, they tend to offer a limited amount of reading materials in the target language, much less than a student needs to effectively acquire a language. Second, the input typically offered in these settings, a textbook, often only provides material which is at one readability level (as measured by readability formulae), yet students in these settings (like most educational settings) are most often not at a single level (Betts, 1946).

The result of participating in such a language education is less than optimally beneficial for the average Taiwanese student. Internationally, the educational system in Taiwan consistently produces students who sit disappointingly low in assessment rankings: IELTS, 26 out 40 (IELTS, 2009); TOEIC, 23 out of 27 (TOEIC, 2005); TOEFL, 72 out of 102 (TOEFL, 2009). The system also produces less than optimum results at home. Many students have little faith in themselves and their abilities. They likewise believe that “the main purposes of learning English are to get grades and to pass school exams” instead of using English as a “communicative tool” (Teng, 2005, p. iv). In-country researchers and educators, too, complain that many students still struggle with
English regardless of having participated in many years of formal language classes before reaching the postsecondary level (Chang, 2006; Crawford, 2001; Fan, 2009; Huang, 2004; Hsu, 2006; Lin, 2003; Luo, 2006; Tsai, 2005).

Searching in the available literature for possible solutions to the two difficulties mentioned above, I concluded that self-access centers can address them both quite effectively because such centers can provide a convenient location where students can access a large amount and variety of extensive reading materials⁴ at a wide range of levels (Baker, 2006).

Drawing on my observations of self-access learners, the difficulties students in my teaching environment have, and my own personal study of self-directed learning and how reading can fit into it, I decided to look for an opportunity to start a self-access center (Baker & Hung, 2003). Finding a suitable location, I joined the colleagues I worked with at a university in Southern Taiwan, and we turned that decision into a reality. Recognizing that our university’s English as a foreign language classrooms were plagued with many of the problems found in the regimented classroom settings in Taiwan’s education system, we set out to create a center where providing access to a large amount and variety of extensive reading materials at a wide range of levels would be central to the center’s work.

To create this center, we began by drawing on the experiences of other self-access learners who had participated in self-access environments (see Gardner & Miller, 1999; McDonough & Shaw, 1993; Sheerin, 1989, 1991). In doing so, we were sensitive to what had been done to create successful centers
across the world (e.g., Australian Migrant Education Program, Australia; Indiana University Bloomington, U.S.A.; University of Cambridge, U.K.; University of Nancy, France) and in Asia (e.g., British Council Centers, Bangkok and Kuala Lumpur; Chulalongkorn University, Bangkok; Mandarin University of Hong Kong, Hong Kong; University of Hong Kong, Hong Kong).

With the work done at other centers around the world and in Asia in mind, we arranged for funding (via a Taiwan Ministry of Education grant and additional school resources) and organized the physical layout of the facility. We then, with the preliminaries completed, focused on our goal and filled our space with a large amount and variety of extensive reading materials at a wide range of levels to meet the needs of students who might consult our center.

The results our students experienced at the center were indeed exciting. In addition to the language learning achievements we observed and the students themselves and their teachers reported, the students showed that they, like other students around the world, reacted favorably to second language learning in a self-access center environment (Baker & Hung, 2003).

Excited by the students’ language learning successes and acceptance of self-access learning at the self-access center, I continued to reflect on these experiences as I moved to Northern Taiwan to take a post where I was scheduled to create and direct a different sort of center, a university writing center.

Drawing on the successes at the self-access center, I began to plan ways to provide similar reading related benefits for the students who would visit the
writing center. Given my experience at the self-access facility, I believed in the benefits self-access reading offers students who wish to gain competencies in the four language domains. I also believed in the benefits reading could offer students who study composition in the form of what is termed a reading-writing relationship: Students who read more tend to write better, both when reading extensively (Krashen, 2004) and when reading materials specific to the academic discourse communities they are engaged in (Krashen, 2004, Thaiss & Zawacki, 2006; White, 1987).

Accepting that such a reading-writing relationship could be beneficial to our students, my staff and I (after sorting out the funding from various departments' budgets and working out the physical arrangements with my colleagues) decided to purchase a large amount and variety of extensive reading materials at a wide range of levels and genres for use as self-access materials. We also decided to purchase a variety of materials related to the composition courses our students were taking (e.g., dictionaries, handbooks, thesauruses, style guides), to include anthologies of paragraphs and essays. We soon questioned, however, whether we could obtain materials appropriate to our population. Specifically, we questioned whether we could obtain materials appropriate to the reading abilities of our student population (as indicated by Lexile measures\(^5\)). We questioned this because the range of readability levels\(^6\) of the writing exemplars\(^7\) in the anthologies we were familiar with (unlike the extensive reading materials) seemed to be (based on our observations of and experience with the student population) largely beyond the range of reading
levels of many of the students who visit the center. We further questioned what features beyond the two measured by the Lexile Readability Formula (i.e., vocabulary and sentence length\(^9\)) could affect our students' reading experiences.

With these two concerns in mind, we decided we needed to conduct a comprehensive text evaluation process of the anthologies available on the Taiwan Market\(^9\) that takes into account the answers to three questions:

1. What anthologies are available on the Taiwan Market?
2. Which of the anthologies available on the Taiwan Market are accessible to the English language learners (ELLs) who will potentially use them in our writing center as indicated by (a) a quantitative assessment of the texts' readability level(s) via the Lexile Readability Formula, (b) an examination of the students' reading levels with the Scholastic Reading Inventory (SRI), and (c) a comparison of the two?
3. What features related to readability beyond the two measured by the Lexile Readability Formula (i.e., vocabulary and sentence length) do the participants feel affect the readability of the exemplars in the anthologies available on the Taiwan Market?

**Statement of the Problem**

The writing center at Mountain View University in Taipei, Taiwan (to select the best anthologies for purchase as self-access materials) intends to conduct a comprehensive text evaluation process of the anthologies available on the Taiwan Market. Unfortunately the information needed to complete this process is currently unavailable as this problem has not been previously investigated.
Purpose of the Study

The purpose of this study is to gather the information needed to help the writing center staff select the best anthologies for purchase as self-access materials for the campus writing center.

Significance of the Study

This study has a practical goal in that the information provided by the study can be used to aid writing center staff in their material purchase decisions. Although unwarranted generalization should be avoided as the study will be done at one institution, it also furthers the literature in several ways. Specifically, it provides four types of information:

1. The availability of anthologies of paragraphs and essays on the Taiwan Market.
2. The readability level of the exemplars in those texts as measured by the Lexile Readability Formula.
3. The reading levels of a group of students in Taiwan at the university of science and technology level as measured by the Lexile Readability Formula.
4. Insight into what features related to readability beyond the two measured by the Lexile Readability Formula (i.e., vocabulary and sentence length) the participants in this study feel affect the readability of the exemplars found in anthologies of paragraphs and essays.

This information can inform the practical decisions of writing center staff, instructors, and members of the publishing industry. It can also inform the
research community by furthering our knowledge of what contributes to readability.

Definition of Terms

The terms used in this study are defined as follows:

*Anthologies of Paragraphs and Essays*: “Texts which explicate major rhetorical forms, present sample texts exemplifying major rhetorical patterns, and offer procedures to show students how to reproduce these patterns in their own writing” (Ferris & Hedgcock, 2005, p. 88).

*Cline*: A hierarchy of difficulty from easiest to most difficult.

*Comprehensive Text Evaluation Process*: For the purposes of this study, a comprehensive text evaluation process is defined as one that takes into account the answers to the three research questions presented in this study.

*Exemplar*: A selection of writing which illustrates a major rhetorical form (e.g., process, contrast, narrative).

*Extensive Reading*: Reading in quantity and in order to gain a general understanding of what is read, develop good reading habits, build up knowledge of vocabulary and structure, and gain a liking for reading (Richards & Schmidt, 2002).

*Extensive Reading Materials*: Materials which promote extensive reading (see the definition of extensive reading).

*Lexile Measure*: A measure which is based on two strong predictors of how difficult a text is to comprehend: word frequency and sentence length (Lexile, 2010).
Lexile Reading Formula: A quantitative reading formula which was created, published, and copyrighted by Metametrics Corporation. It provides quantitative readability information about materials from the preprimer to the graduate level.

Lexile Zone: A Lexile zone represents the bands on the Lexile map (e.g., the 600L zone ranges from 600L to 690L) (Lexile, 2010).

Negative Washback: A phenomenon where the content being taught ends up being dictated by the material in the test (Brown, 2004).

Readability: How easily written materials can be read and understood (Richards & Schmidt, 2002).

Readability Formula: A predictive measure where the design of the method is to provide a quantitative, objective estimate of the difficulty of a text without requiring readers to take a test on the material itself (Klare, 1963).

Readability Level: The quantitative reading level of a text as determined by a readability formula (Klare, 1963) (e.g., the Lexile Readability Formula).

Samples: Portions of a text taken at regular intervals as dictated and evaluated by a readability formula to provide a measure of a text's overall reading difficulty.

Semantic Measure: How difficult a word is as related to text difficulty\textsuperscript{10}.

Standardized Test: A test that (a) presupposes certain standard objectives or criteria that are held constant across one form of the test to another, (b) is the product of a thorough process of empirical research and development, and (c) dictates standards and procedures for administration and scoring (Brown, 2004).

Syntactic Measure: How difficult a sentence is as related to text difficulty\textsuperscript{11}.
Texts Available on the Local Taiwan Market: Materials which can be purchased from local distributors in Taipei, Taiwan without having to place orders with overseas agents.

Assumptions

1. The Lexile Readability Formula is a reliable and valid instrument for predicting the readability levels of the exemplars found in anthologies.
2. The SRI is a reliable and valid instrument for measuring Taiwanese postsecondary ELLs’ English reading abilities.
3. The participants performed to the best of their ability.

Overview of the Study

Chapter One describes the path which led me to conduct this study and its purpose, to help the writing center at Mountain View University gather the three types of information it needs in order to select the best anthologies for purchase as self-access materials. This information consists of the answers to three questions:

1. What anthologies are available on the Taiwan Market?
2. Which of the anthologies available on the Taiwan Market are accessible to the ELLs who will potentially use them in our writing center as indicated by (a) a quantitative assessment of the texts’ readability level(s) via the Lexile Readability Formula, (b) an examination of the students’ reading levels via the SRI, and (c) a comparison of the two?
3. What features related to readability beyond the two measured by the Lexile Readability Formula (i.e., vocabulary and sentence length) do the participants feel affect the readability of the exemplars in the anthologies available on the Taiwan Market?

The remainder of the study is organized into nine chapters. Chapters Two through Six provide the literature review for the study. Chapter Two does many things. It situates the study’s importance and outlines two tasks that must be completed when considering purchases for writing center self-access shelves: (a) an exploration of availability and (b) a consideration of features that contribute to readable texts. Chapter Two also identifies the features that must be considered when choosing texts and discusses the literature relevant to these features. Lastly, it outlines the three ways the features that contribute to readability have been historically explored: (a) with readability formulae, (b) qualitatively, and (c) a hybrid version of the two.

Chapter Three presents background literature relevant to using readability formulae to quantitatively assess texts’ readability level(s) and describes what factors were considered when choosing to use the Lexile Readability Formula to assess the readability levels of the anthologies examined in this study.

Chapter Four reviews literature about the instruments available to assess students’ reading levels and the decision process that was undertaken in choosing to use the SRI to assess the student reading levels in this study.

Chapter Five addresses the need to explore what other features beyond those measured by readability formulae may affect the students’ reading
experience and reviews literature about two ways that have been used to explore these: (a) qualitative measures and (b) a hybrid application of quantitative and qualitative measures. It also explains why the latter was used in this study.

Chapter Six reviews studies that have used quantitative, qualitative, and hybrid measures to address the appropriacy of texts for use with students in native English speaking (NES) contexts and with ELLs in Taiwan. It also identifies a gap in the extant research, specifically that none of these studies have addressed the research questions presented in this study.

Drawing on the three kinds of information required for the comprehensive text selection process described in Chapter One, the literature review presented in Chapters Two through Six, and the research gap identified in Chapter Six, Chapter Seven presents the methodology for the study. It first presents the three research questions for the study and then outlines the sequential mixed method research design that was employed to answer these questions.

Chapters Eight and Nine present results found for the three research questions. Chapter Eight presents results for questions one and two, and Chapter Nine presents results for question three.

Chapter Ten concludes the dissertation with a presentation of three sections: (a) A Summary of the Study and Its Findings, (b) Conclusions and Discussion, and (c) Suggestions for Future Study. This is followed by (a) References, (b) Appendices, and (c) End Notes.
CHAPTER TWO

LITERATURE REVIEW PART I:

THE PLACE OF SELF-ACCESS RESOURCE LIBRARIES IN WRITING CENTERS AND WHAT NEEDS TO BE CONSIDERED WHEN CHOOSING MATERIALS FOR THEIR SHELVES

Introduction

Chapter Two reviews selected works from the scholarly literature in four sections: The first section, The Place of the Self-access Resource Libraries in Writing Centers, situates the study’s importance. The second, Tasks That Must Be Completed When Considering Text Purchases For Writing Center Self-access Library Shelves in an ELL setting (e.g., Taiwan), outlines two tasks that must be completed when considering purchases for writing center self-access shelves: (a) an exploration of text availability and (b) a consideration of features that contribute to readable texts. The third, Features That Influence Text Readability, reviews the literature relevant to each of these features. And the fourth section, Three Ways Readability Is Explored, outlines the three ways the features have been historically explored: (a) with readability formulae, (b) qualitatively, and (c) a hybrid version of the two.

The Place of the Self-access Resource Library in Writing Centers

The goal of the writing center, North explains in his 1984 article “The Idea of the Writing Center,” is to be more than a fix it shop for unprepared writers. The writing center, he reports, should be a “physical locus for the ideas and ideals the university has about writing” (p. 446). One idea congruent with this theme is that
the writing center needs to “make sure that writers, and not necessarily their texts, are what get changed” (p. 438). When describing how the writing center is to affect this change, a great deal of scholarship has been devoted to the sociocultural nature of the tutor-student relationship (Clark & Healy, 1996; Murphy, 1994). The sociocultural tutor-student dynamic, however, is not the only part of North’s article worthy of attention. The point North makes about the importance of providing a library resource section in the writing center has also been seen as important both for the university North describes and the other institutions he speaks to (Harris, 1992); both in the way the resources in the library can be used to support the sociocultural dynamic between the tutor and tutee and as a self-access resource that offers students the opportunity to engage in self-directed learning:

a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying . . . resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes. (Knowles, 1975, p. 18).

An examination of writing center literature shows that North’s idea about the library resource center having a place in the writing center has become a historical constant. In the same year of North’s article, for example, Olson (1984) similarly wrote, “stock[ing] the center . . . with a collection of composition and English texts” (p. 90) is one of seven “administrative matters germane to the writing center” (p. vii). Simpson (1985) made a similar statement in The
International Writing Centers Association’s “Position Statement on Professional Concerns.” She explained that providing resource materials is one of 18 writing center director responsibilities. In 1992, Harris likewise explained that one of the goals of the writing center is to serve “as a resource room for writing-related materials” (p. 27). Chromik (2002) also pointed out the importance of creating library resource centers, noting that having a resource library is one of five services the writing center needs to provide to help students with their writing. More recently, Childers (2006), in her “Developing a Strategic Plan for a Writing Center,” reiterated the need for the writing center to offer a “library of materials on writing as a resource for students” (p. 65).

Surveying twelve North American university writing centers, Kinkead and Harris (1993) found that writing center directors have followed the literature’s advice about maintaining resource libraries in writing centers. Examining the descriptions provided by the writing center directors Kincead and Harris surveyed, a picture of the composition texts directors choose to put on their library resource shelves emerges. In addition to the dictionaries, handbooks, style guides, thesauruses, and other materials mentioned, several of the directors listed anthologies of paragraphs and essays among the materials they place on their self-access library shelves.

Examining the literature, it can be seen that Taiwan’s writing centers, like their North American counterparts, offer many services (Hsu, 2007). In addition to providing tutoring services, they offer students a variety of self-access opportunities, one of which is a self-access library resource section that provides
students access to a variety of English composition related texts, to include those which are the focus of this study (i.e., anthologies of paragraphs and essays).

Tasks That Must Be Completed When Considering Text Purchases

For Writing Center Self-access Libraries

Providing a resource center is one thing. Stocking it is another. Like the act of selecting any text for any group of students, the process of selecting texts for writing center resource libraries (i.e., anthologies of paragraphs and essays), both in North American settings and for writing centers in Taiwan, is not simply a matter of purchasing texts and placing them on shelves. It requires the completion of two rather involved tasks: (a) determining text availability and (b) determining text appropriacy.

The first task, determining text availability, requires a survey of what anthologies are available on the Taiwan Market. The reason is that publishers offer a much smaller number of texts to the Taiwan Market than they do to the North American one. They also offer these texts at much lower prices, as much as 50% less (Ongchin, 2007). Thus, because writing centers in Taiwan, like those in the U.S., often face limited budgets, it is prudent for writing centers in Taiwan to try to purchase texts locally rather than attempting to buy texts from international sources, which are more expensive.

The second task, determining text appropriacy, requires the writing center to determine which of the texts available to the local market are appropriate for the students who may visit the center. To do this, writing center staff must engage in a task “familiar to all people who choose books for their own use”
(Gilliand, 1972, p. 12). They need to choose texts which will be a good fit for the
readers who might use them (Dickinson, 1987; Gardner & Miller, 1999; Knowles,
1975), “the study of which . . . has come to be called readability” (Gilliand, 1972,
p. 12).

Historically, the study of readability has been defined in many similar ways,
but each definition emphasizes the importance of considering the text, the reader,
and the interaction between the two. An examination of the many definitions that
have historically been applied to this term illustrates this point. Dale and Chall
(1949) described readability this way: “In the broadest sense, readability is the
sum total (including the interactions) of all those elements within a given piece of
printed material that affect the success a group of readers have with it” (p. 24).

Klare (1963) made a shorter, yet similar, statement when discussing
readability: “If it [the text] is not readable to an intended reader [,] it is not
readable” (p. 11).

Gilliand (1972) depicted the text-reader relationship of readability in a
likewise fashion:

On the one hand there is a range of books . . . differing widely in content,
style, and complexity; [on the other hand,] there is a collection of
individuals with given interests and reading skills. . . . The extent to which
the books can be read for profit will be determined largely by the way in
which the two sides are matched. (p. 12)

Kintsch and Vipond (1979) reiterated the text-reader interaction theme:

“Readability is . . . the result of the interaction between a particular text (with its
text characteristics) and particular readers (with their information-processing characteristics)” (p. 362).

Harrison (1980) likewise reported that matching texts to students requires the consideration of two groups of factors: The first is “related to the text itself”; the second is composed of the reader’s “own knowledge and abilities” (p. 12).

Kintsch repeated this idea with Miller in 1981 when he stated readability is “the result of an interaction between the text and the reader” (p. 220).

Schirmer & Lockman made a similar statement in 2001: “The true test of readability ultimately resides within the interaction of reader and text” (p. 39).

One metaphor-based definition of readability that is especially elucidating is Chall, Bissex, Conrad, and Harris-Sharples’ (1996). They liken readability to an iceberg. Beneath the water level there are “various sources of difficulty. . . . The more difficult the passage, the greater the ice beneath” (p. 6). This definition is so elucidating because it points to the fact that readability, like an iceberg, is not one solid, homogeneously transparent entity. Instead, it is a heterogeneous mix of features that make up what Goodman (1967) called the psycholinguistic guessing game of reading, a game that requires a consideration of many features that contribute to the complex phenomenon known as reading. An examination of the literature confirms this. The literature shows that researchers have historically cited a variety of sources of difficulty that need to be considered when deciding how readable texts are for the students who may read them. Examining these works (which are discussed in the next section), it can also be seen that there is much overlap in the literature, and from this overlap one can
extract a list of features (as is listed in Table 1) that are relevant to the readability of the texts investigated in this study.

Table 1

*Features Commonly Cited in Readability Literature*

1. Vocabulary: The number of unfamiliar, abstract, figurative, or technical words in a text.
2. Sentence Length: The number of words in each sentence.
3. Vocabulary in Context: How well the words or sentences surrounding unfamiliar words help the students to understand them.
4. Background Knowledge Required: How familiar the students are with the topic of a text.
5. Interest: How interested the students are in the topic presented in a text.
6. Titles: How well the title of a text describes a text.
7. Length: (a) The number of words in a text and (b) the number of words in a paragraph.
8. Logical Rhetorical Organization: How the ideas are arranged in a text to help them flow logically from one to another.
9. Structure: How well a text is organized (e.g., an introductory paragraph which contains a clear thesis statement, body paragraphs that contain a topic sentence, supporting details, and a concluding paragraph).
10. Signal Words: Whether a text contains words that indicate the flow of information (e.g., first, next, finally, etc.).
11. Punctuation: The use of periods (.), question marks (?), exclamation marks (!), commas (,), colons (:), semicolons (;), dashes/hyphens (-), ellipsis ( . . . ), etc.
12. Format: The physical appearance of a text (i.e., font, type size, spacing, line length).
13. Advance Organizers: Introductions prior to a text.
14. Adjunct Questions: Pre- and post questions (i.e., the questions before and/or after a text).
Features That Influence Readability

In the previous section, Table 1 listed 14 features which have been cited as contributing to the ease or difficulty that readers have with texts. In this section, I will review the literature related to each of these features. I will first review literature about the two features measured by the Lexile Readability Formula (i.e., vocabulary and sentence length). I will then review the literature concerning the other 12 features. However, as the research on these features inevitably contains overlapping references, often to whole clusters of features, I have felt it necessary to include mention of a study, say under vocabulary, when in fact the study also cited multiple other factors.

Vocabulary

Vocabulary (i.e., the number of unfamiliar, abstract, figurative, or technical words in the text) has regularly been cited as a feature that affects readers’ understanding of a text. Examining readability research, one finds a large body of work related to the construction and validation of readability formulae that shows a correlation between vocabulary and the difficulty readers have with reading materials. I will discuss this literature in the second literature review chapter of this dissertation, Chapter Three. In this section I will only focus on studies which have demonstrated a relationship between vocabulary and text difficulty but do not address readability formulae.

Empirical investigations have demonstrated the important role vocabulary plays in reading comprehension, as much as .50 to .70 (Qian, 2002). Early empirical work with young learners in this area supports the argument that
vocabulary plays a central role in comprehension. A number of early twentieth century studies also point to other factors that interact with vocabulary to influence how difficult readers find texts (Gates, 1926; Hilliard, 1924; Irion, 1925; Pressey & Pressey, 1921; Sholty, 1912; Thorndike, 1917).

Work with adults has reported similar results (Albright, 1927; Davis, 1972; Dixon, LeFevre, & Twilley, 1988; Reed & Pepper, 1957; Wendell, Weaver, Kingston, Bickley, & White, 1969). An early work with adults is Albright’s (1927) study. Albright investigated the reading difficulties of NS undergraduates and reported a long and detailed list of categories which she found that impacted reading comprehension. Davis (1972) summarized the factors on Albright’s list in order of significance, the first of which is vocabulary (i.e., knowledge of word meanings). The others were as follows:

1. Ability to grasp detailed facts.
2. Ability to weave ideas together and make deductions.
3. Ability to follow the syntactical structure of a passage.
4. Ability to consider a passage objectively without being over-whelmed by personal experiences and feelings.

Reed and Pepper (1957) examined the relationship between vocabulary knowledge and undergraduate NSs’ reading comprehension using a diagnostic reading test. They also investigated the rate at which the students completed the test. They found that the amount of vocabulary knowledge the students had directly affected their comprehension, which in turn affected the rate at which
they completed the test. That is, those with higher vocabulary scores and comprehension completed the test at a faster rate.

Wendell, Weaver, Kingston, Bickley, and White (1969) reported similar results when they presented undergraduate NSs with a variety of reading batteries and a literary text. They found that vocabulary accounted for 24% of the variance in students' comprehension.

Dixon, LeFevre, and Twilley (1988) worked with undergraduate NSs and a variety of testing instruments to determine what factors contribute to reading comprehension. They demonstrated that vocabulary knowledge plays a large part in what they termed the multidimensional process of comprehension, as do other factors (e.g., working memory, reading rate, depth of word knowledge), but that these factors are not necessarily highly correlated with one another.

Research has also demonstrated that other features interact with vocabulary to influence the difficulty adult NSs have with texts (Allen & Garton, 1968; Chalmers, Humphreys, & Dennis, 1997; Davis, 1944; Harris, 1948; Holmes, 1954; Ulijn & Salager-Meyer, 1998). Davis (1944) surveyed historical reading comprehension literature and identified several hundred factors that influence reading comprehension, many of which were overlapping. From this list, he identified nine groupings. He then administered the American Council of Education’s Cooperative Reading Comprehension Tests to undergraduate NSs. He determined that each of these nine groupings contribute to reading comprehension, the most significant of which is vocabulary (i.e., word knowledge). Specifically, he reported that the “knowledge of word meanings is
basic to . . . all . . . other skills, since to read at all one has to recognize words and understand their meanings” (p. 186). Elaborating further, he listed the other eight groupings which he found to correlate with students’ vocabulary knowledge as well as with each other:

1. Ability to select the appropriate meaning for a word or phrase in the light of its particular contextual setting.
2. Ability to follow the organization of a passage and to identify antecedents and references in it.
3. Ability to select the main thought of a passage.
4. Ability to answer questions that are specifically answered in a passage.
5. Ability to answer questions that are answered in a passage but not in the words in which the questions are asked.
6. Ability to draw inferences from a passage about its contents.
7. Ability to recognize the literary devices used in a passage and to determine its tone and mood.
8. Ability to determine a writer’s purpose, intent, and point of view, i.e., to draw inferences about a writer. (p. 186)

Harris (1948) investigated what factors contribute to undergraduate NSs’ successful reading of literary texts. He found that vocabulary knowledge was highly significant. He also found other factors that interact with vocabulary knowledge and each other to influence readers’ comprehension:

1. Recognition of equivalents for words and groups of words that are used figuratively or as symbols.
2. Recognition of antecedents of pronouns, of subjects and predicates in loosely organized statements or in statements with inverted or uncommon word order, and of missing parts of elliptical statements.

3. Recognition of summaries of ideas expressed or implied, including the main idea as well as subordinate ideas, the subject of the discourse, the situation being discussed or described, etc.

4. Recognition of summaries of characteristics of persons or characters described in the passage, including their actions, motives, attitudes, etc.

5. Recognition of the author's attitude toward his subject, his characters, etc., of his mood or emotion, and of his intent or purpose.

6. Recognition of the relationship between technique and meaning, including the function of images, illustrations, and the like, the function of comparisons, the function of sentence structure and word choice, etc. (p. 332)

Holmes (1954) examined NS undergraduates’ scores on a wide variety of standardized tests to determine what factors contribute to reading performance. He found that students who demonstrated good reading comprehension had several things in common. He reported that good readers demonstrate intelligence, knowledge of vocabulary (both in and out of context), and few fixations when reading. He also found that they have a command of the following: (a) prefixes, (b) suffixes, (c) perception of verbal relations, (d) word discrimination, (e) general information, (f) phonetic association, and (g) spelling.
Allen and Garton (1968) examined the question of how vocabulary and background knowledge interact. Working with NS undergraduate physics and art majors and excerpts from physics texts, they found that students' domain specific background knowledge influenced the amount of vocabulary knowledge they had, and this in turn impacted their comprehension. Specifically, Allen and Garton found that students demonstrated higher recall of the domain specific terms as a result of their domain specific background knowledge.

Chalmers, Humphreys, and Dennis (1997) conducted a similar experiment. Like Allen and Garton, they presented undergraduate NS computer science and psychology majors with a variety of vocabulary terms ranging from common high frequency words to technical terms specific to computer science. They, like Allen and Garton, found that the computer science majors demonstrated higher recall of the domain specific terms as a result of their domain specific background knowledge.

Ulijn and Salager-Meyer (1998) acknowledged the importance of students' general vocabulary knowledge. They additionally discussed the importance of readers' understanding of more technical terms. They pointed out that "specialized vocabulary can often be a stumbling block for readers who lack the appropriate background knowledge" (p. 83).

Work with ELLs has also found that vocabulary plays a large role in reading comprehension (Al-Nujaidi, 2003; Salyer, 1990; Yorio, 1971). Yorio (1971) surveyed the concerns of Spanish-speaking undergraduate ELLs and
reported that ELLs “consider vocabulary their most serious handicap in reading English” (p. 107).

Salyer (1990) examined the effect of vocabulary difficulty on French, Japanese, Portuguese, and Spanish-speaking undergraduate ELLs’ reading comprehension. Salyer presented the students with easy and difficult versions of a text “Reading Between the Lines,” one of which contained easier vocabulary than the other. He found the students demonstrated considerably higher comprehension and recall of the passages which contained easier vocabulary.

Al-Nujaidei (2003) examined the effect of vocabulary knowledge on Saudi-undergraduate ELLs’ comprehension of reading passages taken from TOEFL preparation texts. He too found a correlation between vocabulary knowledge and comprehension; that is, students who demonstrated larger vocabulary knowledge on a vocabulary test also performed better on a reading comprehension test.

As with NSs, empirical work with ELLs has found that the impact vocabulary knowledge has on reader comprehension is related to background knowledge a variety of other features. Anderson & Freebody (1979), Huang, (1999), and Lankamp (1989) investigated the relationship between vocabulary and background knowledge. Anderson (1979), with Freebody, reflected on his earlier work with Steffensen and Joag-Dev (1979) (see the title section of this chapter) where they explored the influence of background knowledge on NSs’ and ELLs’ comprehension of culture specific texts. In the previous study, Steffensen, Joag-Dev, and Anderson explored the effects of students’ cultural schemata on reading comprehension. They presented two letters to
undergraduate NSs from America and adult participants with an Indian heritage. One letter was about an American wedding and the other was about an Indian one. They found that the participants from each culture (a) read the passage from their respective culture more rapidly, (b) recalled a larger amount of information, and (c) produced more culturally appropriate elaborations. They also reported, as will be discussed in the background knowledge section of this chapter, that background knowledge played a large part. Reflecting on this study, Anderson and Freebody (1979) noted that the results were related to the relationship vocabulary has with background knowledge; that is, students with culture specific background knowledge know more culture specific terms.

Lankamp (1989) approached the interactive effect of vocabulary and background knowledge slightly differently. He showed that domain specific vocabulary can actually facilitate reading comprehension better than more general vocabulary when read by those who are members of a particular field. To do this, working with Dutch-undergraduate ELLs, he found that readers with domain knowledge experienced reduced comprehension when reading texts where the technical terms were replaced with more common words.

Huang (1999) also examined the effects of vocabulary and background knowledge. In her study, she focused on Taiwanese ELLs ranging from junior high school to undergraduate level. She examined their reading of a health related text. She found that vocabulary had the greatest influence on reading comprehension followed by background knowledge. She also found that the two interacted to influence comprehension; that is, those with inadequate vocabulary
knowledge were unable to access their background knowledge to help their comprehension.

In addition to the work which has investigated the connection of vocabulary and background knowledge with ELLs, research has also been done which has investigated how vocabulary interacts with other features (Buck, Tatsuoka, & Kostin, 1997; Freedle & Kostin, 1991, 1992, 1993; Guo, 2008; Qian, 1998, 1999; 2002; Statman, 1987). Statman (1987) investigated the thought processes Hebrew-speaking undergraduates ELLs go through when reading. She reported that the students found vocabulary to be the most significant predictor of whether they would understand a passage. Statman also reported a variety of interrelated factors: (a) syntax, (b) references, and (c) the amount of surrounding context.

Freedle and Kostin (1991, 1992, 1993) conducted a series of studies to determine which variables contribute to reading passage difficulty in standardized tests: the Scholastic Aptitude Test (SAT\textsuperscript{12}), the Graduate Record Exam (GRE\textsuperscript{13}), and the Test of English as a Foreign Language (TOEFL\textsuperscript{14}). They reported that vocabulary contributed significantly to text difficulty in two of the three studies (1991, 1993). In the 1991 study, they examined 110 reading passages from the SAT and the scores of 1,500 examinees. They reported their findings separately for high and low proficiency groups. They reported that vocabulary significantly contributed to text difficulty for the low proficiency group, although it was not the most significant factor. For the low ability group, they reported the following:
1. Abstractness/concreteness of text: The more abstract the text the greater the comprehension difficulty.

2. Paragraph length: The longer the paragraph the greater the comprehension difficulty.

3. Rhetorical organization: Argumentative text types are more difficult than comparative text types.

4. Vocabulary: Number of words with three or more syllables in the first 100 words of the passage contributes to text difficulty.

For the high proficiency group, they reported the following significant factors:

1. Concreteness: The main idea of text and its development.

2. Negations: negations, e.g., use of no, never, neither, none, no one, etc. In addition, prefixed words such as uncover, impossible, disheartened and suffixed words such as relentless.

3. Paragraph length: The longer the paragraph the greater the comprehension difficulty.

In the 1993 study, they examined 100 passages taken from the TOEFL and 2,000 examinees’ responses. They found that vocabulary and 10 other factors significantly (interdependently and intercorrelatedly) contributed to text difficulty, although vocabulary was not the most significant predictor. The other 10 were:

1. Abstractness/concreteness of text: The more abstract the text the greater the comprehension difficulty.
2. Content (social science content is associated with harder items; humanities content is associated with easier items).

3. Fronted structures: The sum and each of the three fronted structures are predicted to make comprehension more difficult: (a) cleft structures, (b) marked topics and (c) combinations (of coordinators and marked topics or coordinators with cleft structures).

4. Paragraph length: The longer the paragraph the greater the comprehension difficulty.

5. Passage length: The longer the passage the more difficult the comprehension.

6. Punctuation: The more semicolons in the passage the harder the item.

7. Question Forms (i.e., the more words in the incorrect options the harder the item).

8. Referentials: The greater the number of referentials the more difficult the comprehension.

9. Rhetorical organization: Problem solution is more difficult than list/describe organization.

10. Sentence length: The longer the sentence the greater the comprehension difficulty.

Buck, Tatsuoka, & Kostin (1997) reported the impact of a variety of primary and conjoined features on Japanese ELLs’ reading performance on the TOEIC Test. They found that the most influential feature was vocabulary, followed by students’ background knowledge, working memory, and approach to
answering questions (e.g., inferencing). They also found that several other features were conjoined. They found that (a) vocabulary was related to text length (e.g., overall length and paragraph length), (b) students’ ability to make inferences was related to matters of text length (e.g., paragraphing) and text that violates traditional text structure, and (c) students’ ability to catch the main idea of a passage was related to matters of text length.

Qian (1998, 1999) examined the relationship between vocabulary knowledge and reading comprehension with Chinese and Korean-speaking undergraduate ELLs who were reading passages taken from TOEFL preparation texts. He found that students’ vocabulary sizes, as well as depth of vocabulary knowledge (i.e., meaning and collocation), were positively and closely related. He also found a correlation between vocabulary size and students’ inferencing ability.

Qian conducted another study in 2002 with a different group of ELL undergraduate and graduate students identified as speakers of Arabic, Chinese, Italian, Japanese, Korean, Portuguese, Russian, Spanish, Tajik, and 10 other languages. In this study, he examined the relationship between students’ (a) vocabulary size, (b) depth of vocabulary knowledge, and (c) comprehension of a TOEFL reading test. He found that each was important and that all three were highly correlated.

**Sentence Length**

As with vocabulary, it can be seen that there is a large body of work related to the construction and validation of readability formulae which has demonstrated that sentence length is related to the difficulty readers have with
texts. As with vocabulary, I will discuss works related to sentence length and readability formulae further in Chapter Three. In this section I will only focus on studies which have demonstrated a relationship between sentence length and text difficulty but are not related to readability formulae.

Early discussions of sentence length can be found in Sherman’s 1893 work, where he stressed that readable materials do “not run in long and involved sentences that cannot readily be understood” (p. 327). Work with young and adult NSs and adult ELLs has demonstrated the connection between both the long and involved parts of Sherman’s claim. Specifically, this research has shown that what makes long sentences difficult is not simply a matter of length. Instead, it is a matter of the difficulty created by sentence complexity and readers’ interaction with that complexity.

Several researchers have examined the effect of sentence complexity on NSs’ reading comprehension (Coleman, 1962; Glazer, 1974; Pearson, 1974). Glazer (1974) illustrated how the complexity of longer sentences contributes to difficulty. She examined materials for younger learners and found that longer sentences, which usually appear at higher levels, result in increased complexity because they “include more adjectives, deleted words, dependent clauses, [and] adverbial additions” (p. 467).

Coleman (1962) illustrated the effects of short and long sentences on undergraduate NSs’ comprehension of passages from Geralds’ Human Senses. He presented the students with three versions of the text: (a) 15.4 words per sentence, (b) 18.6 words, (c) and 23.2 words. He found that students
comprehended more of the two shorter passages than the longer one, but they performed best on the version containing the mid-length sentences. Examining the results, he stressed that the difficulty students have with a text is more than a matter of short or long sentences. Specifically, he explained that simply breaking up texts into a series of short, simple sentences is not a way to make them easier. He stressed that the source of difficulty is found in what makes up the sentences, and that “shortening the clause is probably more important than emphasizing its boundary with a period” (p. 134).

Pearson (1974) agreed that “longer sentences are usually more syntactically complex and have one or more embedded sentences or subordinate clauses. . . . Hence, combined sentences, especially where subordination results, are likely to increase difficulty of the sentence, but not always (p. 196). In fact, as he pointed out, shorter sentences may actually be more difficult depending on their complexity.

Research has also attempted to explain the difficulty sentence complexity poses in terms of the demands it makes on NS students’ working memory (Coleman & Miller, 1968; McElree, 2000; McElree, Foraker, & Dyer, 2003; McLaughlin, 1969; Mikk, 2008). McLaughlin (1969) explained that long sentences “nearly always have complex grammatical structure, which is a strain on the reader’s immediate memory because he has to retain several parts of each sentence before he can combine them into a meaningful whole” (p. 640).

Coleman and Miller (1968) illustrated the impact of complexity and working memory and additionally illustrated how vocabulary contributes to this.
They presented undergraduate NSs with a series of more and more complicated sentences. They found that information gain was best facilitated from sentences that contained fewer syntactic kernels and difficult words; that is, easier texts contain “few abstract nouns, few verb-nominalizations, and many short words” (p. 369).

McElree (2000) alone and with colleagues (McElree et al., 2003) further illustrated the impact sentence complexity has on working memory. In these experiments, NS undergraduates read materials that contained a series of successively longer and more grammatically complex sentences. McElree and his colleagues found that “processing additional material increased the likelihood of readers either: (a) failing to retrieve the earlier processed constituent or (b) misanalysing relations in the sentence” (pp. 85-86).

Mikk (2008) reported similar results. He investigated the effects of sentence length and cognitive load with NS high school students. Using cloze tests, he found that students’ reading performance decreased when sentence length exceeded 140 characters and that a length of 130 to 150 characters was most facilitative.

Work has also been completed with adult ELLs. This work has explored how sentence length and its accompanying grammatical complexity impacts reader comprehension with regards to two areas: (a) the sentences and their complexity and (b) students’ proficiency. Blau (1982) and Freedle (1992) examined the effect sentence complexity. Like Coleman’s (1962) and Pearson’s (1974) work with NSs, Blau (1982) attempted to explain the complex effect of
long and short sentences on Spanish-speaking undergraduate ELLs’ reading comprehension. In her study, she developed and presented the students texts in two versions, texts with short and long sentences. The short-sentence versions were made up of simple sentences. The longer-sentence versions contained complex sentences, “but surface clues to underlying relationships were left intact” (p. 518). Whereas in the short-sentence set, they were removed. Blau found that the students performed best with naturally longer sentences. She concluded that

[S]hort, primarily simple sentences . . . , are an obstacle to comprehension. Choppy, unnatural sentences are difficult to read and the relationships and meaning revealed by the formation of complex sentences are apparently lost. Readers do indeed seem to benefit from the information regarding relationships that is revealed by complex sentences. (p. 525)

More recently, Freedle and Kostin (1992), as mentioned earlier, examined 110 reading sections from the GRE, a test which is taken by graduate and business school applicants from over 160 counties (ETS, 2012). Using the scores of 1,800 examinees, they investigated how the features reported in their 1991 study impacted students’ performance on the GRE. They concluded that several factors contributed to text difficulty, to include sentence length and others related to it:

1. Frontings: The use of any phrases or clauses preceding the subject of the main independent clause.

2. Clefts (e.g., there): There are cases that defy reason.

They did not, however, provide data regarding intercorrelations for these features.
Others have explored what part student proficiency plays in the difficulty sentence length and its accompanying complexity pose (Dwaik, 1997; Guarino & Perkins, 1986; Guo, 2008; Nilagupta, 1977). Nilagupta (1977), in a discussion of sentence length and complexity, examined ELLs’ reading comprehension and the interaction between the proficiency of ELL readers and sentence complexity. Drawing on work with NS younger learners that has shown a correlation between students’ reading comprehension and text complexity (see Strom, 1956), he examined Thai undergraduate and graduate ELLs’ performance on two types of tests: (a) syntactic structure comprehension and (b) reading comprehension. He determined that the more proficient graduate students performed better than the less proficient undergraduate students, but that several areas were general sources of difficulty: (a) negative words, (b) passive voice, (c) embedded clauses, (d) deletions (i.e., absent subjects), (e) nominalizations, (f) modifier load, (g) pronoun substitution, and (f) modal verbs.

Guarino and Perkins (1986) worked with undergraduate ELLs from a variety of language backgrounds (i.e., Arabic, Chinese, Japanese, Malay, Spanish, Thai). They presented the students with two types of exams: (a) syntactic structure and (b) reading comprehension. They reported a .37 correlation between the students’ performance on the two exams and concluded that syntactic knowledge has a significant impact on reading performance.

Dwaik (1997) also demonstrated a relationship between readers’ grammatical competency and reading comprehension. He additionally demonstrated how students’ vocabulary knowledge plays a part in this. He had
Palestinian ELLs take the structure and vocabulary portions of the TOEFL, read two passages, and then engage in a recall protocol. He found that students’ syntactic knowledge accounted for 64% of the variance in reading scores and lexical knowledge accounted for 21% of the total score variance.

Guo (2008) has also completed work that supports Nilagupta’s (1977) findings. He examined the combined effects of syntactic and vocabulary knowledge on Chinese-undergraduate ELLs’ reading performance. He examined the students' performance on a variety of test batteries and concluded that the students' syntactic and vocabulary knowledge accounted for 83% of the students' reading performance test scores.

**Vocabulary in Context**

The role that helpful context surrounding unfamiliar words plays in reader comprehension is often grounded in discussions of inferencing (i.e., guessing the meaning of unknown words from context) and is said to be the strategy NSs and ELLs most often use when they encounter new words (Cooper, 1999; Fraser, 1999; Nassaji, 2003; Paribakht & Wesche, 1999).

The range of factors that influence NSs’ and ELLs’ ability to infer the meaning of unknown words also features in this discussion. Early work in this area with NSs provided taxonomies of textual features readers look to when inferring the meaning of unknown words. Ames (1966), for example, provided a study in which he cited 14 types of textual clues readers (NS doctoral students) use to infer the meaning of unknown words:

1. Clues derived from language experience or familiar expressions.
2. Clues utilizing modifying phrases or clauses.

3. Clues utilizing definition or description.

4. Clues provided through words connected or in series.

5. Comparison or contrast clues.


7. Clues provided by the tone, setting, and mood of a selection.

8. Referral clues.


10. Clues derived from the main idea and supporting details.

11. Pattern of paragraph organization clues provided through the question-and-answer pattern of paragraph organization.

12. Preposition clues.

13. Clues utilizing non-restrictive clauses or appositive phrases.

14. Clues derived from the cause and effect pattern of paragraph and sentence organization. (pp. 66-67)

Work has also been done with ELLs (Bengeleil & Paribakht, 2004; Chern, 1993; de Bot, Paribakht, & Wesche, 1997; Dubin & Olshtain, 1993; Haynes, 1993; Haynes & Baker, 1993; Laufer, 1997; Paribakht & Wesche, 1999; Shen, 2005; Shen & Wu, 2009; Shokouhi & Askari, 2010). Haynes (1993) examined what textual and reader factors influence Arabic, French, Japanese, and Spanish-speaking adult ELL’s ability to make correct inferences. She found that ELLs are “good guessers when the context contains immediate clues” (p. 60). She also found that ELLs profit more from local context clues than from global ones, but
that they experience difficulty when there is insufficient context. She additionally reported that differences in L1 and L2 graphophonemic systems and limited vocabulary knowledge may restrict ELLs’ ability to make inferences.

Dubin and Olshtain (1993), working with ELL teachers, similarly reported a combination of textual and reader factors needed for ELL students to infer meaning: (a) semantic information beyond the sentence and paragraph level, (b) semantic information at the sentence level, (c) structural information within the sentence or paragraph, (d) readers’ general background knowledge extending beyond the text, and (e) the readers’ overall grasp of the content.

Laufer (1997) focused only on textual factors that restrict ELL readers’ ability to infer meaning. Discussing previous studies, he reported three such features: (a) nonexistent contextual clues (lack of redundancy), (b) unusable contextual clues (word clues that are unknown to the reader), and (c) misleading and partial clues (clues that misrepresent the target word).

Shokouhi and Askari (2010), in a study of high school and Iranian-undergraduate ELLs’ reading comprehension, focused on the textual factor of text length as it relates to students’ inferencing ability. They found that students’ ability to make correct inferences decreased in longer paragraphs (i.e., 100 words) as opposed to shorter ones (i.e., 80 words). They attributed the students’ trouble with the longer passages to the number of unfamiliar words in those passages. They also reported their results were surprising as they expected that longer passages would make it “easier for students to infer the meaning of the
unknown words owing to the redundancy factor” (p. 86); that is, longer texts should provide more context for students to infer meaning of unknown words.

de Bot, Paribakht, and Wesche (1997) focused specifically on reader factors. They found that ELLs from a variety of language backgrounds (i.e., Arabic, Chinese, French, Persian, Spanish, Vietnamese) use a variety of knowledge types when inferring meaning of unknown words: knowledge of (a) sentence level grammar, (b) word morphology, (c) punctuation, (d) the world, (e) discourse and text, (f) homonymy, (g) word associations, and (e) cognates.

Paribakht and Wesche (1999), working with ELLs from a variety of language backgrounds (i.e., Arabic, Chinese, Farsi, French, Spanish, Vietnamese), also focused on the knowledge areas ELLs draw on when guessing the meaning of unknown words. They categorized their findings into three areas: (a) extra linguistic (world knowledge), (b) major linguistic (word morphology, punctuation, sentence-level grammatical knowledge), and (c) minor linguistic (cognates, discourse/text, homonymy, word associations).

Working with intermediate and advanced Arabic-speaking ELLs, Bengeleil and Paribakht (2004) reported seven knowledge areas ELLs draw on when attempting to infer the meaning of unknown words: (a) target word level (e.g., word morphology, homonymy, word association), (b) sentence level (e.g., sentence meaning, syntagmatic relations, paradigmatic relations, grammar, punctuation), (c) discourse level (e.g., discourse meaning, formal schemata), (d) lexical knowledge, (e) word collocation, and (f) knowledge of specific terms particular to the subject of the text. They additionally reported that “more
advanced readers made more correct and partially correct inferences than the intermediate-level readers” (p. 240) and that the less proficient learners’ vocabulary knowledge contributed to this. With regards to ELLs’ reader proficiency, they reported that the advanced and intermediate readers in their study “used the same kinds of knowledge sources and contextual cues while inferencing (with the exception of word association, which was used only minimally and only by the intermediate group)” (p. 240).

Haynes and Baker (1993) examined reader factors (i.e., vocabulary knowledge) with NSs and Taiwanese-undergraduate ELLs. They found that prior vocabulary knowledge served mainly to facilitate the American students’ comprehension of new concepts, whereas for the Taiwanese students “limited vocabulary knowledge restricted comprehension of lexical familiarizations” (p. 148).

Working with Chinese-undergraduate and graduate ELLs and focusing on reader characteristics (i.e., proficiency), Chern (1993) examined proficient and less proficient Chinese ELLs’ ability to use a variety of textual clues to infer meaning from context. She found that both groups were better at using sentence bound clues (i.e., information in the same sentence) and backward clues (i.e., clues in prior parts of the text) than parallel clues (i.e., the grammatical relationship and semantic similarity between words) or forward clues (i.e., information in later parts of the text). She found, however, that the proficient group was better able to use forward clues than the less proficient group. She
also reported that about half of the participants in her study employed background knowledge in their guessing.

Shen in 2005 and later with Wu (Shen & Wu, 2009) also studied the influence of reader proficiency on ELLs’ ability to use inferencing. Both studies found that more proficient Taiwanese-undergraduate readers had a higher percentage of correct inferences than less proficient students.

**Background Knowledge**

Background knowledge (i.e., how familiar the students are with the topic of the text) has been found to be a strong indicator of how difficult students find texts. It has been found that readers who have background knowledge about the topic of a text tend to demonstrate more comprehension than those that do not, about 31-60% more (Dochy, Segers, & Buehl, 1999). This idea is commonly associated with the concept of schema. Schema is defined as “a data structure for representing the generic concepts stored in memory” (Rumelhart, 1980, p. 34) and the larger concept of schema theory:

a theory about how knowledge is represented and about how that representation facilitates the use of the knowledge in particular ways.

According to schema theories, all knowledge is packaged into units. These units are the schemata.

Seminal work in this area is usually attributed to Kant’s (1781) early discussions of schema and is later associated with work by Bartlett (1932) who identified several types of schema. More recent work has been done by Carrell (1983) who identified two types of schemata related to reading: (a) content and (b) formal
(see the logical rhetorical organization section in this chapter for a discussion of formal schema).

Carrell defined content schema as “background knowledge of the content area of the text” (p. 81). She also pointed out how readers’ content schema works. She explained that a “text alone does not carry meaning. Rather, a text only provides guidance for . . . readers as to how they should construct the intended meaning from their own previously acquired knowledge” (p. 82). She further explained that readers’ cultural and domain related background knowledge impacts comprehension.

An examination of empirical investigations illustrates Carrell’s (1983) point. There have been a number of studies which have shown that readers who have cultural background knowledge about the topic of a text do better than those who do not. Examples can be found in studies that have explored NSs’ and ELLs’ cultural knowledge about weddings (Steffensen, Joag-Dev, & Anderson, 1979), folktales (Nelson, 1987), culturally appropriate elements (Chihara, Sakurai, & Oller, 1989), mythology and religion (Malik, 1990), holidays (He, 2002), and transportation and academic culture (Florencio, 2004). An early work in this area is Steffensen, et al.’s 1979 study. They demonstrated that “an individual who reads a story that presupposes the schemata of a foreign culture will comprehend it quite differently from a native, and probably will make what a native would classify as mistakes” (p. 11). In their study, they had undergraduate NSs with an American heritage and adult participants with an Indian heritage read two letters, one about an American wedding and one about an Indian one.
They found that the participants from each culture (a) read the passage from their respective culture more rapidly, (b) recalled a larger amount of information, and (c) produced more culturally appropriate elaborations.

Nelson (1987) investigated the effect of students’ cultural background when reading culturally loaded ESL textbooks and when reading texts representative of their own culture. She presented Egyptian-undergraduate ELLs with stories and folk tales from such texts and found that students demonstrated higher comprehension and were generally more interested in the texts which described their own culture.

Chihara, Sakurai, and Oller (1989) examined the influence of students’ cultural background by presenting Japanese-undergraduate ELLs with narratives in two forms: (a) an original text and (b) one with culturally familiar elements. They found that the students demonstrated higher comprehension when reading the altered texts.

Malik (1990), working with Iranian-undergraduate ELLs and excerpts from an encyclopedia about Japanese and Islamic mythologies, found that the Iranian students, because of their Islamic background, demonstrated higher comprehension when reading the culturally familiar texts.

He (2000) explored the effect of readers’ background knowledge of culturally based holidays. She presented Taiwanese-undergraduate ELLs with two texts about holidays, (a) one about a culturally familiar holiday (i.e., Chinese New Year) and (b) one about an unfamiliar one (i.e., Ireland’s St. Patrick’s Day).
She too found that students demonstrated better comprehension when reading culturally familiar texts than when reading unfamiliar ones.

Florencio (2004) found similar results when working with American NSs and Brazilian-undergraduate ELLs. Each group read two passages: (a) One about a problem specific to an American university setting and (b) one about a political movement relevant to Brazilian culture. Similar to previous researchers, she found that students demonstrated higher comprehension of passages respective of their own cultures.

Studies have also illustrated how background knowledge about other areas interacts with other features to influence readability: folktales and vocabulary (Johnson, 1981) and religion and text structure (Carrell, 1987). Johnson (1981) investigated the effect of readers’ cultural background about folktales. He presented American NSs and Iranian ELLs with American and Iranian folktales. He found that participants’ cultural origins had more of an effect on their reading comprehension than the semantic and syntactic complexity level of the text.

Carrell (1987) investigated the influence of students’ religious backgrounds. She had ELL undergraduates from two faiths (i.e., Catholicism and Islam) read narratives about religious figures from each faith. She presented the narratives in two forms, temporally sound and temporally reordered. She found that the students in each group recalled more of the stories relevant to their religious background. She also found that students who read unfamiliar texts that
were temporally scrambled “tended to confuse sequences of events and relationships between events” (p. 476).

There have also been a number of studies that have investigated the impact of NSs’ and ELLs’ domain specific background knowledge on reader comprehension. Work has been done with NS students’ majors (Anderson, Reynolds, Schallert & Goetz, 1977) and sports (Chiesi, Spilich, & Voss, 1979; Recht & Leslie, 1988). The studies about sports also illustrated how domain specific background knowledge about baseball interacts with other features that influence comprehension: text structure (Chiesi et al., 1979) and reading proficiency (Recht & Leslie, 1988). Anderson, Reynolds, Schallert, and Goetz (1977) examined the effect of undergraduate NSs' background knowledge about academic majors on their reading comprehension. They presented students from two different majors (i.e., physical education and music) with two passages, each of which could be interpreted in one of two ways. The first was a passage about wrestling which could be interpreted as a prison break. The second was a passage about music which could be interpreted as being about a card game. They found that the physical education majors produced a dominant interpretation of the wrestling passage and a weak interpretation of the music passage. They found the opposite to be true for the music majors: The music majors produced a dominant interpretation of the music passage and a weak interpretation of the wrestling passage.

Chiesi, Spilich, and Voss (1979) conducted a series of experiments with NS undergraduates and short passages about baseball. They found that
students with high background knowledge about baseball demonstrated higher recall of the passages than participants with lower background knowledge about the sport. They also examined the effect of structure and found that background knowledge facilitated recall of temporally scrambled texts.

Recht and Leslie (1988) also examined the impact of NS undergraduates’ background knowledge about baseball. They first conducted a pretest to determine the amount of background knowledge the participants had about the sport and separated the students into high and low background knowledge groups. They then presented the students with a text about a baseball game and tested the students’ recall of the passage. They also found that students with more background knowledge recalled more of the passage than those with less background knowledge.

There has also been work that has shown that domain specific knowledge is not specific to NS readers’ culturally determined background knowledge with regards to academic subjects (Johnston, 1984; Tobias, 1995). Johnston (1984) examined the influence of subcultures on NSs who share a national culture but are members of different subcultures, rural and urban. He presented participants with texts on three topics: (a) one that he expected rural students to be familiar with (i.e., farming), (b) one that he expected urban students to be familiar with (i.e., the workings of the transit authority), and (c) one that he expected both to be familiar with (i.e., a civil war battle). He found that the rural and urban participants comprehended more of the passages respective to their own subcultures, but the rural students did better on the civil war passage. He
attributed this to the possibility that the rural students receive more instruction on this topic than their city dwelling participants do. He also found the male students did better on this passage than their female counterparts and concluded that gender related interest was a factor: Males may be more interested in the subject of war than females.

Tobias (1995) explored the influence of NS undergraduates' background knowledge and interest related to student majors, specifically the vocabulary gains students made while reading narrative and expository texts. He worked with undergraduate nursing majors, undergraduates in a college orientation course, and a text on heart disease. He found that the nursing students experienced larger vocabulary gains than the students in the general studies course.

Studies in this area have also pointed to other factors that influence the impact that background knowledge has on ELLs' comprehension: reading proficiency (Alderson & Urquhart, 1988) and interest (Johnston, 1984). Alderson and Urquhart (1988) examined the impact of ELLs' domain specific background knowledge on their reading comprehension. They selected groups of ELLs from a variety of majors (i.e., administrative-finance, engineering, and liberal arts) and asked them to read domain specific texts, albeit Alderson and Urquhart did not identify the ELLs' language backgrounds. They found that the engineering students did better with engineering texts and the finance students did better with the finance texts. However, the liberal arts group did better on the engineering
texts than the finance students. Alderson and Urquhart concluded that this last result may be due to the liberal arts students’ superior linguistic proficiency.

Steffensen and Colker (1982) worked with American female undergraduates, Australian Aborigine women, and material describing the medical beliefs and practices respective to each culture. Steffensen and Colker found that each group remembered more of the passage respective of their own culture and provided distorted recalls of the unfamiliar passage. However, the American subjects showed poorer comprehension and more distortions of the Aborigine passage than the Aborigines did of the American passage. Steffensen and Colker attributed this to the Americans having little knowledge of Aborigine practices, whereas the Aborigines had some knowledge of Western medicine.

Work with ELLs has also shown how the students’ background knowledge interacts with other features to influence students’ perceptions of text difficulty. Johnson (1982) investigated the effect of ELLs’ prior cultural experience with an American holiday (i.e., Halloween) on their reading comprehension. She presented ELL undergraduates from 23 nationalities who had recently participated in an American Halloween celebration with two texts, one about general Halloween facts and another about the holiday’s history. She found that the students demonstrated better comprehension of the text which contained facts about the activities they had participated in. She also found that students’ recall of the experientially familiar passage showed more use of relations between propositions, accurate organization and semantic cohesion, lexical and relational propositions, and inferences.
**Interest**

Discussions about the learning value of interest can be traced back to the early 1800s, first to the German educational philosopher Herbart who posited a close relationship between interest and learning (Felkin & Felkin, 1895) and later to American education reformer Dewey (1913) for his treatise on the subject where he described interest as the proverbial donkey which pulls students in one direction or another.

Drawing on the early works of Herbart and Dewey, modern discussions describe interest as individual interest, “a relatively long-term orientation of an individual towards a certain topic, or a domain of knowledge” (Schiefele & Krapp, 1996, p. 143). Interest has also been described as personal interest, a type of interest which Schraw and Lehman (2001) define as “an intrinsic desire to understand a particular topic that persists over time” and a “cognitive and affective quality that individuals carry with them from place to place” (p. 24). These two types of interest, which often are described together as individual interest, are distinguished from another type interest, situational interest. Situational interest is defined as an emotional state aroused by specific textual features (Schiefele & Krapp, 1996; Schraw & Lehman, 2001) and has generally been found to have a detrimental impact on reading comprehension (Wade, 1992).

A number of explorations of the effect individual interest has on reader comprehension (referred to as interest from this place forward) have been conducted with younger NSs and ELLs (Ainley, Hidi, & Berndorff, 2002; Asher,
Research has also been done with NSs of other languages (Boscolo & Mason, 2003, Brantmeier, 2006; Leloup, 1993; Schiefele, 1990, 1992; Schieffle & Krapp, 1996). Work with adults, both NSs and ELLs, however, has been more limited.

Examining the research completed with English NS adults, it can be seen that the amount of interest readers have about a topic can influence their comprehension (Bargh & Schul, 1980) and understanding of concepts (Benware & Deci, 1984). Bargh and Schul (1980) studied the influence of interest by artificially inducing interest in NS undergraduates who were enrolled in an introductory psychology course. In their study, the experimental subjects were told that they would teach the contents of an article to another student. The control subjects, however, were simply told they would be examined on the material. The results showed that the experimental group demonstrated greater recall of the text.

Benware and Deci (1984) conducted a study similar to Bargh and Schul’s. In their study, they presented experimental and control undergraduate NS psychology majors with a passage on higher brain functioning. Benware and Deci likewise explained to the experimental subjects that they would teach the contents of the article to another student, whereas the control students were told simply to learn the material. They too found that the experimental group
demonstrated greater conceptual understanding of the material than the control subjects.

Research with adult NSs has also demonstrated a relationship between interest and background knowledge (Entin, 1981; Lin, Zabrucky, & Moore, 1997). Entin (1981) measured the influence of both interest and background knowledge on NS undergraduates’ comprehension of expository passages from the *World Book Encyclopedia*. She found that students who expressed high interest demonstrated higher comprehension than did students with low interest. She also found that students with high background knowledge demonstrated higher comprehension than did students with low background knowledge. With regards to the interaction between interest and background knowledge, she reported some of the topics the students reported to be of high interest were also ones they reported having background knowledge in and vice versa. However, Entin noted that students who have little knowledge about a topic may have interest in reading more about the topic and that students who know quite a lot about a topic may not be interested in reading more about the topic.

Lin, Zabrucky, and Moore (1997) examined the influence of undergraduate psychology students’ interest in a variety of domains (i.e., biology, economics, engineering, geography, philosophy, political science) on their comprehension of expository texts. They found that students who reported having interest in the domains demonstrated higher comprehension of the passages. Lin, Zabrucky, and Moore also reported that students who reported high interest similarly
reported having background knowledge as measured by the amount of confidence they expressed about the subject matter of the domain.

Work with adult ELLs and interest likewise has showed that interest has a facilitative effect on comprehension and that interest and background knowledge are connected (Bugel & Buunk, 1996; Carrell & Wise, 1998; Erçetin, 2010). Bugel and Buunk (1996) worked with Dutch ELLs in their terminal year of high school to examine the influence of interest and background knowledge on reader comprehension as related to gender. They presented male and female students with a combination of narrative and expository texts on gender specific topics the participants reported being interested in and having background knowledge about (i.e., motorcycle helmets for male subjects and body image for female students). Bugel and Buunk reported that each group demonstrated higher comprehension of their gender-respective passages and reduced comprehension of the alternate passages.

Carrell and Wise (1998) examined the influence of interest and background knowledge on reader comprehension with adult ELLs from a variety of countries (i.e., China, Colombia, Ethiopia, France, Haiti, India, Iran, Japan, Korea, Peru, Romania, Russian, Somalia, Taiwan, Thailand, Venezuela, Vietnamese, Zaire). In their study, they presented the students with an interest inventory background test prior to reading a variety of articles taken from Funk and Wagnalls Encyclopedia and a comprehension test thereafter. Carrell and Wise found that interest and background knowledge both have a facilitative
impact on comprehension, but that the two are not correlated. Similar to Entin (1981) who worked with NSs, they concluded that students can express low interest in topics in which they have a fair amount of knowledge and, conversely, that they could indicate high interest in topics but yet not have a great deal of knowledge about those topics (i.e., be interested in learning more about such topics). (p. 298)

In a more recent investigation, Ercetin (2010) examined the effects of interest and background knowledge on Turkish-undergraduate ELLs' comprehension of a scientific text. She found that students’ interest in the topic had a significant effect on text recall but that students’ background knowledge did not.

**Titles**

Discussions of the effects titles have on reading comprehension often begin by referencing Bartlett's (1932) work with schema. This is because a title is the initial signaling device readers see when approaching a text and use to begin processing the text (Dooling & Lachman, 1971; Lorch, 1989).

Early work which has explored the effects of titles on reader comprehension can be found in Dooling and Lachman’s (1971) study. Working with NS undergraduates, they presented students with a vague text in two conditions: (a) with and (b) without thematic titles. They found that titles improve “students’ overall recall of texts which are vague and metaphorical” (p. 216).

Drawing on earlier work that demonstrated the importance of schemata on students’ interpretation of texts (Bransford & Johnson, 1972; Dooling & Lachman,
1971) and a series of other studies, Bransford and Johnson (1973) reported “that potentially meaningful material can remain relatively incomprehensible when subjects do not have prerequisite semantic information activated at the time of input” (p. 414). They also reported the results of another one of their studies. In this second study, they presented NS high school students with a variety of materials in two versions, with and without a context (i.e., a title). They reported that having access to the topic of a vague text improves readers’ comprehension.

Other studies, like Bransford and Johnson (1973), have shown the general facilitative effects of titles (Alba, Alexander, Hasher, & Caniglia, 1981; Miller, Cohen, & Wingfield, 2006; Sjogren & Timpson, 1979). Sjogren and Timpson (1979) examined the effects of titles and background knowledge related to ones’ gender schema. Working with NS undergraduates and ambiguous texts that could be interpreted one of two ways. They presented the texts without and without titles. They found that titles can help readers identify the content of passage that might otherwise be ambiguously read due to background influences related to gender influenced schema.

Alba, Alexander, Hasher, and Caniglia (1981) replicated Bransford and Johnson’s work and found similar results with NS undergraduates, specifically noting that the “the presence of a title greatly increased comprehension, recall, and confidence in recall” (p. 285).

More recently, Miller, Cohen, and Wingfield (2006), adapting materials from others’ studies (Bransford & Johnson, 1972; Dooling & Lachman, 1971; Gardner & Schumacher, 1977), also found that the presence of titles improves
reading comprehension. They additionally reported that age, working memory, and reading speed were related to this effect: Younger readers (ages 18–34 years) did better than middle aged readers (ages 35–59 years) who did better than older readers (ages 60–85 years).

Work with titles has also focused on how titles affect NSs’ understanding of a text’s organization (Schwartz & Flammer; 1981), sentence level concepts (Smith & Swinney, 1992), and structural areas (proposition, sentence, and word level) (Wiley & Rayner, 2000). Schwartz and Flammer (1981) investigated the effect of titles on NS undergraduates’ understanding of (a) organized, (b) slightly disorganized, and (c) very disorganized texts. They reported that titles can help NS undergraduates understand the structure of organized and slightly disorganized texts, but that some texts, due to their scrambled structure, can be too difficult despite the help of titles.

Smith and Swinney (1992) investigated how the presence of titles and the resulting schema the titles activate influence students' processing of sentence level concepts. They found that the presence of titles can improve NS undergraduates’ comprehension of sentence level concepts.

Wiley and Rayner (2000), using materials from other studies (Bransford & Johnson, 1972; Dooling & Lachman, 1971) and working with NS undergraduates, reported that when a title is present “the text is generally read faster, rated as more comprehensible, and recalled better” (p. 1,011). They also reported that titles can help students process texts at various structural levels: (a) proposition, (b) sentence, and (c) word levels (i.e., ambiguous words).
Others have looked at the effect titles have on NSs’ comprehension related to the meaningfulness of titles (Bock, 1978 ctd. in Bock, 1980; Schallert, 1976). Schallert (1976) investigated the meaningfulness of titles on NS undergraduates’ comprehension. He presented students with texts in one of three conditions: (a) a strong meaning title, (b) a weak meaning title, and (c) no title. He found the students recalled more of the text when presented with a strong meaning title than in the other two conditions.

Bock (1978 ctd. in Bock, 1980) explored the effects of meaningful titles on NS undergraduates’ identification of content words and the propositions that the titles point to. He found that meaningful titles can influence NS undergraduates’ interpretation of which content words are important. He also found that propositions marked as important in titles are better recalled. Bock additionally found that “titles provide the starting point for setting up text structures” (p. 308).

Research on the importance of titles has also been done with ELLs. This work has shown that ELLs, like NSs, put a great deal of importance on titles, and that they too look to titles first when approaching a text (Noor, 2006), but that proficiency (Carrell, 1983; Fan & Liu, 2008) and the meaningfulness of the title (Fan & Liu; 2008; Zhang & Hoosain, 2001) both play a part. The literature with ELLs, however, is much less abundant than that with NSs. An early work with ELLs is Carrell (1983). Carrell adapted materials used with NSs in Bransford and Johnson’s (1972) study and examined the effects of titles on adult NSs and Arabic, Chinese, Greek, Japanese, Korean, and Spanish-speaking ELLs at two proficiency levels: high and lower proficiency ELLs. She found that for both the
NSs and advanced ELLs, “the presence of a title is the single best predictor of readers' perceptions of relative ease or difficulty of comprehension” (p. 192), as it activates the students' schema so they can engage the text. She noted, however, the same effect was not found for the lower proficient students; that is, the low proficiency students remained linguistically tied to the text and thus were less able to take advantage of the benefits titles provide.

Zhang and Hoosain (2001), working with Chinese-undergraduate ELLs, also acknowledged the value of titles, but they, like Bock (1978, ctd. in Bock, 1980) and Schallert (1976), looked at the content of the titles themselves. They reported that a “title, particularly a meaningful one incorporating a substantive verb . . . triggers the relevant schema, and this schema generates expectation about what is likely to happen” (p. 179).

Fan and Liu (2008), working with Chinese ELLs, offered similar results about the importance of titles being meaningful (i.e., incorporating a verb), but they added that more proficient readers make better use of titles than less proficient readers.

Length (Overall Length and Paragraph Length)

An early discussion of the influence text length has on students' reading performance can be traced back to Earle (1890) and Scott and Denny’s (1895) prescriptive discussions of text length. Early discussions can also be traced to Lewis’s 1894 doctoral dissertation “The History of the English Paragraph” in which he surveyed text length dating back to old English texts. Empirical explorations of the effect of text length on reader comprehension, however, have
been much more recent and have generally provided mixed results with regards to how text length (i.e., overall length and paragraph length) influences students’ reading experiences (i.e., recall and comprehension). Specifically, they differ in terms of how students experience the length of narrative and expository texts.

Work with narrative texts has shown that longer episodic length generally facilitates NSs’ recall (and comprehension) (Black & Bern, 1981; Black & Bower, 1979; Keenan, Langer, & Medosch-Schonbeck, 1985; Mandler & Johnson, 1977). Black and Bower (1979) illustrated the idea behind this with an exemplification of story grammars. Drawing on the work of other theorists (Mandler & Johnson, 1977; Meyer, 1975; Rumelhart, 1975, 1977; Stein & Glenn, 1979; Thorndyke, 1977), they explained that a typical story grammar contains a plot which has a series of episodes which are fixed as chunks in readers’ memory. They further explained that when superordinate actions in the plot are supported by subordinate actions (which create additional length), the less important subordinate actions facilitate the recall of the more important superordinate ones. To demonstrate this, they presented scenes of varying lengths to NS undergraduates and found that the students demonstrated better recall of the longer texts.

Black (1981) with Bern further illustrated the effect of narrative text length in a similar study with NS undergraduates. In this study, Black and Bern showed that sentences within a story that are causally supported by additional sentences (which create additional length) are better recalled than those that are only temporally connected.
Keenan, Langer, and Medosch-Schonbeck (1985) found similar results. They examined text length relative to the number of important ideas in a story. They worked with NS undergraduate psychology majors and a short narrative ("The Biography of Enrico Fermi"). In their study, they created two versions of the text, a short 13 sentence version containing 56 ideas units and a longer 26 sentence version which contained 107 idea units. They found that the shorter text better facilitated students' recall of the idea units.

Results of investigations with expository texts have been more contradictory. Some studies have shown that shorter texts facilitate NSs' comprehension (Allwood, Wikstrom, & Reder, 1982; Reder & Anderson, 1980, 1982; Rothkopf & Billington, 1983). Others have found the opposite to be true (Commander & Stanwyck, 1997; Reder, Charney, & Morgan, 1986).

An important early work that demonstrated that shorter texts better facilitate comprehension is Reder and Anderson (1980). In their study, they first summarized the processing theories behind using longer and shorter texts. For shorter texts, they explained:

1. There are tens of thousands of facts in a text; we cannot expect students to memorize all of these facts and they don't.
2. Students will have to time share, that is, devote some of their processing time to unimportant facts.
3. It is harder for readers to appreciate or extract the important points if they are embedded in details.
4. Hierarchical analyses of text structure assert that details are subordinate in the representation to the main points and therefore cannot help the student remember the main points. Access to details is through the higher level nodes and [is] thus dependent on recovering the main points. (pp. 122-123)

They then outlined the arguments for the inclusion of elaborating details which in turn lengthen text:

1. Embellishments may allow the reconstruction of the main points. The details imply the main points although the converse is not true.

2. Sometimes access to central points may be available only via some details.

Reder and Anderson, in addition to offering a clear explanation of the theory behind how length facilitates or reduces comprehension, demonstrated how shorter texts better facilitate NS undergraduate psychology majors’ reading comprehension. They presented the students with excerpts from a variety of college texts (i.e., African economic geography, ecology, photography, Russian revolutionary history), each of which was between 4,300 and 4,800 words. They also presented the students with 800-1,000 word summaries of the same texts. They found that the students demonstrated higher comprehension of the shorter texts.

In another study, Reder (1982), with Allwood and Wikstrom, produced similar results with two of the summaries and texts from the earlier Reder and Anderson study and a similar population. In this study, to help students focus...
only on the main ideas in the longer text, the researchers underlined them. They also told the students who read the longer texts that the testers were only interested in the main underlined points. Nevertheless, the students who read the shorter summaries again demonstrated higher recall of the main points when reading the shorter texts.

Reder (1982), with Anderson, used the same texts a third time in a different way. They presented a similar population with texts in one of two conditions, with and without three elaborations. They again found that the students who studied only the shorter texts (i.e., those that only had main points) demonstrated higher comprehension. They concluded that “quite probably details do serve functions such as increasing interest and credibility.” However, the additional length seems to come at “a cost in terms of hurting memory for the central ideas” (p. 101).

Rothkopf and Billington (1983) came to a similar conclusion. They examined the effects of two text lengths (i.e., 1,056 and 2,689 words) on NS high school students’ recall and comprehension. The longer versions were created by adding sentences containing further factual detail to each paragraph within the essay. They found that increased passage length reduced students’ recall by 33%.

Others who have worked with NS populations have found the opposite to be true; that is, they have found the additional length created by elaborations increases comprehension and recall of expository texts (Commander & Stanwyck, 1997; Reder et al., 1986). Reder, Charney, and Morgan (1986) conducted a
series of experiments to investigate whether the presence or absence of elaborations would influence the efficiency of computer operators’ efforts when using the disk operating system on an IBM PC. The researchers created two versions of computer manuals, elaborated versions containing 11,216 words and unelaborated versions containing 5,011 words. Two types of elaborations were used, syntactical (i.e., additional information about how to complete a procedure) and conceptual (i.e., concepts related to the procedures). They found that longer versions facilitated computer use. Specifically, the syntactical elaborations had a facilitative effect, but the conceptual elaborations did not.

Commander and Stanwyck (1997) examined the effects of passage length in a different way. In their study, they worked with NS undergraduates and an introductory college textbook of two different lengths. The first was a short 258 word, four paragraph essay. The second was a 628 word, seven paragraph essay, which included the same four paragraphs as the shorter version plus an introductory paragraph and two additional paragraphs at the end of the essay. They found that students who read the shorter passage experienced an illusion of knowing, overestimating their comprehension, whereas those who read the longer essay demonstrated more comprehension of the main ideas in the text. They attributed the students’ better performance with the longer passage to the presence of more elaborations and meaningful context which created a more coherent text.

Investigations with ELLs have also shown that text length influences comprehension, albeit these investigations have shown that text difficulty
increases with length (Freedle & Kostin, 1991, 1992, 1993). Freedle and Kostin, as mentioned earlier, conducted a series of studies to determine which variables contribute to reading passage difficulty in standardized tests: SAT, GRE, and TOEFL. In 1991, they examined 110 reading passages from the SAT and the scores of 1,500 examinees. They found that overall length measured in the number of words, number of sentences, and the number of paragraphs contributes to text difficulty.

In 1992, Freedle and Kostin examined 110 reading sections from the GRE and the scores of 1,800 examinees. They found that paragraph length significantly contributed to text difficulty.

Freedle & Kostin conducted a third study in 1993. They examined 100 passages taken from the TOEFL and 2,000 examinees’ responses. They found that several areas related to length contribute to text difficulty: (a) longer passages, (b) greater number of paragraphs, (c) longer paragraphs.

Logical Rhetorical Organization

Texts are often considered to be in one of two major categories based on rhetorical organization: narrative or expository. The structure of expository texts has been further classified in a variety of ways. Drawing on the work done in rhetoric (i.e., Aristotle) and linguistics (Grimes, 1975), Meyer (1975) identified five basic ways to organize expository discourse: (a) causation, (b) collection, (c) comparison, (d) description, and (e) problem/solution. These are not the only ways that texts have been categorized. In fact, although these basic terms are frequently used, researchers have added to and adapted them. Acknowledging
the terms used to describe text types vary from researcher to researcher, I will
discuss the literature in this area using the terms used by each researcher as I
outline the results of each study.

Using Meyer’s (1975) and others’ descriptions, work with NSs and ELLs has been done to determine which text types are more and less difficult for students. Two major sources of difficulty have been cited. The first is the relative complexity of each text type. Narratives, for example, have been found to be less complex than expository texts and certain types of expository texts have been found to be less complex than others. A second source of difficulty cited is how familiar readers are with the text types, something Carrell (1987) has termed formal schemata: “knowledge relative to the formal, rhetorical organizational structures of different types of texts” (p. 481). Spiro and Taylor (1980) elaborated on both of these themes. They pointed out that conducting research to determine which text types are harder or easier for students is difficult because what constitutes a text type is not standardly defined. They also pointed out that complexity can occur because text type characteristics are not found exclusively in one type of text or the other; that is, while a text may be defined by its major rhetorical structure, it may include other text types. A narrative text type, for example, “can possess many of the typical characteristics of exposition and vice versa” (p. 1). With regards to awareness, they pointed out that it is difficult to hold the amount of students’ awareness of organizational structures constant.

A similar warning regarding the complexity of text structure and students’ awareness was made about conducting research with ELLs. Selinker, Trimble,
and Trimble (1976), in an early work, emphasized and demonstrated that the definition text type may actually be a rhetorical mixture that contains elements of cause and effect, classification, comparison, and description. They also pointed out that a large part of the difficulty lies in whether the reader can recognize these forms. Specifically, they explained that

the nonnative reader often lacks those abilities which will allow him to recognize the existence of certain types of implicit presuppositional rhetorical information . . . and gain access to the total informational content of that discourse. (p. 282)

Calfee and Curley (1984) made a similar argument. They reported that ELLs are often unable to comprehend the total meaning of text types “even when they understand all of the words in each sentence and all of the sentences that make up the discourse” (p. 282).

Flick and Anderson (1980) came to similar conclusions about student awareness, but they noted that the lack of rhetorical awareness is not unique to ELLs.

Drawing on the themes of text complexity and student awareness, there has been empirical work which has discussed which text types NSs and ELLs find most difficult. An early work with NSs and text complexity is Bereiter (1978 ctd. in Calfee & Curley, 1984). Bereiter proposed a taxonomy of text types from easiest to most difficult based on the complexity of each text type’s organization. He listed the narrative type as easiest and expository text types as more difficult: (a) narrative-fictional and factual; (b) concrete process-descriptive and
prescriptive; (c) description fictional, factual particular, and factual general; (d) concrete topical exposition; (e) line of reasoning-rational narrative; (f) physical and volitional cause-and-effect; (g) argument-dialogue, thesis and support, reflective essay; and (h) abstract topical exposition.

Other empirical work using a more common set of text type names has, as is shown in Table 2, reported how difficult NS and ELL readers find different text types (Carrell, 1984a; Fooh, 1989; Goh, 1990; Lei, 2010; Meyer & Freedle, 1984; Sharp, 2002; Talbot, Ng & Allan, 1991; Yali & Jiliang, 2007; Zhang, 2008).

Table 2

<table>
<thead>
<tr>
<th>Text Type Studies</th>
<th>Easy</th>
<th>Difficult</th>
</tr>
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<tbody>
<tr>
<td>Carrell (1984a)</td>
<td>comparison . causation . problem/solution . collection of descriptions</td>
<td></td>
</tr>
<tr>
<td>Fooh (1989)</td>
<td>problem/solution . collection of descriptions</td>
<td></td>
</tr>
<tr>
<td>Talbot, Ng &amp; Allan (1991)</td>
<td>causation . collection of descriptions . comparison . problem/solution</td>
<td></td>
</tr>
<tr>
<td>Freedle &amp; Kostin (1991)</td>
<td>comparative . argumentative text type</td>
<td></td>
</tr>
<tr>
<td>Freedle &amp; Kostin (1993)</td>
<td>list/describe . problem/solution</td>
<td></td>
</tr>
<tr>
<td>Yali &amp; Jiliang (2007)</td>
<td>narrative . cause</td>
<td></td>
</tr>
<tr>
<td>Zhang (2008)</td>
<td>description . problem/solution . comparison/contrast</td>
<td></td>
</tr>
<tr>
<td>Lei (2010)</td>
<td>collection . problem/solution</td>
<td></td>
</tr>
</tbody>
</table>

Meyer and Freedle (1984) worked with NS graduate students and four text types (i.e., causation, collection of descriptions, problem/solution). They found that the comparison type was better recalled than the other types in immediate recall, followed by the causation, problem/solution, and collection of descriptions text types.
Carrell (1984a), using adaptations of Meyer and Freedle’s passages, worked with undergraduates from several language groups: Arabic, Oriental (i.e., Chinese, Korean, Malaysian, and other unidentified nationalities), and Spanish. She found that the comparison type was (with the exception of the Arabic group) better immediately recalled than the causation text type, followed by the problem/solution and collection of descriptions text types.

Goh (1990) reported on a study she completed in 1987. Goh replicated Carrell’s study with adult ELLs in Singapore who came from a variety of language backgrounds (i.e., Chinese, Malay, Tamil) and the same four text types. She found that the comparison text type was best recalled and the collection of descriptions type was least recalled, but that the problem/solution type was better recalled than the causation type.

Carrell’s work has also been replicated with ELLs in Hong Kong, but again with inconsistent results. Fooh (1989), working with Chinese-speaking undergraduate ELLs and two of the texts from Carrell’s study (i.e., a collection of descriptions, problem/solution text types), found that students recalled the problem/solution text type better than the collection of descriptions text types.

Talbot, Ng, and Allan (1991), working with Cantonese-speaking undergraduate ELLs in Hong Kong and using all four text types in Carrell’s study, reported that the causation text type was best recalled followed by collection of descriptions, comparison, and problem/solution types.

Freedle and Kostin (1991, 1992, 1993), as discussed earlier, conducted a series of studies to determine which variables contribute to reading passage
difficulty in standardized tests taken by NSs and ELLs. In two of the studies (1991, 1993) they found that rhetorical organization contributed to text difficulty. In the 1991 study, they found that the comparative text type was easier for examinees than the argumentative text type, and in the 1993 study they reported that the list/describe text type was easier than the problem/solution text type.

Sharp (2002) also worked with Chinese-speaking ELLs in Hong Kong. She presented the students with four text types that she described as cause/effect, description, listing, and problem-solution. She found that the description type was best recalled followed by the problem/solution, listing, and cause/effect types.

Work done in other regions with Chinese-speaking ELLs has also produced contradictory results. Yali and Jiliang (2007), working with undergraduate Chinese speaking ELLs in China and two text types (i.e., cause, narrative), reported that the students recalled more of the narrative text type than the cause text type.

Zhang (2008), working with Chinese-undergraduate ELLs and three text types (i.e., comparison and contrast, description, problem/solution), found that the description text type was best recalled followed by the problem/solution and comparison and contrast text types.

More recently, Lei (2010), working with Taiwanese-undergraduate ELLs and two text types (i.e., collection and problem/solution), found that students comprehended the collection text type better than the problem/solution text type.
Structure

Investigations into the impact that text structure has on readers’ understanding of texts has been done with NSs and ELLs and both narrative and expository texts.

Work with NSs and reading comprehension has been done in areas of (a) overall organization, (b) introductions and thesis statements, (c) topic sentences, and (d) paragraph organization.

Thorndyke (1975, 1977), Mandler and Johnson (1977), and Kintsch and Yarbrough (1982) explored the influence of organizational structure of narrative texts on NSs’ reading comprehension. Thorndyke (1975), working with NS undergraduates and narrative texts, found that identifiable organizational structure facilitates students’ recall. However, when passages are structurally disorganized, readers are unable to form a hierarchal representation of the text’s structure.

Thorndyke (1977), again working with NS undergraduates and narrative texts, similarly reported that when “structure is readily inferable . . . , subjects could readily produce an organizational hierarchy . . . and use it to encode information from the passage” (p. 104). However, “as the amount of identifiable structure in the passages decreased, there was a corresponding decrease in comprehensibility and recall” (p. 105).

Mandler and Johnson (1977), working with both children and undergraduate NSs and narratives, similarly found that narratives which are better structured facilitate better recall.
Investigations of the structure of expository texts and NS’s experiences with them have been done at a variety of levels: (a) introductory paragraphs, (b) organization, (c) topic sentences within body paragraphs, and (d) the organization of sentences within body paragraphs.

Lorch and Lorch (1985) and Murray and McGlone (1997) investigated the effect of the presence and absence of informative structure in introductory paragraphs on undergraduate NSs’ comprehension of expository texts. Lorch and Lorch (1985) explored the importance of having informative introductory paragraphs in expository texts that describe the text’s topical order and body paragraphs that follow that order. Working with adult NSs, they found that when a text contains both, students produce higher recall than when such features are absent.

Murray and McGlone (1997) examined how the structure of introductory paragraphs affects undergraduate NS’s interaction with the body of expository texts. They found that when introductory paragraphs describe the order of the information found in the text, students read topic sentences in body paragraphs faster and demonstrate better overall recall of the texts.

Work has also been done to explore the effect of good and poor overall organization on NSs’ comprehension of expository texts. Kintsch and Yarbrough (1982) investigated the influence of text organization of expository texts on NS readers’ comprehension. Working with undergraduate NSs, they found that students are better able to answer questions about texts that are “clearly organized according to a familiar rhetorical structure [i.e., classification,
comparison and contrast, definition, illustration, procedural description] than for texts with identical content but without such an organization” (p. 831). They reported that the “good versions of the texts triggered appropriate rhetorical schemata in the subjects.” For the bad versions of the texts, on the other hand, “subjects were less likely to activate the right schemata, because explicit cues were lacking” (p. 833).

There has also been work done at the paragraph level of expository texts with NSs. This work has investigated the effect of having or not having identifiable topic sentences on readers’ comprehension (Bridge, Belmore, Moskow, Cohen, & Matthews, 1984; Lorch & Lorch, 1985; Rickards, 1975) and paragraph order (Kieras, 1978). Rickards (1975) investigated the effect topic sentences have on NS undergraduates’ comprehension when reading an expository text. He found that students’ comprehension is significantly better when a paragraph has a topic sentence placed in the initial position rather than when it does not.

Bridge, Belmore, Moskow, Cohen, and Matthews (1984) presented NS undergraduates with a series of passages, some that contained a topic sentence and some that did not. They found that the students were better able to produce the main ideas for passages that contained topic sentences than for those passages where topic sentences were absent. They also noted that reading proficiency was a factor; that is, good readers performed significantly better than poor readers.
Lorch and Lorch presented a second study in their 1985 work. In this study, they presented students with two versions of expository texts, texts with and without topic sentences. They found that subjects recalled information about more topics if the text contained topic sentences than if it did not.

Kieras (1978) looked at NS undergraduate performance while reading “simple [expository] passages that conformed to or violated conventional paragraph organization” (p. 13). He reported that “good paragraphs are indeed more definite in theme, read faster, and are recalled better” (p. 14). Conversely, “paragraphs that violate . . . coherence and topicalization conventions yield longer reading times, poorer recall, and distortions of apparent theme” (p. 17).

Investigations with ELLs have also shown that text structure influences comprehension. Work has been done with overall organization (Carrell, 1984b; Walters & Wolf, 1986) and main ideas (i.e., introductions) (Freedle & Kostin, 1991, 1992, 1993).

Carrell (1984b) and Walters and Wolf (1986) explored the influence of well and poorly organized narratives on reader comprehension. Carrell (1984b), using texts that followed Mandler and Johnson’s (1977) story grammar, examined the effects of temporally sound and scrambled texts on the comprehension of ELL readers from a variety of backgrounds (i.e., African, Arabic, Chinese, Greek, Japanese, Korean, Indonesian, Malaysian, Spanish, Turkish). She found that the students demonstrated higher recall of the more temporally sound texts. She also reported that student awareness (what she termed formal schemata) was a factor.
Walters and Wolf (1986) presented Hebrew-speaking undergraduate ELLs with narratives in three orders: (a) standard, (b) partially-mixed, and (c) fully-mixed. They found that the students better recalled the more organized passages. They also determined that language proficiency played a part. That is, the more proficient students recalled more than the lower proficient ones.

Freedle and Kostin (1991, 1992, 1993), as mentioned earlier, conducted a series of studies to determine which variables contribute to reading passage difficulty in standardized tests (i.e., SAT, GRE, TOEFL). In each of these experiments they found that whether or not the main idea was identifiable in the first position of the passage (i.e., the introduction) was a significant indicator of examinees’ comprehension.

**Signal Words**

Work investigating the effect of signal words (i.e., words and phrases that indicate the flow of information) on reader comprehension has been done with NSs and ELLs.

Early discussions in this area can be traced to Thorndike (1917) who pointed out that students may misinterpret the meaning of a text if they do not understand the meaning of signal words. More recent important work in this area has been completed by Vacca (1973) who published a list of signal words particular to various text types. Reviewing work of Vacca work and others (Dechant, 1973; Pauk, 1974), Miccinati (1975) summarized a list of signal words into four types: (a) cause/effect (e.g., because, consequently, therefore, etc.); (b) comparison/contrast (e.g., however, on the other hand, similarly, etc.); (c) simple
listing (e.g., first, second, finally, etc.); and (d) time order (e.g., before, on, after, etc.).

Looking at Miccinati (1975) and others’ work with NSs, it can be seen that the empirical work in this area has provided contradictory results: Some studies point out that signal words facilitate reader comprehension (Miccinati, 1975), some have concluded that signal words reduce reader comprehension (Roen, 1984), and others have concluded that they have no effect on reader comprehension (Meyer, 1975).

Drawing on the list of signal words she composed, Miccinati (1975) examined the effect signal words have on NS undergraduates’ understanding of expository passages. She found that students showed better comprehension when reading texts with signal words than when reading texts without such words. She also found that high academic achievers (as indicated by GPA) benefited more than lower academic achievers when texts contained signal words.

Roen (1984) found the opposite to be true. He found that signal words reduced undergraduate NS’s comprehension of excerpts from the magazine Scientific American.

Work with ELLs has produced more consistent positive results and further reported how reader awareness plays an important role (Cooper, 1984; Geva, 1992; Short, 1994; Quan, 2008). Geva (1992), working with undergraduate ELLs from unidentified language backgrounds and expository texts found that signal words facilitate reading comprehension, but that students with higher English proficiency benefited more than less proficient ones.
Short (1994), discussing his observations of an unidentified group of ELLs, reported that signal words (e.g., because, however) “can be helpful for English language learners when they are explicitly taught to recognize them and understand their functions” (p. 593).

Cooper (1984) examined the effects of signal words on proficient and less proficient Malay-speaking undergraduates ELLs’ reading comprehension. He found that signal words contribute to readers’ comprehension. He also found that awareness plays a part; that is, less proficient readers are unaware of the meanings of signal words and thus do more poorly.

Quan (2008), working with Chinese-undergraduate ELLs, reported similar results. Quan found that students who received instruction in cause-effect and time sequence signal words had a better awareness of them and were better able to utilize them when reading a cause-effect organized text.

**Punctuation**

Punctuation has long been seen as an important guide writers provide for readers to guide them to the meaning of texts and thus facilitate reader comprehension (Backscheider, 1972; Summey, 1919). However, as Durkee (1952) reported, comprehension lies in whether students have an understanding of the purpose and function of punctuation. Nagy (2007) further explained students’ role in comprehension. He explained that for comprehension to occur students must be able to understand punctuation in order to assign meaning to the text.
Graesser, McNamara, and Louwerse (2003) illustrated the relationship between the importance of punctuation and student awareness when they reported that punctuation is important, but beginning readers may not fully understand the discourse function of different forms of punctuation: periods, colons, semicolons, commas, question marks, exclamation points, and dashes.

Hasbrouck, Ihnot, and Rogers (1999), likewise explained that poor readers may not be aware of “punctuation so that phrases and sentences become meaningless combinations of words” (p. 31).

Similar arguments have been made about the reading processes of ELLs (Shih, 1992; Van Diem, 1969). Van Diem (1969), writing about how punctuation can facilitate the reading comprehension of Vietnamese ELLs, stressed the importance of punctuation, and Shih (1992) outlined the importance of student awareness of punctuation symbols.

Empirical work with both NS and ELLs has illustrated the relationship between the importance of punctuation and student awareness. Early work can be found with Neff (1932) and her study of the effect of punctuation on younger NSs’ reading comprehension. Work that has focused both on the presence of punctuation and adult NSs’ awareness can also be found (Carr, 1978; Carver, 1970; Weaver, Holmes, & Reynolds, 1970). Weaver, Holmes, and Reynolds (1970) examined the influence of punctuation on undergraduate NSs’ reading speed and comprehension. They presented the students with punctuated and unpunctuated passages studies and found the presence of punctuation facilitated both reading speed and comprehension.
Carver (1970), working with undergraduate NSs and punctuated and unpunctuated excerpts from the Nelson-Denny Reading Test, similarly found that punctuation facilitates reading comprehension. Specifically, he reported that students’ reading speeds were reduced when reading the unpunctuated passages.

Carr (1978) looked at the impact of student awareness. She examined the influence of NS secondary students’ awareness of punctuation on their comprehension of excerpts from the Scott Foresman *Reading Tactics Workbook Series*. She found that “students who are unable to interpret internal meaning-bearing punctuation are impeded in the comprehension of a written passage which contains such punctuation” (p. iii).

Work has also examined ELLs’ experiences with punctuation (Abbott, 2006; Freedle & Kostin, 1993; Taillefer & Pugh, 1998). Freedle and Kostin (1993) examined the influence of the presence of punctuation on text difficulty. They examined (a) 100 passages taken from the TOEFL, (b) 2,000 examinees’ responses, and (c) the variables that contributed to examinees’ difficulties with the texts. They found that the difficulty the students had with the text correlated with the amount of certain sorts of punctuation (i.e., semicolons: The more semicolons that were present, the harder the students found the texts).

Taillefer and Pugh (1998) and Abbott (2006) focused on readers’ attention to punctuation. Taillefer and Pugh (1998) studied the differences between good and poor undergraduate readers, both NSs and ELLs, when reading excerpts
from the TOEFL Test. They found that good readers consciously attend to punctuation.

Abbott (2006) studied the reading strategies of Arabic and Mandarin-speaking undergraduate ELLs and reported that both use knowledge of punctuation when attempting to comprehend texts.

**Format**

Research into the influence of text format on NSs’ reading performance has generally focused on discovering how a variety of typographical features impact reading performance (Stone, Fisher, & Eliot, 1999; Venezky, 1984). These include type size (i.e., the height of a character), font type (i.e., design), line length, leading (i.e., the vertical spacing between lines), and justification (i.e., unjustified or justified). At times, these features have been investigated individually. More often, they have been explored together, the reason being that the features interact to influence the reader’s experience with the text (Burt, 1959; Lonsdale, Dyson, & Reynolds, 2006; Lund, 1999; Pyke, 1926; Tinker, 1963a).

These investigations have used a variety of ways to measure influence: (a) legibility (i.e., how well individual letters or words can be identified), (b) reading speed, (c) comprehension, and (d) miscue performance. Results for each area, however, have been more contradictory than consistent, leading many to argue that the effect of format differences on reader performance is more attributable to how familiar readers are with the format than the format itself.

Results of research investigating the individual effects of the first feature, type size, have been expressed in points (e.g., 8, 10, 12, 14). Each point is .351
mm (.014 in.) and describes the height of the character. This form of measurement is somewhat ambiguous as is it is derived from a time when text was set in steel frames and the height was dependent on the total frame rather than the actual size of the letter itself. Discussions of empirical work with type sizes often begin with Griffing and Franz (1896) who investigated the individual effect of type size on NS undergraduates' reading speed of a biblical passage presented in different type sizes. They determined that students should not read sizes larger than 11 point font as this would slow reading speed.

Citing Griffing and Franz's work, an important individual effect study in this area is Paterson and Tinker (1929). Paterson and Tinker presented NS undergraduates with the Chapman-Cook Speed of Reading Tests in several type sizes (i.e., 8, 10, 12, 14). They found that the students read texts the fastest when the texts contained 10 point font.

The term “font type” refers to a group of related typefaces unified by a set of design characteristics which define each typeface's appearance (Schriver, 1997). Discussions of the individual effects of font type have focused on the effect different individual faces and groups of faces have on reader comprehension.

Early work with font type can be found in Cohn’s 1886 study of the legibility of font in children’s books, *Hygiene of the Eye in Schools*. Early work in this area with adults can be found in Roethlein’s (1912) study where she examined the legibility of 26 fonts. In Roethlein’s work, legibility was determined by NS university students and instructors’ recognition of letters when viewing
them individually and grouped with other letters. She presented her findings in three groups. The most legible group contained (a) Bulfinch, (b) Caslon Old style, (c) Century Expanded, (d) Century Old style, (e) Cheltenham Old style, (f) Clear face, Cushing Old style, (g) Della Robbia, (h) DeVinne No. 2, (i) News Gothic, (f) Ronaldson. The second most legible group contained Cushing Monotone and Cushing No. 2. And the third was composed of one font type, which was the least legible, American Typewriter.

Pyke (1926) came to less conclusive results. He investigated differences in NS adults’ reading speed when presented with material in three fonts: (a) Old Style, (b) Old Face, and (c) Modern face. He reported a series of complicated results, concluding that “the most legible type is unlikely to be the same for all readers” (p. 61) and might be more determined by habituation than actual differences in type faces.

Paterson and Tinker (1932b) compared 10 different font types by examining their effects on the NS undergraduates’ reading speed when reading Chapman-Cook Speed of Reading Tests: (a) American Typewriter, (b) Antique, (c) Bodoni, (d) Caslon Old Style, (e) Cheltenham, (f) Cloister Black, (g) Garamont, (h) Kabel Lite, (i) Old Style, (j) Scotch Roman. They found that Scotch Roman was read the fastest, but that seven of the fonts produced no significant differences in speed when compared to Scotch Roman. Those were (a) Antique, (b) Bodoni, (c) Caslon, (d) Cheltenham, (e) Garamont, (f) Kabel lite, (g) Old Style. They further found that two of the fonts reduced reading speed considerably: American Typewriter and Cloister Black. Examining the data together, however,
they, like Pyke (1926), argued that much of the variance could be explained by how familiar the readers were with the type of font they were reading.

There has also been research in the area of font type which has examined the effects faces have in terms of whether they contain serifs or san-serifs: “Serif typefaces have tiny finishing strokes at the top and bottom of individual letters whereas sans-serif faces do not” (Hartley & Rooum, 1983, p. 205). The work in this area, however, has been equally contradictory. Some work has shown that serif faces facilitate reading performance; others have demonstrated no differences in reader performance for either type; and still others argue that any influence these faces have on reader comprehension may again simply be attributable to how accustomed the readers are to reading text presented in such faces.

The first body of research claimed to show that serif faces facilitate reading performance (Cohn, 1886; Crosland & Johnson, 1928; Hvistendahl & Kahl, 1975; Kahl, 1974; Robinson, Abbamonte, & Evans, 1971; Van Rossum, 1997; Wieldon, 1995). Early work with younger learners in this area can be found with Cohn (1886). Early work with adults can be found with Crosland and Johnson (1928). Crosland and Johnson presented NS undergraduates and university faculty with individual serifed and sans serifed letters. They found that the participants found the serifed letters to be more legible.

Robinson, Abbamonte, and Evans (1971) used a computer simulated model of the human neurological system to investigate the legibility of serif and
sans serif fonts. They determined that serifs best contribute to the legibility of individual letters.

Kahl (1974), and later with Hvistendahll (1975), examined adults’ reading speed of newspaper excerpts presented in both serif texts and non-serif typefaces. In both studies, Kahl reported that the texts in the serif faces were read faster than the sans serif faces.

Van Rossum (1997) examined the legibility of different types of serif and sans serif type faces by blurring each with a computer enhanced process to discern which type face could be read in the smallest type size. Using this method, he determined that serif faces were most legible.

Wheildon (1995), working with adult NSs and magazine excerpts presented in both serif and sans serif fonts, found that readers who read the text presented in serif type font comprehended more of the text than those who read the text presented in a sans serif font.

However, a second body of research has shown that no difference in reading performance occurs when readers are presented with texts in either type face (Kahl, 1974; Kravutske, 1994; Josephson, 2008; Moriarty & Scheiner, 1984; Poulton, 1965). Poulton (1965) had adult NSs read excerpts from Fry’s 1963 text “Reading Faster.” He presented the text to the students in seven fonts, three of which contained serifs and four that did not. He found no reliable differences in comprehension between the two.

Kahl (1974) examined the influence serif and sans serif type faces have on of a wide age range of NSs (i.e., teenage to senior citizens). Measuring the
participants’ reading speeds and comprehension of newspaper stories, she found no significant difference for either type on either measure.

Moriarty and Scheiner (1984) worked with undergraduate NSs and a sales brochure presented in both serif and sans serif typefaces. They found no significant difference in the students’ reading speeds when reading either version.

Kravutske (1994) presented nurses with the Nelson-Denny Reading Test in two typefaces, serif and sans serif, in order to measure differences in the nurses’ reading speeds and comprehension. She found no significant differences for either type face.

Josephson (2008), as part of a larger study, worked with undergraduate NSs and excerpts from newspapers presented in a serifed font and a sans serifed font. She found no significant difference in reading speed between the participants reading the texts in either form.

Examining the conundrum of conflicting results, some have concluded that the influence of serif and san serif faces on reader performance may simply be a matter of reader preference resulting from habituation (Benson, 1985; Lenze, 1991; Wendt, 1970); that is, how accustomed the readers are to reading text presented in such faces.

Results of work which focused on the individual effects of the next feature, line length, have been expressed in millimeters, inches, picas (1 pica = 4.21 mm or about 1/16 in.), and the number of characters a line contains. When discussing the results of studies in this area, I will present findings for each study in both millimeters and inches regardless of the way the studies originally presented their
findings, except where the authors uses characters (e.g., letters). In this case, I will present the findings in characters.

Discussions of line length generally begin with Weber’s 1881 work with texts in German and Javal’s 1881 work in French (Pyke, 1926). A third common starting point is Starch (1914). Starch, working with three unidentified texts in English and an unidentified population, examined the effect of three different text lengths on reader comprehension: (i.e., 38.1, 69.85, 127 mm; 1 ½, 2 ¾, 5 in.). He found that

a two and three-fourths inch text is thus read sixteen percent more rapidly than the one and one-half inch text, and seven percent more rapidly than the five-inch text. There is, consequently, a certain optimum length of line somewhere in the neighborhood of three inches. (p. 186)

Drawing on these findings, Starch concluded that “a very short line is hard to read, just as a very long one is hard to read” (p. 187).

Snow (1925) examined Starch’s work and argued that suggestions about which line length best facilitates reading speed should include a discussion of which type size is used.

Tinker and Paterson (1929), following Snow’s suggestion about type size, conducted a study with NS undergraduate students and the Chapman Test of Reading Speed. They presented the students with a text in a variety of text lengths (i.e., 59, 80, 97, 114, 136, 152, 168, and 186 mm) (2.3 to 7.3 in.) in 10 point font. They found that a line length of 80 mm (3.15 in.) facilitated the fastest
reading rates and suggested that lengths should be between 75mm to 90 mm (3.15 to 3.54 in.).

Research on the individual effects of the fourth feature, line spacing (the spacing between lines) is often referred to as leading, a term that originated from an era when lead spacers were placed between characters to create spaces between the lines. Line spacing, or leading, is measured in points. A point equals .351 mm (.014 in.). Results have also been expressed simply in spaces. Early work in this area can be found in one of Griffing and Franz’s (1896) studies. They reported that 1.3 mm (.05 in.) increases the legibility of individual characters as compared to .8mm (.03 in.).

Paterson and Tinker (1932a), citing Griffing and Franz’s work, further examined the importance of leading. Working with the Chapman-Cook Tests and NS undergraduates, they found that a text presented in 2 and 4 point leading was read faster than a text presented with 1 point leading.

More recent work has been done by Schriver (1997) who warned that a text with too little leading can cause the descenders (i.e., the bottom of one character) and the ascenders (i.e., the top of a character) to touch, making the type blurry or giving the page a muddy or gray colored appearance which reduces readability. Schriver recommended that about 20 percent leading equal to the font size is necessary to avoid this problem. A 10 point font, for example, should have a 2 point leading.

Individual work with the fifth feature, justification, has attempted to discover how readers experience texts that are unjustified or justified. Unjustified
text, sometimes called ragged, has lines of uneven length. Justified text, sometimes called right justified or blocked, however, has lines of equal length which produces a more blocked look. The blocked look is accomplished by varying the spaces between the characters and words in the line. Work in this area has produced mixed results. Fabrizio, Kaplan, and Teal (1967), for example, in a study with U.S. Navy personnel, found no significant differences in reading speed or comprehension when the service people were presented with texts in either form.

Others, however, have found that justified texts facilitate reading performance (Campbell, Marchetti, & Mewhort, 1981; Hartely & Mills, 1973). Hartely and Mills (1973) examined the effects of unjustified and justified texts on the reading speed and comprehension of undergraduate NSs. They presented the students with unjustified and justified excerpts from an introductory psychology text. They found that the students read the justified text more quickly and with higher comprehension than the unjustified text, but that the results did not reach significance.

Campbell, Marchetti, and Mewhort (1981), working with undergraduate NSs and an excerpt from an encyclopedia, also found students read justified texts more quickly than unjustified texts.

Still others have found unjustified texts best facilitate reader performance (Muncer, Gorman, & Bibel, 1986; Pinelli, Glassman, & Cordle, 1982; Wheildon, 1995), but the question of reader habituation has also been argued to play a part in this effect (Schriver, 1997).
Muncer, Gorman, and Bibel (1986) worked with undergraduate NSs and unjustified and justified texts. They found readers performed better with unjustified than justified texts. Specifically, they found that both good and poor readers performed better with unjustified texts than with justified texts.

Wheildon (1995) came to a similar conclusion in a study with adult NSs and excerpts from magazine scripts. He found that the students demonstrated higher comprehension when reading texts in the unjustified form.

Pinelli, Glassman, and Cordle (1982) looked at the influence of unjustified or justified text in another way, by examining reader preference. Investigating the preference of adult readers of NASA manuals, they found that a majority of the readers preferred reading unjustified texts.

Schriver (1997), considering the incongruous results of justified and unjustified comparison studies, explained that the differences in performance may be attributable to reader preference for unjustified texts. They concluded that reader preference stems from readers’ experiences with formal texts that are often presented in justified formats:

[J]ustification has been used for centuries in the design of Bibles, sacred texts, medical documents, government documents, and legal texts, readers may perceive the severe rectangular look of justified texts as formal, distant, even unapproachable. (p. 271)

In addition to the studies that have investigated the effects of the individual features, there have been studies which have studied the combined effects of features (Burt, 1959; Tinker, 1963b; Stone et al., 1999). Burt (1959), emphasizing
that studying each feature separately leads to inconclusive results, examined each of the four features discussed thus far (i.e., type size, font type, line length, and leading) and their combined effect on adults’ reading speed and comprehension. Reporting on the results of a series of studies, he concluded that when adults read a text presented in Times New Roman 10 point font, they perform somewhat better than reading texts presented in other fonts (i.e., Baskerville, Bembo, Imprint, Old Face, Scotch, and Modern). When posting his results as a whole, however, he reported that

a line of 5 in. is easier to read than one of 3 in. provided 10-point or 11-point is used: when 8-point is used, the reverse is true. 9-point type, set solid in a measure of 5 in., is harder to read than 10-point: but, set with 2-point leading, it is just as easy, at least for the average adult; and it is almost as easy in a measure of 3 in. if only 1-point leading is used. 3-point leading seems disadvantageous with ordinary faces; but with comparatively heavy type, and a face that is wide rather than condensed, 3 it is of definite assistance. (p. 16)

Tinker (1963b) reported the results of a series of experiments in which the combined effects of three features were examined: (a) type size, (b) leading, (c) and line length. He reported safety zones for six types sizes (i.e., 6, 8, 9, 10, 11, 12), “limits of variation in line width and leading that may be used for a given type size without appreciable loss of legibility” (p. 106):

<table>
<thead>
<tr>
<th>Type Size</th>
<th>Line Width</th>
<th>Leading</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 Point</td>
<td>14-pica</td>
<td>2 to 4-point leading</td>
</tr>
<tr>
<td></td>
<td>21-pica</td>
<td>1 to 4-point leading</td>
</tr>
<tr>
<td></td>
<td>28-pica</td>
<td>2 to 4-point leading</td>
</tr>
</tbody>
</table>
8 Point
14-pica line with 2 to 4-point leading
21-pica line with 2 to 4-point leading
28-pica line with 1 to 4-point leading
36-pica line with 2 to 4-point leading

9 Point
14-pica line with 1 to 4-point leading
18-pica line with 1 to 4-point leading
30-pica line with 1 to 4-point leading

10 Point
14-pica line with 1 to 4-point leading
19-pica line with 2 to 4-point leading
31-pica line with 2-point leading (marginal)

11 Point
16-pica line with 1 to 2-point leading
25-pica line with or without leading
34-pica line with 1 to 2-point leading

12 Point
17-pica line with 1 to 4-point leading
25-pica line with or without leading
33-pica line with 1 to 4-point leading (pp. 106-107)

Stone, Fisher, and Eliot (1999), in a more recent study, worked with adult business persons and texts constructed specially for their experiment. In their study, they examined the effects of a number of features: (a) serif and sans serif type, (b) justification (unjustified or justified), and (c) line spacing (single or double). They found that the participants read texts faster that contained serif fonts and when reading unjustified texts. They also examined the typographical effects a second way, using a miscue analysis. Using this instrument, they found that the readers made the fewest errors when reading a text presented in serif font, left justified, single spaced text or presented in serif font, left justified, double spaced format.
Work has also been done that has included ELL participants. Lonsdale, Dyson, and Reynolds (2006) studied the effect of several typographical features on NS and ELL undergraduates’ reading speed and comprehension. To do this, they presented the students with texts taken from the IELTS Exam. They presented the texts in three lengths (i.e., 42, 70, 115 characters) and in both unjustified and justified forms. They found that students’ reading speed and comprehension improved when the texts were unjustified as opposed to justified. They also found that students’ comprehension improved when the sentences were presented in a medium line length (70 characters) rather than a shorter (42 characters) or longer one (115 characters). They further found that comprehension was lower for the text with a longer line length. They did not find, however, any significant difference in the versions that were unjustified or unjustified.

**Advance Organizers**

Ausubel defines “advance organizers as introductory material at a higher level of abstraction, generality, and inclusiveness than the learning passage itself” (1978, p. 252). The purpose of an advance organizer (commonly referred to as AO), she explains, is to "bridge the gap between what the learner already knows and what he needs to know before he can successfully learn the task at hand" (1977, p. 168).

The notion of AOs, Buckley and Clawson (1975) claim, can be traced back to discussions in educational circles as far back as the 1800’s, but Ausubel and
those that support her claim she coined the term in 1960 (Ausubel, 1978; Corkill, 1992).

When coining the term, Ausubel posited that comprehension can be facilitated by the advance introduction of relevant subsuming concepts. To demonstrate this, Ausubel conducted a series of investigations to determine “whether advance organizers could facilitate retention in areas of knowledge new to learners” (1960, p. 268). Working with NS undergraduates and a passage on a topic she reported the students should be unfamiliar with, she presented one group with an introductory passage that provided background knowledge on the topic and another group with an introduction that offered only historical information. She found that those in the control group outperformed the experimental group. In later studies with Fitzgerald (1961, 1962), she investigated the effects of AOs on students with more and less background knowledge on a topic and with higher and lower ability students. She and Fitzgerald found that students with lower background knowledge and proficiency benefited most from AOs.

Since Ausubel’s seminal work, there has been a plethora of research exploring the effectiveness of AOs with NSs. A minority of individual studies report no facilitative effects on student performance; whereas the majority has found positive effects, although the claim about AOs’ effect with lower ability students has received a variety of interpretations.

Buckley and Clawson (1975), for example, surveyed 32 studies beginning with Ausubel’s seminal work and up to 1975 and came to the negative conclusion
that 20 of the 32 studies showed no significant results. As a result, they reported that AOs “generally do not facilitate learning” (p. 651).

A surfeit of work has come to the opposite conclusion (Corkill, 1992; Luiten, Ames, & Ackerson, 1980; Mahar, 1992; Mayer, 1979; Stone, 1983). Mayer (1979), for example, directly addressing Buckley and Clawson’s findings, examined the results of 44 published AO studies from 1960 to 1979 and concluded his data “clearly refutes the conclusion of Buckley and Clawson” (p. 145). His calculations, he argued, provide “adequate support for the statement that advance organizers result in small but consistent advantages over control treatments, especially when material is poorly organized, material is unfamiliar, and subjects are inexperienced” (p. 145).

Luiten, Ames, and Ackerson (1980) analyzed 135 studies from the same period as Mayer and likewise reported positive findings. They reported that “the average advance organizer study shows a small, but facilitative effect on learning and retention” (p. 217). They, however, took opposition with Ausubel’s claim that lower ability students benefited more from than advanced ones, reporting that “advance organizers are effective with individuals of all ability levels and most effective with high-ability individuals” (p. 216).

Stone (1983) came to the same conclusion as Mayer (1979) and Luiten et al. (1980). She examined 29 studies conducted between 1970 and 1979 and reported that her data supported the claim that AOs facilitate long-term retention of learned material, but that her results do not support Ausubel’s claims that AOs provide more “facilitation for low-ability or low-knowledge learners” (p. 197).
Corkill (1992) examined AO studies from 1975 to 1990. He surveyed 30 studies and reported that 24 of them found facilitating effects associated with advance organizers. He too addressed Ausubel's claim about lower ability learners. However, he did not support or attempt to refute it. Instead, he simply pointed out a flaw in many of the AO studies: "[P]otential differences inherent in the subjects' reading comprehension abilities were not considered" (p. 63). Corkill also offered suggestions of ways AOs can be used to facilitate learning:

> Optimum conditions for advance organizers include situations where subjects: (a) will not make appropriate connections between prior knowledge and the to-be learned material without assistance, (b) attend to the advance organizer, (c) have adequate time to study the advance organizer and the to-be learned material, and (d) are tested for recall after at least a brief delay. Further, advance organizers will promote connections between prior knowledge and the to-be-learned material only if properly written. (p. 65)

Mahar (1992), pointing to the incongruous findings of studies beginning with Ausubel's study and up to 1990, like Corkill, criticized the methodology of AO studies. She also attempted to offer a clear interpretation of earlier researchers' findings. To do this, she first explained that the reason for the inconsistent findings is that the studies used “disparate operational definitions, variables, procedures, research designs, and samples” (p. 183). She then attempted to compensate for this. Accounting for differences in sample and effect sizes, she compared the results of two meta-analyses which surveyed studies
from 1960-1980 (Luiten et al., 1980; Stone, 1983) with the results of 29 individual studies conducted between 1980 and 1990. Examining these data, she came to the conclusion that 73% of the researchers since 1960 reported general and/or specific positive effects of AOs on learning. She also explored what structural conditions of AOs facilitate learning. She first referred to West, Farmer's, and Wolff’s (1991) definition of an effective organizer:

1. A brief (usually one paragraph), abstract prose passage to be presented in written or oral form before a lesson or unit of instruction.
2. A bridge that links new information with something already known (emphasis on connection between old knowledge and new knowledge).
3. An introduction to a new lesson, unit, or course.
4. An abstract and brief outline of new information along with a restatement of prior knowledge.
5. A structure for the new information.
6. Encouragement for students to transfer or apply information or data.
7. Contains content that has intellectual substance that is more than common knowledge. (p. 35)

She then, using West, Farmer, and Wolff’s definition as a guide, reported that all seven features are important, but that 83% of the studies from 1980 to 1990 did not incorporate all seven criteria. She further stressed that the presence of numbers 2 and 4 is most certainly required to assure the effectiveness of AOs and that 90% of the studies that reported negative results employed AOs which did not have these two features.
Research on the effectiveness of AOs in ELL settings, like those in NS settings, has provided incongruous findings. Makhdom (1983), for example, working with undergraduate NSs and two undergraduate ELL groups (i.e., Saudi and Venezuelan) found no significant facilitative effects of AOs for any of the three groups. Others, however, have reported positive results (Diptoadi, 1991; Meurer, 1985). Meurer (1985) studied the effects of AOs on Brazilian-undergraduate ELLs' comprehension when reading expository texts. He found the opposite to be true. He reported that the presence of AOs facilitated comprehension.

Diptoadi (1991) compared the facilitative effects of prose AOs and vocabulary lists on low and high proficiency undergraduate Indonesian-undergraduate ELLs' comprehension of texts. She reported that both groups did better when presented with AOs.

Work with ELLs has also been done that has reported how the effect of AOs is related to other features (Park, 2005; Ridwan, 1993). Ridwan (1993) conducted a study with Indonesian-undergraduate ELLs, expository texts, and AOs. She additionally studied the influence of signal words. She found that texts that contained AOs or signal words facilitated more learning than when the texts contained neither, but the greatest amount of facilitation occurred when both were present. She cautioned, however, that many of the students were not aware of the function of advance organizers and that instruction in these areas could further support learning.
Park (2005) investigated the facilitative effects of AOs on low and high proficiency level undergraduate adult ELLs from 15 language backgrounds (i.e., Arabic, Chinese, Chinese/Taiwanese, Farsi, Hebrew, Japanese, Korean, Mandarin, Punjabi/Hindi, Russian, Spanish, Thai, Tigrinya, Turkish, Vietnamese) when reading expository texts. She found that lower proficiency students benefited from the presence of the AO, but the higher proficiency group did not.

**Adjunct Questions (Pre- and Post Questions)**

Adjunct questions (i.e., pre- and post questions) act as an adjunct to a text and are intended to provide a stimulus for what Rothkopf 1965 has termed “mathemagenic behavior, i.e., behaviors that produce learning” (pp. 1,998-1,999). Specifically, adjunct questions help students attend to learning materials and influence both intentional and incidental learning (Rothkopf, 1970).

The value of questions in education can be traced as far back as Plato’s discussion with Socrates about the importance of using questions to educate the state’s youth (Plato, trans. 2008). Looking at early American texts, it can be seen that nineteenth century American educators also saw the value of questions, to include those which have been termed adjunct questions. An examination of America’s earliest texts, the 1790 *New England Primer* and 1836 McGuffey *Eclectic Reader Series*, for example, shows that both contain questions appended to text selections.

An examination of early twentieth century text selection guides demonstrates a similar trend in educational thought (Caverly, 1926, Maxwell, 1921, McElroy, 1934). Maxwell (1921), for instance, listed whether there was
"questions at beginning or end of selections" (p. 89) as one of 39 criteria teachers should use when selecting texts.

A limited amount of early empirical work in this area with NSs also shows continued interest in how pre- and post adjunct questions affect student performance (Distad, 1927; Germane, 1920; Holmes, 1931; Thorndike, 1917; Washburne, 1929). Thorndike (1917), in an early study describing the importance of silent reading, for example, expressed the value of having students “find the answers to given questions” (p. 332).

It is generally agreed, however, that the majority of research in this area began in the late 1960’s with the work of Rothkopf (Anderson & Biddle, 1975; Andre, 1987; Hamaker, 1986). Rothkopf (1965, 1966), working with NSs, reported that both pre- and post questions facilitate students' learning of facts the questions direct them to more than when such questions are absent. He also found that post questions facilitate incidental learning, but pre questions do not.

In meta-analyses of studies starting with Rothkopf’s work, others have synthesized the findings of the many studies done in this area (Anderson & Biddle, 1975; Andre, 1987; Hamaker, 1986). Anderson and Biddle (1975), using Rothkopf’s 1966 work as a starting point, reported that both pre- and post questions facilitate more direct learning of facts when texts have such questions than when they do not. They also reported that post questions have a positive effect on incidental learning, whereas pre questions have a negative effect. They additionally addressed the area of higher order questions, reporting that higher
order questions facilitate the learning of both higher order concepts and factual information.

Hamaker (1986), in a second meta-analysis, likewise reported that both pre- and post questions promote the directed learning of facts more than if students are presented with texts that do not have such questions. With regards to incidental learning, however, she came to different conclusions. She reported that post questions have a positive effect on incidental learning, but prequestions have a slight negative effect because they reduce the task of reading to a search task, and thus text information not relevant to the adjunct questions is processed less deeply. Hamaker also examined studies which investigated the effects of higher order questions. She reported that the type of questions higher order studies focus on are quite heterogeneous. They range from (a) integrative, (b) comprehension, (c) application and (d) conceptual questions that require explanation. Looking at these studies as a whole, she came to the conclusion that higher order questions may facilitate the learning of factual information, may facilitate higher order processing of the information the questions direct them to, and can help students incidentally answer unrelated higher order questions.

In a third meta-analysis, Andre (1987), reiterated others’ finding that pre- and post questions facilitate the learning of factual information, but that there is little evidence that post questions facilitate incidental learning, except in “longer texts with a low concentration of adjunct questions” (p. 81). Andre, like Anderson and Biddle (1975) and Hamaker (1986), additionally reported that pre questions can reduce incidental learning.
While no meta-analyses have been found to have surveyed work done with ELLs, there has been individual research that has reported findings similar to those reported in investigations with NSs (Lin & Chen, 2006; Shokouhi & Pavaresh, 2010). Lin and Chen (2006), for example, working with Taiwanese-undergraduate ELLs reported that prequestions improved students’ recall of factual information more effectively than when no questions were present. They also reported that prequestions facilitated higher recall than other types of prereading activities (i.e., AOs).

Shokouhi and Pavaresh (2010) studied the effects of post questions on Iranian ELLs’ comprehension. They reported that both factual and higher order post questions produced recall of explicit and implicit information, but that higher order questions produced better comprehension of both.

**Three Ways Readability Is Explored**

The features discussed in the previous section have historically been explored in three ways: (a) quantitatively, (b) qualitatively, and (c) in a hybrid fashion that employs both quantitative and qualitative approaches.

The first approach, quantitative, entails a three-phase process: (a) an examination of the readability of the texts using readability formulae that predict text difficulty via a consideration of two features (i.e., vocabulary and sentence length), (b) an investigation of the readers’ reading levels, and (c) a comparison of the two. The second approach, to match texts and students qualitatively, is done by subjectively considering the two features readability formulae measure (i.e., vocabulary and sentence length) and the others discussed in the previous
section. The third way is a hybrid approach, one that examines readability quantitatively and qualitatively.

Chapter Summary

Chapter Two reviewed selected works from the scholarly literature in three sections. The first section, The Place of the Self-access Resource Libraries in Writing Centers, situated the study’s importance. The second, Tasks That Must Be Completed When Considering Text Purchases For Writing Center Self-access Library Shelves in an ELL setting (e.g., Taiwan), outlined two tasks that must be completed when considering purchases for writing center self-access shelves: (a) an exploration of text availability and (b) a consideration of features that contribute to readable texts. And the third, Features That Influence Text Readability, reviewed the literature relevant to each of the features that need to be considered when selecting texts. Chapter Two also presented a fourth section, Three Ways Readability Is Explored. This section outlined the three ways the features which contribute to readability have been historically explored: (a) with readability formulae, (b) qualitatively, and (c) a hybrid version of the two. Each of these three approaches will be discussed in the upcoming chapters. Chapter Three and Four will address the quantitative approach. Chapter Five will discuss the qualitative approach, and Chapter Six will outline the hybrid approach. Chapter Six will also explain why a hybrid approach was chosen for use in this study.
CHAPTER THREE
LITERATURE REVIEW PART II:
INVESTIGATING THE QUANTITATIVE READABILITY LEVELS OF TEXTS

Introduction

Chapter Three covers background literature in four sections relevant to the first phase of the quantitative portion of the comprehensive text evaluation process described in Chapter Two, a quantitative measurement of texts via a readability formula. These sections are: (1) What a Readability Formula Is and Is Not, (2) Historical Reviews of Readability Formulae, (3) Readability Formulae: Their Precedents, Early Formulae, and Formulae in Widespread Use Today, and (4) Using Popular Readability Formulae With English Language Learners. The chapter then closes with a fifth section entitled Factors That Need to Be Considered When Choosing a Popular Readability Formula For Use in This Study that discusses the factors that were considered when choosing to use the Lexile Readability Formula to assess the quantitative readability levels of the anthologies investigated in this study.

What a Readability Formula Is and Is Not

A readability formula is a predictive device which provides a quantitative estimate of a text’s difficulty, either in U.S. grade levels or on a numerical cline of difficulty defined internally to a specific formula. Such formulae have a long history, dating back to the 1920s when Lively and Pressey (1923) published the first. Despite readability formulae’s extended history, they have not been universally accepted as a sublime solution to text evaluation, for they have
garnered both praise and criticism. From their inception, they have been praised in that they provide an objective quantitative estimate of two factors which have been found to be good predictors of readability with relation to style: semantic (i.e., word) and syntactic (i.e., sentence) difficulty. However, they have drawn criticism for the same reason. That is, they usually only focus on these two factors and thus do not explore other quantifiable and qualitatively assessable areas of readability which are highly relevant to text adoption decisions.

**Historical Reviews of Readability Formulae**

Hundreds of readability formulae have been created since Lively and Pressey published the first in 1923, and reviews of these formulae have regularly been offered that have defined them, outlined their precedents, and mapped their progression to where we are today.

Klare provided three reviews which together cover a period of early historical precedents up to the first published formula and then on to 1984 (see Klare 1963; 1975; 1984). In 1963, he began by providing a working definition of a readability formula:

A method of measurement intended as a predictive device. The design of the method and the intention of the writer must have been to provide quantitative, objective estimates of difficulty for pieces of writing without requiring readers to take tests of any kind on them. Furthermore, the method must be general enough to provide estimates over a range of applicability and of difficulty, i.e., must be more than a procedure set up to
compare only a few books, especially those within a given school grade.

(pp. 33-34)

Klare then examined precedents beginning with 900 A.D. and moved on to provide an exhaustive review of formulae from the first published formula in 1923 to 1959. He presented thirty-one in all and arranged them into four categories to show a developmental pattern: (a) early formulae, (b) detailed formulae, (c) efficient formulae, and (d) specialized formulae.

In 1975, Klare provided another review, a survey of work from 1960 to 1975. In this text, noting that there are “many formulas to choose from—almost too many” (p. 96), he opted for a representative rather than an exhaustive review and arranged the selected formulae into categories which are not chronologically arranged but grouped according to content or goals: (a) recalculations and revisions of existing formulae, (b) new formulae for general or special purpose use, (c) application aids for both manual and machine use, and (d) predictions of readability for foreign languages. He also offered suggestions for choosing among them.

In 1984, Klare picked up the work a third time and provided another representative review. This time he listed high points up to 1974 and grouped formulae thereafter into four nonchronological trends: (a) ease of application, (b) development of new criteria, (c) use of new approaches, and (d) work in languages other than English.

Harrison (1980) provided a different sort of review. Instead of a comprehensive or representative review, he offered a focused analysis of nine
formulae which were in popular use at the time of writing. He did this to help users match formulae to readers’ needs.

Another review was provided in 2003. Gunning (2003), like Harrison, noting that there are many formulae (but few in widespread use today), provided a short history of readability formulae and divided them into two types: (a) formulae that can be calculated by hand and (b) those that require a computer.

Four years later, Dubay offered two more reviews. The first (Dubay, 2007b) is a brief review of early readability history and a representative anthology of articles written by authors of significant formulae up to 1948. The second (Dubay, 2007a) included an encyclopedic review of precedents and efforts from the late nineteenth century to the time of writing. In the first, he offered an introductory sample of original articles\(^{16}\). In the second, he separated the history of readability into two categories, classic and new. The first he characterized as authors having a desire to “match books with the abilities of students” (p. 37) and making readability formulae that were easy to use. The second he characterized as authors being focused on learning “more about how the formulas work and how to improve them” (p. 61).

Mesmer (2008), in the most recent review to date, published a concise sampling of historic formulae. Focusing, like Gunning, on formulae’s relationship with computers, she separated formulae into a linear trajectory of traditional and second-generation formulae. She reviewed six of the most popular traditional formulae and two second generation formulae and noted that the latter is an outgrowth of the former. Second generation formulae (in contrast to traditional
ones) are characterized as being built on the same principles as traditional
formulae; however, “they harness newer technologies to provide fundamental
advances in the way data is gathered and analyzed” (p. 43).

Readability Formulae: Their Precedents, Early Formulae,
and Formulae in Widespread Use Today

Historical reviews, although quite different in their categories’ rationale and
inclusions, reveal a consensus of significant precedents and work from among
the unwieldy number of formulae that have proliferated over the last eight and a
half decades. Drawing on the consensus these works point to, I include here a
historical overview of the field separated into three periods: (a) Precedents, (b)
Early formulae, and (c) Formulae in Widespread Use Today.

Precedents

A number of works both outside and inside the English language set the
stage for the first published readability formula for English materials in 1923 as
well as those that followed. The methodological trajectory of these precedents,
however, was in no way constant. It meandered back and forth from semantic
indicators, to syntactic ones, to a combination of the two. Its focus also shifted
several times between material for younger and older learners. The other
important thing to note is that these precedents provided a theoretical base for
the rationale of investigating small samples of a large text to estimate its
readability rather than attempting to hand-calculate the readability of the entire
text.
The first precedents were outside of the English language and provided a basis for semantic indicators. The earliest noted is in Aramaic (Lorge, 1944). Lorge cites the Talmudists as using frequency counts to arrange units of instruction of the Torah as early as 900 A.D. He reports the Talmudists counted “words and individual ideas” in order to see “how many times each word appeared in the scroll and how frequently each word appeared in an unusual sense as compared with its usual sense” so that the amount to be studied each week "could be arranged into approximately equivalent comprehension units" (p. 544).

Later semantic precedents include works in foreign languages. Rubakin, for example, created a list of 1,500 familiar words for the instruction of Russian in 1889 (see Lorge, 1944). Another important semantic precedent is found for German, Kaeding’s 1898 *Haufigkeitsivorter-buch der Deutschen Sprache*. In this work, Kaeding established “the frequency of the occurrence of phonetic combinations” (Lorge, 1944, p. 548). As a result, words such as *buch, buches, bucher* and *biichern* were separately calculated. This work is important because it provided an early, yet contrastive, base for modern frequency word lists which count the lexical root as the basic unit of entry. Yen, analyzing the 1,000 most common characters in Mandarin, provided a third precedent in 1918. Yen created a working vocabulary for instruction of Chinese laborers by examining the character frequency in their correspondence. He then started a newspaper based on these characters to keep this population informed of the political events of the time and later started a mass education movement (see Klare & Byron, 1954).
Precedents can also be found in works which focus on materials written in English, the first of which provided a base for syntactic measurement. Sherman (1893), in his *Analysis of Literature: A Manual for the Objective Study of English Prose and Poetry*, conducted an investigation of the syntactic difficulty of literary works from the pre-Elizabethan era to the late nineteenth century. Counting the sentence length per 100 sentences, he found that sentence length declined considerably by era. Sherman also concluded that sentences within a single work tend to be uniform and thus, as Klare (1963) notes, provided support for the rationale researchers used when sampling passages from large texts rather than attempting to hand-calculate the readability of the entire text\(^\text{17}\).

Thorndike’s 1921 *Teacher’s Word Book* is the next important precedent in English, and it, like Sherman’s work, provided two more important contributions. It first turned the path away from syntactic investigations back towards semantic ones, something which earned its author the praise of being called the father of readability formulae (Klare & Byron, 1954) because his *Teacher’s Word Book* (a word list based on word frequency designed to help teachers determine semantic difficulty) was later used as the base indicator for the first published formula, Lively and Pressey’s 1923 formula. Thorndike’s work is also important because it temporarily shifted the focus of study from material for older readers (as was used in Sherman’s earlier work) to that of younger ones. This was because Thorndike’s word list was intended as a guide for teachers to determine the difficulty of words and to provide a “gradation for difficulty” (Thorndike, 1921a, p. 376) which could be used when evaluating textbooks.
After Thorndike’s work and just prior to the publication of the first formula, the trajectory intermittently veered again towards material for older learners as a result of another important precedent, Kitson’s 1921 *The Mind of the Buyer*. However, the real significance of Kitson’s work is that it joined semantic and syntactic indicators in one study. Focusing on materials outside education and for older learners, he used a combination of semantic and syntactic indicators to investigate the relative difficulty of four North American publications. He took 5,000 consecutive words (as a semantic measure) and 8,000 sentences (as a syntactic one) from two newspapers (*The Chicago American* and *The Post*) and two magazines (*The American* and *The Century*). Although he did not publish a formula, he reported that the words and sentences were shorter in *The Chicago American* than in *The Post* and those in the *American* were shorter than *The Century*’s.

**Early Formulae**

Early precedents certainly presented the first and later authors of readability formulae with a great deal of options: (a) several indicators (semantic, syntactic, and semantic/syntactic), (b) material foci (material for older or younger learners), and (c) a rationale for the sampling procedures and adequacy needed to estimate the readability of large works. As a result, each of these areas (as well as the many others that followed) was investigated by researchers in ways that once again provided a progressive, yet somewhat circuitous, trajectory towards where we are today.
The first formula (as mentioned earlier in this chapter) was published in 1923 by Lively and Pressey. Their formula used a word list as a semantic measure (i.e., Thorndike’s *Teacher’s Word Book*[^18]), a type which would remain the staple for several years before formulae which used syntactic and semantic/syntactic formulae were published. Their formula is also significant because it included the first of what would later be many answers to three important questions: (a) How many words must be included in a sampling from a textbook in order to obtain a reliable indication regarding vocabulary?, (b) how should these words be selected?, and (c) how can the difficulty of the words in this sampling be best measured? They addressed the first and second questions by using a 1,000 word sample taken at regular intervals from the third sentence from the top of the page; “thus if a book contained approximately 500 pages, and there were about 10 words to the line, a line on each 5th page would be appropriate” (p. 47). They then answered the third question by comparing data from the sample with words that were not in Thorndike's *Teacher’s Word Book*.

Shortly after Lively and Pressey published the first formula (i.e., a semantically based one), the methodological path readability formulae followed (like that of their precedents) began to wander. Vogel and Washburne (1928) moved forward by publishing one of what would be many formulae to combine semantic and syntactic difficulty. Researchers then turned to other areas. Johnson (1930), for example, investigated ease of use to show that a formula could be simple to apply by using only one factor: the percentage of polysyllabic words.
Ojemann (1934) also broadened the field’s focus. Although he did not publish a formula, he did move the field’s focus from studies with children to those that focused on or included older learners by providing a study which examined the reading ability of adults and the difficulty of parent education materials\textsuperscript{19}. Ojemann’s work is also important because of the features he studied. His study went beyond solely using quantitative analysis and additionally considered qualitative ones. In the quantitative analysis, he studied a combination of 14 semantic and syntactic features ones. For the semantic features, he studied six factors of vocabulary difficulty:

- The percent of words in Thorndike’s first 1000 using the new Thorndike word list published in 1931, the percent of words in Thorndike’s first 2000, and four factors of word difficulty. (p. 107)

And for the syntactic features, he investigated eight factors of sentence structure:

- [the] number of simple sentences, number of complex sentences, number of compound sentences, number of dependent clauses, average length of dependent clauses, ratio of total words in dependent clauses to total words in selection, number of prepositions, and number of prepositions plus infinitive signs. (p. 107)

For these 14 quantitative features, Ojemann was only able to compute an acceptable .60 correlation or better with his criterion\textsuperscript{20} for the six vocabulary features and two syntactic ones (i.e., the number of simple sentences and the number of prepositions including and excluding infinitive signs). Conversely, for the qualitative analysis, he noted that it is difficult to obtain an objective measure
of subjective features. “A subjective estimate, however,” he noted, “has the advantage of making the investigator aware of their existence” (p. 107). Acknowledging the importance of both the quantitative and qualitative features, he provided 16 passages arranged in order of difficulty the user can compare to texts to judge their difficulty (see Chapter Six of this dissertation for a full discussion).

Seven years later Gray and Leary (1935), in their book *What Makes a Book Readable*, took Ojemann's question of what could be measured further in one of the most extensive studies in the history of readability (Klare, 1963). For their study, they conducted an investigation of the opinions of librarians, library patrons, publishers, teachers, and directors of adult education to determine which factors these respondents believe make a book readable. As a result, they identified 289 features in the areas of content, format, organization, and style. Gray and Leary then determined that they could only effectively quantifiably measure a small number of variables related to style. Looking specifically at these areas of style, Gray and Leary found they could combine five features (i.e., three semantic ones and two syntactic ones) to produce a correlation of .6435 with their criterion. The semantic factors were (a) number of different hard words; (b) number of first, second, and third person pronouns; and (c) the percentage of different hard words. And the syntactic ones were (a) sentence length in words and (b) the number of prepositional phrases. However, Gray and Leary did not stop there. They also addressed the qualitative question and offered sample
texts in four levels of difficulty (A-D) (see Chapter Six of this dissertation for a full discussion).

From this point on, Gray and Leary’s work stimulated an enormous effort to find the perfect formula using different combinations of style features. Researchers, however,

eventually established that the two variables related to style commonly used in readability formulas--a semantic measure (meaning) such as vocabulary and a syntactic measure (sentence structure) such as average sentence length--are the best predictors of textual difficulty. (Dubay, 2007a, p. 53)

It is important to note that the researchers in this period did not ignore the importance of the other features formulae do not measure effectively. It is just that they generally came to the conclusion that

unless a user is interested in doing research there is little to be gained from choosing a highly complex formula. A simple 2-variable formula should be sufficient, especially if one of the variables is a word or semantic variable and the other is a sentence or syntactic variable. Beyond these 2 variables, further additions add relatively little predictive validity compared to the added application time involved, and a formula with very many variables is likely to be unreliably applied by hand. As a matter of fact, a formula with as many as 20 variables may well be an unreliable predictor even if applied by machine. (Klare, 1975, p. 96)
Shortly after Gray and Leary’s work, Lorge (1939) provided a benchmark example of the logic Dubay described. Attempting to balance predictive power and ease of use, he provided a formula which obtained a .7722 correlation with its criterion. Wishing to obtain a higher correlation, he experimented with additional variables and obtained a slightly higher correlation (.7821), but he came to the conclusion that the difficulty required to apply these additional variables outweighed the value of the higher correlation. To compensate, he posed an option that provided an acceptable balance: an easier three factor formula which provided an acceptable (yet slightly lower) correlation of .7669. This formula used one semantic factor one (i.e., words from Dale’s 1931 769 item word list) (Klare, 1963) and two syntactic ones (i.e., sentence length and the number of prepositional phrases).

Lorge’s 1939 formula was also a milestone in attempts to enhance the combination of predictive power and ease of use with the power of computers. This is because Fraser adapted Lorge’s formula for use with FORTRAN IV (an early programming language) in 1968 (Klare, 1975). Unfortunately, both Lorge’s hand-calculated formula and Fraser’s computer adaption fell into disuse. The first suffered mainly because later formulae were easier to use, and the second failed to receive widespread appeal because the early FORTRAN program did not find its way into popular, long term use.

**Formulae in Widespread Use Today**

After Lorge’s formula, more and more quantitative semantic, syntactic, and semantic/syntactic based formulae proliferated, but only a few have survived and
are in widespread use today. The first five of these are hand-calculated formulae that have been adapted to computers: (a) Gunning’s (1952) Fog Index, (b) Fry’s (1968) Graph, (c) McLaughlin’s (1969) Simple Measure of Gobbledygook (SMOG) Formula, (d) Flesch’s (1948) Reading Ease Formula, and (e) Kincaid, Fishburne, Rogers, and Chissom’s (1975) Flesch-Kincaid Formula.

The first in this category is Gunning’s (1952) Fog Index. Originally a hand calculated formula, the Fog Index effectively balances predictive power (.90 correlation with its criterion) and ease of application to determine the readability of a wide range of workplace materials for U.S. grades 1-16. To do this, it uses two indicators, a semantic one (i.e., words with more than two syllables) and a syntactic one (i.e., sentence length) to examine the number of words per sentence taken from 100 word samples. The hand-calculated version was later adapted to several early computer applications (see Felsenthal & Felsenthal, 1972; Gross & Sadowski, 1985; Klare, Rowe, St. John, & Stolurow, 1969) and then to more recent popular commercial software applications (e.g., Micro Power & Light’s Readability Plus) and free website calculators (e.g., http://www.readable.com).

The second work in this area is Fry’s Graph. Fry’s Graph, originally published in 1968 and updated again in 1969 and 1977, is an easy to apply, one page, hand calculated tool that uses three 100 word samples. Calculating the number of sentences in those samples and the average number of syllables per 100 words, it produces an acceptable correlation with its criterion for U.S. primary
grades through college years. It can also be found in more recent computer adapted software application forms (e.g., Micro Power & Light Readability Plus).

The next work is McLaughlin’s (1969) Simple Measure of Gobbledygook (SMOG) Formula. The SMOG Formula is a hand-calculated formula which uses an application of a semantic polysyllable word count (i.e., words of more than two syllables) in 30 sentence samples of a work to produce a .71 correlation with its criterion for U.S. grades 6-18. It has also been adapted to modern software applications (e.g., Micro Power & Light Readability Plus) and free Internet applications (e.g., http://webpages/charter.net/ghal/smoq.html).

Flesch’s (1948) Reading Ease Formula, the fourth work in this area, is a hand-calculated formula which provides an acceptable correlation of .70 with its criterion to produce measures for both U.S. grades 4-12 and non-U.S. based measures (i.e., 0-difficult to 100-easy). To do this, it uses two factors, the number of syllables and the average number of sentences taken from 100 word samples. The formula has also been adapted to a number of manual application aids (e.g., tables and charts) (Far, Jenkins & Paterson, 1951; Klare, 1975). It has additionally been adapted to computers and their related applications. It was first adapted with Fraser’s early FORTRAN IV work and then to other applications (see Coke and Rothkopf, 1970; Fang, 1968; Klare et al., 1969). It is also available in modern word processing programs (e.g., Corel Word Perfect, KOffice’s Office Suite, Microsoft Word), web applications (e.g., Google Doc’s collaborative word processing program), commercial readability software (e.g.,
Micro power & Light’s Readability Plus and Microsoft Word), and free online
readability calculators (e.g., http://www.addedbytes.com/tools/readability-score).

The fifth formula in this category is Kincaid et al.’s (1975) Flesch-Kincaid
Formula. This formula, a recalculation of the Flesch’s Reading Ease Formula,
provides measures for U.S. grades 0-17 by examining one semantic feature (i.e.,
word length) and one syntactic one (i.e., sentence length) from 100 word
samples. The formula was originally created for use with U.S. Navy personnel in
1975 and later applied to U.S. Department of Defense contracts, Internal
Revenue forms, and Social Security documents. However, it is more generally
used today by the general public in computer adapted popular word processing
programs (e.g., Microsoft Word), commercial applications (e.g., Micro Power &
Light’s Readability Plus), and Internet websites (e.g.,

The next two formulae, the Degrees of Reading Power (DRP) and the
Lexile Readability Formulae, are different from the first five in that these two were
created for computers rather than being adapted to them, something that
provides each with some interesting features. The DRP Formula is a commercial
program which was created by Touchstone Applied Science in 1976 and is now
owned by Questar Assessment. Like the first five hand-calculated formulae that
have been adapted to computers, this formula provides an acceptable correlation
with its criterion and uses semantic and syntactic measures: two semantic
measures (i.e., the numbers of letters per word and number of words not on the
Dale’s 3,000 word list21) and one syntactic one (i.e., average number of words
per sentence). However, the fact that it was created with computers, instead of being adapted to them, has given this formula some attractive features. The first is that it offers finer gradations of reporting measures (i.e., 0-85) than formulae which report in U.S. grade scores. This is especially attractive for students outside of U.S. systems for whom U.S. grade scores are not appropriate. Another difference is that it produces parallel measures for both the texts it measures and the tests used to determine students’ levels. Such parallelism is important because it does not force an examiner to correlate the variance which can occur if a book is examined with one readability formula and the students’ reading test produces measures for another. The last difference is the amount of material the formula can measure: Instead of taking samples at regular intervals to make an estimate of a large text’s readability, as earlier hand-calculated formulae did, the DRP Formula can examine an entire text. Despite the plusses the DRP Formula offers, it has also merited criticism. It has been called a closed, commercial system (Gunning, 2003). This is because--for a cost--Questar Assessment will provide teachers, publishers, librarians, curriculum planners, and other school administrators a readability analysis of the books not in its database (Questar, 2009). Its commercial nature has also been criticized as creating an atmosphere which discourages research about the formula (Mesmer, 2008).

The second formula in this area, the Lexile Readability Formula, was created in 1984 and is owned by Metametrics. Like the DRP Formula, this formula has features typical to both hand-calculated formulae and its computer enhanced process. Similar to hand-calculated formulae, the Lexile Readability
Formula uses both a semantic (i.e., word frequency) and a syntactic indicator (i.e., sentence length) to produce an acceptable correlation with its criterion (i.e., .90). However, as a result of its creation process, it provides finer gradations than U.S. grade measures (i.e., 0-1700+) that are parallely used in both the measurement of the texts and the student examination process. This formula can also examine whole texts instead of just samples. Another interesting feature is that it uses a large (i.e., 550 million word) computer based corpus to determine word difficulty instead of relying on the smaller word lists used by hand-calculated formulae (e.g., Thorndike’s and Dale’s word lists) (Kamil, 2004; Lexile, 2010; Stenner, Burdick, Sanford, & Burdick, 2006). On the downside, however, like the DRP Formula, the Lexile Readability Formula has commercial properties which have borne criticism: (a) Students must use a standardized, fee based test which provides Lexile measures to assess their reading levels; (b) publishers must pay a fee to print the Lexile score in their texts; and (c) the formula’s commercial nature discourages peer reviewed research (Mesmer, 2008).

The last formula in widespread use today is Chall and Dale’s (1995) New Dale-Chall Readability Formula, a revision of their 1948 formula. This formula, much like the first five, is a hand-calculated formula that has been adapted to computers, rather than one of which was created for them. In both its hand-calculated and computer adapted forms (e.g., Power & Light’s Readability Plus software and www.interventioncentral.org), the New Dale-Chall Readability Formula attempts to balance predictive power (i.e., .92 correlation with its criteria) and ease of use to produce measures for a wide variety of materials (i.e., U.S.
grades 4-16). It does this by examining the average number of sentences in a 100 word sample using two indicators: word difficulty (obtained by finding the number of unfamiliar words on the Dale updated 3,000 word list) and corresponding cloze comprehension scores. Although somewhat complicated to apply, the New Dale-Chall Readability Formula has a unique feature that the other seven current formulae do not: It readdresses Ojemann’s (1934) question about what quantitative and qualitative factors can be measured. Acknowledging the importance of a comprehensive text evaluation process that includes a consideration of both the areas readability formulae can and cannot measure, its authors recommend that the examiner use their quantitative formula to first determine a text’s quantitative readability and then consult two worksheets (included alongside the formula in their text) to consider more subjective factors not considered by the formula.

**Using Popular Readability Formulae With English Language Learners**

Formulae in widespread use today have been validated for and are used with ELLs (G. Greenfield, 2004; J. Greenfield, 1999; Hamsik, 1984). However, dissenters have criticized these formulae as being unresponsive to the needs of ELLs. As a result, dissenters have attempted to (and continue to attempt to) create better formulae for use with ELLs. The new formulae provide theoretical alternatives (G. Greenfield, 2004; J. Greenfield, 1999). However, like the alternative formulae posed earlier for general NS populations, the new formulae created for ELL populations have not received widespread attention. This is because the proposed alternatives have not practically balanced predictive
power with ease of use more effectively than the semantic, syntactic, and semantic/syntactic formulae already in popular use do.

Factors That Need to Be Considered When Choosing a Popular Readability Formula For Use in This Study

Accepting that several formulae in widespread use are appropriate for use with ELLs, it was no easy task to choose one from among them for the text assessment stage of this process. Fortunately, due to the constraints created by both the texts and the population of this study, the number of possibilities was considerably reduced. Four factors were relevant to the selection of a popular readability formula for use in this study:

1. Conducting such an investigation requires examining large amounts of text. This could potentially pose problems of both inter- and intra-rater reliability if such a procedure were to be conducted by hand. Therefore, a formula which can examine long selections of prose is needed (i.e., one which uses a computer).

2. Because of the potentially wide range of readability levels available in some of the anthologies investigated in this study, this study requires a formula which can investigate writing exemplars at a wide variety of levels to accommodate all of the texts’ possible readability levels.

3. When working with ELLs who are not involved in the U.S. education system, a formula which produces readability statistics other than U.S. grade equivalents is a necessity.
4. It is important to consider whether the formula or its accompanying materials offer the opportunity to investigate features beyond those measured by readability formulae as these are part of a comprehensive text evaluation process.

An examination of the eight popular formulae mentioned earlier in this chapter shows that each formulae meets some of these criteria, but none, as shown in Table 3, presently meet all of them.

Table 3

**Readability Formulae and Their Attributes**

<table>
<thead>
<tr>
<th>Readability Formulae</th>
<th>Available for use with computers</th>
<th>Can examine a large amount of text without sampling</th>
<th>Can examine a wide range of materials</th>
<th>Provides results in non-U.S. grade levels</th>
<th>Provides materials to assess areas not examined by readability formulae</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading Ease</td>
<td>Yes</td>
<td>No&lt;sup&gt;b&lt;/sup&gt;</td>
<td>4-12</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Fog</td>
<td>Yes</td>
<td>No</td>
<td>1-16</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Fry</td>
<td>Yes</td>
<td>No</td>
<td>1-16</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>SMOG</td>
<td>Yes</td>
<td>No</td>
<td>6-18</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Flesch-Kincaid</td>
<td>Yes</td>
<td>No</td>
<td>0-17</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>DRP</td>
<td>Yes</td>
<td>Yes</td>
<td>1-12</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Lexile</td>
<td>Yes</td>
<td>Yes</td>
<td>Preprimer-17</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>New Dale-Chall Readability Formula</td>
<td>Yes</td>
<td>No</td>
<td>1 - 16</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*Note.*

<sup>a</sup>Formulae which do not meet the first criterion (i.e., available for use with computers) are not included in Table 3.

<sup>b</sup>No indicates that the formula uses a sampling procedure which examines a small number of samples to make estimates about a larger text’s readability level instead of examining the complete text.

Of the eight formulae presented in Table 3, the DRP and Lexile Readability Formulae meet almost all of the requisite criteria, but (comparing the two formulae) the Lexile Readability Formula addresses two attributes more
effectively for the purposes of this study than the DRP Formula does: (a) It measures a larger range of materials (preprimer to 17 vs. 1-12) and (b) it uses finer gradations than the DRP Formula does (i.e., 0-1700+ vs. 15-85).

With regard to the one feature the Lexile Readability Formula does not investigate (i.e., whether the formula itself or its accompanying materials provide the opportunity to investigate factors readability formulae do not measure), the only formula in Table 3 which allows for this is The New Dale-Chall Readability Formula. Unfortunately, since The New Dale-Chall Readability Formula does not meet the other criteria necessary for this study (i.e., being able to examine a large amount of text without sampling and providing results in non U.S. grade levels), it cannot be considered for use in this study.

Considering the positive attributes of the Lexile Readability Formula and accepting it does not offer the opportunity to consider features beyond those measured by readability formulae (but that these will be explored in the qualitative part of this study), the Lexile Readability Formula will be used to assess the texts’ quantitative readability levels for this study.

**Chapter Summary**

This chapter provided an illustration of how the first two features examined by readability formulae (i.e., vocabulary and sentence length) have traditionally been measured. It also described what factors were considered when choosing to use the Lexile Readability Formula to assess the readability levels of the anthologies used in this study. The next chapter, Chapter Four reviews the instruments available to assess students’ reading levels and the decision process
that was undertaken in choosing to use the SRI to assess the student reading levels in this study.
CHAPTER FOUR

LITERATURE REVIEW PART III:

ASSESSING STUDENTS’ READING LEVELS

Introduction

Choosing a tool to assess students’ reading levels (as part of the quantitative portion of the comprehensive text evaluation process described in Chapter Two) is a very complicated matter. This is because the array of available assessment tools, like the number of readability formulae available to determine text readability, is indeed broad (Afflerbach, 2007). The task, however, is not an unmanageable one. The key to narrowing the selection is to (a) understand the types of tools available and their attributes, (b) examine the purpose of assessment, and then (c) let the combination guide the type of tool to be selected or developed (Flippo & Schumm, 2000). With this in mind, this chapter provides three sections which review the instruments used in the field and the decision process that was undertaken in choosing the SRI to assess the student reading levels in this study: (1) Informal and Formal Assessment Instruments, (2) Standardized Tests Used in Taiwan, and (3) Choosing from the Standardized Tests Available For Use With the Readability Formula Selected For This Study.

Informal and Formal Assessment Instruments

In the most general sense, reading assessment instruments can be classified as either informal or formal. Both types encompass a wide spectrum of indicators which can be used to determine student reading ability, but not all of
the instruments that make up these categories are necessarily suited to the student reading level assessment part of this study.

**Informal Assessment Instruments**

Informal assessments include a variety of tools: (a) observations, interviews, (b) curriculum based instruments, (c) portfolios, and (d) informal reading inventories (IRIs). The first tool, simple observation, is one of the most often used informal assessments. Teachers regularly observe students engaged in one type of reading activity or another. An interview, too, can complement this sort of procedure, and both of these activities can be guided by teacher or publisher created systematic checklists. A third instrument in this category is the teacher or publisher created curriculum based assessment, a tool which is designed to “evaluate mastery of a specific knowledge and skills within a given set of curriculum materials” (Bell & McCallum, 2008, p. 72). The last type of assessment, the portfolio, can also provide a wide variety of information which can help teachers understand their students’ strengths and weaknesses. In fact, all of the tools in the informal category have the potential to provide a variety of quantitative and qualitative data about the many facets of student reading ability. Unfortunately, however, the methods in this category, despite the valuable information they provide, do not generally produce the type of quantitative data about student reading levels which can be paired with the reading levels of the anthologies reported by the readability formula selected for this study, the Lexile Readability Formula. The exception to this is the IRI. An IRI is a tool teachers can use to guide students through some or all of a progressive series of teacher or
commercially prepared activities with graded materials for which the reading levels are known in order to help the teacher identify the students' reading levels. However, despite the valuable data this tool can provide, this tool (like the other instruments in this category) poses a potential problem: During both its administration to the large number of students necessary for this study and the subsequent interpretation of data collected, the procedure it employs could pose threats to both reliability and validity.

**Formal Assessment Instruments**

Another alternative which can provide information about student reading levels is formal assessment, a term often associated with standardized tests. Standardized tests are characterized by the process and the purposes for which they are created and used. A standardized test is one that (a) presupposes certain standard objectives or criteria that are held constant across one form of the test to another, (b) is the product of a thorough process of empirical research and development, and (c) dictates standard procedures for administration and scoring (Brown, 2004).

The attributes which define a standardized test are indeed attractive, but no assessment instrument is perfect. In qualitative terms, standardized tests fall short compared to informal classroom assessments which can provide "fine grained information about individual students" (Caldwell, 2008, p. 239). The process associated with standardized tests, however, generally addresses reliability and validity concerns (i.e., both their necessary coefficients and transparency) more effectively than informal assessments (Afflerbach, 2007);
thus making this type of assessment an appropriate one for making high stakes
decisions such as which texts are appropriate for a large number of students and
their reading levels. For this reason, a standardized test is considered an
appropriate tool for this stage of the present study.

**Standardized Tests Used in Taiwan**

When choosing a standardized test to determine student reading levels as
part of a text adoption process for this study, a commonsensical choice would be
to use one which is often used locally, and students at the postsecondary level in
Taiwan do indeed take an assortment of standardized tests that measure English
language proficiency for a variety of purposes: (a) college and university
entrance, (b) in-house placement, and (c) exit exams.

For the first purpose, college and university entrance, three such exams
are most common in Taiwan: (a) the Taiwan Ministry of Education’s
Postsecondary Entrance Exam (the score of which can be used to apply for
entrance to different schools), (b) institution created entrance exams specific to
an individual school, and (c) departmental entrance exams. Students may also sit
an exam to demonstrate their ability to transfer to or enter a program at an
overseas university (e.g., IELTS and TOEFL).

For the second purpose, in-house placement, students may encounter
exams to determine their level for placement in and ability to perform in courses
offered by individual schools.

And for the third purpose, exit exams, students may take in-house or
commercially prepared exams which they are required to take in order to
graduate. Seven such commercial exams are recognized by Taiwan’s Ministry of Education for this purpose. These are listed in Table 4.

Table 4

<table>
<thead>
<tr>
<th>Exit Exams Recognized by Taiwan’s Ministry of Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Business Language Testing Service (BULATS)</td>
</tr>
<tr>
<td>2. Cambridge ESOL Maine Suite</td>
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<tr>
<td>3. Foreign Language Proficiency Test (FLPT)</td>
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<tr>
<td>4. General English Proficiency Test (GEPT)</td>
</tr>
<tr>
<td>5. International English Language Testing System (IELTS)</td>
</tr>
<tr>
<td>6. Test of English as Foreign Language (TOEFL)</td>
</tr>
<tr>
<td>7. Test of English for International Communication (TOEIC)</td>
</tr>
</tbody>
</table>

Examining the standardized exams used in Taiwan, many (albeit not necessarily all) have several attributes germane to a standardized exam. However, due to their widespread use, these assessments pose a problem related to what is called negative washback: A phenomenon where what ends up being taught in academic courses often ends up being dictated by the material in the test (Brown, 2004). This effect, in addition to creating less than an optimum teaching environment, can pose a problem with assessment in that it can lead to inequities. As Brown points out, “Opportunities for coaching are differentially available to students from families who can afford coaching from the many cram courses which teach to the test” (p. 26). These private cram courses can also cause interference because they may help students to improve their test taking skills without necessarily improving the language skills that the test is designed to assess.
The second thing to consider is whether the reading level data each produces is in the form of a point system which can be paired with the formula chosen for the text assessment portion of this study, the Lexile Readability Formula. Unfortunately, the standardized tests presently used widely in Taiwan (with the exception of the TOEFL) do not produce such data.

Choosing from the Standardized Tests Available For Use With the Readability Formula Selected For This Study

Much like the choice of which readability formula to use, selecting a standardized test from those not being used widely in Taiwan requires making choices. In this section I will identify and answer five questions relevant to this process as they pertain to two areas: (a) Standardized Tests: Negative Washback and Pairing Their Results with Formulae and (b) Choosing from among the Standardized Tests Available For Use With English Language Learners.

Standardized Tests: Negative Washback and Pairing Their Results With the Lexile Readability Formula

Much like the choice of which readability formula to use to assess the readability of texts, selecting a standardized test to assess students’ reading levels from those not being used widely in Taiwan requires making choices. Two important ones are:

1. Is the exam subject to negative washback for the target population?
2. Does the exam produce results in a point system which can be paired with the readability formula chosen for this study (i.e., the Lexile Readability Formula)?

Exams which are not presently subject to negative washback on a widespread basis for the population in this study and provide student reading level data in a point system which can be paired with the readability formula chosen to assess the texts (i.e., the Lexile Readability Formula) can (as listed by Metametrics, 2008 and show in Tables 5-8) be divided into four categories: (a) U.S. state assessments, (b) assessments associated with reading programs and interventions, (c) norm-referenced assessments, and (d) formative assessments.

In the area of state assessments, 18 states provide exams. These are listed in Table 5.

Table 5

<table>
<thead>
<tr>
<th>State Assessments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Arizona</td>
</tr>
<tr>
<td>2. Arkansas</td>
</tr>
<tr>
<td>3. California</td>
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<tr>
<td>4. Georgia</td>
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<tr>
<td>5. Illinois</td>
</tr>
<tr>
<td>6. Kansas</td>
</tr>
<tr>
<td>7. Missouri</td>
</tr>
<tr>
<td>8. Nevada</td>
</tr>
<tr>
<td>9. New Mexico</td>
</tr>
<tr>
<td>10. North Carolina</td>
</tr>
<tr>
<td>11. Oklahoma</td>
</tr>
<tr>
<td>12. Oregon</td>
</tr>
<tr>
<td>13. South Carolina</td>
</tr>
<tr>
<td>14. South Dakota</td>
</tr>
<tr>
<td>15. Texas</td>
</tr>
<tr>
<td>16. Virginia</td>
</tr>
<tr>
<td>17. West Virginia</td>
</tr>
<tr>
<td>18. Wyoming</td>
</tr>
</tbody>
</table>

The next area, reading programs and interventions, includes assessments from nine publishers. These are listed in Table 6.
Table 6

**Reading Programs and Interventions**

<table>
<thead>
<tr>
<th>1. Achieve3000’s (a) Kid Biz3000 and (b) Teen Biz3000</th>
<th>6. Scholastic’s (a) Reading 180 and (b) Reading Counts</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. EdGate’s Total Reader</td>
<td>7. Sopris West’s Language!</td>
</tr>
<tr>
<td>3. Houghton Mifflin/Harcourt’s Earobics</td>
<td>8. Thinkronize’s netTrekker d.i</td>
</tr>
<tr>
<td>4. Hampton-Brown’s (a) Edge and (b) Inside</td>
<td>9. Voyager Expanded Learning’s Passport Reading Journeys</td>
</tr>
<tr>
<td>5. Pearson Education/Longman/Prentice Hall’s My Reading Lab</td>
<td></td>
</tr>
</tbody>
</table>

Each of the assessments shown in Tables 5 and 6 provides valuable information, but none in these categories is necessarily appropriate for the present study. The first, state assessments, provides tests that are proprietary in nature; thus only students at institutions within each state are usually allowed to take these exams. And the second, reading programs and interventions, provides tests which are more appropriate for the type of situations their titles describe: reading programs and interventions.

The third category, norm-referenced assessments, includes assessments from four publishers, and the last one, formative assessments, includes tests from eight publishers. These are listed in Table 7.
Table 7

**Norm-referenced and Formative Assessments**

<table>
<thead>
<tr>
<th>Norm-referenced Assessments</th>
<th>Formative Assessments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. CTB/McGraw-Hill's (a) Terra Nova and (b) Tests of Adult Basic Education</td>
<td>1. American Education Corporation’s A+ Link</td>
</tr>
<tr>
<td>2. Educational Records Bureau’s Comprehensive Testing Program</td>
<td>2. Dynamic Measurement Group’s DIBELS</td>
</tr>
<tr>
<td>3. Pearson’s Stanford 9 &amp; 10, MAT 8, and Aprenda3</td>
<td>3. Florida Center for Reading Research’s Florida Assessment for Reading</td>
</tr>
<tr>
<td>7. Scantron’s Performance Series</td>
<td>8. Scholastic’s Scholastic Reading Inventory</td>
</tr>
</tbody>
</table>

The third (i.e., formative) and fourth (i.e., norm-referenced types of assessments listed in Table 7 are available for use, meet the requirements of standardized tests, and provide student reading levels which can be paired with the Lexile Readability Formula, but they are not all necessarily appropriate for investigating the reading levels of the large number of ELL students at the post secondary level examined in this study. Still more factors need to be considered when choosing from the standardized tests available for use with ELLs for this study. These will be discussed in the next section.
Choosing from Among the Standardized Tests Available For Use With English Language Learners

To select an exam for use with a large number of ELLs from among the formative and norm-referenced assessments available for use with ELLs, three more important questions must be considered:

1. What subject areas does each test measure?
2. Which level(s) is each test appropriate for?
3. Which tests are available in a computer based test (CBT) format?

The first consideration (i.e., the subject areas a test measures) is important because tests that measure performance in a wide range of subjects (in addition to area of focus, e.g., reading) can provide unnecessary information about subject areas that are not the focus of investigation and may not be of use to the postsecondary institution or the students therein. The tests may also pose a threat to face validity. The reason is that the ELLs whose reading levels are being tested may not see that a test that measures additional subjects like math or U.S. geography is appropriate for a reading investigation. Additional subjects can also needlessly fatigue students and negatively affect their performance, which can produce problems with test results. The added length can additionally affect students’ performance to the point that some may not finish the test, and this may reduce the data available for consideration.

The range of reading levels a test measures is another important consideration. Many tests only measure a limited number of student levels. This may needlessly frustrate students by forcing them to take an exam or exams that
require them to engage material below or beyond their abilities. It might also
force some students to take additional exams in order to properly assess their
levels. Additionally, it could, as with assessment of additional subject areas,
cause problems in that it may needlessly fatigue students, thus affecting data
that can be gleaned for analysis as a result of reduced student performance or
noncompletion.

The last consideration is whether a test is available in a CBT item adaptive
format. Tests which use a CBT item adaptive format are important for use when
examining a large number of students who may have a wide range of reading
levels. The reason is that the material in such tests is adjusted to each student’s
level as the student answers the questions: If a question is answered correctly, a
more difficult question is offered. If, however, it is answered incorrectly, a less
difficult question comes next. Thus, a student only has to take one exam.
Moreover, this format can reduce student fatigue. This format can also aid
examiners with the administration of large numbers of tests and raters with the
scoring thereof.

Examining the assessments in the second (i.e., formative) and third (i.e.,
norm-referenced) sections, there are six standardized tests for use with the
Lexile Readability Formula that meet these three criteria. These are listed in
Table 8.
Table 8

Reading Assessments Available For Use in This Study

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Achieve3000's Spark3000</td>
</tr>
<tr>
<td>2.</td>
<td>McGraw-Hill’s Test of Adult Basic Education</td>
</tr>
<tr>
<td>3.</td>
<td>Riverside Publishing’s Gates-MacGinitie Reading Test</td>
</tr>
<tr>
<td>4.</td>
<td>Scantron’s Performance Series</td>
</tr>
<tr>
<td>5.</td>
<td>Scholastic’s Scholastic Reading Inventory</td>
</tr>
</tbody>
</table>

Only one test, however, is needed for the present study. Therefore, to finalize the decision process about which test to choose for the present study, another delimiter must be introduced: cost effectiveness. Examining the overall cost of each instrument and its related fees, Scholastic’s SRI appears to be the most cost efficient for the particulars of this study (i.e., sample size and duration of use); therefore, this test was purchased and used for this study.

Chapter Summary

This chapter reviewed literature about the instruments available to assess students’ reading levels and the decision process that was undertaken in choosing to use the SRI to assess the student reading levels in this study. The next chapter, Chapter Five, addresses the need to explore other features beyond those measured by readability formulae which may affect the students’ reading experience and reviews the literature about two ways that have been used to explore these: (a) qualitative measures and (b) a hybrid application of quantitative and qualitative measures. It then explains why the latter was used in this study.
CHAPTER FIVE

LITERATURE REVIEW PART IV:

EXPLORING FEATURES POPULAR READABILITY FORMULAE DO NOT MEASURE

Introduction

The quantitative instruments described in Chapters Three and Four can provide the quantitative data needed to determine which of the anthologies on the Taiwan Market are appropriate for the students’ quantitatively assessed reading levels. They cannot, however, provide the other sorts of information needed for the center's staff to conduct the comprehensive text evaluation process it wishes to undertake: Insight into what other features beyond those measured by the Lexile Readability Formula may affect the students' reading experience. To explore these features, other measures must be employed. This chapter reviews literature about two types of measures which can do so: (1) Qualitative Measures and (2) Hybrid Measures: Readability Formulae and Qualitative Measures. It also explains why the latter was chosen for use in this study.

Qualitative Measures

Attempts to measure features beyond those measured by popular formulae, like readability formulae themselves, have a long history. Efforts in this area have produced a method where a rater compares new passages against exemplary passages to determine the new passages readability. Work in this
area has been completed with material for younger learners (Carver, 1975; Singer, 1975).

A similar direction has taken by the proponents of leveling systems often used for elementary grades. These systems (see Clay, 1991; Fountas & Pinnell, 1999, 2005; Gunning, 1998; Weaver, 2000) offer a method to order books which uses benchmark exemplars and the consideration of “subjective factors of judgment” that are “usually absent from most readability formulas” (Fry, 2002, p. 289) to “assign holistic difficulty labels, usually a letter” (Mesmer, 2008, p. 67).

Some of the many factors these systems consider are:

1. Content: Is it appropriate or familiar to that age group?
2. Illustrations: Do pictures tell the story or explain vocabulary?
3. Length: Are there two words on a page [How many words are on a page]? How many pages in the book?
4. Curriculum: How are levels related to teaching methods or framework?
5. Language structure: Does language include repetitious words or phrases, flow?
6. Judgment: Are the readers' background and experience appropriate to understand the text?
7. Format: How will the type size, spacing, and page layout affect readers' understanding? (Fry, 2002, pp. 287-289)

A limited amount of work in this area has also been completed with adults (Chall, 1947; Chall, et al, 1996; Gray & Leary, 1935; Ojemann, 1934).
Ojemann’s 1934 work *The Difficulty of Adult Materials* is an early example of works that have attempted to account for other features with adults. Although Ojemann (as mentioned in Chapter Three) was only able to obtain a correlation of semantic and syntactic features in his work, he did acknowledge the need to consider qualitatively assessable factors, specifically three: “the concreteness or abstractness of the relations discussed as distinguished from individual words used, obscurity in expression, and incoherence in expression” (p. 113). Along this vein, he provided a set of 16 passages and arranged them in such a way that the user could “judge the difficulty of new materials by comparing the latter with the selection it most nearly resembles in quantitative and qualitative analysis” (p. 115).

Concurring with the value of qualitative investigation, Gray and Leary, in their 1935 work *What Makes a Book Readable*, also (as mentioned in Chapter Three) offered sample texts and arranged them in four levels of difficulty (i.e., A-D). The purpose of these texts, the authors explained, is that the writer can read the exemplary materials at the level of his intended audience to gain a concrete notion of the degree of simplicity represented at Area A. When he has caught the ‘feel’ of very easy reading, he can then begin to write, pausing occasionally to check his work against desired standards and to make certain that he is imposing no structural difficulties on the beginning reader. (p. 249)

Thirteen years later, Chall (1947) also drew on the qualitative theme for her master’s thesis. In her thesis, Chall offered a set of 30 health education
passages for adults with reading abilities from grade three to 15.9 on the topic of tuberculosis. She did this so authors could use the passages "to get a feeling" for "the difficulty or style of writing that could be understood by people with different levels of reading ability as the authors could read the paragraphs and try to write in a similar style" (p. 9).

In 1996, Chall returned to the subject of qualitative analysis and (with four graduate students) published *Qualitative Assessment of Text Difficulty* (Chall et al., 1996). This text includes a set of scales (and additional characteristics) for use in grades one through graduate school in six fields: (a) literature, (b) popular fiction, (c) life sciences, (d) physical sciences, (e) narrative social sciences, and (f) expository social studies. To make a match with Chall's method, one should select 100 word samples, make an initial match to one of the exemplary scales based on total impression, and then refine it based on four features: (a) vocabulary difficulty, (b) sentence length and complexity, (c) conceptual difficulty, and (d) idea density and difficulty.

**Hybrid Measures: Readability Formulae and Qualitative Measures**

Instead of using only quantitative or qualitative methods, others have taken a third approach, a hybrid one that considers other factors by combining the use of readability formulae with holistic approaches. Zakaluk in 1985, and later with Samuels (1988), for example, suggested two categories: (a) outside the head factors (i.e., readability as measured by readability formulae and adjunct comprehension aids) and (b) inside the head ones (i.e., word recognition skills
and knowledge of topic). Drawing on these two categories, Zakaluk suggested the use of a nomograph, a graph which visually sets the two factors alongside one another in a way that they can be plotted to find the predicted level of comprehension as indicated on a center line.

Chall and Dale (1995) also offered a hybrid approach. Reviewing work with cognitive and organizational factors (Kemper, 1983; Kintsch & Miller, 1981; Meyer, 1982) and terming these The New Readability, they presented their 1995 readability formula (i.e., The Dale-Chall New Readability Formula) and then offered two checklists to be used in conjunction with it. To conduct an analysis of a text using Chall-Dale’s method, the user is to first apply the formula and then (using the checklists) “make an educated guess” as to whether the potential text is “more difficult, less difficult, or about the same as indicated by the formula” (p. 10). The first checklist is used for “judging reader characteristics” (p. 10), to include whether the readers are likely to be interested in the topic and the way it is presented. The second is used for “judging cognitive-structural aspects of text” (p. 11): (a) prior knowledge expected of the reader, (b) vocabulary and concepts, (c) overall organization, and (d) the use of headings, questions, illustrations, and physical features of the text.

Others have also supported hybrid approaches (Fry, 2002; Meyer, 2003; Weaver, 2000). The reason, Weaver (2000) explains, is that “[u]sing readability formulas and subjective criteria [together] reduces the risk of presenting students a seemingly appropriate book but one they cannot read due to format, language,
structure, or content” (p. 33). Some have been even more optimistic. Chall (1996), for example, predicted that such approaches will be the future of readability.

The popular readability formula chosen for this study (i.e., the Lexile Readability Formula) has received similar attention. Gunning (2003), for example, suggested such a hybrid approach is prudent, for “although teachers might use Lexiles . . . , they need to go beyond the numbers . . . [and] complement the objective data yielded by the formula with subjective judgment” (pp. 182-186). Metametrics, the company behind the Lexile Readability Formula, also concurs that such an approach has merit:

A Lexile measure is based on two strong predictors of how difficult a text is to comprehend: word frequency and sentence length. Many other factors affect the relationship between a reader and a book. . . . The Lexile measure is a good starting point in the book-selection process, but these other factors should be considered when making a decision about which book to choose. (Lexile, 2010)

Considering the merits of the hybrid approach, one has been employed in this study (see Chapter Seven of this dissertation for a full discussion).

**Chapter Summary**

This chapter discussed the need to explore other features beyond those measured by readability formulae which may affect the students’ reading experience and reviewed literature about two ways that have been used to explore these: (a) qualitative measures and (b) a hybrid application of quantitative and qualitative measures. It also explained why the latter was used
in this study. The next chapter, Chapter Six, reviews studies that have used quantitative, qualitative, and hybrid measures to address the appropriacy of texts for use with (a) students in NES contexts and (b) with ELLs in Taiwan. It also notes that none of these studies have addressed the research questions presented in this study.
Introduction

Chapter Six provides a review of studies that have addressed the question of the appropriacy of texts for student populations. This is presented in two sections (1) Research in Native English Speaker Contexts and (2) Research Done with ELLs in Taiwan. The chapter then outlines work that still needs to be done (and will be done in this study) in a section entitled The Research Gap that Needs to Be Addressed.

Research in Native English Speaker Contexts

Studies that have investigated the appropriacy of texts for student populations in NS contexts have been done at elementary, secondary, postsecondary, and graduate institutions with learners and their texts across the curriculum. The largest amount of studies at the postsecondary level (the focus population of this study) has been done with texts in the sciences, followed by an abundant, yet smaller, number done in the content areas. English composition subject area texts, however, have received markedly little attention (see Block, Blair, & Outlaw, 1976; Gibson, 1971; Hagstrom, 1971; McClellan, 1970; McClellan & McClellan, 1973; Osbourne & Barnes, 1979; Pride, 1987), with anthologies (the focus of this study) receiving even less.

The few studies that have investigated the appropriacy of anthologies of paragraphs and essays for postsecondary populations have done so using a
three stage process: (a) a quantitative assessment of the texts’ readability level(s) via a readability formula, (b) an examination of the students’ reading levels with a reading level test, and (c) a comparison of the two. Cline (1971) is an early example. Using the Nelson-Denny Reading Test to examine student reading levels and the Dale-Chall Formula$^{22}$ to examine the readability of the texts, Cline examined 279 students’ reading levels (80% of the freshman class) and the readability of 17 texts the students were assigned to read, one of which was an anthology. Cline reported a mean U.S. grade reading level of 12.6 for the student population (yet did not report information about the range) and claimed that 52% of the students could not access the texts. Examining the readability of the anthology specifically, he reported a mean grade level of 10.6 (but did not report information about the individual samples). Cline also reported that, while the anthology provided the least problems for readers of the 17 texts examined, 16% of the students still could not access its mean readability level.

Three such studies were also conducted in 1978 (Auvenshine, 1978; Fox, 1978; Morrison, 1978). Auvenshine (1978), using the Nelson-Denny Reading Test and the Dale-Chall Formula, conducted the first by examining 334 college students’ reading levels and the readability of 33 textbooks (i.e., 9 history, 18 science, and 6 English subject texts, one of which was an anthology). She reported a mean U.S. grade reading level of 10.6 for the student population and found that 30 of the 33 texts were beyond the mean reading ability of the population. She also reported data for individual samples within each text. With
regards to the anthology, she took 48 samples, 27 of which she reported were above the abilities of the students.

The second study in 1978 was completed by Fox. Using the Nelson-Denny Test and the Flesch and SMOG Formulae, Fox examined the reading levels of 317 college freshman and 25 of their texts, one of which was an anthology. Fox reported both a mean and individual grouping for the students as well as the texts. She reported that (a) 28.4% of the students read above grade 13, (b) 20.5% read at grade 13, and (c) 51.1% read below grade 13. Comparing these data with the readability of the texts, she reported that 96% of the texts were above the mean level of the students as measured by the Flesch Formula and 72% as measured by the SMOG Formula. Looking at the anthology, she reported a mean 13 grade level, which was above 15.1% of the population’s reading levels.

The last study in 1978 was conducted by Morrison. Morrison used the ETS Cooperative English test with 222 freshmen and the Dale-Chall Formula with five English subject texts (two of which were anthologies). Examining the students by groups specific to gender, age, grade point average, and academic success in their English courses, Morrison found that about half of the students’ reading abilities were at or above the texts’ levels, which he reported as falling between the 5th and 12th grade levels. With regards to the two anthologies, he reported their samples to be between the 9th and 14th grade levels and that various numbers of each group could and could not access the texts. With
relation to gender, for example, he reported 28% of the females and 18% of the males’ readability levels were below the levels of the anthologies.

Five years later, Dunn (1983), working with 1,000 freshmen, examined 25 texts: 13 mathematics and 12 English texts (four of which were anthologies). Using the Nelson-Denny Reading Test to assess student reading levels and six formulae to evaluate the levels of the texts (i.e., Dale-Chall, Flesch, Fry, Gunning-Fog, Raygor, Spache), Dunn found a mean student U.S. grade reading level of 13.2 and varying ranges of text readability levels as she applied each formula. Each of the six formulae she used provided different results depending on the algorithm each used. As results provided by formulae are, as in Dunn’s study, often inconsistent with one another and require additional correlations for closer analysis, she drew conclusions by examining the raw uncorrelated results from each formula and then compared them to the student data to provide estimated conclusions. Drawing on these data, she reported that all of the students could access the first anthology, but 20% of the students could not access the second and third, and none could access the fourth.

The most recent study was conducted by Williamson (2006). Williamson used terminal high school and freshman reading levels and the Lexile Readability Formula with 250 texts (i.e., 100 from high school curriculum and 150 from postsecondary curricula, one of which was an anthology). Comparing the two sets of data, he reported a “gap between the reading ability of high school students and the reading requirements of postsecondary studies” (p. 12). No specific data was reported concerning the anthology.
Similar to the scarcity of studies that have used readability formulae to focus on the mis-match of anthologies and the students who use them, work done to explore what other factors influence students’ reading experiences with these texts is also limited. One related work is a study completed by O'Hear, Ramsey, and Baden (1992). The authors used the Flesch Reading Ease Formula to determine the readability of the texts and 311 questionnaires to explore the way students themselves rate three first year college writing textbooks (two of which were anthologies) with regards to reading ease and interest. They then compared the results of the formula and the students’ ratings of the texts and reported that students found the texts to be both in different clines of difficulty and easier than the formula indicated.

Research With English Language Learners in Taiwan

While investigations of anthologies with NES postsecondary populations is markedly limited, such work with the target population of this study (i.e., Taiwanese ELLs at the postsecondary level) was noticeably absent during the search for literature conducted in this study. This is disturbing, especially since, as Ko (2009) reports, Taiwanese college English teachers cite appropriate reading level and other factors as important criteria used in the selection of textbooks. This is also troublesome because studies done with postsecondary ELL populations in Taiwan and other sorts of texts have repeatedly shown that postsecondary level Taiwanese ELL students display both a reading level below that which is needed for the college level study of English texts (e.g., anthologies)
(Her, 1994, Lin, 2003, Tan, 2009) and that they have trouble with other factors beyond those measured by readability formulae (Chang, 2003; Huang, 2004).

One such study which points to the possibility of a quantitative gap is Lin’s 2003 work. Working with 292 freshman students and 10 management texts, Lin investigated the quantitative gap between the existing vocabulary levels of the students and the vocabulary levels of their textbooks. To do this, citing Hirsch and Nations’ (1992) recommendation that the reading level needed to understand academic texts is “2,000 high-frequency words plus 570 academic words and about 1,000 technical or low-frequency words” (p. 27), she compared the vocabulary in the texts with the vocabulary knowledge of the students. She conducted a word frequency analysis of the texts via several word lists and a corpus of words from the texts and then designed a vocabulary test on those words to determine the students’ vocabulary levels. Examining the results, she found that only 19% of the students could reach the 2,000 word level and 37% of the words in the texts were above the 2,000 word frequency level. She thus concluded that there was indeed a gap as “neither did the participants reach 2,000 general-word level, nor did they possess general academic words which appear frequently in academic texts” (p. iv).

Tan (2009) found similar results. Working with 87 undergraduate (i.e., freshman and sophomore) engineering and management students, she investigated whether the students had a sufficient vocabulary size to engage their college level materials. Again using Hirsch and Nation’s recommendation that students know 2,000 high frequency words, she administered a vocabulary
level test. She reported that the students demonstrated a mean 600 word vocabulary level, much less than needed to read the material expected of them.

Her (1994) looked at the question of text appropriateness in a different way, qualitatively. Her conducted case studies with five Taiwanese students who were studying in a graduate program at a U.S. university. She investigated the students’ reading abilities through an application of one type of an IRI, a miscue reading inventory (i.e., Advanced Reading Inventory: Grades Seven through Twelve) and reported that all of the students read below college freshman level. As a result, she questioned the students’ ability to handle the reading demands of the texts at the program they were enrolled in.

Chang (2003) also looked at the question of text appropriateness qualitatively. Chang questioned whether the Taiwanese undergraduate students in her study had the reading level and control of other intervening factors necessary for the successful study of college level texts in their literature courses. To answer this question, she focused on English majors in two classes (i.e., one junior, n = 39; one senior, n = 45), each at a different university in Taiwan, and a broadly described array of British and American literary texts. She then used a variety of student and teacher judgment based instruments to determine the appropriacy of the texts for the student populations (i.e., participant observation, a questionnaire followed by formal semi-structured interviews, and document analysis). Citing occurrences where “texts were so beyond comprehension, real reading could not occur” (p. 41), she concluded that the student population in her study lacked the “target language proficiency and target cultural understanding,
and thus the ability to understand the assigned literary texts” (p. viii). She also noted four factors which caused the students difficulty: (a) lack of cultural understanding, (b) difficulties with genre, (c) lack of interest, and (d) the amount of reading associated with burdensome course loads i.e., taking two literature survey courses at the same time).

A year later, Huang (2004) went further and looked at the question both quantitatively and qualitatively in a hybrid fashion. Huang investigated the content and vocabulary knowledge (and student interest related to content knowledge) of 246 Taiwanese college juniors and the readability level of one English language teaching text. To do this, she used the Fry Readability Graph to determine the readability of the text and then four instruments to explore student comprehension: (a) a vocabulary level test, (b) a recall protocol, (c) an inventory of content knowledge, and (d) a Likert questionnaire about student interest. Examining the results, she concluded that the text was at the 5th U.S. grade reading level and that the students demonstrated only a mean 36% comprehension of the text. She also reported the influences of other factors on student comprehension in order of significance: (a) vocabulary size, (b) content knowledge, and (c) interest related to content knowledge.

**The Research Gap That Needs to Be Addressed**

Although studies done in NES and ELL contexts point to the difficulties Taiwanese postsecondary ELL students could have with the level of anthologies, none of them have (a) provided a complete survey of all of the anthologies available in a geographic market (e.g., Taiwan), (b), none have done this while
relating the readability of those texts with the abilities of an ELL population\textsuperscript{23}, and (c) none have explored what other features beyond those measured by the Lexile Readability Formula affect the reading experiences of this population with such texts. This study is intended to fill that gap.

**Chapter Summary**

This chapter reviewed studies that have used quantitative, qualitative, and hybrid measures to address the appropriacy of texts for use with (a) students in NES contexts and (b) with ELLs in Taiwan. It also noted that none of these studies have addressed the research questions presented in this study. Drawing on the three kinds of information required for the comprehensive text selection process described in Chapter One and the research gap presented in this chapter, the next chapter, Chapter Seven, presents the three research questions for this study. It also outlines the sequential mixed method research design that was employed to answer these questions.
CHAPTER SEVEN

METHODS

Introduction

Chapter Seven presents five sections relevant to conducting the present study. The first, Research Questions, outlines the three research questions for the study. The second, Mixed Methods Research Design, describes the sequential mixed-methods research design used to answer these questions. And the remaining three sections describe the steps employed in this design, one for each research question: (1) Determining the Number of Anthologies Available on the Taiwan Market, (2) Determining the Accessibility of the Anthologies to the Reading Levels of the Selected Population, and (3) Exploring What Features Beyond Those Measured by the Lexile Readability Formula Affect the Readability of the Anthologies.

Research Questions

This study was designed to answer the following questions:

Q1. What anthologies are available on the Taiwan Market?

Q2. Which anthologies available on the Taiwan Market contain writing exemplars that are accessible to the reading levels of the selected population? Three subquestions are related to this question:
Q2a. Which anthologies available on the Taiwan Market are completely accessible to the selected population in that all of their writing exemplars are at or below the reading levels of the selected population?

Q2b. Which anthologies available on the Taiwan Market are completely inaccessible to the selected population in that all of their writing exemplars are above the reading levels of the selected population?

Q2c. Which portions of the anthologies available on the Taiwan Market are accessible to the students who read in each of the Lexile zones reported by the SRI (e.g., 600L-699L)?

Q3. What features related to readability beyond the two measured by the Lexile Readability Formula (i.e., vocabulary and sentence length) do the participants feel affect the readability of the exemplars in the anthologies? Four subquestions are related to this question:

Q3a. What features related to readability measured by the Lexile Readability Formula (i.e., vocabulary and sentence length) do the participants feel affect the readability of the exemplars in the anthologies?
Q3b. What features related to readability not measured by the Lexile Readability Formula (i.e., vocabulary and sentence length) do the participants feel affect the readability of the exemplars in the anthologies?

Q3c. Which of the features related to readability do the participants feel are primary features (i.e., an isolated feature)?

Q3d. Which of the features related to readability do the participants feel are conjoined features (i.e., one feature is conjoined with--influenced by--another feature)?

The Mixed Methods Research Design

To collect and analyze the data needed to answer the three research questions, a mixed methods approach was employed, the “class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study” (Johnson & Onwuegbuzie, 2004, p. 17). To order this mix, a three-step adaption of Creswell’s (2002) sequential mixed methods research design was created. This is illustrated in Figure 1.
Step 1

**Determining Text Availability**
An examination of international publishers’ local distributors’ catalogues, records, and databases to determine how many anthologies of paragraphs and essays are available on the Taiwan Market.

Step 2

**Quantitative**
A measurement of the readability of the exemplars in the identified anthologies using the Lexile Readability Formula.

**Quantitative**
An assessment of the reading abilities of the students who potentially visit the writing enter using the SRI.

**Quantitative**
A comparison of the texts’ and students’ Lexile measures using frequency and percentage tables.

Step 3

**Qualitative**
An exploration of which features beyond those measured by the Lexile Readability Formula the students perceive as contributing to text difficulty when reading exemplars taken from the anthologies of paragraphs and essays via a cline-questionnaire procedure.

**Qualitative**
A further exploration of the results of the cline-questionnaire procedure via semi-structured retrospective interviews to add scope and breadth to the findings.

*Figure 1.* Sequential mixed methods research design.

Following the three-step sequential mixed methods design illustrated in Figure 1, three sections and their relevant subsections were created: (1) Determining the Number of Anthologies Available on the Taiwan Market, (2) Determining the Accessibility of the Anthologies to the Quantitative Reading Levels of the Selected Population, and (3) Exploring What Features Beyond
Those Measured by the Lexile Readability Formula Affect the Readability of the Anthologies.

**Determining the Number of Anthologies Available on the Taiwan Market**

This step, the first step of the study, addressed the first research question: What anthologies are available on the Taiwan Market? To do this, it provided a single stage investigation of international publishers' local distributors' catalogues, records, and databases.

**Description of the Setting**

This step of the study was conducted in international publishers' local distributors’ offices in Taipei, Taiwan.

**The Procedure Used to Determine the Number of Anthologies Available on the Taiwan Market**

To create the list of anthologies available on the Taiwan Market (as of August 2010, the time of the data collection for this part of the study) and to obtain copies of each, international publishers’ distributors were visited and their catalogues, records, and databases were inspected.

**Determining the Accessibility of the Anthologies to the Quantitative Reading Levels of the Selected Population**

This step, the second step of the study, quantitatively addressed research question two: Which anthologies available on the Taiwan Market contain writing exemplars that are accessible to the reading levels of the selected population (and its subquestions)? This step has three stages (each with its own subheadings): (a) Determining the Readability of the Available Anthologies (a
quantitative assessment of the texts’ readability levels using the Lexile Readability Formula), (b) Determining the Reading Levels of the Participants (an examination of the students’ reading levels using the SRI), and (c) Comparing the Readability of the Anthologies and the Students’ Reading Levels (a comparison of the data produced in stages one and two using frequency and percentage tables).

**Determining the Readability of the Available Anthologies**

The purpose of this stage of the study was to determine the readability levels of the writing exemplars in each anthology.

**Description of the setting.** This stage of the study was conducted in offices at Mountain View University of Science and Technology in Taipei, Taiwan.

**The procedure used to determine the readability of the available anthologies.** Using the Lexile Readability Formula, the readability of each writing exemplar was determined using a non-fee based computerized version of the Lexile Analyzer available to researchers24.

The Lexile Readability Formula was chosen from among the available formulae because it (as mentioned in Chapter Three) best meets the particulars of this study:

1. It provides the opportunity to examine both small and large samples of texts.
2. It provides reports for a wide range of reading levels (primary to post graduate) which accommodates all possible participants’ potential reading levels.
3. It provides a point range, which is an appropriate measure for ELLs in Taiwan for whom U.S. grade levels are not necessarily indicative of their language ability.

Determining the Reading Levels of the Participants

The purpose of this stage of the study was to determine the selected population’s reading levels.

Description of the setting. This stage of the study was conducted in the students’ regular classrooms at Mountain View University of Science and Technology in Taipei, Taiwan from June 1 to June 22, 2010.

The university offers its 9,000 students undergraduate and graduate degrees in 16 majors, to include a bachelor of arts in Applied English (the degree the population of this study is seeking).

Description of the participants. The participants for this stage of the study were students enrolled in five of the seven sections of sophomore composition at the university, 91 of the English Department’s 135 sophomores. The sample was chosen for three reasons: (a) The sophomore class is one of two groups who take composition courses at the university (i.e., freshman and sophomore English majors), (b) the sophomore class makes up the majority of visitors to the writing center, and (c) the students were enrolled in the sections of composition the researcher had access to.

The procedure for determining the reading levels of the participants.

To determine the reading levels of the students, a bilingual research assistant and I (hereafter referred to as we) administered the SRI during the
students’ normal class periods. Together, we oversaw the administration of the SRI exams and confirmed the logging of the results.

The SRI was chosen to determine the reading levels of the population (as mentioned in Chapter Four) for the following reasons:

1. It is a standardized assessment tool.
2. It is (for the target population) free from widespread problems related to negative washback.
3. It provides data that can be paired with that produced by the Lexile Readability Formula.
4. It provides data only about reading levels (instead of additional subjects not under investigation).
5. It offers data about a wide range of reading levels.
6. It is available in CBT adaptive format.
7. It is the most cost efficient exam available for the purposes of this study.

**Comparing the Readability of the Anthologies and the Students’ Reading Levels**

The purpose of this stage of the study was to compare the data collected about the readability levels of the anthologies and the reading levels of the participants in order to answer the second research question: Which anthologies available on the Taiwan Market contain writing exemplars that are accessible to the reading levels of the selected population?
Description of the setting. This stage of the study was conducted in offices at Mountain View University of Science and Technology in Taipei, Taiwan.

The procedure for comparing the readability levels of the anthologies and the reading levels of the participants. To compare the readability levels of the exemplars in the texts with the students’ reading levels, the students’ Lexile measures were first separated into a BR^{25} zone and 12 additional 100L zones from 0 to the upper end of the zone of the students’ Lexile range (1199L) (see Chapter Seven of this dissertation for a full discussion). Second, the exemplars from each text were similarly grouped into 100L zones. And third, both sets of data were compared using frequency and percentage tables. Frequency and percentage tables were chosen to analyze data because they can present the data in a way needed to answer the second research question of this study.

Exploring What Features Beyond Those Measured by the Lexile Readability Formula Affect the Readability of the Anthologies

The purpose of this step, the third and final step of the study, was to address research question three: What features related to readability beyond those measured by the Lexile Readability Formula do the participants feel affect the readability of the exemplars in the anthologies? To do this, an untimed two stage process was conducted: (a) a quantitative cline-questionnaire procedure and (b) a qualitative interview.

The first stage, the cline-questionnaire procedure, had two untimed phases: (a) a cline and (b) a questionnaire. In the cline phase, the students read five exemplars taken from the anthologies and put them in order of difficulty. This
phase was provided so that the students would (after completing the cline) be able to reflect on this activity while completing a closed-response questionnaire. The next phase, the closed-response questionnaire, was used to help the informants reflect on why they created the cline the way they did and relate it in such a way that would provide insight into what other features beyond those measured by the Lexile Readability Formula they feel influence their perceptions of reading difficulty when reading exemplars from the texts.

The second stage, the interview, utilized semi-structured retrospective interviews to elaborate on the findings of the quantitative analysis and add scope and breadth to the results (Creswell, 1994).

**Description of the Setting**

The setting for the research conducted for each of the stages in this step of the study (i.e., the cline-questionnaire procedure and the interview) was the same: The group study rooms in the library at Mountain View University of Science and Technology in Taipei, Taiwan. And both stages were completed over a one week period, from December 7 to December 14, 2010.

**Description of the Participants**

In keeping with the nature of qualitative theory, the informants for this step of the study (both stages) were purposively selected to best help the researcher understand the problem (Creswell, 2002). Fourteen informants were originally selected. This was done in accordance with Kvale’s (1996) suggestion that the number of informants tends to be 15 ± 10 in interview studies.
To select the informants, a smaller cluster sample was identified from the larger sample that had completed the SRI exam during the quantitative phase of this study. The informants for the cluster sample were identified because they received SRI scores at the top of their class, which allowed them to examine a wide range of exemplars to assist the researcher to holistically explore the question focus in this part of the study (Merriam, 1991).

After the 14 informants were identified, they were asked by e-mail if they would be willing to participate in a paid (i.e., 1,000 New Taiwan Dollars--32 U.S. Dollars--per participant), follow-up, post-course interview. Conducting paid interviews was chosen to help ensure the informants would perform to the best of their ability. Twelve informants assented and were given and completed an Institutional Review Board for the Protection of Human Subjects consent form (Appendix B). They were also provided with pseudonyms to protect their anonymity.

The informants (as shown in Table 9) consisted of seven females with a mean age of 20.14 years and five males with a mean age of 20.8 years. The makeup of the students was indicated by the students’ Lexile measures which identified them as appropriate participants rather than any purposeful intent of the sampling procedure (e.g., ethnicity, gender, age).
Table 9

Characteristics of the Respondents

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Ethnicity</th>
<th>Gender</th>
<th>Age</th>
<th>Lexile Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kala</td>
<td>Taiwanese</td>
<td>Female</td>
<td>20</td>
<td>864L</td>
</tr>
<tr>
<td>Jacob</td>
<td>Taiwanese</td>
<td>Male</td>
<td>21</td>
<td>869L</td>
</tr>
<tr>
<td>Eve</td>
<td>Taiwanese</td>
<td>Female</td>
<td>20</td>
<td>861L</td>
</tr>
<tr>
<td>Marsha</td>
<td>Taiwanese</td>
<td>Female</td>
<td>20</td>
<td>877L</td>
</tr>
<tr>
<td>Harold</td>
<td>Taiwanese</td>
<td>Male</td>
<td>21</td>
<td>837L</td>
</tr>
<tr>
<td>Linda</td>
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<td>Female</td>
<td>20</td>
<td>892L</td>
</tr>
<tr>
<td>Ben</td>
<td>Taiwanese</td>
<td>Male</td>
<td>21</td>
<td>858L</td>
</tr>
<tr>
<td>Cara</td>
<td>Taiwanese</td>
<td>Female</td>
<td>20</td>
<td>828L</td>
</tr>
<tr>
<td>Dan</td>
<td>Taiwanese</td>
<td>Male</td>
<td>20</td>
<td>870L</td>
</tr>
<tr>
<td>Nelson</td>
<td>Taiwanese</td>
<td>Male</td>
<td>21</td>
<td>869L</td>
</tr>
<tr>
<td>Olivia</td>
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<td>926L</td>
</tr>
<tr>
<td>Annie</td>
<td>Taiwanese</td>
<td>Female</td>
<td>20</td>
<td>928L</td>
</tr>
</tbody>
</table>

Cline-questionnaire Procedure

This stage of the study, the cline-questionnaire procedure, had two untimed phases: (a) a cline and (b) a questionnaire. The purpose of the cline phase was to have the students read five exemplars taken from the anthologies and put them in order of difficulty so the students would be able to reflect on this activity while completing a closed-response questionnaire. For the cline phase, the exemplars were presented to the informants in random order and criteria for ranking was withheld in order to ensure the informants engaged in the type of decision making process “normally used when making such judgments” (Chall et al., 1996, p. 77). The next phase was the closed-response questionnaire. This phase was used to help the informants reflect on why they created the cline the
way they did and relate it in such a way that would provide insight into what other factors beyond those measured by the Lexile Readability Formula they feel influence their perceptions of reading difficulty when reading exemplars from taken from anthologies. For both phases, the cline and the questionnaire, the informants were asked to turn off their cell phones to avoid distractions, and each informant was given a quiet area (visible to the researchers) to work by him/herself. Once the informants had completed the procedure, the results of each phase were ranked in frequency and percentage tables.

Description of the Exemplars

Five exemplars were purposively chosen for the cline phase of the study. These are listed in Table 10 and presented in their entirety in Appendix C.

Table 10

<table>
<thead>
<tr>
<th>Exemplars</th>
<th>Lexile Measures</th>
</tr>
</thead>
</table>

The exemplars listed in Table 10 were purposively chosen to be below, within, and slightly above the informants' Lexile range. Because of the low range of the
informant’s Lexile measures (i.e., 828L-928L) and wanting to provide enough essays to encourage the informants to thoughtfully consider their cline construction, the exemplars were chosen to be approximately 100L apart instead of a larger measure (e.g., 200L) which would make the Lexile ranking more obvious but reduce the number of exemplars available for ranking.

The exemplars were acknowledged to contain many of the features discussed in Chapter Two of this dissertation, but they were not purposively selected for this reason. This was done so as not to load the dice with regards to the expected results.

I have provided a description of each essay in the sections to help the reader follow the study.

“A Guide to Proper Hand-washing Technique.” The “A Guide to Proper Hand-washing Technique” essay is rated as the easiest of the five essays by the Lexile Readability Formula (i.e., 610L). The Lexile Readability Formula rates this essay’s vocabulary level at a mean log frequency of 3.45.

The text is presented in justified formatting with 11 point serif font (i.e., Book Antiqua). The first paragraph is set in 118 mm line lengths which are spaced with 2 point leading. The remaining paragraphs are set in 114 mm line lengths with similar leading.

The text contains a total of 513 words which are separated into 49 sentences. These sentences have a mean word length of 10.39 (range 2 to 29).

The text is separated into 11 paragraphs of varying lengths (mean 46 words; range 6 to 104).
The text is preceded by an advance organizer and a title (i.e., “A Guide to Proper Hand-washing Technique”). I do not expect the students will have trouble understanding the meaning of the title. The text is also preceded by one adjunct prequestion.

The editor describes the essay’s organization as a process essay, one that outlines a “method of doing a task or a job, usually in orderly steps, to achieve a desired result” (p. 163); in this case, describing how one is to wash one’s hands.

The text’s structure is well organized. It has a short introduction with a clear thesis statement. This is followed by a series of 10 paragraphs, each of which outlines one of the steps one is to complete when washing one’s hands. The text also guides the reader with a variety of signal words (i.e., first, next, etc.).

The essay uses a variety of punctuation: periods, commas, question marks, exclamation points, colons, semicolons, parantheses, hypens, and dashes.

At the end of the text there is a series of post adjunct questions.

Subjectively, I assume this text will require little background knowledge on the students’ part, as it would seem that the idea of washing one’s hands is a commonplace procedure. Along this line, I also expect the students to be somewhat interested in the topic, both because of the background knowledge they have about the subject and the personally engaging subject matter.
I do not expect that attempting to infer vocabulary or concepts from the surrounding context will be an issue. This is because it does not appear that there are any words that would be unfamiliar to the students in the text and would thus need to be deduced from context.

“Salvation.” The “Salvation” essay is rated as the second most difficult of the five essays by the Lexile Readability Formula (i.e., 740L). The Lexile Readability Formula rates this essay’s vocabulary level at a mean log frequency of 3.72.

The text is presented in justified formatting with 11 point serif font (Book Antiqua). The text is set in 114 mm line lengths which are spaced with 2 point leading.

The text contains a total of 887 words which are separated into 62 sentences. These sentences have a mean word length of 14.35 (range 3 to 48).

The text is separated into 15 paragraphs of varying lengths (mean 46 words; range 4 to 222 words).

The text is preceded by an advance organizer and a one word title, “Salvation.” I expect the students may have trouble understanding the meaning of the title.

The editor of the anthology describes the organization of the essay as a narrative which offers an autobiographical account of the author’s childhood experience at a church revival meeting.

The text’s structure is well organized. It contains a standard complete story grammar which is borne out by the introduction, body paragraphs, and
conclusion. It also uses a variety of signal words (i.e., now, still, suddenly, then, etc.). The essay additionally contains a variety of punctuation: periods, question marks, exclamation points, colons, hyphens, and dashes. It does not contain any parentheses or semicolons.

At the end of the text there is a series of post adjunct questions.

Subjectively, I expect that students who are familiar with Christian revival meetings may be interested in the text and that those who are not might be interested in learning more, as many Taiwanese are Christians. With regards to background knowledge, the theme of a church revival meeting may be unfamiliar to those who are not actively engaged in church activities. Related to this, I expect there may be several words, phrases, and concepts some students who do not have background knowledge in Christianity may not be able to make out from the surrounding context (i.e., Holy Ghost, little lamb, mourners’ bench, revival, sisters and deacons, temple). I also expect there are words, phrases, and concepts students with and without a Christian background will have trouble inferring from the surrounding context (i.e., leaps and bounds, punctuated, waves of rejoicing).

“A View From the Bridge.” The “A View From the Bridge” essay is rated as the third most difficult of the five essays by the Lexile Readability Formula (i.e., 810L). The Lexile Readability Formula rates this essay’s vocabulary level at a mean log frequency of 3.65.
The text is presented in justified formatting with 11 point serif font (i.e., Horley Old Style). The sentences are set in 118 mm line lengths which are spaced with 2 point leading.

The text contains a total of 1,043 words which are separated into 71 sentences. These sentences have a mean word length of 18.9 (range 2 to 93).

The text is separated into 48 paragraphs of varying lengths (mean 22.93 words; range 2 to 93), many of which contain conversational dialogue.

The text is preceded by an advance organizer and a title, “A View From the Bridge.” I do not expect the students will have trouble understanding the meaning of the title.

The editor of the anthology describes the organization of the essay as a descriptive essay, a “mode of writing that appeals most directly to the senses by showing or telling us what something looks like, or how it sounds, smells, feels, or tastes” (p. 21). The author is careful to note that the essay also contains elements of narration.

The essay is about a jogger who comes across a blind boy who is attempting to land a fish. The jogger helps the boy bring in the fish, and the boy in turn helps the jogger see things in a new way.

The text structure is well organized with a standard complete story grammar which is borne out by the introduction, body paragraphs, and conclusion. It also guides the reader with a variety of signal words (i.e., as, by now, then, when, etc.).
The essay uses a variety of punctuation: periods, exclamation marks, commas, and ellipsis. The text does not contain any semicolons, colons, parentheses, or dashes.

At the end of the text there is a series of post adjunct questions.

Subjectively, I assume the students will find the text to be interesting. This is because I anticipate many of the students will be familiar with the idea of an adult helping a child. I also anticipate many students will be familiar with the idea of jogging and what interesting things one might see while jogging. I additionally expect, as Taiwan is an island, that some, though not all, of the students will be familiar with fishing, as fishing is a common pastime despite Taipei being a highly modern city.

With regards to the students being able to infer unfamiliar words and ideas from the context, the text contains several words and phrases which may be unfamiliar to many students; some about jogging (i.e., crest, incline, pace, stride), some about fishing (i.e., armor, baited hook, bill, canal, crank, drag setting, gold braid, leader, line, made its play for the pilings, peak, rod tip, sailfish, silver missile, slack), and others about American currency (i.e., quarter). Some of the fishing related words, though not all, seem to be surrounded by other words that could supply context clues. If the students do not know the words in the surrounding context, however, these clues may be of little help. The word related to currency (i.e., quarter), for example, appears to be surrounded by little helpful context.
“Freedom and Security.” The “Freedom and Security” essay is rated as the fourth most difficult of the five essays by the Lexile Readability Formula (910L). The Lexile Readability Formula rates this essay’s vocabulary level at a mean log frequency of 3.56.

The text is presented in justified formatting with 10 point serif font (i.e., Garamond). The sentences are set in 112 mm line lengths which are spaced with 2 point leading.

The text contains a total of 448 words which are separated into 22 sentences. These sentences have a mean word length of 20.36 (range 6 to 40).

The text is separated into 10 paragraphs of varying lengths (mean 44.8 words; range 28 to 76 words).

The text is preceded by an advance organizer and a title, “Freedom and Security.” I expect the students may have trouble understanding the meaning of the title.

The editor of the anthology has placed this essay in the argumentative/persuasion section of the anthology. He describes the essay as one that presents an argument, guiding the reader through “the process of inference of reasoning from a general truth to another general truth or a particular instance” (p. 386). This is done to illustrate that the abstract concepts of freedom and security are polarities on an axis rather than merely opposites. Examining the essay, it can be seen that the essay also incorporates comparison and contrast organization.
With regards to the text’s structure, the essay’s introduction spans several paragraphs. I expect this may make it difficult for the students to locate the essay’s thesis statement. The rest of the essay, however, is basically organized conventionally and uses a variety of signal words to guide the reader (i.e., but/therefore, if/then, of course/but, one of, etc.).

The essay uses a variety of punctuation: periods, question marks, commas, and semicolons. It does not contain exclamation points or dashes.

At the end of the text there is a series of post adjunct questions.

Subjectively, I assume that some of the students may find the text interesting: Those who are interested in political discussions. I also anticipate many of the students will, with some effort, be able to understand the abstract concepts of freedom and security, especially as they are compared with more concrete nouns (e.g., food) and less abstract adjectives (e.g., wet/dry). However, I expect the students to have some trouble with other words such as polarities. This word, for example, while it is placed in context, may cause the students trouble because the clue word that students might seek to draw an inference from axis may also be unknown to them (i.e., freedom and security are polarities along the same axis).

“Grammy Rewards.” The “Grammy Rewards” essay is rated as the most difficult of the five essays by the Lexile Readability Formula (1010L). The Lexile Readability Formula rates this essay’s vocabulary level at a mean log frequency of 3.44.
The text is presented in justified formatting with 11 point serif font (i.e., Horley Old Style).

The sentences are set in 118 mm line lengths which are spaced with 2 point leading.

The text contains a total of 647 words which are separated into 38 sentences. These sentences have a mean word length of 17.05 (range 6 to 38).

The text is separated into 13 paragraphs of varying lengths (mean 54.76 words; range 12 to 96).

The text is preceded by an advance organizer and a two word title, “Grammy Rewards.” I expect the students may have trouble understanding the meaning of the title.

The editor describes the essay’s organization as a contrast essay which uses a point by point structure to contrast two grandmothers on the basis of how they interact with their granddaughter.

The text’s structure is well organized. It has a short introduction with a clear thesis statement which is followed by a series of paragraphs, each of which is devoted to contrasting the grandmothers’ characteristics and uses one signal word to do so, other (e.g., the other grandmother).

The essay uses a variety of punctuation: periods, commas, semicolons, question marks, hyphens. It does not use exclamation points, colons, dashes, or parentheses.

At the end of the text there is a series of post adjunct questions.
Subjectively, I assume the students will find the text to be interesting, as I believe that they will find it to be personally involving. I also expect that they will have quite a lot of background knowledge about the relations between grandmothers and grandchildren. I further expect the students will be able to make out some of the words which they may find unfamiliar (e.g., *plaits* and *crown*) from the surrounding context: *One wears her hair long and braided, and pins her plaits into a crown around her head.* However, I anticipate the students may have trouble with other words and phrases, an example being *Indian Reservation* in the sentence “One grandmother plays . . . bingo at the Penobscot Indian Reservation.” The reason is that Indian reservations do not have an immediate cultural reference in the students’ setting.

**Description of the Questionnaire**

The questionnaire (as shown in Appendices D and E) was adapted from the features outlined in the Chapter Two of this dissertation, those that have been found to contribute to reading comprehension. These are reproduced in Table 11 for the reader’s convenience. One area described in Chapter Two, text length (i.e., overall length and paragraph length) was separated into two questions (a) overall text length and (b) paragraph length. This was done to allow the informants to consider each area separately. The phrase *supplementary materials* was also placed before the terms *advance organizers* and *adjunct questions*. This was done to help the informants better understand the questionnaire. The questions were also ordered and grouped in a way I felt
would help the informants best reflect on the essays. The question about vocabulary, for example, was followed by the one about vocabulary in context.

To ensure reliability of the questionnaire, the original form was translated into the students' L1 (i.e., Mandarin) using a back translation procedure. The translation (as shown in Appendix E) was then checked with a second translator for accuracy. To further ensure reliability with regards to the translation of the questionnaire, a pretest was conducted with a small number of respondents who were not part of the sample used in the study (n = 2). This was done to reveal potential ambiguities that may result due to the translation of the original questionnaire.
Table 11

**Features Queried on the Questionnaire**

1. Vocabulary: The number of unfamiliar, abstract, figurative, or technical words in a text.

2. Sentence Length: The number of words in each sentence.

3. Vocabulary in Context: How well the words or sentences surrounding unfamiliar words help the students to understand them.

4. Background Knowledge Required: How familiar the students are with the topic of a text.

5. Interest: How interested the students are in the topic presented in a text.

6. Titles: How well the title of a text describes a text.

7. Overall Length: The number of words in a text.

8. Paragraph Length: The number of words in a paragraph.

9. Logical Rhetorical Organization: How the ideas are arranged in a text to help them flow logically from one to another.

10. Structure: How well a text is organized (e.g., an introductory paragraph which contains a clear thesis statement, body paragraphs that contain a topic sentence, supporting details, and a concluding paragraph).

11. Signal Words: Whether a text contains words that indicate the flow of information (e.g., first, next, finally, etc.).

12. Punctuation: The use of periods (.), question marks (?), exclamation marks (!), commas (,), colons (:), semicolons (;), dashes/hyphens (-), ellipsis (. . .), etc.

13. Format: The physical appearance of a text (i.e., font, type size, spacing, line length).

14. Supplementary Materials 1: Advance organizers (i.e., introductions prior to a text).

15. Supplementary Materials 2: Adjunct questions-pre- and post questions (i.e., the questions before and/or after a text).

**Interview**

After creating the cline and completing the questionnaire, each informant was interviewed. Interviews were included in this study for five reasons identified by Creswell (1994) and interpreted by Morall (1998):

1. By exploring issues in more depth, for example by finding out why the subjects answered the questionnaire the way they did.
2. Interviews can investigate reasons for unexpected or unusual answers to the questionnaire items. For example, more information can be sought on why interviewees gave a 'Don't know' response, or why their answer was unusual; for example being at the opposite end of the scale from the mean.

3. Such a procedure can provide grounds for analysis when the reliability of some of the questionnaire data is in doubt.

4. Interviewees may bring a fresh perspective to the topic under investigation, one which was not investigated by the questionnaire items.

5. In summary of the points above, a second research instrument adds scope and breadth to a study. (p. 34)

Each interview began with structured questions from the questionnaire and was followed up with semi-structured prompts which later became open-ended (Nunan, 1996). The bilingual research assistant (translator) was present to assist with any language difficulties. This procedure was repeated with each of the questions to triangulate the data from the questionnaire, and an observational protocol, which included both video and audio taping, was used to record the interviews.

After the interviews were completed, the audio tapes were transcribed and the informants checked their transcripts. Once these steps were completed, the informants' responses were explored using Erlandson, Harris, Skipper, and Allen's (1993) emergent category analysis procedure:
1. Read the first unit of data and then set it aside as the first entry in the first category.

2. Read the second unit. If its content has the same tacit feel as the first unit, then add it to the same pile as the first. If not, then set it aside as the first entry in the second category.

3. Proceed in this fashion until all units have been assigned to categories. Units that neither appear to fit into any category nor justify the creation of a new category may be placed in a miscellaneous stack. This miscellaneous category will be looked back through later to determine whether data included should be reassigned to one of the other categories or assigned to a new category.

4. Develop category titles or descriptive sentences or both that distinguish each category title or descriptive sentences or both that distinguish each categories from others.

5. Start over. Begin with the first card of the first category and repeat the process that has already been followed. One must allow new categories to emerge and old categories to dissipate into empty sets. It is probable that the researcher will move cards from one category to another. This procedure can be repeated as frequently as the data warrant. (pp. 18-19)

This procedure was used to allow the “categories to follow data rather than precede them” (p. 112).
After all of the responses had been coded, “to add strength and fertility to the entire analysis,” a “second-level group debate” procedure was included (Erlandson, Harris, Skipper, & Allen, 1993, pp. 128-129). To do this, acknowledging there are “an endless variety of specific procedures [which] might be used to obtain the benefits of group analysis” (p. 128), the following procedure was used:

1. A second analyst who was competent to analyze the data was chosen to participate in the analysis.
2. The second analyst made an independent analysis so that . . . she could make an independent contribution to the group analysis.
3. A second level of debate occurred between the first and second analyst so that synthesized individual views could be added to the process. (p. 128).

After we (the bilingual research assistant, who also performed the duties of a second analyst, and I) completed the coding of the data, we, accepting that qualitative data can be quantitatively presented in table form (Miles & Huberman, 1994), organized the categories we created and presented them in tables (See Chapter Eight for a full discussion).

Protection of the participants. All parts of this study were approved by the IUP School of Graduate Students Institutional Review Board for Human Subjects and completed in accordance with committee regulations (Appendix A).
Chapter Summary

This chapter presented the three research questions for this study. It also outlined the sequential mixed method research design that was employed to answer these questions. The next chapters, Chapters Eight and Nine, present results found for the three research questions. Chapter Eight presents results for questions one and two and Chapter Nine presents results for question three.
CHAPTER EIGHT

RESULTS PART I: THE QUANTITATIVE ACCESSIBILITY OF THE AVAILABLE ANTHOLOGIES TO THE READING LEVELS OF THE SELECTED POPULATION

Introduction

This chapter provides answers for the first and second research questions (and their subquestions): (1) What anthologies are available on the Taiwan Market? and (2) Which anthologies available on the Taiwan Market contain writing exemplars that are accessible to the reading levels of the selected population? Findings related to each question are reported under the following headings: (1) Findings For Research Question One and (2) Findings For Research Question Two.

Findings For Research Question One

The purpose of step one of the study was to answer the first research question: What anthologies are available on the Taiwan Market? To answer this question, an examination of international publishers’ distributors’ catalogues, records, and databases was conducted. This investigation found that 12 anthologies are available on the local Taiwan Market. These are listed in Table 12.
Table 12

**Anthologies Available on the Taiwan Market**


**Findings For Research Question Two**

The purpose of step two of the study was to answer the second research question: Which anthologies available on the Taiwan Market contain writing exemplars that are accessible to the reading levels of the selected population? This step consisted of a three stage process: (a) a quantitative assessment of the texts’ readability levels using the Lexile Readability Formula, (b) an examination of the students’ reading levels using the SRI test, and (c) a comparison of the two using frequency and percentage tables. The results of these three stages are presented here under three subheadings: (a) The Readability of the Exemplars in
the Anthologies, (b) The Reading Levels of the Participants, and (c) A
Comparison of the Readability of the Anthologies and the Participants’ Reading
Levels.

The Readability of the Exemplars in the Available Anthologies

An examination of the 12 texts showed that they contain a total of 867
exemplars across a wide range of Lexile measures (i.e., 610L to 2210L^{26}).
Examining the frequency \( f \) of the exemplars in each of the Lexile zones and
their accompanying percentages \( \% \), it was found that all of the exemplars in
each text are above 600L with varying frequencies and percentages in each of
the zones up through the 2200L-2290L zone. These results are illustrated in
Tables 13-15.
Table 13

Readability of Anthologies 1-4

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</tbody>
</table>

Note.
The exemplars are reported in Lexile measures up to 90L in each zone (e.g., 600L-690L) because the Lexile Readability Formula reports measures in this fashion.
1. Essay Connection: Range 780L-1570L
2. Reading Plus: Range 740L-1480L
3. Patterns Plus: Range 610L-1670L
4. Norton Sampler: Range 750L-1620L
Table 14

Readability of Anthologies 5-8

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<td>106</td>
<td>50</td>
<td>47</td>
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| Lexile Measures | 600L-690L | 700L-790L | 800L-890L | 900L-990L | 1000L-1090L | 1100L-1190L | 1200L-1290L | 1300L-1390L | 1400L-1490L | 1500L-1590L | 1600L-1690L | 1700L-1790L | 1800L-1890L | 1900L-1990L | 2000L-2090L | 2100L-2190L | 2200L-2290L |
|-----------------|-----------|-----------|-----------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Number of Exemplars | 2 | 4 | 5 | 10 | 13 | 21 | 22 | 13 | 5 | 10 | 21 | 22 | 13 | 5 | 2 | 0 | 1 | 1 |
| f               | 1.92%     | 3.85%     | 4.81%     | 9.62%     | 12.50%      | 20.19%      | 21.15%      | 12.50%      | 4.81%       | 12.50%      | 12.50%      | 1.92%       | 0.00%       | 0.00%       | 0.00%       | 0.00%       | 0.96%       |
| f               | 0.00%     | 0.00%     | 4.72%     | 5.66%     | 10.38%      | 28.30%      | 20.75%      | 16.04%      | 8.49%       | 2.83%       | 0.94%       | 1.89%       | 0.00%       | 0.00%       | 0.00%       | 0.00%       | 0.00%       |
| %               | 0.00%     | 2.00%     | 0.00%     | 12.00%    | 16.00%      | 32.00%      | 8.00%       | 16.00%      | 10.00%      | 2.00%       | 0.00%       | 0.00%       | 0.00%       | 0.00%       | 0.00%       | 0.00%       | 0.00%       |

Note.
The exemplars are reported in Lexile measures up to 90L in each zone (e.g., 600L-690L) because the Lexile Readability Formula reports measures in this fashion.

5. Writing Prose: Range 670L-2210L
6. Prose Models: Range 800L-1790L
7. Short Prose Reader: Range 740L-2000L
8. Patterns in Action: Range 750L-1610L
Table 15

Readability of Anthologies 9-12

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<td>%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>1.37%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td></td>
</tr>
</tbody>
</table>

Note.
The exemplars are reported in Lexile measures up to 90L in each zone (e.g., 600L-690L) because the Lexile Readability Formula reports measures in this fashion.

9. Short Takes: Range 790L-1560L
10. Patterns of Exposition: Range 790L-1430L
11. Patterns of Reflection: Range 640L-1530L
12. Resourceful Reader: Range 760L-1590L

Reading Levels of the Participants

Ninety-one students’ reading levels were examined using the SRI. Their reading levels ranged from BR to 1119L with a mean of 552.27L. Examining the frequency of the students’ scores in each of the Lexile zones, it was found (as shown in Table 16) that 53.85% of the students read below 600L. Examining the other 46.15% students’ reading levels (also shown in Table 16), it was found that these students’ reading levels fall into five groups: (a) 600L-699L (18.68%), (b) 700L-799L (9.89%), (c) 800L-899L (14.29%), (d) 900L-999L (2.20%), and (e)
1100L -1199L (1.10%). No students were found to read in the 1000L-1099L group and none were found to read above the 1100L to 1199L zone.

Table 16

**Reading Levels of the Participants**

<table>
<thead>
<tr>
<th>Lexile Measures</th>
<th>The Number of Participants</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>BR</td>
<td>2</td>
<td>2.20%</td>
</tr>
<tr>
<td>0L to 99L</td>
<td>5</td>
<td>5.49%</td>
</tr>
<tr>
<td>100L to 199L</td>
<td>4</td>
<td>4.40%</td>
</tr>
<tr>
<td>200L to 299L</td>
<td>3</td>
<td>3.30%</td>
</tr>
<tr>
<td>300L to 399L</td>
<td>3</td>
<td>3.30%</td>
</tr>
<tr>
<td>400L to 499L</td>
<td>17</td>
<td>18.68%</td>
</tr>
<tr>
<td>500L to 599L</td>
<td>15</td>
<td>16.48%</td>
</tr>
<tr>
<td>600L to 699L</td>
<td>17</td>
<td>18.68%</td>
</tr>
<tr>
<td>700L to 799L</td>
<td>9</td>
<td>9.89%</td>
</tr>
<tr>
<td>800L to 899L</td>
<td>13</td>
<td>14.29%</td>
</tr>
<tr>
<td>900L to 999L</td>
<td>2</td>
<td>2.20%</td>
</tr>
<tr>
<td>1000L to 1099L</td>
<td>0</td>
<td>0.00%</td>
</tr>
<tr>
<td>1100L to 1199L</td>
<td>1</td>
<td>1.10%</td>
</tr>
</tbody>
</table>

**Note.**

BR represents students who scored below a point that could be measured by the SRI. For the purposes of analysis, they were calculated as ‘0’. N = 91, Range BR-1119L

A Comparison of the Readability of the Exemplars in the Anthologies and the Reading Levels of the Participants

A comparison of the data collected in the first two stages of this study--(a) the Readability of the Exemplars in the Available Anthologies and (b) the Reading Levels of the Participants--provided the data needed to answer the three subquestions related to the second research question: Which texts contain writing exemplars that are accessible to the populations' reading levels? The results for each subquestion are presented here.

Q2a: **Which anthologies available on the Taiwan Market are completely accessible to the selected student population in that all of their writing exemplars are at or below the reading levels of the entire population?**
None of the anthologies available on the Taiwan Market were found to be completely accessible to the selected student population in that all of their writing exemplars are at or below the reading levels of the entire population. The range of the texts’ Lexile measures were found to be (as shown in Tables 13-15) from 610L to 2210L, but 53.15% of the students read below the 600L level (see Table 16).

Q2b Which anthologies available on the Taiwan Market are completely inaccessible to the selected student population in that all of their writing exemplars are above the reading levels of the entire selected student population?

None of the texts available on the Taiwan Market were found to be completely inaccessible to the selected student population in that all of their writing exemplars fall above the reading levels of the entire target population. Each of the texts (as shown in Table 17) were found to contain a limited number of samples that are accessible to varying percentages of the 46.85% of the students who read in one of five reading groups: (a) 600L-699L, (b) 700L-799L, (c) 800L-899L, (d) 900L-999L, and (e) 1100L-1199L.
**Table 17**

**Comparison of the Readability of the Exemplars and the Reading Levels of the Participants**

<table>
<thead>
<tr>
<th>Lexile Zones</th>
<th>600L</th>
<th>700L</th>
<th>800L</th>
<th>900L</th>
<th>1000L</th>
<th>1100L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 600L</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>600L</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>699L</td>
<td>53.85%</td>
<td>18.68%</td>
<td>9.89%</td>
<td>14.29%</td>
<td>2.20%</td>
<td>0.00%</td>
</tr>
<tr>
<td>799L</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>899L</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>999L</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1099L</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1199L</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The Percentage of Ss That Read in Each Lexile Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>53.85%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Anthologies</th>
<th>The Percentage of Exemplars in Each Text That are Below or at the Participants' Reading Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Essay Connection</td>
<td>0.00%</td>
</tr>
<tr>
<td>2. Reading Plus</td>
<td>0.00%</td>
</tr>
<tr>
<td>3. Patterns Plus</td>
<td>0.00%</td>
</tr>
<tr>
<td>4. Norton Sampler</td>
<td>0.00%</td>
</tr>
<tr>
<td>5. Writing Prose</td>
<td>0.00%</td>
</tr>
<tr>
<td>6. Prose Models</td>
<td>0.00%</td>
</tr>
<tr>
<td>7. Short Prose Reader</td>
<td>0.00%</td>
</tr>
<tr>
<td>8. Patterns in Action</td>
<td>0.00%</td>
</tr>
<tr>
<td>9. Short Takes</td>
<td>0.00%</td>
</tr>
<tr>
<td>10. Patterns of Exposition</td>
<td>0.00%</td>
</tr>
<tr>
<td>11. Patterns of Reflection</td>
<td>0.00%</td>
</tr>
<tr>
<td>12. Resourceful Reader</td>
<td>0.00%</td>
</tr>
</tbody>
</table>

**Q2c** Which portions of the anthologies available on the Taiwan Market are accessible to the students who read in each of the Lexile zones reported by the SRI (e.g., 600L-699L)?
The results (as described in Table 18) showed that all 12 texts were inaccessible to students who read below 600L (53.85% of the population). The results further showed that the students who read in the five remaining groups (46.15% of the population) could only access a limited number of the exemplars in the available texts. The group who read from 600L-699L (18.68% of the population) could only access three of the texts and only a mean 1.5% the exemplars in those texts. The students who read in Group 700L-799L (9.89% of the population) were found to be able to access 11 of the 12 texts, but only a mean 2.97% of the exemplars therein. And the remaining three groups were found to be able to access all 12 texts, but again only in limited amounts: Group 800L-899L (14.29% of the population) could access a mean 8.67% of the 12 texts, Group 900L-999L (2.2% of the population) could access a mean 19.16%, and Group 1100L-1199L (1.1% of the population) could access a mean 60.45%.

Table 18

<table>
<thead>
<tr>
<th>Lexile Zones</th>
<th>Below 600L</th>
<th>600L</th>
<th>700L</th>
<th>800L</th>
<th>900L</th>
<th>1000L</th>
<th>1100L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ss’ Reading Levels</td>
<td>53.85%</td>
<td>18.68%</td>
<td>9.89%</td>
<td>14.29%</td>
<td>2.20%</td>
<td>0.00%</td>
<td>1.10%</td>
</tr>
</tbody>
</table>

Means of Texts’ Lexile Measures Found to Be at or Below the Ss’s Reading Levels

| Reading Levels | 0.00% | 1.5% | 2.97% | 8.67% | 19.18% | NA | 60.45% |

Note.

a Three texts were found to be accessible to students who read in Group 600L-699L: 3. Patterns Plus, 5. Writing Prose, 11. Patterns of Reflection.
c All 12 texts were found to be accessible to students who read in Groups 800L-899L, 900L-999L, and 1100L-1199L.
d No students were found to read in Group 1000L-1099L.
Chapter Summary

This chapter presented results for research questions one and two. The next chapter, Chapter Nine, presents results for research question three.
CHAPTER NINE

RESULTS PART II: FEATURES BEYOND THOSE MEASURED BY THE LEXILE READABILITY FORMULA THAT EFFECT THE READABILITY OF THE ANTHOLOGIES

Introduction

This chapter answers the third and final research question: What features related to readability beyond those measured by the Lexile Readability Formula (i.e., vocabulary and sentence length) do the participants feel affect the readability of the exemplars in the anthologies? To explore this question, two stages were undertaken: (a) a cline-questionnaire procedure and (b) an interview. The first stage required the informants to (a) read five exemplars from the anthologies, (b) put them in a cline of difficulty from easiest to most difficult, and (c) complete a quantitative, 15-question Likert questionnaire (Appendices D and E) designed to help illustrate what features they perceived as contributing to text difficulty when creating the cline of the exemplars taken from such texts. The second stage required the informants to participate in semi-structured retrospective interviews to elaborate and triangulate the findings of the quantitative cline-questionnaire analysis and thus add scope and breadth to the results. Data related to these stages are presented in three sections: (1) Response Rates, (2) Results of the Cline-questionnaire Procedure, and (3) Results of the Interviews. A fourth section is then presented which summarizes the findings reported in this chapter: Findings For Research Question Three.
Response Rates

On the appointed days for the cline-questionnaire procedure and interview stages of the study, all but one of the 12 informants who had agreed to participate did so; a message later arrived that the last informant (Cara) would be unable to participate. The remaining 11 (Annie, Ben, Dan, Eve, Harold, Jacob, Kala, Linda, Marsha, Nelson, Olivia) participated in both stages (i.e., the cline-questionnaire procedure and the interview).

The 11 informants were first asked to read the five exemplars and put them in a cline of difficulty from easiest to most difficult, which they all did. They were then asked to complete a quantitative 15-question Likert questionnaire, which they also all did, yielding a 100% response rate. Each informant also answered all of the closed response questions.

Each informant also participated in the follow up interview. However, only 10 of the 11 informant’s responses were analyzed and included in this study. The reason for not including the eleventh informant’s responses was that she (Olivia) failed to turn off her cell phone as instructed and then received a call that appeared to disrupt her efforts to create her cline and complete the questionnaire. After the call, she hurriedly completed the cline and the questionnaire and then explained that she had to leave but would return for the interview, which she did--two hours later. Olivia also had trouble recalling and relating her reasons for conducting the cline in the way she did. After reviewing the videos of Olivia’s cline-questionnaire procedure and interview responses, we concluded that her
performance had been negatively influenced both by the telephone call and the intervening time between her cline procedure and interview.

**Results of the Cline-Questionnaire and Interview**

Each informant completed the untimed cline procedure by ranking the five essays from easiest to most difficult, responded to the closed-response questionnaire, and then participated in a semi-structured retrospective interview.

The interviews lasted for an average of 32.5 minutes. The shortest was 19.3 minutes and the longest was 57.4 minutes. Variation was dependent on how much each informant had to offer and how much translation was required.

Each interview began with a broad opening question:

*Let's begin with a very general question. There is no right or wrong answer to what I am going to ask you right now. I'm very much interested in your ideas. That's why we are here.* [Pointing to the cline the informant created] *Why did you do it this way? Why did you put this essay first? This one second? This one third? This one fourth? This one fifth?*

Follow up questions were asked based on whether an informant had answered an item on the questionnaire positively (strongly agree or agree). The follow up questions began with structured inquiries from the questionnaire and then semi-structured prompts which later became open-ended.

In response to the interview questions, the informants offered comments about areas they had marked positively on the questionnaire. They also offered comments about areas they had not marked positively on the questionnaire. For
instance, although Annie had not offered a positive response about the area of signal words on the questionnaire, she referred to one essay where she found signal words and another where she did not and explained that the presence of signal words in the first essay and the absence in the second essay helped her to decide that she felt the first essay was easier to understand than the second one.

A few informants also offered information about an area that was not on the questionnaire (i.e., grammar). Kala and Nelson, for example, both offered examples of how they felt grammar was influential. Kala noted that she had trouble following the grammar in long sentences, and Nelson noted that finding the grammar harder in one essay than another influenced his cline construction.

Informants additionally, on reflection, decided that areas that they had marked positively on the questionnaire were not relevant. Annie, who had marked the area of structure positively, for example, later decided it was not influential.

To close the interviews and look further into any information the questionnaire may not have elicited, a final open ended question was posed at the end of each interview: “Before we finish, is there anything more you want to share with me?”

After all of the interviews were completed, they were transcribed. Once the interviews were transcribed, we (the research assistant and I) examined the data separately using Erlandson et al.’s (1993) emergent category analysis procedure and then engaged in a second-level group debate procedure to add strength and richness to the analysis.
During the emergent category analysis and debate procedures, a category system emerged. This is illustrated in Figure 2.

![Category system diagram]

*Figure 2. Category system.*

We, as illustrated in Figure 2, first coded some of the informants’ responses as *encompassing*, an overall logic an informant reported using to arrange all of the essays in his/her cline in the way he/she did. We then coded other comments as *nonencompassing*, responses which addressed an informant’s decision about the difficulty of an individual essay and/or its place in his/her cline. Within this second category, we coded notions with the terms *primary* (i.e., an isolated feature, e.g., vocabulary) or *conjoined* (i.e., consisting of two or more associated entities where the second influences the first, e.g., vocabulary conjoined with background knowledge. For instance, the informant’s background helped him/her to understand difficult vocabulary). Thus a response might be encompassing or nonencompassing, and it could be either primary or conjoined, drawing one code term from each level. We also found that one feature fell outside our primary and conjoined categories, so we created a limited third category, *simply influential.* Punctuation, for example was not a primary or conjoined feature but it simply influenced another feature (i.e., sentence length was influenced by punctuation).

In what follows, I will report the data collected from each informant alphabetically by pseudonym (i.e., Annie, Ben, Dan, Eve, Harold, Jacob, Kala,
Linda, Marsha, Nelson). For each informant, I will report two sorts of data: (a) a summary of each informant’s cline-questionnaire procedure and interview and (b) a detailed analysis of each informant’s responses to the follow up questions during the interview.

For the results of the cline-questionnaire procedure, I will first report how each informant ordered his/her cline and what features he/she marked on the questionnaire. Then, for the interview, since each interview began with the open ended question, addressed specifics from the questionnaire, and closed with the final open ended question, I will follow this format to order the discussion of each informant’s responses.

I will additionally order the reporting of the informants’ responses during the interview as they logically relate to each of the essays in each student’s cline, sometimes as a single essay and other times grouped into two or more essays as the grouping best describes each student’s responses. This is because the informants sometimes noted how a feature influenced their perceptions of difficulty about a single essay and at other times noted how their perceptions were related to one or more essays.

When discussing the student responses in these conversations, I will report their verbatim citations in English, except when the informant spoke in Mandarin. In this case I will provide the translator’s translation. In both cases (i.e., direct quotation or translation), I will use square brackets when some minimal addition or change to the wording would aid the reader and contribute to clarity. I
will additionally use Italics to denote when an informant read directly from an exemplar.

I will then provide a summary section which draws on the data presented in this chapter to answer the third research question: What features related to readability beyond those measured by the Lexile Readability Formula (i.e., vocabulary and sentence length) do the participants feel affect the readability of the exemplars in the anthologies?

**Informant One: Annie**

**Summary of Annie’s cline-questionnaire procedure and interview.**

When creating her cline, Annie put the essays in the following order (easiest to most difficult):

1. “A Guide to Proper Hand-washing Technique”
2. “Freedom and Security”
3. “Salvation"
4. “A View From the Bridge”
5. “Grammy Rewards”

Reflecting on her cline construction, Annie marked eight items on the questionnaire that she felt influenced her perceptions of text difficulty: two that are measured by the Lexile Readability Formula (i.e., vocabulary and sentence length) and six that are not: (a) vocabulary in context, (b) paragraph length, (c) background knowledge, (d) interest, (e) logical organization, and (f) structure. These are indicated as Qs in Table 19.
During the interview, Annie provided further insight into why she answered the questionnaire the way she did. In response to the opening and follow up questions, she offered nonencompassing comments about how she felt all but two of the areas she had marked on the questionnaire influenced her perceptions of difficulty (i.e., interest and structure). She also decided another feature she had not marked (i.e., signal words) was influential. For the final open ended question, Annie offered no further information.

In total, Annie reported five features to be primary: (a) vocabulary, (b) vocabulary in context, (c) paragraph length, (d) logical organization, and (e) signal words. These are listed as Ps in Table 19.

Annie also reported that she felt five features were conjoined with (influenced by) other features. She reported that she felt that (a) vocabulary was influenced by background knowledge and interest (b) vocabulary in context was influenced by paragraph length, (c) sentence length was influenced by vocabulary, (d) background knowledge was influenced by vocabulary, and (e) logical organization was influenced by vocabulary. These are listed as Cs and arrows (←) in Table 19. The areas that Annie felt were conjoined (influenced by another feature) are indicated with Cs, and the features that she felt influenced the conjoined features are indicated with arrows (←) which point to the conjoined features.
Table 19

Annie's Responses to the Questionnaire and Interview Questions

<table>
<thead>
<tr>
<th>Questionnaire</th>
<th>Primary</th>
<th>Conjoined</th>
<th>Vocabulary</th>
<th>Background Knowledge</th>
<th>Paragraph Length</th>
<th>Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vocabulary</td>
<td>Q</td>
<td>P</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vocabulary in Context</td>
<td>Q</td>
<td>P</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sentence Length</td>
<td>Q</td>
<td>P</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paragraph Length</td>
<td>Q</td>
<td>P</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Background Knowledge</td>
<td>Q</td>
<td>P</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Interest</td>
<td>Q</td>
<td>P</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Logical Organization</td>
<td>Q</td>
<td>P</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Structure</td>
<td>Q</td>
<td>P</td>
<td>C</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Signal Words</td>
<td>Q</td>
<td>P</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Detailed analysis of Annie’s interview.** In response to the opening question, Annie offered a series of nonencompassing comments about how she felt the primary area of vocabulary (and areas conjoined with it) influenced her perceptions of difficulty and thus her decisions about where to place each essay in her cline.

Pointing to the first essay in her cline (i.e., “A Guide to Proper Hand-washing Technique”), Annie explained that her familiarity with the vocabulary in this essay was the primary reason she positioned it as first (easiest):

Interviewer: . . . Why did you do it this way?

Annie: Let’s take a look at the first one.

Interviewer: “The Guide to Proper hand-washing Technique”?

Annie: Yeah. I know about some terms like contaminated, so it’s not hard.
After explaining why she felt the first essay in her cline was “not hard,” Annie turned to the second essay in her cline (i.e., “Freedom and Security”) and offered a remark related to vocabulary to illustrate why she placed this essay in its position. She reported that she felt the "Freedom and Security" essay was more difficult than the first essay in her cline (i.e., “A Guide to Proper Hand-washing Technique”) because it contained unfamiliar vocabulary which diminished the assistance her background knowledge about the topic of the essay might ordinarily provide:

Interviewer: OK. And this one, ‘Freedom and Security.’ Why did you place it here?

Annie: I know its concept, but I don’t know some words.

Interviewer: So the vocabulary words made this essay harder [than the first essay]?

Annie: Yeah, the words, but the concept I know.

Annie then motioned to the third essay in her cline (i.e., “Salvation”) and offered a statement about vocabulary (conjoined with her background knowledge about Christianity) to explain why she placed this essay as third instead of in a higher (more difficult) place in her cline:

And this one [the “Salvation” essay] is kind of religious words. . . . I know a little bit about it [the topic of the essay, i.e., religion], so I don’t think it’s . . . very difficult. It’s just OK, so [I] put it [the essay] here.

For the final two essays in her cline (i.e., “A View From the Bridge” and “Grammy Rewards”), Annie continued to offer remarks about how she felt
vocabulary influenced her perceptions of difficulty and thus her decision to place these essays in the fourth and fifth positions. To explain why she placed the “A View From the Bridge” essay in the fourth instead of the third position, she offered a statement about logical organization (conjoined with vocabulary). Here she explained that she understood the narrative organization (i.e., logical organization) of the “A View From the Bridge” essay, and that helped her to understand the essay, but that the amount of unfamiliar vocabulary in the essay made it harder for her than the third essay in her cline (i.e., the “Salvation” essay):

   Annie: And I think this one [the fourth essay] is not hard . . . because I know how the story goes. [I know what] it’s talking about, but it uses a lot of descriptions, so it makes it harder [than the third essay].

   Interviewer: What do you mean by descriptions?
   Annie: [T]he words.

And for the fifth essay in her cline, “Grammy Rewards,” Annie cited two features she felt helped her to decide to place this essay as most difficult in her cline. The first was about an abundance of unfamiliar vocabulary:

   Interviewer: What about the last one? You chose that one as the hardest. Why?
   Annie: Because it used a lot of description that I don’t know. You know, vocabulary.

The second feature Annie noted was related to sentence length, the long sentences she found in the essay. When asked if anything else contributed to the
difficulty of this essay, Annie replied that it was a matter of sentence length (conjoined with vocabulary):

Interviewer: Was there anything else that caused you difficulty in this essay?
Annie: Yeah. Long sentences.
Interviewer: Why?
Annie: If the sentence is very long, it may . . . contain a lot of words that I don’t know.

After Annie answered the opening question, we moved on to the structured ones from the questionnaire. Here she noted how one or more features influenced her perceptions of difficulty about a single essay and at other times how her perceptions were related to two or more essays. I will report her responses as they logically relate to each of the essays in her cline, sometimes as a single essay and other times grouped into two or more essays as the grouping best describes her responses.

**Essay 1: “A Guide to Proper Hand-washing Technique.”** Annie pointed to the first essay in her cline (i.e., “A Guide to Proper Hand-washing Technique”) several times during the interview to offer examples of features she felt contributed to her perceptions of difficulty. The first time was when we were talking about vocabulary. Here she explained that she felt vocabulary (conjoined with background knowledge) helped her to understand the essay:

Annie: [[If you have enough background knowledge . . . , you don’t have to know the [all of the] words.]
Interviewer: [Pointing to the essays in her cline] Which one helped you? Or did not help you?

Annie: The hand-washing one.

Annie pointed to the “A Guide to Proper Hand-washing Technique” essay a second time when talking about logical organization. Here she explained that she felt the logical organization of this essay was helpful:

Annie: If the article is logical, it’s easier to understand. Like the process, you know. Step by step . . . , so it will help you understand more.

Interviewer: Mmh, OK. Which essay are you talking about?

Annie: This one [Pointing to the “A Guide to Proper Hand-washing Technique” essay].

During our discussion about logical organization, Annie also explained that she found the signal words first and next in the “A Guide to Proper Hand-washing Technique” essay helpful, a feature she had not marked on the questionnaire.

**Essay 2: “Freedom and Security.”** Annie referenced the second essay in her cline (i.e., “Freedom and Security”) during our discussion about why she marked the area vocabulary in context positively on the questionnaire:

Interviewer: For the area of vocabulary in context, you chose A, strongly agree. Why did you answer this question this way?

Annie: The context. . . . I can predict the meaning of the word . . . by continue reading. If I don’t know this word, I just continue reading so I can try to guess.
Interviewer: Which essays helped you do that? Or which ones did not?
Can you give me an example?
Annie: I think this one [Pointing to the “Freedom and Security” essay] helped me a lot.
Interviewer: Can you show me any place where vocabulary in context helped you?
Annie: Like here [Pointing to the word rooted]. It says, Freedom is rooted in choice.
Interviewer: OK, freedom is rooted in choice. How was that helpful?
Annie: Because it has examples.
Examining Annie’s answer, we concluded that her answer was related to vocabulary in context (conjoined with paragraph length) because the examples, the additional length, helped her to make sense of the unknown word.

**Essay 3: “Salvation.”** When responding to the question about interest, Annie offered a comment we coded as vocabulary (conjoined with both interest and background knowledge). She explained that her interest in religion, the topic of the "Salvation" essay, helped her to have a large vocabulary to draw on when reading the essay: “If you have more interest in some topic, you may know more . . . vocabulary.” We coded the response in this way because we felt that she was referring to both interest and background knowledge; that is, her interest in religion fueled her background knowledge that in turn led to the her increased vocabulary in this area.
Essays 1, 2, and 3: “A Guide to Proper Hand-washing Technique,” “Freedom and Security,” and “Salvation.” When we were talking about logical organization, Annie pointed to the first three essays in her cline (i.e., “A Guide to Proper Hand-washing Technique,” “Freedom and Security,” and “Salvation”) and cited the rhetorical organizational of each:

Annie: It’s like a step by step thing [Pointing to “A Guide to Proper Hand-washing Technique” essay], and that one was like a story [Pointing to the “Salvation” essay].

Interviewer: Did you feel the “Salvation” essay was logically organized?

Annie: Yeah, because, it’s just, the story. [T]he boy wants to be saved by God, but everyone . . . is out [has left], so he wants to get out there quickly. . . . [I]n the beginning he just wait[s] . . . until God comes to save him, but . . . , he wants to get out of there. At last, he lied. It’s logical.

Interviewer: How was that one logical [Pointing to the “Freedom and Security” essay]? 

Annie: There are many examples. If you are hungry. . . . If you are not. . . .

Examining Annie’s comments, it was not immediately clear to us how they illustrated that she felt logical organization influenced her perception of difficulty, nor was it clear how her comments illustrated the gradation of difficulty she intended to communicate. Looking at her comments in the overall context, however, we interpreted them to mean that she believed the rhetorical organization of each of the essays was clear to her, and this clarity influenced her perceptions of difficulty.
Essays 3 and 4: “Salvation” and “A View From the Bridge.” Annie cited the third and fourth essays in her cline (i.e., “Salvation” and “A View From the Bridge”) while talking about vocabulary. During this discussion, she explained that she felt the amount of vocabulary she understood in each essay was related to how much background knowledge she had about each essay’s topic, and this impacted her decision to place the third essay in her cline (i.e., “Salvation”) as easier than the essay she chose as fourth (i.e., “A View From the Bridge”):

Annie: This one is easier [Pointing to the “Salvation” essay].

Interviewer: Compared to which one?

Annie: Pointing to the “A View From the Bridge” essay.

Interviewer: Why?

Annie: I know a little about . . . religion [the topic of the “Salvation” essay] . . . , so I know a little more about . . . the vocabulary [in the “Salvation” essay], [but] I have never had a chance to go fishing, so I don’t know the exact details about fish[ing], [the topic of the “A View From the Bridge” essay].

Essay 5: “Grammy Rewards.” Annie also referenced the fifth essay in her cline (i.e., “Grammy Rewards”) during the interview. In response to the question about paragraph length, she offered an example about how she felt the long paragraphs in this essay caused her trouble: “If it’s too long, I forget the previous paragraph.”

Once Annie had answered all of the interview questions, we moved on to the final open ended question, but she offered no further information.
Informant Two: Ben

Summary of Ben’s cline-questionnaire procedure and interview.

When creating his cline, Ben put the essays in the following order (easiest to most difficult):

1. “A Guide to Proper Hand-washing Technique”
2. “Freedom and Security”
3. “Salvation”
4. “A View From the Bridge”
5. “Grammy Rewards”

Reflecting on his cline construction, Ben marked eight items on the questionnaire that he felt influenced his perceptions of text difficulty, two that are measured by the Lexile Readability Formula (i.e., vocabulary and sentence length) and six that are not: (a) overall length, (b) paragraph length, (c) background knowledge, (d) interest, (e) logical organization, and (f) signal words. These are indicated as Qs in Table 20.

During the interview, Ben provided further insight into why he answered the questionnaire the way he did. In response to the opening and follow up questions, he offered nonencompassing comments about how he felt each of the areas he had marked on the questionnaire--and two more (i.e., titles and punctuation)--influenced his perceptions of difficulty about the essays in his cline. For the final open ended question, Ben offered no further information.
In total, Ben reported seven features to be primary: (a) vocabulary, (b) overall length, (c) background knowledge, (d) titles, (e) interest, (f) logical organization, and (g) signal words. These are listed as Ps in Table 20.

Ben also reported that he felt six features were conjoined with (influenced by) other features. He reported that he felt that (a) vocabulary was influenced by interest, (b) sentence length was influenced by punctuation, (c) overall length was influenced by interest, (d) paragraph length was influenced by vocabulary, (e) titles were influenced by vocabulary, and (f) logical organization was influenced by background knowledge. These are listed as Cs and arrows (←) in Table 20.

The areas that Ben felt were conjoined (influenced by another feature) are indicated with Cs, and the features that he felt influenced the conjoined features are indicated with arrows (←) which point to the conjoined features.

**Table 20**

*Ben’s Responses to the Questionnaire and Interview Questions*

<table>
<thead>
<tr>
<th>Questionnaire</th>
<th>Primary</th>
<th>Conjoined</th>
<th>Vocabulary</th>
<th>Background Knowledge</th>
<th>Interest</th>
<th>Punctuation</th>
</tr>
</thead>
<tbody>
<tr>
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<td>C</td>
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<td></td>
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<tr>
<td>Signal Words</td>
<td>Q</td>
<td>P</td>
<td></td>
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</tbody>
</table>
Detailed analysis of Ben’s interview. When responding to the opening question, Ben pointed to each of the essays in his cline and offered nonencompassing comments about features he felt influenced his perceptions of difficulty about each essay and thus his decisions about where to place each in his cline.

Beginning by commenting on and contrasting the first and fifth essays in his cline (i.e., “A Guide to Proper Hand-washing Technique” and “Grammy Rewards”), Ben explained he felt the first essay was the easiest of the five for two reasons: (a) Because he had background knowledge about its subject (i.e., hand washing) and (b) it was short. Ben then moved to the essay in the most difficult place in his cline (i.e., “Grammy Rewards”) and made a comment related to overall length and interest to explain his reason for placing it there: “And . . . this one is long and boring.”

After explaining that his reasons for positioning the first and last essays were related to overall length and interest, Ben again cited these features as influencing his decision to place the “Salvation” and “A View From the Bridge” in the third and fourth positions. He felt the third essay was shorter and more interesting than the fourth.

Ben then explained that his decision to place the fourth essay before the fifth one was related to overall length (conjoined with interest). The fourth essay, he explained, “was longer” [than the fifth essay], but he chose it as fourth instead of fifth because he was interested in it: “[It] touched my heart.”
Once Ben had explained his reasons for placing the other four essays in their positions, he pointed to the second essay in his cline (i.e., “Freedom and Security”) and indicated that he felt background knowledge was an influential feature: “I know about that.” Unlike his other comments, however, this one did not necessarily illustrate how he felt this feature influenced his decision about where to place this essay.

After Ben answered the opening question, we moved on to the structured ones from the questionnaire. Here he noted how one or more features influenced his perceptions of difficulty about a single essay and at other times how his perceptions were related to two or more essays. I will report his responses as they logically relate to each of the essays in his cline, sometimes as a single essay and other times grouped into two or more essays as the grouping best describes his responses.

**Essays 1: “A Guide to Proper Hand-washing Technique.”** Ben pointed to the first essay in his cline (i.e., “A Guide to Proper Hand-washing Technique”) several times during the interview to offer examples of features he felt contributed to his perceptions of difficulty about this essay. The first time was when he was answering the question about titles. Here, he explained that he found the title of the "A Guide to Proper Hand-washing Technique" essay easier to understand than the titles of the other essays. When asked why, he made a comment about titles (conjoined with vocabulary), explaining that he felt the vocabulary in the title of this essay was “easier” than the vocabulary in the titles of the other essays. Ben also (via the translator) cited how he felt the title of this
essay was a primary feature that influenced his decision to place this essay in the first position of his cline: “When Ben read the title, he knew it would be about washing hands.” When asked why he felt this was important, he explained that he felt that “this essay's title better explained what the essay was going to be about” than the titles of the other essays.

Ben pointed to the “A Guide to Proper Hand-washing Technique” essay a second time when talking about logical organization to indicate that he felt the logical organization of this essay (conjoined with his background knowledge about hand washing) was helpful:

Because the topic of this essay is [about] daily life, our procedure . . . , we can imagine what will be the next and the next and the next and what will be the final.

During our discussion about logical organization, Ben also pointed to the “A Guide to Proper Hand-washing Technique” essay to explain that he felt the signal words in this essay made this essay easier for him than the other essays because they “appeared . . . more obviously [in this essay] than in the others.”

**Essay 2: “Freedom and Security.”** Ben referenced the second essay in his cline (i.e., “Freedom and Security”) during our discussion about why he marked the feature background knowledge positively on the questionnaire:

Interviewer: Were there any essays where background knowledge influenced your decision?

Ben: Pointing to the “Freedom and Security” essay.
Interviewer: You have background knowledge about this essay? Tell me more.

Ben: Speaking Mandarin with the translator.

Translator: It's a public issue in the newspapers and public media, so he knows a lot about it.

Ben referenced the “Freedom and Security” essay again to offer an example about how he felt sentence length caused him difficulty. Via the translator, he explained that he felt his perceptions of difficulty about sentence length were influenced by punctuation: “[S]horter sentences are easier, but if they contain too much punctuation . . . , they are difficult.”

Ben made reference to the “Freedom and Security” essay again when discussing titles (conjoined with vocabulary). Here, he explained that he was not immediately sure he understood the concepts freedom and security as presented in the title of the “Freedom and Security” essay.

*Essays 1, 2, and 3: “A Guide to Proper Hand-washing Technique,” “Freedom and Security,” and “Salvation.”* When we were talking about vocabulary, Ben compared the first three essays in his cline (i.e., “A Guide to Proper Hand-washing Technique,” “Freedom and Security,” and “Salvation”). With the help of the translator, Ben explained, “The vocabulary in the first essay was easier [than the second].” He then continued on his own and compared the two with a comment about background knowledge: “This [The subject of the "A Guide to Proper Hand-washing Technique" essay, hand washing] . . . happen[s]
[more often] in daily life; more compared to this one [, the “Freedom and Security” essay].”

After Ben compared the first two essays, "A Guide to Proper Hand-washing Technique" and "Freedom and Security," he (via the translator) compared the first two with the third, the “Salvation” essay. Here he offered another comment about background knowledge: “He knows about the topics in the first two essays, but he is not familiar with [the topic of the third,] religion. He has no idea about that.”

**Essay 4: “A View From the Bridge.”** Ben cited the fourth essay in his cline (i.e., “A View From the Bridge”) while responding to the questions about vocabulary and interest. In response to the question about vocabulary, he (via the translator) offered a general comment about vocabulary (conjoined with interest): “If Ben is interested in an essay, he is willing to spend more time on the essay even if the vocabulary is difficult to understand.”

**Essay 5: “Grammy Rewards.”** Ben also referenced the fifth essay in his cline (i.e., “Grammy Rewards”) several times during the interview. The first time was when we were discussing logical organization. Here he reported he had trouble with the point by point organization of the essay: “[B]ecause the two grandmothers show up in the same paragraph . . . , it is hard to tell which grandma is which.” When asked why this troubled him, Ben explained that he had trouble discerning which grandmother the author was referring to because “the same word is used to refer to both grandmas: grandmother.”
The second time Ben referenced the "Grammy Rewards" was to offer examples of how he felt overall length and titles were influential. Via the translator, he explained that he felt the overall length of this essay was "too long" and that "he did not understand the title."

The last time Ben pointed to the "Grammy Rewards" essay was to offer an example about why he marked the area paragraph length positively. He began, with the help of the translator and made the general comment that "If a paragraph has too many words, it makes the essay more difficult." When asked for an example, he illustrated his point by referencing the "Grammy Rewards" essay. Here, (via the translator) he explained that he felt the long paragraphs in this essay made it difficult because they had "too much [unfamiliar] vocabulary."

Once Ben had answered all of the interview questions, we moved on to the final open ended question, but he offered no further information.

**Informant Three: Dan**

**Summary of Dan’s cline-questionnaire procedure and interview.**

When creating his cline, Dan put the essays in the following order (easiest to most difficult):

1. “A Guide to Proper Hand-washing Technique”
2. “Salvation”
3. “Grammy Rewards”
4. “A View From the Bridge”
5. “Freedom and Security”
Reflecting on his cline construction, Dan marked four items on the questionnaire he felt influenced his perceptions of text difficulty, one that is measured by the Lexile Readability Formula (i.e., vocabulary) and three that are not: (a) vocabulary in context, (b) background knowledge, and (c) signal words. These are indicated as Qs in Table 21.

During the interview, Dan provided further insight into why he answered the questionnaire the way he did. In response to the opening question, he offered a primary encompassing comment explaining that he felt vocabulary guided his decision to arrange all of the essays in the cline the way he did. Then, in response to the follow up and final questions, he offered nonencompassing comments about how he felt each of the areas he had marked on the questionnaire—and two more (i.e., titles and logical organization)—influenced his perceptions of difficulty about the essays in his cline.

In total, Dan reported three features to be primary: (a) vocabulary, (b) vocabulary in context, and (c) signal words. These are listed as Ps in Table 21.

Dan also reported that he felt three features were conjoined (influenced by) other features. He reported he felt that (a) vocabulary was influenced by background knowledge, (b) vocabulary in context was influenced by logical organization, and (c) logical organization was influenced by titles. These are listed as Cs and arrows (←) in Table 21. The areas that Dan felt were conjoined (influenced by another feature) are indicated with Cs, and the features that he felt influenced the conjoined features are indicated with arrows (←) which point to the conjoined features.
Table 21

Dan’s Responses to the Questionnaire and Interview Questions

<table>
<thead>
<tr>
<th></th>
<th>Questionnaire</th>
<th>Primary</th>
<th>Conjoined</th>
<th>Background Knowledge</th>
<th>Titles</th>
<th>Logical Organization</th>
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<td>Vocabulary</td>
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<tr>
<td>Signal Words</td>
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**Detailed analysis of Dan’s interview.** Dan responded to the opening question with a primary encompassing comment that explained he felt that vocabulary was the driving reason behind his decision to create his cline in the way that he did:

Interviewer: . . . Why did you do it this way?

Dan: The content.

Interviewer: What do you mean, the content?

Dan: The content that I can understand.

Interviewer: OK. What made you understand it? Or, not understand it?

Dan: Vocabulary.

Interviewer: Anything else?

Dan: Mmh. No.

After Dan cited vocabulary as the driving reason behind his decision to create his cline in the way that he did, we moved on to the structured questions from the questionnaire. Here he noted how one or more features influenced his
perceptions of difficulty about a single essay. He also noted how his perceptions were related to one or more essays. I will report his responses as they logically relate to each of the essays in his cline, sometimes as a single essay and other times grouped into two or more essays as the grouping best describes his responses.

**Essay 1: “A Guide to Proper Hand-washing Technique.”** As Dan and I moved on to the questions on the survey, he continued to expound on why he felt vocabulary (and features related to it) influenced his perceptions of difficulty, but he also offered a number of nonencompassing comments about other features. When answering the question about vocabulary, for example, he pointed to the first essay in his cline (i.e., “A Guide to Proper Hand-washing Technique”) to explain why he felt the vocabulary in this essay was easy for him to understand: “It is more like things happening in daily life.” This comment, however, was also one that showed how background knowledge influenced his perceptions (i.e., vocabulary conjoined with background knowledge).

Dan referenced the “A Guide to Proper Hand-washing Technique” essay again to illustrate how he felt titles were influential. He began by explaining that one of the first things he did when approaching the essays was to look at the title of each essay to see if he could find “any relation between the topic and the content.” To illustrate this, he (via the translator) pointed to the title of the “A Guide to Proper Hand-washing Technique” essay and explained that the essay’s descriptive title helped him to guess the essay’s logical organization; that is, the essay “is talking about procedure.”
Dan pointed to the “A Guide to Proper Hand-washing Technique” essay a third time to offer a comment about signal words. Here he explained that he found the signal words first and next in this essay assistive.

**Essays 2 and 3: “Salvation” and “Grammy Rewards.”** Returning to his point about how he felt vocabulary helped him to place the “A Guide to Proper Hand-washing Technique” essay in the first position in his cline, Dan briefly made reference to this feature as the reason for placing the second and third essays in their positions (i.e., “Salvation” and “Grammy Rewards”). Here he explained that he felt that the vocabulary was more difficult in the “Grammy Rewards” essay than the “Salvation” essay.

**Essay 4: “A View From the Bridge.”** When answering the question about signal words, Dan pointed to the fourth essay in his cline (i.e., “A View From the Bridge”) and explained he found the presence of signal words as, then, and when helpful.

**Essay 5: “Freedom and Security.”** Dan referred to the fifth essay in his cline (i.e., “Freedom and Security”) when answering the question about vocabulary in context. When answering this question, he explained that he felt one word he found difficult in the “Freedom and Security” essay, contraries, was made comprehensible by the words which followed the unfamiliar word: The point is that freedom and security are not contraries that deny each other. But he pointed out that he felt that many of the words he found unfamiliar in this essay (e.g., axis) lacked a strong context and thus made this essay very difficult for him.
When responding to the question about vocabulary in context, Dan also (with the help of the translator) explained that he was unfamiliar with the concepts *freedom* and *security* in the “Freedom and Security” essay, but that he felt the essay's logical organization helped him to make sense of them:

Interviewer: OK. *Freedom and security*. So you were not familiar with these concepts?
Dan: Yeah.

Interviewer: So, how did the ‘Freedom and Security’ essay help you to become familiar with them?
Dan: Compare.

Dan: Speaking Mandarin with the translator.

Translator: The two concepts are compared in the same paragraph.

**Essays 4 and 5: “A View From the Bridge” and “Freedom and Security.”** In response to the final open ended question, Dan contrasted the successive difficulty of the vocabulary in the fourth and fifth essays (i.e., “A View From the Bridge” and “Freedom and Security”) and described the vocabulary in the fifth as “very difficult.”

**Informant Four: Eve**

**Summary of Eve’s cline-questionnaire procedure and interview.**

When creating her cline, Eve put the essays in the following order (easiest to most difficult):

1. “A Guide to Proper Hand-washing Technique”
2. “A View From the Bridge”
3. “Grammy Rewards”

4. “Salvation”

5. “Freedom and Security”

Reflecting on her cline construction, Eve marked eight items on the questionnaire that she felt influenced her perceptions of text difficulty, one that is measured by the Lexile Readability Formula (i.e., vocabulary) and seven that are not: (a) vocabulary in context, (b) overall length, (c) logical organization, (d) structure, (e) signal words, (f) supplementary materials 1 (i.e., advance organizers: introductions prior to the writing text), and (g) supplementary materials 2 (i.e., adjunct questions: pre- and post questions). These are indicated as Qs in Table 22.

During the interview, Eve provided further insight into why she answered the questionnaire in the way she did. In response to the opening question, she identified the rhetorical structure of each essay and then added nonencompassing comments about how she felt overall length (conjoined with vocabulary) influenced her perceptions. Then, in response to the follow up and final questions, she offered nonencompassing comments about how she felt each of the areas she had marked on the questionnaire—and one more (i.e., background knowledge)—influenced her perceptions of difficulty.

In total, Eve reported seven features to be primary: (a) vocabulary in context, (b) background knowledge, (c) logical organization, (d) structure, (e) signal words, (f) supplementary materials 1 (i.e., advance organizers:
introductions prior to the writing text), and (g) supplementary materials 2 (i.e., adjunct questions: pre- and post questions). These are listed as Ps in Table 22.

Eve also reported that she felt one feature was conjoined with (influenced by) another feature. She reported she felt that overall length was influenced by vocabulary. This is listed as a C and arrow (←) in Table 22. The area that Eve felt was conjoined (influenced by another feature) is indicated with a C, and the feature that she felt influenced the conjoined feature is indicated with an arrow (←) which points to the conjoined feature.

Table 22

<table>
<thead>
<tr>
<th>Eve’s Responses to the Questionnaire and Interview Questions</th>
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</thead>
<tbody>
<tr>
<td>Questionnaire</td>
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<td>Vocabulary</td>
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<tr>
<td>Supp Materials 1 a</td>
</tr>
<tr>
<td>Supp Materials 2 b</td>
</tr>
</tbody>
</table>

Note.  

a Supp Materials 1. Supplementary Materials (Advance organizers: Introductions prior to the writing text.)  
b Supp Materials 2. Supplementary Materials (Pre- and post questions: The questions before and/or after the text.)

**Detailed analysis of Eve’s interview.** Eve answered the opening question with encompassing comments about the rhetorical organization of each of the essays in her cline. She also offered one comment about overall length (conjoined with vocabulary) particular to the fourth essay in her cline:
Interviewer: . . . Why did you do it this way?

Eve: [Pointing to the first essay in her cline, i.e., “A Guide to Proper Hand-washing Technique”] Because it is [a] process paragraph. . . . It tell you how to do.

Interviewer: OK.

Eve: [Pointing to the second essay in her cline, i.e., “A View From the Bridge”] And this is [a] narration [essay]. It is [a] small story.

Interviewer: OK.

Eve: [Pointing to the third essay in her cline, i.e., “Grammy Rewards”] And this is [a] contrast [essay]. It contrast[s] two grandmas.

Interviewer: OK.

Eve: [Pointing to the fourth essay in her cline, i.e., “Salvation”] And this is [a] narration [essay], but it is long.

Interviewer: How did that help you, or not help you?

Eve: Vocabulary, too much.

Eve: [Pointing to the fifth essay in her cline, i.e., “Freedom and Security”] And this has contrast.

Examining Eve’s responses, we (the research assistant and I) concluded her comment about overall length (conjoined with vocabulary) provided insight into how she felt this conjoined pair influenced her perceptions of difficulty. However, we did not find her comments about rhetorical organization immediately clear with regards to how they indicated she felt the logical organization of the essays influenced her perceptions of difficulty. Nevertheless, we did accept that she felt
that she could make sense of each essay’s logical organization which assisted her understanding of the essays.

After Eve identified the rhetorical organization of each of the essays and offered a comment about overall length (conjoined with vocabulary), we moved on to the structured questions from the questionnaire. Here she noted how one or more features influenced her perceptions of difficulty about a single essay and at other times how her perceptions were related to two or more essays. I will report her responses as they logically relate to each of the essays in her cline, sometimes as a single essay and other times grouped into two or more essays as the grouping best describes her responses.

**Essay 1: “A Guide to Proper Hand-washing Technique.”** Eve referenced the first essay (i.e., “A Guide to Proper Hand-washing Technique”) in her cline two times during our discussion. The first time was when she was answering the question about logical organization. Here she pointed to this essay to expound on her opening comments about rhetorical organization and then added a remark about signal words and numbers (an area not on the questionnaire):

Interviewer: Why did you choose strongly agree for section 7, number 1, logical organization?

Eve: Just like picking number, and tell me how to do this.

Interviewer: Numbers? What do you mean by numbers?

Eve: Process [Pointing to the number beside each paragraph].

Translator: Do you mean the steps?
Eve: Yes, the steps.

Interviewer: The steps. For example?

Eve: [Pointing to the signal words first and next] First, you need to. . . . Then, you need to. . . .

Reviewing Eve’s additional explanation of the rhetorical organization of the “A Guide to Proper Hand-washing Technique” essay (although it was still not overly specific), we interpreted it to mean that she felt she could recognize the logical organization and signal words, and thus she felt these features influenced her perceptions of difficulty.

Eve referenced the “A Guide to Proper Hand-washing Technique” essay again when she was responding to the question about supplementary materials 2 (i.e., pre- and post questions) to explain that she found the presence of the questions at the end of this essay helpful: “If I saw the questions, I can know what I misunderstanding.”

**Essay 2: “A View From the Bridge.”** When replying to the question about supplementary materials 1 (i.e., advance organizers: introductions prior to the writing text), Eve pointed to the second essay in her cline (i.e., “A View From the Bridge”) and (with the help of the translator) explained that she felt the editor’s introduction to the essay helped her to understand the essay's contents:

Interviewer: You mentioned you found the introduction helpful. Why did you feel the introduction was helpful?

Eve: Speaking Mandarin with the translator.
Translator: The author had a similar experience to the one he is describing in the essay.

Interviewer: How was that helpful?

Eve: Speaking Mandarin with the translator.

Translator: It helped her [Eve] understand what the essay was going to be about.

**Essays 3 and 4: “Grammy Rewards” and “Salvation.”** When discussing logical organization and structure, Eve compared the third and fourth essays in her cline (i.e., “Grammy Rewards” and “Salvation”) several times. She first explained that she understood the logical organization of both essays, but that she found the narrative organization of the “Salvation” essay—the essay she chose as the harder of the two—easier “to understand” than the contrast organization of the “Grammy Rewards” essay. She then went on to offer comments explaining why she chose the “Grammy Rewards” essay as easier than the “Salvation” essay. When talking about structure, she explained that she felt she could easily locate the thesis statement in the introduction of the “Grammy Rewards” essay. Conversely, she complained that she had trouble finding the thesis statement in the introduction of the “Salvation” essay.

**Essay 4: “Salvation.”** In addition to the comparisons Eve made between the third and fourth essays in her cline (i.e., “Grammy Rewards” and “Salvation”), she made comments specific to the “Salvation” essay. When answering the question about vocabulary, she pointed to this “Salvation” essay. Here (via the translator), Eve explained that she thought the unfamiliar vocabulary in this essay
contributed to the difficulty she felt its overall length posed. She first explained she thought that the “Salvation” essay was too long. When asked why she felt the essay's length caused a problem, she answered, “Its vocabulary is not so easy.”

Eve also referenced the “Salvation” essay when responding to the question about vocabulary in context. To illustrate why she thought this feature was influential, she offered an example of how she felt the text surrounding an unfamiliar word (i.e., punctuated) in the essay did not help her to make sense of the unknown word: *When things quieted down, in a hushed silence, punctuated by a few ecstatic Amens, all the new young lambs were blessed in the name of God.*

**Essay 5: “Freedom and Security.”** In response to the final open ended question, Eve pointed to an item on the questionnaire that she had not marked (i.e., background knowledge) and offered an example of how she felt this feature influenced her perceptions of difficulty in the essay she chose as fifth (i.e., “Freedom and Security”). Here she explained that the “Freedom and Security” essay was about a subject she was not familiar with and she felt this caused her difficulty: “If it [is] not [about] daily life, it is difficult.”

Once Eve had answered all of the interview questions, we moved on to the final open ended question. Here she offered a comment about background knowledge. (See Essay 5 “Freedom and Security” for a note on this.)
Informant Five: Harold

Summary of Harold’s cline-questionnaire procedure and interview.

When creating his cline, Harold put the essays in the following order (easiest to most difficult):

1. “A Guide to Proper Hand-washing Technique”
2. “Freedom and Security”
3. “Grammy Rewards”
4. “Salvation”
5. “A View From the Bridge”

Reflecting on his cline construction, Harold marked seven items on the questionnaire that he felt influenced his perceptions of text difficulty, one that is measured by the Lexile Readability Formula (i.e., vocabulary) and six that are not: (a) vocabulary in context, (b) overall length, (c) paragraph length, (d) background knowledge, (e) structure, and (f) signal words. These are indicated as Qs in Table 23.

During the interview, Harold provided further insight into why he answered the questionnaire the way he did. In response to the opening, follow up, and final questions, he offered nonencompassing comments about how he felt each of the areas he had marked on the questionnaire influenced his perceptions of difficulty. These are listed as Ps in Table 23.

Harold also decided that several features he had not marked on the questionnaire were influential: (a) sentence length, (b) titles, (c) interest, (d) logical organization, and (e) format.
In total, Harold reported ten features to be primary: (a) vocabulary, (b) vocabulary in context, (c) overall length, (d) background knowledge, (e) titles, (f) interest, (g) logical organization, (h) structure, (i) signal words, and (j) format. Harold also reported that he felt four features were conjoined with (influenced by) other features: (a) vocabulary was influenced by vocabulary background knowledge, (b) overall length was influenced by vocabulary and interest, (c) paragraph length was influenced by vocabulary, and (d) interest was influenced by sentence length, overall length, and logical organization. These are listed as Cs and arrows (←) in Table 23. The areas that Harold felt were conjoined (influenced by another feature) are indicated with Cs, and the features that he felt influenced the conjoined features are indicated with arrows (←) which point to the conjoined features.
Table 23

*Harold’s Responses to the Questionnaire and Interview Questions*

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<thead>
<tr>
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<th>Background Knowledge</th>
<th>Interest</th>
<th>Logical Organization</th>
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<td>C</td>
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<td>C</td>
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</table>

**Detailed analysis of Harold’s interview.** When replying to the opening question, Harold offered a series of short nonencompassing comments about the essays in his cline. He first explained that the reason he chose the “A Guide to Proper Hand-washing Technique” essay for the first position in his cline was related to titles and background knowledge: “I put the one most easiest because the title is easy. . . . And I know something about it because it [the topic of the essay] is about our life.”

Harold then pointed to the first and second essays in his cline (i.e., “A Guide to Proper Hand-washing Technique” and “Freedom and Security”). Here he remarked that he was “more comfortable” with the left justified format in the second essay than the block format in the first, a comment we interpreted as
showing he felt the format of these essays influenced his perceptions of difficulty. However, this comment did not explain why he placed the second essay in its position.

Putting his finger on the third essay in his cline (i.e., “Grammy Rewards”), Harold cited overall length (conjoined with interest) as the reason he decided to position this essay as third in his cline instead of fourth: “I was interest[ed] in this one, so, even though it was a little longer [than the fourth essay in my cline, the “Salvation” essay], I will take more patience.”

Moving to the fourth essay in his cline (i.e., “Salvation”), Harold stated that he found the logical organization (the narrative organization) of this essay to be “more difficult” for him to follow than the contrast organization of the essay he chose as third, the “Grammy Rewards” essay.

And for the fifth essay in his cline (i.e., “A View From the Bridge”), Harold explained he put this essay in the most difficult position: “Because the composition is too long, and there are many words I do not know.” We interpreted this comment to mean that he felt overall length was conjoined with vocabulary.

After Harold offered a series of short nonencompassing comments about the essays in his cline, we moved on to the structured questions from the questionnaire. Here he noted how one or more features influenced his perceptions of difficulty about a single essay and at other times how his perceptions were related to two or more essays. I will report his responses as they logically relate to each of the essays in his cline, sometimes as a single
essay and other times grouped into two or more essays as the grouping best describes his responses.

**Essay 1: “A Guide to Proper Hand-washing Technique.”** Harold referenced the first essay in his cline (i.e., “A Guide to Proper Hand-washing Technique”) several times during our discussion to offer examples of features he felt contributed to his perceptions of difficulty. The first time was when he was replying to the question about vocabulary. Here he offered a comment about vocabulary (conjoined with background knowledge). He explained that he felt his background knowledge about the topic of the essay (i.e., hand washing) helped him understand the vocabulary in this essay: "I know the words [in this essay] because we talk [about] it [the subject of hand washing] many times with my friends or family. . . . [S]chool also tell[s] us about this."

Harold also referred to the "A Guide to Proper Hand-washing Technique" essay when answering the question about signal words. Here he explained that he found the signal words *first* and *next* in this essay helpful. When asked about the presence of signal words in other essays, however, he explained that he found them in "just this one," even though signal words were present in other essays.

The third time he referenced the “A Guide to Proper Hand-washing Technique” essay was to offer a comment about titles (an area he had not marked on the questionnaire). Here he noted that he felt the title of this essay was helpful because it “described what the essay was going to be about.”
**Essay 2: “Freedom and Security.”** Harold referenced the second essay in his cline (i.e., “Freedom and Security”) when discussing vocabulary in context. Here he explained (with the help of the translator) that the contrastive sentence structure of this essay helped him make sense of the unknown vocabulary he found there:

Translator: This essay provides a lot of positive and negative examples about freedom and security, so he can figure out what the words mean.

Interviewer: Can you show me an example?

Harold: [Reads a sentence from the essay] *The more freedom we have, the less security, and the more security, the less freedom.*

**Essays 1 and 2: “A Guide to Proper Hand-washing Technique” and “Freedom and Security.”** When comparing the first essay in his cline (i.e., “A Guide to Proper Hand-washing Technique”) to the second (i.e., “Freedom and Security”), Harold repeated his comments about how he perceived two features (i.e., titles and background knowledge) to be influential and then made a direct comparison between the difficulty of the vocabulary in each of these two essays:

Harold: [Pointing to the “A Guide to Proper Hand-washing Technique” essay] This one is . . . easier for me than this one [Pointing to the “Freedom and Security” essay].

Interviewer: Because?

Harold: Because I know the title [of the “A Guide to Proper Hand-washing Technique” essay,] and I have the background [about its subject], so it’s easier. And . . . maybe some words [in the “A Guide to Proper Hand-
"A Guide to Proper Hand-washing Technique" essay are] easier than this one [the “Freedom and Security” essay].

Harold (with the help of the translator) then went on to repeat his comments about how he felt the features of background knowledge and titles influenced his decision to position the “A Guide to Proper Hand-washing Technique” before the “Freedom and Security” essay. While making this comment, he also added that he was frustrated with the formatting of the first essay, and this reduced his desire to read it:

Harold: I put it ["A Guide to Proper Hand-washing Technique"] on the first one because I know this title and I have background. But . . . if I did not know about this title, [and I] have no background . . . , then when I take this paper, [and] I saw this whole dialogue, I did not want to read it because it is . . . not enough space.

Interviewer: Can you show me an example?
Harold: Like this one [Pointing to the block format in the “A Guide to Proper Hand-washing Technique” essay].

Interviewer: Can you show me an essay that worked better for you?

Interviewer: Why is it clear?
Harold: Speaking Mandarin with the translator.
Translator: The space makes him feel comfortable.
Interviewer: The space makes you feel comfortable? Please point to the area you are talking about for me.

Harold: [Pointing to the indentations at the beginning of each paragraph] Maybe here, here, and here.

Interviewer: OK. I’ve got you. You are saying these lines are indented?

Harold: Speaking Mandarin with the translator.

Translator: The indentations let him know where there is a new start.

Interviewer: What you are pointing to here are the indentations of each new paragraph?

We coded Harold’s report as formatting, but it was about an area that was not included on the questionnaire, the indentation of paragraphs.

**Essay 3: “Grammy Rewards.”** Harold pointed to the third essay in his cline (i.e., “Grammy Rewards”) when answering questions about vocabulary in context and overall length to illustrate how he found these features helpful. Via the translator, he also offered an explanation: “The vocabulary here is not very difficult for Harold to understand because he can guess its meaning from the context.”

When discussing overall length, Harold explained that he felt overall length (conjoined with interest) and interest (conjoined with logical organization) influenced his perceptions of the difficulty about the “Grammy Rewards” essay. He first repeated his opening comment that his interest in the essay overrode his concerns about its length: “I was interesting in this one, so, even though it was a little longer, I will take more patience.” When asked what interested him about
this essay, he explained that his understanding of the essay’s point by point rhetorical organization sparked his Interest: “Because it compare A and B, and I know for this.”

**Essay 4: “Salvation.”** Harold pointed to the fourth essay in his cline (i.e., “Salvation”) several times during the interview. The first time was when he was responding to the question about background knowledge. Here he offered a comment about how he felt his background knowledge about the topic of the essay (i.e., religion) helped him understand the essay: “I know something about religion, so it can help me to understand [the essay].” At another point in our discussion, he returned to this essay and (with the help of the translator) explained that he felt his background knowledge about the essay’s religious topic helped him with unknown vocabulary:

Translator: This essay has a lot of words he doesn’t understand, but when he saw this [Pointing to the words Christ and the membership in the church], he thought it might be referring to religion.

Interviewer: OK. If you did not know a word, did something help you find its meaning?

Harold: Many Taiwanese maybe go to church and bai bai (Mandarin for pray). I don’t go to bai bai, but I also understand. I know that.

Harold pointed to the “Salvation” essay a third time when answering the question about paragraph length. Here he offered a comment about how he felt paragraph length (conjoined with vocabulary) and the overall length (conjoined with vocabulary) of the essay caused him difficulty:
Harold: I did not understand this part [Pointing to a paragraph in this essay].

Interviewer: What made it difficult to understand?

Harold: The vocabulary . . . , and the whole dialogue is very long. And if I did not understand this . . . part, I will have no patience . . . to keep reading.

In response to the final open ended question, Harold referred to the "Salvation" essay a fourth time to illustrate how he felt two features influenced his perceptions. He explained that interest conjoined with an area he had not marked on the questionnaire (i.e., sentence length) helped him to understand the essay, but that the overall length of the essay caused him difficulty: “The easy sentence is shorter, so I will be more motivated to read that [the "Salvation" essay], but the essay is too long.”

**Essays 3 and 4: “Grammy Rewards” and “Salvation.”** In addition to the individual comments Harold offered about features that he felt influenced his perceptions of difficulty for the third and fourth essays in his cline (i.e., “Grammy Rewards” and “Salvation”), he (via the translator) also made two direct comparisons of these two essays. The first time was when we were discussing logical organization (an area he had not marked on the questionnaire). Here, the translator reported that Harold “felt the logical organization of the contrast essay [i.e., “Grammy Rewards”] is easier than the narrative organization of the ‘Salvation’ essay.’” The second comparison Harold made was when we were discussing structure. Here the translator explained that Harold found the
introduction in the “Grammy Rewards” essay easier to understand than the one in the “Salvation” essay.

**Essay 5: “A View From the Bridge.”** Harold pointed to the last essay in his cline (i.e., “A View From the Bridge”) when responding to the question about overall length and added a comment about interest: “Too long and no interest.”

**Essays 4 and 5: “Salvation” and “A View From the Bridge.”** In addition to the comments Harold made about the fourth and fifth essays in his cline (i.e., “Salvation” and “A View From the Bridge”), he also made two comments that compared these two essays, explaining that he had trouble deciding which to place fourth and which to place fifth. The first was that he felt the “A View From the Bridge” essay was easier than the “Salvation” essay because he had more background knowledge about the subject of the first essay (i.e., fishing) than he did about the subject of the second essay (i.e., religion):

Interviewer: Why was the topic of this essay [Pointing to the “A View From the Bridge” essay] more familiar to you than that one [Pointing to the “Salvation” essay]? Do you know anything about fishing?

Harold: So so compared with that [religion, the subject of the “Salvation” essay].

Harold’s second comment was about overall length. When discussing overall length, he explained that he felt that the “Salvation” essay was easier than the “A View From the Bridge” essay because “this one [the “Salvation” essay] is not longer like this one [the “A View From the Bridge” essay].”
Once Harold had answered all of the interview questions, we moved on to the final open ended question. Here he offered comments about interest (conjoined with sentence length) and overall length. (See Essay 4 “Salvation” for a note on this.)

Informant Six: Jacob

Summary of Jacob’s cline-questionnaire procedure and interview.

When creating his cline, Jacob put the essays in the following order (easiest to most difficult):

1. “A Guide to Proper Hand-washing Technique”
2. “Grammy Rewards”
3. “Freedom and Security”
4. “Salvation”
5. “A View From the Bridge”

Reflecting on his cline construction, Jacob marked seven items on the questionnaire that he felt influenced his perceptions of text difficulty, one measured by the Lexile Readability Formula (i.e., vocabulary) and six that are not: (a) vocabulary in context, (b) background knowledge, (c) interest, (d) logical organization, (e) structure, and (f) signal words. These are indicated as Qs in Table 24.

During the interview, Jacob provided further insight into why he answered the questionnaire the way he did. In response to the opening question, he offered a primary encompassing comment explaining that he felt vocabulary guided his decision making to arrange all of the essays in the cline the way he did. Then, in
response to the follow up and final questions, he offered nonencompassing
comments about how he felt each of the areas he had marked on the
questionnaire influenced his perceptions of difficulty about the essays in his cline.
He also decided three features he had not marked were influential: (a) sentence
length, (b) titles, and (c) structure. For the final open ended question, Jacob
offered no further information.

In total, Jacob reported six features to be primary: (a) vocabulary, (b)
vocabulary in context, (c) titles, (d) interest, (e) logical organization, and (f) signal
words. These are listed as Ps in Table 24.

Jacob also reported that he felt two features were conjoined with
(influenced by) other features. He reported he felt that (a) vocabulary was
influenced by background knowledge and (b) sentence length was influenced by
vocabulary. These are listed as Cs and arrows (←) in Table 24. The areas that
Dan felt were conjoined (influenced by another feature) are indicated with Cs,
and the features that he felt influenced the conjoined features are indicated with
arrows (←) which point to the conjoined features.
Table 24

*Jacob's Responses to the Questionnaire and Interview Questions*

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<thead>
<tr>
<th>Questionnaire</th>
<th>Primary</th>
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<td>Signal Words</td>
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</tbody>
</table>

**Detailed analysis of Jacob's interview.** Jacob replied to the opening question with a short primary encompassing comment that explained that he felt vocabulary was the driving force behind the logic he used to create his cline:

Interviewer: . . . Why did you do it this way?

Jacob: I think because . . . the word inside the essay.

Interviewer: Is there anything else that helped you to decide?

Jacob: I think that's all.

After Jacob explained that he felt vocabulary was the driving force behind the logic he used to create his cline, we moved on to the structured questions from the questionnaire. Here he noted how one or more features influenced his perceptions of difficulty about a single essay and at other times how his perceptions were related to two or more essays. I will report his responses as
they logically relate to each of the essays in his cline, sometimes as a single essay and other times grouped into two or more essays as the grouping best describes his responses.

**Essay 1 “A Guide to Proper Hand-washing Technique.”** Jacob referred to the first essay in his cline (i.e., “A Guide to Proper Hand-washing Technique”) several times as he answered questions from the questionnaire. When answering the question about vocabulary, he pointed to this essay and offered an example of how he perceived vocabulary (conjoined with background knowledge) to be assistive:

Interviewer: You answered the question about vocabulary as strongly agree. Why?
Jacob: [Pointing to the first essay in his cline, i.e., “A Guide to Proper Hand-washing Technique”] I knew the guy was blah, blah, blah.
Interviewer: Washing his hands?
Jacob: Yeah.

Jacob referenced the “A Guide to Proper Hand-washing Technique” essay again when replying to the question about vocabulary in context. Here he explained that he found the context surrounding the vocabulary he was unfamiliar with in this essay assistive and pointed to the sentence *The whole thing just seems so dirty* to illustrate how this sentence helped him to make sense of the word he found unfamiliar, *revolting.*

Jacob pointed to the “A Guide to Proper Hand-washing Technique” essay a third time when responding to the question about signal words. Pointing to the
numbers one through 10 (i.e., one number alongside each of the paragraphs) (an area not on the questionnaire) and the signal words *first* and *next*, he explained that these numbers and the transitional words helped him to follow the rhetorical structure of the essay (i.e., process):

Jacob: There is a step? Step one, you have to this. Step two, you have to do that.

Interviewer: How did you know there were steps?

Jacob: Because there is a number [Pointing to the numbers next to each paragraph]. You see, it’s saying how to wash your hands. And like I said . . . first [Pointing to the signal word *first*]. . . . And [Pointing to the signal word *second*] the second one was the next one.

**Essay 2: “Grammy Rewards.”** Jacob pointed to the second essay in his cline (i.e., “Grammy Rewards”) when answering the question about logical organization to illustrate how he felt this feature helped him to understand the essay:

Jacob: OK. In ‘Grammy Rewards’ it’s talking about two different grandmoms.

Interviewer: All right.

Jacob: It keeps saying this grandma . . . and that grandma. . . . And it just goes like that. . . . So it makes it easier.

Interviewer: When you say goes like that, do you mean point by point organization?

Jacob: Yeah.
Essays 3 and 4: “Freedom and Security” and “Salvation.” Jacob compared the third and fourth essays in his cline (i.e., “Freedom and Security” and “Salvation”) when answering the question about vocabulary. The comparison he made, however, was related to how he felt sentence length (an area he had not marked on the questionnaire) was influenced by vocabulary:

   Interviewer: Question area number one was about vocabulary. You marked that vocabulary influenced your decision. What did you mean?
   Jacob: Mmhh. In this case, maybe I know the first part [of the sentence], but if it had a word I did not know in the next line I would be confused.
   Interviewer: Can you show me an example?
   Jacob: Points to the sentence in the “Salvation” essay: When things quieted down, in a hushed silence, punctuated by a few ecstatic Amens, all the new young lambs were blessed in the name of God.
   Interviewer: OK.
   Jacob: I know a few of these words, but I couldn’t understand . . . exactly what it [the sentence] means.
   Interviewer: What about the sentences in this essay [Pointing to the prior essay in Jacob’s cline, i.e., the “Freedom and Security” essay]?
   Jacob: There were fewer words I didn’t know.

Essay 5: “A View From the Bridge.” Jacob pointed to the fifth essay in his cline (i.e., “A View From the Bridge”) when discussing why he had marked the area about structure positively on the questionnaire. The response he offered, however, was about logical organization. Here he explained how his
understanding (or possibly his lack of understanding) about narrative rhetorical organization diminished his ability to understand the essay he chose as most difficult (i.e., “A View From the Bridge”):

Jacob: To me, if the structure is clearer, the essay might be . . . easier.
Interviewer: What made it clearer for you? Or not clearer?
Jacob: The order of the story.
Interviewer: OK. Can you give me an example to help me understand what you mean?
Jacob: In this case, the boy is fishing, right? And he’s wearing sunglasses. But the author did not know he was blind. That’s why he [the boy] wears glasses.
Interviewer: Yeah, right.
Jacob: The author know the boy was blind in the middle.
Interviewer: OK. The man in the story did not find out the boy was blind until the middle of the story. So did that make the story hard or easy?
Jacob: Hard, really hard.

*Essays 1 and 5: “A Guide to Proper Hand-washing Technique” and “A View From the Bridge.”* In addition to the comments Jacob offered about which features influenced his perceptions of difficulty in the first and last essays in his cline (i.e., “A Guide to Proper Hand-washing Technique” and “A View From the Bridge”), he compared these essays three times. The first comparison he made was about titles (an area he had not marked on the questionnaire). He explained one of the first things he did when constructing his cline was to
examine the titles of the essays. This (the translator explained) helped Jacob to initially place these two essays in the last and the first positions in his cline: "When he first glanced at the title of the most difficult one [i.e., “A View From the Bridge”], it was hard for him to understand what the essay would be talking about it, but he felt the first one [i.e., “A Guide to Proper Hand-washing Technique”] was easier because the title was easier to understand.”

After making a preliminary choice about where to place the “A Guide to Proper Hand-washing Technique” and “A View From the Bridge” essays based on their titles, Jacob explained that the amount of unfamiliar vocabulary in each essay confirmed his initial placement:

That one [Pointing to the essay in the first position in his cline, i.e., “A Guide to Proper Hand-washing Technique” essay] was easiest for me. And I had a lot of words I didn’t know in this essay [Pointing to the essay in the last position of his cline, i.e., “A View From the Bridge”]. That’s why I did it. [That’s why I placed it last.]

When we reached the question about interest, Jacob made a third comparison of these two essays:

Interviewer: You said interest helped you make a decision. Why? What do you mean?

Jacob: Like, uhm. This one [“A View From the Bridge”]. In my opinion . . . , it is boring.

Interviewer: It’s boring?
Jacob: I was not interested in this one, but the easiest one to me was funny.

Interviewer: The easiest one was funny? Which one was that?

Jacob: Points to the “A Guide to Proper Hand-washing Technique” essay.

Interviewer: So, how did interest help you to decide?

Jacob: I don't know. It’s just easier.

Once Jacob had answered all of the interview questions, we moved on to the final open ended question, but he offered no further information.

Informant Seven: Kala

Summary of Kala’s cline-questionnaire procedure and interview.

When creating her cline, Kala put the essays in the following order (easiest to most difficult):

1. “A Guide to Proper Hand-washing Technique”
2. “Grammy Rewards”
3. “Freedom and Security”
4. “Salvation”
5. “A View From the Bridge”

Reflecting on her cline construction, Kala marked five areas on the questionnaire that she felt influenced her perceptions of text difficulty, one that is measured by the Lexile Readability Formula (i.e., vocabulary) and four that are not: (a) vocabulary in context, (b) interest, (c) logical organization, and (d) structure. These are indicated as Qs in Table 25.
During the interview, Kala provided further insight into why she answered the questionnaire the way she did. In response to the opening question, she offered encompassing comments explaining that she felt that vocabulary and grammar (conjoined with sentence length) guided her decision to arrange the essays in the cline in the way she did. Then, in response to the follow up and final questions, she offered nonencompassing comments about how she felt each of the areas she had marked on the questionnaire influenced her perceptions of difficulty. She also indicated that she felt two other features were influential: one feature she had not checked on the questionnaire (i.e., sentence length) and one that was not on the questionnaire (i.e., grammar).

In total, Kala reported six features to be primary: (a) vocabulary, (b) vocabulary in context, (c) background knowledge, (d) interest, (e) structure, and (f) grammar. These are listed as Ps in Table 25.

Kala also reported that she felt four features were conjoined with (influenced by) other features. She reported she felt that (a) vocabulary was influenced by background knowledge, (b) interest was influenced by vocabulary, (c) logical organization was influenced by vocabulary, and (d) grammar was influenced by sentence length. These are listed as Cs and arrows (←) in Table 25. The areas that Kala felt were conjoined (influenced by another feature) are indicated with Cs, and the features that she felt influenced the conjoined features are indicated with arrows (←) which point to the conjoined features.
Table 25

*Kala’s Responses to the Questionnaire and Interview Questions*

<table>
<thead>
<tr>
<th>Questionnaire</th>
<th>Primary</th>
<th>Conjoined</th>
<th>Vocabulary</th>
<th>Sentence Length</th>
<th>Background Knowledge</th>
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<tr>
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<td>P</td>
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<td>Grammar *</td>
<td>P</td>
<td>C</td>
<td></td>
<td>←</td>
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</tbody>
</table>

*Note.*

*Grammar* was not included on the original questionnaire.

**Detailed analysis of Kala’s interview.** In response to the opening question, Kala offered encompassing comments about why she had constructed her cline in the way she did. She (with the help of the translator) began by citing one area she had marked on the questionnaire (i.e., vocabulary) and another she had not (i.e., sentence length), explaining she felt that the latter influenced an area that was not on the questionnaire (i.e., grammar):

Interviewer: . . . Why did you do it this way?

Kala: Because of the vocabularies I don’t know.

Interviewer: OK. Were there any other reasons?

Kala: The sentence I can’t understand.

Interviewer: What do you mean, the sentence you can’t understand?

Kala: Speaking Mandarin with the translator.
Translator: It’s a grammatical problem. If a sentence is too long, she will misunderstand its grammatical meaning.

After Kala explained that she felt both vocabulary and grammar (conjoined with sentence length) guided the creation of her cline, we moved on to the structured questions from the questionnaire where she cited additional features that influenced her perceptions of difficulty. Here she noted how one or more features influenced her perceptions of difficulty about a single essay and at other times how her perceptions were related to two or more essays. I will report her responses as they logically relate to each of the essays in her cline, sometimes as a single essay and other times grouped into two or more essays as the grouping best describes her responses.

**Essay 1: “A Guide to Proper Hand-washing Technique.”** Kala referenced the first essay in her cline (i.e., “A Guide to Proper Hand-washing Technique”) two times during the follow up questions. The first time was when she was answering the question about vocabulary. Here she explained that she found the vocabulary in this essay easy to understand, “Because we wash our hands every day, so it is easy,” a comment we coded as vocabulary conjoined with an area she had not marked on the questionnaire (i.e., background knowledge).

Kala pointed to the “A Guide to Proper Hand-washing Technique” essay a second time when answering the question about vocabulary in context to offer an example of how she felt this feature was helpful. Here she explained that she did
not know the word *bacteria* in the essay, but that the words *spread disease* in the
next sentence helped her to understand it.

*Essays 2 and 3: “Grammy Rewards” and “Freedom and Security.”*

Kala compared the second and third essays in her cline (i.e., “Grammy Rewards” and “Freedom and Security”) two times during the interview. The first
time was when she was responding to the question about interest. Here she
offered an example of interest and how interest (conjoined with vocabulary)
contributed to this comparison:

Translator: This essay [“Grammy Rewards”] is . . . comparing two different
people.

Interviewer: Why was that interesting?
Kala: Speaking Mandarin with the translator.

Translator: She can learn about different lifestyles from this article.

Interviewer: How did interest affect your decisions about the other essays?
Kala: I am interested in this topic [Pointing to the “Freedom and Security”
essay], but there are too many vocabularies I don’t know.

The second time Kala compared the “Grammy Rewards” and “Freedom
and Security” essays was when she was talking about an area she had not
marked on the questionnaire (i.e., background knowledge). Here the translator
explained that Kala "thought the two essays are very much alike [in difficulty], but
the grandma topic [in the “Grammy Rewards” essay] is closer to her life [than the
“Freedom and Security” essay], so she chose it as second.”
**Essay 3: “Freedom and Security.”** Kala referenced the third essay in her cline (i.e., “Freedom and Security”) while responding to the question about structure. She explained that she found the structure (i.e., the topic sentences) in this essay difficult to understand:

Interviewer: [Pointing to the “Freedom and Security” essay] Was there anything else about this essay you found difficult?

Kala: The topic sentences.

Kala: Speaking Mandarin with the translator.

Translator: When she can understand the topic sentence, she can understand the whole paragraph.

**Essay 5: “A View From the Bridge.”** Kala pointed to the fifth essay in her cline (i.e., “A View From the Bridge”) when responding to two questions. The first time was when she was responding to the question about vocabulary. Here she offered a comment about logical organization (conjoined with vocabulary). She explained (via the translator) that she felt “the vocabulary [in the “A View From the Bridge” essay] was so difficult that she could not even understand the organization of the essay.”

She pointed to the “A View From the Bridge” essay again when answering the question about vocabulary in context:

Interviewer: You marked that you felt vocabulary in context was influential. Can you show me an example to help me understand why you marked this?
Kala: [Pointing to a word in the “A View From the Bridge” essay]
“Sailfish.”

Interviewer: And the other words didn’t help you?

Kala: Yes. No words [were able to] help [me].

**Essays 4 and 5: “Salvation” and “A View From the Bridge.”** Kala made a comparison between the fourth and fifth essays when responding to the final open ended question. Here she explained that she felt the “Salvation” essay had “easier grammar” than the “A View From the Bridge” essay.

Once Kala had answered all of the interview questions, we moved on to the final open ended question. Here she offered a comment about grammar. (See Essays 4 and 5 “Salvation” and “A View From the Bridge” for a note on this.)

**Informant Eight: Linda**

**Summary of Linda’s cline-questionnaire procedure and interview.**

When creating her cline, Linda put the essays in the following order (easiest to most difficult):

1. “A Guide to Proper Hand-washing Technique”
2. “Grammy Rewards”
3. “Freedom and Security”
4. “A View From the Bridge”
5. “Salvation”

Reflecting on her cline construction, Linda noted 13 areas that she felt influenced her perceptions of text difficulty, two that are measured by the Lexile Readability Formula (i.e., vocabulary and sentence length) and 11 that are not: (a)
vocabulary in context, (b) overall length, (c) background knowledge, (d) titles, (e) interest, (f) logical organization, (g) structure, (h) signal words, (i) format, (j) supplementary materials 1 (i.e., advance organizers: introductions prior to the writing text), and (k) supplementary materials 2 (i.e., adjunct questions: pre- and post questions). These are indicated as Qs in Table 26.

During the interview, Linda provided further insight into why she answered the questionnaire in the way she did. In response to the opening question, she offered an encompassing comment explaining that she felt sentence length (conjoined with vocabulary) guided her decision to arrange the essays in the cline in the way she did. Then, during the follow up questions, she offered nonencompassing comments about how she felt each of the areas she had marked on the questionnaire influenced her perceptions of difficulty about the essays in her cline, except one (i.e., structure). For the final open ended question, she offered no further information.

In total, Linda reported 11 features to be primary: (a) vocabulary, (b) vocabulary in context, (c) overall length, (d) background knowledge, (e) titles, (f) interest, (g) logical organization, (h) signal words, (i) format, (j) supplementary materials 1 (i.e., advance organizers), and (k) supplementary materials 2 (i.e., adjunct questions: pre- and post questions). These are listed as Ps in Table 26.

Linda also reported that she felt two features were conjoined with (influenced by) another feature. She reported she felt that (a) sentence length was influenced by vocabulary and (b) titles were influenced by vocabulary. These are listed as Cs and arrows (←) in Table 26. The areas that Linda felt were
conjoined (influenced by another feature) are indicated with Cs, and the features that she felt influenced the conjoined features are indicated with arrows (←) which point to the conjoined features.

Table 26

**Linda’s Responses to the Questionnaire and Interview Questions**

<table>
<thead>
<tr>
<th>Questionnaire</th>
<th>Primary</th>
<th>Conjoined</th>
<th>Vocabulary</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>Vocabulary in Context</td>
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<td></td>
</tr>
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</tr>
<tr>
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<td>P</td>
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<tr>
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</tr>
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<td>Interest</td>
<td>Q</td>
<td>P</td>
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<td>P</td>
<td></td>
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</tr>
<tr>
<td>Supp Materials 2 b</td>
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<td>P</td>
<td></td>
</tr>
</tbody>
</table>

*Note.*

* Supp Materials 1. Supplementary Materials (Advance organizers: Introductions prior to the writing text.)
* Supp Materials 2. Supplementary Materials (Pre- and post questions: The questions before and/or after the text.)

**Detailed analysis of Linda’s interview.** In response to the opening question, Linda responded with an encompassing comment about how she felt sentence length (conjoined with vocabulary) guided her decision to construct her cline in the way she did:

Interviewer: . . . Why did you do it this way?

Linda: When the sentence is long . . . , it is difficult.

Interviewer: Why were the long sentences hard for you?
Linda: Some vocabulary I can’t understand.

Interviewer: So the long sentences had more difficult vocabulary words?

Linda: Yes.

Interviewer: Did anything else help you to decide?

Linda: No.

After Linda explained she felt sentence length (conjoined with vocabulary) guided her construction of her cline, we moved on to the structured questions from the questionnaire. While responding to these, she offered examples of other features she felt influenced her perceptions of difficulty. Here she noted how one or more features influenced her perceptions of difficulty about a single essay and at other times how her perceptions were related to two or more essays. I will report her responses as they logically relate to each of the essays in her cline, sometimes as a single essay and other times grouped into two or more essays as the grouping best describes her responses.

**Essay 1: “A Guide to Proper Hand-washing Technique.”** Linda referenced the first essay in her cline (i.e., “A Guide to Proper Hand-washing Technique”) while responding to several question areas. The first time was when she was answering the question about signal words. Expounding on her comment about the steps she expected from the thesis statement, she explained that she found the signal words *first* and *next* in this essay helpful, but that this was the only essay where she could identify signal words.

The second time she made reference to the “A Guide to Proper Hand-washing Technique” essay was when she replied to the question about
supplementary materials 1 (i.e., advance organizers: introductions prior to the writing text). When answering this question, Linda (via the translator) explained that she felt the editor’s introduction before this essay helpfully “indicates what is going to be expressed in [the] essay.”

**Essay 2 “Grammy Rewards.”** Linda pointed to the second essay in her cline (i.e., “Grammy Rewards”) when responding to the question about vocabulary in context to explain that she found the context surrounding unfamiliar words helpful. To illustrate this, she offered an example of how the unfamiliar word *polish* was made comprehensible by the surrounding context “attend to the table.”

**Essays 1 and 2: “A Guide to Proper Hand-washing Technique” and “Grammy Rewards.”** Linda pointed to the first and second essays in her cline (i.e., “A Guide to Proper Hand-washing Technique” and “Grammy Rewards”) when she was discussing logical organization. She explained that she felt both essays were easy because she understood their rhetorical organization. She then compared the two essays. She first compared them when answering the question about vocabulary. She explained that she chose the second essay as more difficult than the first because the second had “some words I did not know.”

The second time Linda compared the “A Guide to Proper Hand-washing Technique” and “Grammy Rewards” essays was when she was responding to the question about titles. Here she explained that she felt the title of the “A Guide to Proper Hand-washing Technique” essay was “easy,” but that she could not “understand the meaning” of the title of the “Grammy Rewards” essay.
**Essay 3: “Freedom and Security.”** When discussing format, Linda noted that she was uncomfortable with short line spacing and offered an example in the “Freedom and Security” essay:

Translator: This essay [Pointing to the “Freedom and Security” essay] doesn’t leave enough space between the lines.

Interviewer: Can you circle the area you are talking about?

Linda: Circles the blank lines between the lines of the text.

Interviewer: Oh, I see. You are talking about line spacing, single instead of one point five or double spacing.

Linda: Mmmf.

**Essays: 1, 2 and 3: “A Guide to Proper Hand-washing Technique,” “Grammy Rewards,” and “Freedom and Security.”** Linda compared the first, second, and third essays in her cline (i.e., “A Guide to Proper Hand-washing Technique,” “Grammy Rewards,” and “Freedom and Security”) when replying to the question about background knowledge. She began by explaining that she felt the “A Guide to Proper Hand-washing Technique” essay was easier than the “Grammy Rewards” essay because the “A Guide to Proper Hand-washing Technique” essay was “more related to daily life” than the “Grammy Rewards” essay. She then made a similar comment to contrast the next essay. She explained that she felt that the “Grammy Rewards” essay was easier than the “Freedom and Security” essay because it was “more connected to daily life” than the “Freedom and Security.”
Essays 2, 4, and 5: “Grammy Rewards,” “A View From the Bridge,” and “Salvation.” Linda compared the second, fourth, and fifth essays in her cline (i.e., “Grammy Rewards,” “A View From the Bridge,” and “Salvation”) when responding to the question about interest. Pointing to the second and fifth essays (i.e., “Grammy Rewards” and “Salvation”), she explained that she felt that the second essay was more interesting than the fifth: “I have more interest in that essay [than that one].” She then remarked that she felt the fourth essay was more interesting than the one she chose as fifth: “Salvation.” She also explained that background knowledge played a part in this perception. Here she explained that she had more background knowledge about the subject of the fourth essay—an adult helping a child—than the fifth essay—religion—and this helped her decide where to place both essays in her cline:

Interviewer: For you personally, though, why was the subject of Jesus in the “Salvation” essay less interesting than the subject of the “A View From the Bridge” essay?

Linda: Because I think Jesus is difficult to understand.

Linda: Speaking Mandarin with the translator.

Translator: She doesn't have background knowledge about this kind of religion.

Interviewer: OK. What do you know about the “Bridge” essay from your own personal experience?

Linda: Speaking Mandarin with the translator.
Translator: She says the essay is talking about an adult helping a child to catch a fish.

Interviewer: So you feel that is more related to your personal experience than religion?

Linda: Yes.

**Essays 1 and 5: “A Guide to Proper Hand-washing Technique” and “Salvation.”** Linda made two comparisons of the first and fifth essays in her cline (i.e., “A Guide to Proper Hand-washing Technique” and “Salvation”). She first made the comparison when discussing vocabulary. When offering an example about vocabulary, she stated, “This one [Pointing to the “A Guide to Proper Hand-washing Technique” essay] is most easy and that one [Pointing to the “Salvation” essay] is most difficult.”

Linda made another comparison when responding to the question about titles. She began with a general comment about titles: “The title can help me . . . to understand the article.” She then made a comment about titles (conjoined with vocabulary) specific to the first and fifth essays in her cline (i.e., “A Guide to Proper Hand-washing Technique” and “Salvation”). Pointing to these two essays, she explained that she found the title of first essay “easier” than that of the fifth. When asked why, she explained that she could understand all of the words in the title of the first essay, but she couldn’t understand the word *salvation* in the last one.

**Essays 2 and 5: “Grammy Rewards” and “Salvation.”** When discussing overall length, Linda offered a comparison of the second and fifth
essays in her cline (i.e., “Grammy Rewards” and “Salvation”). Here, she noted, “The easy one [i.e., “Grammy Rewards”] . . . is shorter, and the difficult one [i.e., “Salvation”] is longer.”

**Essay 5: “Salvation.”** Linda pointed to the fifth essay in her cline (i.e., “Salvation”) while responding to the question about supplementary materials 2 (i.e., adjunct questions: pre- and post questions). Here she (via the translator) began with a general comment. The translator explained that “after reading the essays, Linda would look at the questions, and if she felt the questions were easy for her to answer, this would confirm that she understood the essay.” Linda then went on to explain that she felt the "Salvation" essay was difficult because “it had too many questions.”

Once Linda had answered all of the interview questions, we moved on to the final open ended question, but she offered no further information.

**Informant Nine: Marsha**

**Summary of Marsha’s cline-questionnaire procedure and interview.**

When creating her cline, Marsha put the essays in the following order (easiest to most difficult):

1. “A Guide to Proper Hand-washing Technique”
2. “Grammy Rewards”
3. “A View From the Bridge”
4. “Freedom and Security”
5. “Salvation”
Reflecting on her cline construction, Marsha marked nine areas on the questionnaire that she felt influenced her perceptions of text difficulty, two that are measured by the Lexile Readability Formula (i.e., vocabulary and sentence length) and seven that are not: (a) vocabulary in context, (b) overall length, (c) paragraph length, (d) interest, (e) logical organization, (f) structure, and (g) signal words. These are indicated as Qs in Table 27.

During the interview, Marsha provided further insight into why she answered the questionnaire in the way she did. In response to the opening question, she offered one short primary encompassing comment explaining that “vocabulary [was] the key element” behind her reasoning to complete her cline in the way she did. Then, during the follow up questions, she offered nonencompassing comments about how she felt each of the areas she had marked on the questionnaire influenced her perceptions of difficulty. She also offered a nonencompassing comment about one area she had not marked on the questionnaire: background knowledge. For the final open ended question, Marsha offered no further information.

In total, Marsha reported seven features to be primary: (a) vocabulary, (b) vocabulary in context, (c) sentence length, (d) interest, (e) logical organization, (f) structure, and (g) signal words. These are listed as Ps in Table 27.

Marsha also reported that she felt three features were conjoined with (influenced by) other features. She reported she felt that (a) vocabulary was influenced by background knowledge, (b) overall length was influenced by vocabulary, and (c) paragraph length was influenced by vocabulary. These are
listed as Cs and arrows (←) in Table 27. The areas that Marsha felt were conjoined (influenced by another feature) are indicated with Cs, and the features that she felt influenced the conjoined features are indicated with arrows (←) which point to the conjoined features.

Table 27

*Marsha’s Responses to the Questionnaire and Interview Questions*

<table>
<thead>
<tr>
<th>Questionnaire</th>
<th>Primary</th>
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<th>Vocabulary</th>
<th>Background Knowledge</th>
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<td>Vocabulary</td>
<td>Q</td>
<td>P</td>
<td>C</td>
<td>←</td>
</tr>
<tr>
<td>Vocabulary in Context</td>
<td>Q</td>
<td>P</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sentence Length</td>
<td>Q</td>
<td>P</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall Length</td>
<td>Q</td>
<td>C</td>
<td>←</td>
<td></td>
</tr>
<tr>
<td>Paragraph Length</td>
<td>Q</td>
<td>C</td>
<td>←</td>
<td></td>
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<tr>
<td>Interest</td>
<td>Q</td>
<td>P</td>
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<tr>
<td>Logical Organization</td>
<td>Q</td>
<td>P</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Structure</td>
<td>Q</td>
<td>P</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Signal Words</td>
<td>Q</td>
<td>P</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Detailed analysis of Marsha’s interview.** In response to the opening question, Marsha offered a short encompassing comment, explaining that she felt vocabulary guided the construction of her cline:

Interviewer: . . . Why did you do it this way?

Eve: The vocabulary is the key element.

After Marsha explained that she felt vocabulary was the key reason she created her cline in the way she did, we moved on to the structured questions from the questionnaire where she cited additional features as influential. Here
she noted how one or more features influenced her perceptions of difficulty about a single essay and at other times how her perceptions were related to two or more essays. I will report her responses as they logically relate to each of the essays in her cline, sometimes as a single essay and other times grouped into two or more essays as the grouping best describes her responses.

**Essays 1: “A Guide to Proper Hand-washing Technique.”** Marsha referenced the first essay in her cline (i.e., “A Guide to Proper Hand-washing Technique”) when answering two questions. The first time was when she was answering the question about structure. She (via the translator) explained that she felt the words *here’s how* in the thesis statement of the introduction indicated that it would be a process essay: “These words indicate there will be steps in the essay, so she can anticipate what the author will say in the essay.”

The second time was when she was replying to the question about signal words. She explained that the words *first* and *next* guided her through the steps of the “A Guide to Proper Hand Washing-technique” essay. She also explained that she found the presence of signal words in the second essay helpful, but not finding any in the other three essays made those essays appear more difficult to her.

**Essay 2: “Grammy Rewards.”** Marsha pointed to the second essay in her cline (i.e., “Grammy Rewards”) when answering the question about logical organization. She explained that she felt this feature helped her to understand this essay because the point by point organization was “very clear.” When asked what made it very clear, she explained that the transition *other* that is repeatedly
used in the essay guided the essay’s contrast organization (e.g., “One grandmother believes in magic; the other believes in the stock market”).

**Essays 1 and 2: “A Guide to Proper Hand-washing Technique” and “Grammy Rewards.”** Marsha compared the first and second essays in her cline (i.e., “A Guide to Proper Hand-washing Technique” and “Grammy Rewards”) several times. The first time was when she was answering the question about vocabulary. Here she explained that she felt that the vocabulary in the “A Guide to Proper Hand-washing Technique” essay was “easier than the grandma one.” She then compared the two essays with a comment about vocabulary (conjoined with background knowledge). She explained that she knew all of the vocabulary in the “A Guide to Proper Hand-washing Technique” essay because it was about “daily life,” but that she was less sure of the vocabulary in the "Grammy Rewards" essay.

Marsha then made a comment about vocabulary in context, explaining that she felt that the vocabulary in the second essay was more difficult than the one she chose as first, but that she “could guess [the meaning of unfamiliar vocabulary present in the essay] from the other words.”

**Essays 3 and 4: “A View From the Bridge” and “Freedom and Security.”** Marsha compared the third and fourth essays in her cline (i.e., “A View From the Bridge” and “Freedom and Security”) when responding to two questions, vocabulary and overall length. She first noted (via the translator) that the relative difficulty of the vocabulary in the two essays helped her to decide to place the “Freedom and Security” essay as “more difficult” than the “A View From
the Bridge” essay. She then explained that her concerns about vocabulary were more pressing than her concerns about the overall length of the two essays:

Interviewer: What I think I hear you saying is that you felt the vocabulary was more important than the text length.

Marsha: The words.

Interviewer: So the vocabulary in this one [Pointing to the longer essay, “A View From the Bridge,” 1,043 words] was easier than this one [Pointing to “Freedom and Security,” 448 words]?

Marsha: Speaking Mandarin with the translator.

Translator: Yes, even though this one was shorter [Pointing to “Freedom and Security” essay], this one [Pointing to the longer one, “A View From the Bridge” essay] was easier.

We coded this comment as overall length (conjoined with vocabulary).

Essay 4: “Freedom and Security.” Marsha referenced the fourth essay in her cline (i.e., “Freedom and Security”) when responding to the question about vocabulary in context. Here, she explained that she felt that the context surrounding unfamiliar words in this essay was not as helpful as she would have liked, and she (with the help of the translator) offered an example:

Translator: She can roughly understand the paragraph, but if she wants to specifically know the words, it’s difficult.

Interviewer: Can you show me an example?
Marsha: Points to a sentence where she has underlined the words *polarities* and *axis* (i.e., *Freedom and security are polarities along the same axis, and not on the same order as wet and dry*).

Interviewer: I see you underlined two words [Pointing to *polarities* and *axis*]. Were there any words or sentences around these words that helped you to understand them?

Marsha: No.

**Essay 5: “Salvation.”** Marsha pointed to the last essay in her cline (i.e., “Salvation”) while answering three questions. The first time she pointed to the essay was in response to the question about sentence length to illustrate how the long sentences in this essay tried her patience:

Interviewer: What about sentence length? You answered A, strongly agree. How was sentence length an important feature?

Marsha: Lost patience.

Interviewer: You lost patience with the long sentences? Can you give me an example?

Marsha: OK. The hardest one [Pointing to the “Salvation” essay].

Interviewer: Can you show me an example?

Marsha: Underlines the 51 word sentence *But I was really crying because I couldn't bear to tell her that I had lied, that I had deceived everybody in the church, that I had not seen Jesus, and that now I did not believe there was a Jesus any more, since he did not come to help me.*

Marsha: It’s long.
The second time Marsha referenced the “Salvation” essay was when she was answering the question about paragraph length. She first complained that the paragraphs in this essay were “too long.” When asked why, she explained it was a matter of paragraph length conjoined with vocabulary: “There are a lot of difficult vocabulary contained in the long paragraph.”

Marsha pointed to the “Salvation” essay a third time when answering the question about interest:

Interviewer: You noted interest was an important feature? Were there any essays you were not interested in, and that made it harder?

Marsha: Points to the “Salvation” essay.

Interviewer: Why weren’t you interested in that one?

Marsha: Speaking Mandarin with the translator.

Translator: She’s not interested in religious issues.

Once Marsha had answered all of the interview questions, we moved on to the final open ended question, but she offered no further information.

Informant Ten: Nelson

Summary of Nelson’s cline-questionnaire procedure and interview.

When creating his cline, Nelson put the essays in the following order (easiest to most difficult):

1. “A Guide to Proper Hand-washing Technique”
2. “Freedom and Security”
3. “A View From the Bridge”
4. “Grammy Rewards”
5. “Salvation”

Reflecting on his cline construction, Nelson marked nine items on the questionnaire that he felt influenced his perceptions of text difficulty, two that are measured by readability formulae (i.e., vocabulary and sentence length) and seven that are not: (a) vocabulary in context, (b) background knowledge, (c) interest, (d) logical organization, (e) structure, (f) format, and (g) supplementary materials 1 (i.e., advance organizers: introductions prior to the writing text). These are indicated as Qs in Table 28.

During the interview, Nelson provided further insight into why he answered the questionnaire the way he did. In response to the opening question, he described each of the essays in his cline with a series of impressions and similes. Then, during the follow up and final questions, he offered nonencompassing comments about how he felt each of the areas he had marked on the questionnaire influenced his perceptions of difficulty. He also offered a comment about one feature that was not on the questionnaire (i.e., grammar).

In total, Nelson reported nine features to be primary: (a) vocabulary, (b) vocabulary in context, (c) background knowledge, (d) interest, (e) logical organization, (f) structure, (g) format, (h) supplementary materials 1 (i.e., advance organizers: introductions prior to the writing text), and (i) grammar. These are listed as Ps in Table 28.

Nelson also reported that he felt one feature was conjoined with (influenced by) another feature. He reported he felt that (a) sentence length was influenced by grammar. This is listed as a C and an arrow (←) in Table 28. The
area that Nelson felt was conjoined (influenced by another feature) is indicated with a C, and the feature that he felt influenced the conjoined feature is indicated with an arrow (←) which points to the conjoined feature.

Table 28

<table>
<thead>
<tr>
<th>Questionnaire</th>
<th>Primary</th>
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</tr>
<tr>
<td>Vocabulary in Context</td>
<td>Q</td>
<td>P</td>
<td></td>
</tr>
<tr>
<td>Sentence Length</td>
<td>Q</td>
<td>P</td>
<td>C</td>
</tr>
<tr>
<td>←</td>
<td></td>
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<td>Background Knowledge</td>
<td>Q</td>
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<td>Q</td>
<td>P</td>
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</tr>
<tr>
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<td>Q</td>
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<td></td>
</tr>
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<td>Q</td>
<td>P</td>
<td></td>
</tr>
<tr>
<td>Format</td>
<td>Q</td>
<td>P</td>
<td></td>
</tr>
<tr>
<td>Supp Materials 1 a</td>
<td>Q</td>
<td>P</td>
<td></td>
</tr>
<tr>
<td>Grammar b</td>
<td>P</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note.
a Supp Materials 1. Supplementary Materials (Advance organizers: Introductions prior to the writing text.)
b Grammar was not included on the original questionnaire.

Detailed analysis of Nelson’s interview. In response to the opening question, Nelson described the essays in his cline with a series of impressions and similes: The first essay (i.e., “A Guide to Proper Hand-washing Technique”) he explained was “common sense,” the second (i.e., “Freedom and Security”) he said was “like a newspaper,” the third (i.e., “A View From the Bridge”) he likened to “a story,” the fourth (i.e., “Grammy Rewards”) he reported annoyed him, and the fifth (i.e., “Salvation”) he compared to the Bible and novels.
Assuming the comments Nelson offered had deep personal meanings, I decided to wait to discuss them more at length during the interview questions.

After Nelson answered the opening question with a series of impressions and similes, we moved on to the structured questions from the questionnaire. Here he noted how one or more features influenced his perceptions of difficulty about a single essay and at other times how his perceptions were related to two or more essays. I will report his responses as they logically relate to each of the essays in his cline, sometimes as a single essay and other times grouped into two or more essays as the grouping best describes his responses.

**Essay 1: “A Guide to Proper Hand-washing Technique.”** Nelson referenced the first essay in his cline (i.e., “A Guide to Proper Hand-washing Technique”) several times during the interview. The first time was to offer an example of why he answered the question about vocabulary positively. Here he explained that the reason he placed this essay first in his cline was that he felt "the vocabulary was easy."

When discussing background knowledge, Nelson referenced the "A Guide to Proper Hand-washing Technique" essay again. Here he elaborated on his opening comment that he felt this essay was “common sense” and explained he felt the essay was easy because the essay's subject (i.e., hand washing) “is a very common thing.”

**Essay 2: “Freedom and Security.”** Nelson pointed to the second essay in his cline (i.e., “Freedom and Security”) when responding to the question about
sentence length. Here he offered a comment about how sentence length (conjoined with grammar) influenced his perceptions of difficulty:

Interviewer: You said the length of the sentences was a deciding factor for you. Why was that?

Nelson: The long ones were harder, but it depends on the [sentence] structure.

Interviewer: I think I understand what you mean, but help me. Can you show me an example?

Nelson: [Pointing to a sentence in the “Freedom and Security” essay:]

*In one sense, freedom and security are opposites; and so we reason: the more freedom we have, the less security, and the more security, the less freedom.*] It [this essay] is like the *New York Times*. That [news] paper[‘s] sentence is longer, so [the newspaper is] hard to understand.

**Essay 1 and 2: “A Guide to Proper Hand-washing Technique” and “Freedom and Security.”** After offering comments specific to each of the first two essays in his cline (i.e., “A Guide to Proper Hand-washing Technique” and “Freedom and Security”), Nelson compared these two essays with a comment about logical organization. Here, he explained that he could follow the “step by step” organization of the “A Guide to Proper Hand-washing Technique” essay more easily than the organization of the “Freedom and Security” essay, an essay he described as “complicated.”

**Essay 3: “A View From the Bridge.”** Nelson pointed to the third essay in his cline (i.e., “A View From the Bridge”) several times during the interview. The
first time was when he was responding to the question about background knowledge. Pointing to this essay, he explained how his childhood experiences with fishing helped him to understand the essay's subject:

Interviewer: Why did you point to this one?  
Nelson: It reminded me of my childhood.  
Interviewer: Do you know about fishing?  
Nelson: A little.

Nelson referenced the “A View From the Bridge” essay a second time when replying to the question about supplementary materials 1 (i.e., advance organizers: introductions prior to the writing text) and explained (with the help of the translator) that he found the editor’s introduction to this essay assistive:

Translator: The introduction mentions the author's background.  
Interviewer: How did the authors’ background help you understand the story?  
Nelson: Speaking Mandarin with the translator.  
Translator: It helped him to predict what would be expressed in this essay.

**Essays 4: “Grammy Rewards.”** Nelson referenced the fourth essay in his cline (i.e., “Grammy Rewards”) while responding to three questions. The first time was when he was answering the question about vocabulary to illustrate how he felt the presence of unfamiliar vocabulary influenced his perceptions of difficulty: “This one [, the “Grammy Rewards” essay, has] many words I did not understand.”
Nelson referenced the “Grammy Rewards” essay again when responding to the question about vocabulary in context to explain that he had trouble guessing the meaning of unfamiliar words from the surrounding context in this essay. He specifically pointed to the figurative word boasting in the sentence *The other grandmother resides in a townhouse at the Best Address in the City-a brick, regal-looking building boasting a security system and plants in the hallways that are tended by florists who arrive weekly in green vans.*

Nelson pointed to the “Grammy Rewards” essay a third time when explaining why he answered the item about logical organization positively. To illustrate his answer, he pointed out that he was uncomfortable with this essay’s point by point organization:

Nelson: These two grandmas annoyed me.

Interviewer: Why did they annoy you?

Nelson: Speaking Mandarin with the translator.

Translator: The author keeps comparing the grandmas to each other, one after another, so he [Nelson] feels the essay is complicated.

*Essays 3 and 4: “A View From the Bridge” and “Grammy Rewards.”*

Nelson compared the third and fourth essays (i.e., “A View From the Bridge” and “Grammy Rewards”) in his cline two times. The first time was when answering the question about interest. Here he explained that he felt the “A View From the Bridge” essay “was interesting,” and that made it “easier” for him than the “Grammy Rewards” essay. The second time was when he was replying to the final open ended question. Here he offered a comment about an area that was
not on the questionnaire (i.e., grammar), explaining that he felt the grammar in
the “A View From the Bridge” essay was easier than that in the “Grammy
Rewards” essay.

**Essay 5: “Salvation.”** Of the five essays in his cline, Nelson seemed
most displeased with the one he chose as fifth, the “Salvation” essay. At several
points in the interview, he stated “I don’t like this essay,” and when we reached
the areas of interest and format it became clear why. He first elaborated on his
opening comment where he compared this text to the Bible by offering a
diminishing comment we coded in the area of interest and specifically interpreted
to be one where he displayed a high affective filter towards the subject matter:

Nelson: And this one is like . . . like [the] Bible.

Interviewer: It’s like the Bible?

Nelson: I don’t like this [the Bible], so I think it is difficult. . . . Maybe I don’t

Nelson then elaborated on his opening comment comparing the text to novels by
explaining that he was also frustrated with the format (i.e., line spacing) of the
essay:

Nelson: I don’t like this [essay].

Interviewer: You said that before. Can you tell me why?

Nelson: I hate novels.

Interviewer: You hate novels. OK, and how does that relate to this essay?

Nelson: Speaking with the translator in Mandarin.

Translator: It’s a matter of line spacing.
Interviewer: Can you point to an example to help me understand what you mean?

Nelson: [Points to two lines in the essay] Like this, a novel.

Interviewer: Please circle the area you are talking about so I can better understand.

Interviewer: Oh, I see. You are talking about the space between the lines: single spacing, one point five, double spacing. Now I understand what you mean about the novel thing. I got it. You don't like the spacing in novels.

Nelson: Yeah.

Examining this comment, although Nelson originally expressed frustration with the genre of novels, we interpreted the entire comment to be about the way he perceived the format of novels to be (i.e., line spacing).

**Essays 1 and 5: “A Guide to Proper Hand-washing Technique” and “Salvation.”** Nelson compared the first and fifth essays in his cline (i.e., “A Guide to Proper Hand-washing Technique” and “Salvation”) when discussing structure. He explained that he felt the introduction in the “A Guide to Proper Hand-washing Technique” essay was easier to understand than the one in the “Salvation” essay:

Interviewer: You mentioned structure was an important feature. Could you show me an example that worked or did not work well for you?

Nelson: This one [Pointing to the introduction in the “Salvation” essay].

Interviewer: Did the structure help you or not help you understand the essay?
Nelson: [It did] not help.

Interviewer: Did the introduction of any other essays help you?

Nelson: Yeah, [the essay about] hand washing.

Interviewer: Why?

Nelson: It’s easy.

Once Nelson had answered all of the interview questions, we moved on to the final open ended question. Here he offered a comment about grammar. (See Essays Three and Four “A View From the Bridge” and “Grammy Rewards” for a note on this.)

**Summary of the Results of the Cline-questionnaire Procedure**

This stage of the study, the cline-questionnaire procedure, had two untimed phases: (a) a cline and (b) a questionnaire. In the first phase, the students read five exemplars taken from the anthologies and ranked them in order of difficulty. This phase was provided so that the students would (after completing the cline) be able to reflect on this activity while participating in the second phase: responding to a quantitative 15-question Likert questionnaire (Appendices D and E) that was designed to help illustrate what features they perceived as contributing to text difficulty when reading exemplars taken from the anthologies, which they did.

As the purpose of the ranking procedure was a preparatory one for the next phase (i.e., the questionnaire), the data about the informants’ rankings is, as shown in Table 29, provided to help the reader follow the study, not to draw conclusions about the confidence of the informants’ ranking in relation to one
another. Nor are these data provided as a source of validation (or invalidation) of Lexile measures with this population or this population’s experience with anthologies, as (a) this is not the focus of this study and (b) the tight grouping of the essays (i.e., 100L and less) would not lend itself to such interpretations.

Table 29

The Results of the Informants’ Cline Ordering

<table>
<thead>
<tr>
<th></th>
<th>Annie</th>
<th>Ben</th>
<th>Dan</th>
<th>Eve</th>
<th>Harold</th>
<th>Jacob</th>
<th>Kala</th>
<th>Linda</th>
<th>Marta</th>
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<tbody>
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<td>Easiest</td>
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<td>b</td>
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</tr>
</tbody>
</table>

Note.


After the informants finished their clines, they completed the closed-response questionnaire. Their responses (as indicated with xs and shown in Table 30) indicate that one or more of the participants feel the two features measured by the Lexile Readability Formula (i.e., vocabulary and sentence length) affect the readability of the exemplars in the anthologies. All ten of the informants (100%), for example, noted vocabulary as an influential feature and five (50%) of the 10 marked sentence length as so. The informants also indicated that they felt 12 other features additionally affected the readability of the
exemplars in the anthologies. Nine (90%) of the 10, for example, cited 
vocabulary in context and eight (80%) of the 10 noted logical organization and 
structure. The data in Table 30 are organized first by frequency and then 
alphabetically.

Table 30

<table>
<thead>
<tr>
<th>Features</th>
<th>Annie</th>
<th>Ben</th>
<th>Dan</th>
<th>Eve</th>
<th>Harold</th>
<th>Jacob</th>
<th>Kala</th>
<th>Linda</th>
<th>Marsha</th>
<th>Nelson</th>
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<td>x</td>
<td>x</td>
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<td>x</td>
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<td>9. Overall Length</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>5</td>
<td>50%</td>
</tr>
<tr>
<td>10. Paragraph Length</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td>4</td>
<td>40%</td>
</tr>
<tr>
<td>11. Supp Materials 1 (^a)</td>
<td></td>
<td>x</td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>30%</td>
</tr>
<tr>
<td>12. Format</td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td></td>
<td>2</td>
<td>20%</td>
</tr>
<tr>
<td>13. Supp Materials 2 (^b)</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td></td>
<td>2</td>
<td>20%</td>
</tr>
<tr>
<td>14. Titles</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td>1</td>
<td>10%</td>
</tr>
</tbody>
</table>

Note.
\(^a\) Supp Materials 1. Supplementary Materials (Advance organizers: Introductions prior to the writing text.)
\(^b\) Supp Materials 2. Supplementary Materials (Pre- and post questions: The questions before and/or after the text.)

Summary of the Results of the Interviews

During the interviews, the informants provided further insight into why they 
answered the questionnaire the way they did. Their responses demonstrate that 
one or more of the informants in the group feel 16 features affect the readability 
of the exemplars in the anthologies: the two features measured by the Lexile 
Readability Formula (i.e., vocabulary and sentence length) and 14 others--the 12
the informants cited on the questionnaire and two more they discussed during the interviews (i.e., grammar and punctuation).

The results further show one or more of the informants consider 15 of these features to be primary features (i.e., an isolated feature, e.g., vocabulary) and 10 to be conjoined (i.e., consisting of two or more associated entities where the second influences the first). For instance, the informant’s background knowledge helped him/her understand difficult vocabulary). The results also show that one feature (i.e., punctuation) was not a primary or conjoined feature but it simply influenced another feature (i.e., sentence length was influenced by punctuation).

These results are discussed in the three sections: (a) Primary Features, (b) Conjoined Features, and (c) Simply Influential Features. The literature discussed in Chapter Two is also revisited and referenced as it applies to the informants’ reports.

**Primary Features**

The results of the interviews demonstrate that one or more of the informants in the group feel 15 features affect the readability of the exemplars in the anthologies as primary features (i.e., isolated features): the two features measured by the Lexile Readability Formula (i.e., vocabulary and sentence length) and 13 others. Nine (90%) of the 10 informants, for example, cited vocabulary and vocabulary in context and eight (80%) of the 10 cited vocabulary and signal words as influential. These data are listed in Table 31 and discussed
in the subsections that follow. The data are organized first by frequency and then alphabetically.

Table 31

*Features the Informants Reported to Be Primary*

<table>
<thead>
<tr>
<th>Primary Features</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Vocabulary</td>
<td>9</td>
<td>90%</td>
</tr>
<tr>
<td>2. Vocabulary in Context</td>
<td>9</td>
<td>90%</td>
</tr>
<tr>
<td>3. Logical Organization</td>
<td>8</td>
<td>80%</td>
</tr>
<tr>
<td>4. Signal Words</td>
<td>8</td>
<td>80%</td>
</tr>
<tr>
<td>5. Interest</td>
<td>7</td>
<td>70%</td>
</tr>
<tr>
<td>6. Background Knowledge</td>
<td>6</td>
<td>60%</td>
</tr>
<tr>
<td>7. Structure</td>
<td>5</td>
<td>50%</td>
</tr>
<tr>
<td>8. Titles</td>
<td>4</td>
<td>40%</td>
</tr>
<tr>
<td>9. Format</td>
<td>3</td>
<td>30%</td>
</tr>
<tr>
<td>10. Overall Length</td>
<td>3</td>
<td>30%</td>
</tr>
<tr>
<td>11. Supp Materials 1</td>
<td>3</td>
<td>30%</td>
</tr>
<tr>
<td>12. Grammar</td>
<td>2</td>
<td>20%</td>
</tr>
<tr>
<td>13. Supp Materials 2</td>
<td>2</td>
<td>20%</td>
</tr>
<tr>
<td>14. Paragraph Length</td>
<td>1</td>
<td>10%</td>
</tr>
<tr>
<td>15. Sentence Length</td>
<td>1</td>
<td>10%</td>
</tr>
</tbody>
</table>

*Note.*

a Supp Materials 1. Supplementary Materials (Advance organizers: Introductions prior to the writing text.)

b Grammar was not included on the original questionnaire.

c Supp Materials 2. Supplementary Materials (Pre- and post questions: The questions before and/or after the text.)

**Vocabulary.** Vocabulary (i.e., the number of unfamiliar, abstract, figurative, or technical words in a text) was reported as a primary feature by (90%) of the informants (Annie, Ben, Dan, Harold, Jacob, Kala, Linda, Marsha, Nelson). These informants provided examples of how they felt vocabulary could, as a primary feature, assist or diminish their understanding of an essay. That is, the presence of fewer unfamiliar vocabulary words in an essay could help the informants' understanding of an essay while the presence of more unfamiliar vocabulary could diminish it.
Four of the informants (Dan, Jacob, Kala, Marsha) offered encompassing comments, reporting that they felt the amount of difficult vocabulary in the exemplars was the driving force behind the creation of their clines. These four informants’ reports are in accordance with Yorio’s (1971) findings that argue ELL readers feel that vocabulary is the most significant predictor of whether they would understand a passage.

The above mentioned four informants and five more (Annie, Ben, Harold, Linda, Nelson) also reported that they felt that vocabulary was a primary feature that influenced their perceptions of difficulty about one or more of the essays in their clines. Linda, for instance, reported that she felt the vocabulary in the essay she chose as easiest (i.e., “A Guide to Proper Hand-washing Technique”) was the easiest and the vocabulary in the essay she chose as most difficult (i.e., “Salvation”) was the “most difficult.” These informants’ reports are in accordance with arguments and empirical findings that show that vocabulary plays a very large role in reading comprehension (Albright, 1927; Allen & Garton, 1968; Al-Nujaidi, 2003; Anderson & Freebody, 1979; Buck et al., 1997; Chalmers et al., 1997; Davis, 1944, 1972; Dixon et al., 1988; Freedle & Kostin, 1991, 1992, 1993; Gates, 1926; Guo, 2008; Harris, 1948; Hilliard, 1924; Holmes, 1954; Huang, 1999; Irion, 1925; Lankamp, 1989; Pressey & Pressey, 1921; Qian, 1998, 1999, 2002; Reed & Pepper, 1957; Salyer, 1990; Statman, 1987; Steffensen, Joag-Dev, & Anderson, 1979; Thorndike, 1917; Ulijn & Salager-Meyer, 1998; Wendell et al., 1969; Yorio, 1971).
**Vocabulary in context.** Vocabulary in context (i.e., how well the words or sentences surrounding unfamiliar words help the students to understand them) was reported as a primary feature by nine (90%) of the informants (Annie, Dan, Eve, Harold, Jacob, Kala, Linda, Marsha, Nelson). That is, the informants felt that the presence of helpful words or sentences surrounding unfamiliar vocabulary assisted their understanding of the texts and the absence of helpful context caused them difficulty. These informants’ reports are in accordance with other researchers’ findings that ELLs use inferencing when attempting to figure out the meaning of unknown words (Cooper, 1999; Fraser, 1999; Nassaji, 2003; Paribakht & Wesche, 1999).

One informant, Harold, offered a different sort of report. He reported that he felt the contrastive sentence structure in the “Freedom and Security” essay helped him to make sense of the unknown vocabulary he found there. Harold’s report also supports Ames’ (1966) findings that readers use contrast clues when making inferences.

Other researchers’ findings, however, are not supported, specifically Chern’s (1993) results that show ELL students have trouble with forward clues. Kala, for example, reported that she was able to make out the word *bacteria* in the “A Guide to Proper Hand-washing” essay because of the words she found helpful in the next sentence. Jacob, too, found forward clues helpful. He found the forward clues in the “A Guide to Proper Hand-washing Technique” essay helped him to understand an unknown word, *revolting.*
With regards to the informants who reported that they felt the absence of helpful context caused them difficulty, two informants (Eve, Kala) provided examples. Kala explained that she could not make sense of the word sailfish in the “A View From the Bridge” essay. Examining the text, her report may be attributable to what Laufer (1997) has referred to as the redundancy factor; that is, the lack of redundant context may have attributed to her ranking the essay as the most difficult one in her cline. Lack of redundancy may have also contributed to Eve's having trouble making out the meaning of the figurative word punctuated in the “Salvation” essay from the sentence which contained it: *When things quieted down, in a hushed silence, punctuated by a few ecstatic Amens, all the new young lambs were blessed in the name of God.* These informants' reports may also be related to studies that have shown that students' limited vocabulary knowledge reduces their ability to guess vocabulary from context (Bengeleil & Paribakht, 2004; Haynes, 1993; Haynes & Baker, 1993; Laufer, 1997).

**Logical organization.** Logical organization (i.e., how the ideas were arranged in a text to help them flow logically from one to another) was cited as a primary feature by eight (80%) of the informants (Annie, Ben, Eve, Harold, Jacob, Linda, Marsha, Nelson).

Examining the informants' responses, their perceptions appeared to stem from an entangled mix of two causes: (a) the organization of the essays themselves and (b) the informants' experience (or lack of experience) with the type of rhetorical organization exemplified in the essays: process (i.e., “A Guide to Proper Hand-washing Technique”); contrast (i.e., “Grammy Rewards”);
narrative (i.e., “Salvation”); and mixed methods--narrative/description (i.e., “A View From the Bridge”), and persuasive/contrast (i.e., “Freedom and Security”). Annie, who demonstrated awareness by citing the organization of the process essay “A Guide to Proper Hand-washing Technique,” for example, chose this essay as easiest and offered an example that showed that she understood its organization and found its “step by step” organization helpful. A similar comment was offered by Eve. Eve, who demonstrated a strong awareness of rhetorical structure by naming the rhetorical organization of each essay in her opening statement to describe why she placed each essay in its position in her cline, reported that she felt the process essay “A Guide to Proper Hand-washing Technique” was easy to follow.

Comments were also offered about the contrast organization of the “Grammy Rewards” essay. Jacob, for example, showed an awareness of the rhetorical organization of the “Grammy rewards” essay and reported that he felt it was easy. Nelson, however, reported that while he understood the contrast organization of “Grammy Rewards” essay, he felt its point by point contrast organization was annoyingly complicated. Ben likewise reported that he understood the contrast organization of the “Grammy Rewards” essay but felt its point by point structure was hard to understand because both “grandmothers show up in the same paragraph.”

Reports were also offered which contrasted the contrast essay “Grammy Rewards” with the narrative essay “Salvation.” Eve, for example, explained that she found the repeated contrast point by point structure of the “Grammy Rewards” essay...
Rewards” essay clear (i.e., “One grandmother believes in magic; the other believes in the stock market”), but that she still felt the narrative essay was easier than the contrast one. Harold, like Eve, felt the logical contrast organization of the “Grammy Rewards” essay was easy to understand, but, unlike Eve, he had trouble following the narrative structure of the “Salvation” essay.

Remarks were also offered about the difficulty the informants found in the mixed mode essays: “A View From the Bridge” and “Freedom and Security.” Jacob, complained that he had trouble with the story grammar in the “A View From the Bridge” essay. He explained he had trouble because he did not discover an important point, that the boy was blind, until late in the story: “To me, if the structure is clearer, the essay might be . . . easier.” And Nelson contrasted the process organization of the “A Guide to Proper Hand-washing Technique” with the mixed mode organization of the “Freedom and Security” essay. He explained that he found the “step by step” process organization of the “A Guide to Proper Hand-washing Technique” essay easier to follow than the organization of the persuasive/contrast “Freedom and Security” essay, an essay he described as “complicated.”

These informants’ reports support the idea that they consider an essay’s logical rhetorical organization as a source of difficulty. Their reports also demonstrate that they have some formal schemata about the logical organization of the essays: “knowledge relative to the formal, rhetorical organizational structures of different types of texts” (Carrell, 1987, p. 481). Their reports further demonstrate that they consider how difficult one essay is compared to another
based on the organizational complexity. Their reports, additionally demonstrate that awareness played in their decision making process (Calfee & Curley, 1984; Flick & Anderson, 1980; Selinker, Trimble, Trimble, 1976; Spiro & Taylor, 1980), but exactly how large a part awareness played cannot be determined as no data was collected to determine the amount of awareness each informant had. Their reports also do not contribute to the literature which shows which text type is more or less difficult (Bereiter, 1978 ctd. in Calfee & Curley, 1984; Carrell, 1984a; Fooh, 1989; Freedle & Kostin 1991, 1992, 1993; Goh, 1990; Lei, 2010; Meyer & Freedle, 1984; Sharp, 2002; Talbot, Ng, & Allan, 1991; Yali & Jiliang, 2007; Zhang, 2008). This is because the texts were too different in a variety of ways to draw conclusions from the informants’ reports.

**Signal words.** Signal words (i.e., whether a text contains words that indicate the flow of information, e.g., first, next, finally, etc.) was cited as a primary feature which can both assist and diminish readers’ understanding of an essay by eight (80%) of the informants (Annie, Ben, Dan, Eve, Harold, Jacob, Linda, Marsha).

This influence was identified in two ways. The first was dependent on the actual presence or lack of signal words in an essay. The second was dependent on the reader's ability to locate them in an essay. Each of the above mentioned eight informants, for example, were quite adept at finding signal words in the first essay “A Guide to Proper Hand-washing Technique,” the one they chose as easiest. However, five of the informants (Ben, Harold, Jacob, Linda, Marsha) reported that they could only find signal words in this one essay, even though
there were signal words in the other essays. Linda, for example, explained that she found the words *first* and *next* in the “A Guide to Proper Hand Washing-technique” essay helpful, but she explained that she could not find any signal words in the other essays, and that made her feel those essays were more difficult. Ben further illustrated this when he commented that he felt that signal words “appeared . . . more obviously [in the “A Guide to Proper Hand-washing Technique” essay] than in the others.” These informants’ reports are associated with work that has found that students’ awareness of signal words contributes to reading comprehension, and that less proficient readers are unaware of signal words (Cooper, 1984; Geva, 1992; Miccinati, 1975; Short, 1994; Quan, 2008).

Two of the informants, Eve and Jacob, offered comments about a signaling device which was not queried on the questionnaire (i.e., numbers alongside a text). When discussing the signal words in the “A Guide to Proper Hand-washing Technique” essay, both informants, for example, reported that they felt that the numbers, in conjunction with the signal words *first* and *next*, helped them to follow the process organization of this essay. Such signaling devices were neither on the questionnaire, nor were they discussed in the literature review portion of this dissertation. However, these informants’ comments are supported by the work of Lorch and Chen (1986) who found that number signals can aid recall “by causing readers to represent the text’s organization more completely” (p. 264).

**Interest.** Interest (i.e., how interested the students are in the topic presented in a text) was cited as a primary feature by seven (70%) of the
informants (Ben, Harold, Jacob, Kala, Linda, Marsha, Nelson). These informants explained that they perceived an essay as easy if they were interested in its topic and more difficult if they were uninterested in it. Several informants (Ben, Harold, Jacob, Linda) illustrated this by simply pointing out that they found one essay more interesting and thus easier than another. Linda, for example, when contrasting the “Grammy Rewards” and “Salvation” essays, found the first simply more interesting and easier than the second. Others provided specific reasons from which conclusions can be drawn and related to research findings. Two of the informants (Marsha, Nelson), for example, expressed a lack of interest in the religious content of the “Salvation” essay and explained that their lack of interest influenced their perceptions of difficulty. These informants’ reports ranged from general disinterest to a display of a high affective filter. Marsha, for example, explained that she was simply not interested in religious issues, and that made the essay seem more difficult to her. Nelson, however, complained, “[T]his one is like . . . like [the] Bible. I don’t like this [the Bible], so I think it is difficult. . . . Maybe I don’t believe [in] God.” Together, these reports are generally in agreement with other researchers’ findings that have showed that the amount of interest readers have in a text influences the difficulty they have with the text (Bargh & Schul, 1980; Benware & Deci, 1984; Bugel & Buunk, 1996; Carrell & Wise, 1998; Ercetin, 2010; Lin et al., 1997).

One informant, Linda, also commented that in addition to having no interest in religious issues, she had little background knowledge in religion. This could indicate, though it does not specifically show, that background knowledge
and interest are related, a conclusion which is supported by Bugel and Buunk’s (1996) and Lin et al.’s (1997) findings.

A second informant, Kala, explained that she found the “Grammy Rewards” essay interesting, and that this impacted her sense of ease. She explained that the reason she was interested in the essay was because it allowed her to learn about lifestyles she was not familiar with. This finding is related to Entin’s (1981) and Carrell and Wise’s (1998) studies that found that students can be interested in things that they do not have specific background knowledge of or vice versa.

Another informant, Jacob, reported that he found the “A Guide to Proper Hand-washing Technique” essay interesting and thus easy because he felt it was funny. This finding goes against previous research that concluded that humorous embellishing details reduce comprehension (Reder & Anderson, 1982; Schiefele & Krapp, 1996; Schraw & Lehman, 2001).

**Background knowledge.** Background knowledge (i.e., how familiar students are with the topic of a text) was cited as a primary feature by six (60%) of the informants (Ben, Eve, Harold, Kala, Linda, Nelson). The informants who explained that they had background knowledge about the topic of an essay reported that they found the essay easier to understand. However, those who reported that they had a lack of such knowledge about the topic of essay found the essay more difficult. Several informants (Ben, Harold, Linda, Nelson), for example, indicated that their background knowledge about the procedure of hand washing contributed to their decision to place the “A Guide to Proper Hand-
washing Technique” essay as easiest in their clines. Similar comments were offered about the amount of experiential background knowledge the informants had about the topics presented in the “A View From the Bridge” essay, i.e., fishing and an adult helping a child. Nelson, for example, explained that he had gone fishing and thus found this essay easier. Whereas Annie, who reported that she had never been fishing, found the text more difficult. These informants’ reports are related to Chiesi et al.’s (1979) and Recht and Leslie’s (1988) studies that showed students’ background knowledge about an activity facilitates reading comprehension. These informants’ reports also directly support Johnson’s (1982) work that showed students who participate in an activity have higher background knowledge which facilitates their comprehension.

Several informants also explained that they felt their background knowledge (or lack of background knowledge) about religion (i.e., Christianity) influenced their decision about where to place the “Salvation” essay in their clines. Harold, for example, felt the “Salvation” essay was easy because he had a background in religion, but Linda and Ben felt the opposite to be true because they did not have such background knowledge. These informants’ reports are in accordance with Carrell’s (1987) and Malik’s (1990) findings that show the amount of readers’ religious background knowledge can influence their reading experiences.

The amount of background knowledge one of the informants had about political subjects was also found to influence his perceptions of difficulty about one of the essays (i.e., “Freedom and Security”). Ben felt his experience of
reading about political issues in newspapers helped him to understand the essay. Eve and Kala, however, complained that the political theme of the essay was unfamiliar to them because it was not about a subject they encounter in daily life, and thus they found the essay difficult. These findings generally concur with the idea that background knowledge is related to comprehension (Alderson & Urquhart, 1988; Anderson et al., 1977; Bartlett, 1932; Carrell, 1983, 1987; Chiesi et al., 1979; Chihara et al., 1989; Dochy, Segers, & Buehl, 1999; Florencio, 2004; He, 2002; Johnson, 1981, 1982; Johnston, 1984; Malik, 1990; Nelson, 1987; Recht & Leslie, 1988; Rumelhart 1980; Steffensen & Colker, 1982; Steffensen et al., 1979; Tobias, 1995). However, no studies reviewed in the literature review for this dissertation specifically focused on political domain knowledge.

**Structure.** Structure (i.e., how well a text is organized, e.g., whether a text contains an introductory paragraph which has a clear thesis statement, body paragraphs that contain a topic sentence and supporting details, and a concluding paragraph) was cited as a primary feature by five (50%) of the informants (Eve, Harold, Kala, Marsha, Nelson).

With regards to introductions, three informants (Eve, Harold, Nelson) reported that they had trouble understanding the introduction of the “Salvation” essay and noted that this made them feel this essay was difficult. Conversely, two of the informants (Eve, Harold), reported that they felt the introduction in the “Grammy Rewards” essay was easy. Eve, for example, illustrated this when contrasting two essays, the “Salvation” and “Grammy Rewards” essays. She explained that she had trouble locating the thesis statement in the “Salvation”
essay’s introduction, but she could easily locate the thesis statement in the “Grammy Rewards” essay’s introduction.

Two informants (Marsha, Nelson) reported that they found the introduction in the “A Guide to Proper Hand-washing Technique” essay easy to understand. Of these, Marsha, illustrated why. Marsha reported that she found the words here’s how in the introduction’s thesis statement helped her to anticipate the logical organization of the essay. This report is in accordance with work that has demonstrated the importance of having informative introductory paragraphs in expository texts that describe the order of body paragraphs therein (Lorch & Lorch, 1985; Murray & McGlone, 1997).

A comment was also offered about topic sentences. Kala explained that she found the “Freedom and Security” essay easy because she could easily locate its paragraph’s topic sentences. Kala’s report is related to findings which showed that readers recall more information if the text contains topic sentences and when those topic sentences are easily identifiable (Bridge, et al., 1984; Lorch & Lorch, 1985; Rickards, 1975).

**Titles.** The feature titles (i.e., how well the title of a text describes a text) was cited as a primary feature by four (40%) of the informants (Ben, Harold, Jacob, Linda). The informants explained that they felt titles could assist and diminish their understanding of an essay. That is, they felt a title that is easy to understand could help them to understand an essay, but a title that is difficult to comprehend could make an essay difficult to understand.
Each of the informants, for example, reported that they found the title of the essay they placed as easiest in their clines, “A Guide to Proper Hand-washing Technique,” easy to understand. Conversely, each of the informants explained that they could not make out the meaning of the titles of the essays they placed last in their clines. Ben and Linda, for example, reported having trouble understanding the title of the “Grammy Rewards” essay, and Harold and Jacob had trouble understanding the title of the “A View From the Bridge” essay. These informants’ reports are in accordance with Zhang and Hoosain (2001) and Fan and Liu (2008) who argued that readers’ comprehension can be affected by how meaningful a title is.

**Format.** Formatting (i.e., the physical appearance of the text) was cited as a primary feature by three (30%) of the informants who noted two areas: (a) justification and (b) line spacing. One informant (Harold) expressed concern about the justified formatting used in the “A Guide to Proper Hand-washing Technique” essay. He explained that he did not want to read the essay when he first saw it because of its formatting. Conversely, he explained he was more comfortable with the formatting in the “Freedom and Security” essay. Harold’s report was about an area that was not discussed in the literature review. He was describing the lack of indentation in the paragraphs in the “A Guide to Proper Hand-washing Technique.” Harold’s report is related to Frase and Schwartz’s (1979) work that demonstrated that indentations can facilitate reading comprehension.
Two informants (Linda, Nelson) were troubled with line spacing. Linda complained about the single line spacing used in the “Freedom and Security” essay. She explained that there “wasn’t enough space between the lines.” Nelson also offered a comment about line spacing. Referring to the “Salvation” essay, he explained that he was uncomfortable with the line spacing in this essay because it reminded him of that which is used in novels. Linda’s report may be attributable to the actual line spacing of the text itself: That it was single spaced instead of a larger size (Burt, 1959; Griffing & Franz, 1896; Paterson & Tinker, 1932a, Tinker, 1963b). Nelson’s report, however, is more likely related to Schriver’s (1997) arguments that students’ preferences play a part when they see formatting similarities with texts with which they have had previous uncomfortable experiences.

**Overall length.** Overall length (i.e., the number of words in a text) was reported to be a primary feature by three (30%) of the informants (Ben, Harold, Linda). Two of the informants (Ben, Harold) contrasted the two narrative essays, “Salvation” (886 words) and “A View From the Bridge” (1,043 words), both citing length as one factor to show why they found the first more difficult than the second.

Another informant (Linda) cited length when contrasting an expository essay (i.e., “Grammy Rewards”) and a narrative essay (i.e., “Salvation”), the second and fifth essays in her cline. She reported that she found the expository essay “Grammy Rewards” (648 words) shorter and thus easier than the longer narrative “Salvation” essay (886 words).
These informants’ reports are generally in accordance with research that shows shorter texts are comprehended better than longer ones. However, Linda’s report about the difficulty of the expository and narrative essays raises the question of how other confounding factors are related to the empirical findings that show that narrative essays are generally easier than expository ones (Bereiter, 1978 ctd. in Calfee & Curley, 1984).

Length was also cited as a factor by one informant (Ben) to contrast two expository essays, the first and fifth essays in his cline (i.e., “A Guide to Proper Hand-washing Technique” and “Grammy Rewards”), the first being shorter than the next (i.e., 513 words vs. 648 words). Ben’s report is in accordance with work that has found that students tend to better comprehend shorter expository texts than longer ones (Allwood et al., 1982; Freedle & Kostin, 1991, 1992, 1993; Reder & Anderson, 1980, 1982; Rothkopf & Billington, 1983).

**Supplementary materials 1 (advance organizers).** The feature supplementary materials (i.e., the presence or absence of AOs) was cited as a primary feature by three (30%) of the informants (Eve, Linda, Nelson). One informant (Linda) explained that she found the AO prior to the “A Guide to Proper Hand-washing Technique” essay assistive. She explained she found the AO helpful because it expressed what was going to be in the essay.

Two informants (Eve, Nelson) explained that they found the AO prior to “A View From the Bridge” essay helpful. The AO in this essay, however, is fundamentally different than the one prior to the “A Guide to Proper Hand-washing Technique” essay. The AO in the “A Guide to Proper Hand-washing Technique” essay is in accordance with work that has found that students tend to better comprehend shorter expository texts than longer ones (Allwood et al., 1982; Freedle & Kostin, 1991, 1992, 1993; Reder & Anderson, 1980, 1982; Rothkopf & Billington, 1983).
Technique” essay outlined what would be presented in the essay. The AO in the “A View From the Bridge,” essay, however, employed a biography of the author which explained he had experiences similar to the character in the essay (being involved with fishing and children) to illustrate what would appear in the essay. Together, these informants’ reports are associated with others’ findings that show AOs facilitate students’ reading comprehension (Ausubel, 1960; Corkill, 1992; Diptoadi, 1991; Luiten, et al, 1980; Mahar, 1992; Mayer, 1979; Meurer, 1985; Park, 2005; Ridwan, 1993; Stone, 1983). They also further the discussion of what exactly constitutes an AO (Mahar, 1992; West, Farmer, & Wolff, 1991).

The low number of informants who reported AOs to be assistive, only 30%, additionally raises the question of whether the majority of the informants were aware of the purpose of AOs (Ridwan, 1993).

**Grammar.** Grammar was cited as a primary feature by two (20%) of the informants (Kala, Nelson). Kala, for example, cited grammar when contrasting the fourth and fifth essays in her cline (i.e., “Salvation” and “A View From the Bridge”), explaining that she felt the first had easier grammar than the next. These informants’ reports are related to research that has found that ELLs use a variety of knowledge types when reading, to include grammar (de Bot et al., 1997).

**Supplementary materials 2 (adjunct questions: pre- and post questions).** The feature pre- and post questions (i.e., the presence or absence of pre- and post questions) was cited as a primary feature by two (20%) of the informants (Eve, Linda), each of whom offered different sorts of comments to
explain how they felt this feature contributed to text difficulty. Linda noted that she generally found adjunct questions assistive, and Eve specifically explained that she found the presence of post questions in the “A Guide to Proper Hand-Washing Technique” essay helpful. These informants’ reports are in general agreement with others’ studies that have found that post adjunct questions facilitate reading comprehension (Anderson & Biddle, 1975; Andre, 1987; Distad, 1927; Germane, 1920; Hamaker, 1986; Holmes, 1931; Lin & Chen, 2006; Rothkopf, 1965, 1966; Shokouhi & Pavaresh, 2010; Thorndike, 1917; Washburne, 1929). These informants’ reports, however, do not provide any evidence of the effect of pre adjunct questions, as only one essay (i.e., the “A Guide to Proper Hand-washing Technique”) contained one adjunct question, and no informants offered comments about this.

A comment was also offered about the influence of the number of adjunct questions. Jennny explained that she felt that if an essay had numerous questions (as she found in the “Salvation” essay), the larger number of questions would cause her difficulty. Linda’s comment is related to Andre’s (1987) study that found adjunct questions are assistive when there is a low concentration of them compared to the amount of text.

Paragraph length. Paragraph length (i.e., the number of words in each paragraph) was cited as a primary feature by one (10%) of the informants (Annie). Annie offered the general complaint that if a paragraph is too long she would forget the previous one. Annie’s report is related to Reder and Anderson’s (1980) work that explained that students have a limited amount of working memory and
may have trouble recalling texts that put too many demands on that memory. Annie’s report is also generally in agreement with empirical studies that have demonstrated that students comprehend shorter texts better than longer ones (Allwood et al., 1982; Freedle & Kostin, 1991, 1992, 1993; Reder & Anderson, 1980, 1982; Rothkopf & Billington, 1983).

**Sentence length.** Sentence length (i.e., the number of words in each sentence) was reported as a primary feature by one (10%) of the informants (Marsha). Marsha explained that she felt shorter sentences were easier to understand than longer ones and offered a 51 word sentence in the essay she chose as most difficult (i.e., “Salvation”) as an example. Citing this sentence, she explained that she lost patience with the long sentences in this essay. Marsha’s report is in accordance with studies that have shown that readers find longer sentences more difficult than shorter ones (Coleman, 1962; Coleman & Miller, 1968; Freedle & Kostin, 1991, 1992, 1993; Gray & Leary, 1935; McElree, 2000; McElree et al., 2003; McLaughlin, 1969; Mikk, 2008).

**Conjoined Features**

The results of the interviews demonstrate that one or more of the informants found 10 features to be conjoined with (influenced by) one or more other features. Seven (70%) of the informants, for example reported that they felt vocabulary was a conjoined feature. Six of these informants reported that they felt that vocabulary was influenced by background knowledge and two reported that they felt vocabulary was influenced by interest. The results also show that one or more of the informants felt that one feature (i.e., punctuation) was
influential (i.e., sentence length was conjoined with punctuation), but it was not conjoined with other features. These data are illustrated in Table 32 and discussed in the subsections that follow. Both are organized first by frequency and then alphabetically.

Table 32  
*

Features the Informants Reported to Be Conjoined (Influenced by Other Features)


<table>
<thead>
<tr>
<th>Conjoined Features</th>
<th>f</th>
<th>%</th>
<th>Influential Features</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Vocabulary</td>
<td>7</td>
<td>70%</td>
<td>Background Knowledge</td>
<td>6</td>
<td>60%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Interest</td>
<td>2</td>
<td>20%</td>
</tr>
<tr>
<td>2. Sentence Length</td>
<td>5</td>
<td>50%</td>
<td>Vocabulary</td>
<td>3</td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Grammar</td>
<td>1</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Punctuation</td>
<td>1</td>
<td>10%</td>
</tr>
<tr>
<td>3. Overall Length</td>
<td>4</td>
<td>40%</td>
<td>Interest</td>
<td>2</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Vocabulary</td>
<td>2</td>
<td>20%</td>
</tr>
<tr>
<td>4. Logical Organization</td>
<td>3</td>
<td>30%</td>
<td>Vocabulary</td>
<td>2</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Background Knowledge</td>
<td>1</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Titles</td>
<td>1</td>
<td>10%</td>
</tr>
<tr>
<td>5. Paragraph Length</td>
<td>3</td>
<td>30%</td>
<td>Vocabulary</td>
<td>3</td>
<td>30%</td>
</tr>
<tr>
<td>6. Interest</td>
<td>2</td>
<td>20%</td>
<td>Logical Organization</td>
<td>1</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Overall Length</td>
<td>1</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Sentence Length</td>
<td>1</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Vocabulary</td>
<td>1</td>
<td>10%</td>
</tr>
<tr>
<td>7. Titles</td>
<td>2</td>
<td>20%</td>
<td>Vocabulary</td>
<td>2</td>
<td>20%</td>
</tr>
<tr>
<td>8. Vocabulary in Context</td>
<td>2</td>
<td>20%</td>
<td>Logical Organization</td>
<td>1</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Paragraph Length</td>
<td>1</td>
<td>10%</td>
</tr>
<tr>
<td>9. Background Knowledge</td>
<td>1</td>
<td>10%</td>
<td>Vocabulary</td>
<td>1</td>
<td>10%</td>
</tr>
<tr>
<td>10. Grammar</td>
<td>1</td>
<td>10%</td>
<td>Sentence Length</td>
<td>1</td>
<td>10%</td>
</tr>
</tbody>
</table>

**Vocabulary.** Vocabulary was reported to be a conjoined feature by seven (70%) of the informants (Annie, Ben, Dan, Harold, Jacob, Kala, Marsha). Two features were reported to influence the amount of difficulty caused by vocabulary: (a) background knowledge and (b) interest.

Six (60%) of the informants (Annie, Dan, Harold, Jacob, Kala, Marsha) reported background knowledge to be an influential feature. The informants who
explained that they had background knowledge about the topic of an essay reported that they found the vocabulary therein to be easier while those who reported that they did not have such background knowledge explained that they had more difficulty understanding the vocabulary. Annie, for example, explained that she felt her background knowledge about religion (i.e., the topic of the third essay in her cline, “Salvation”) and her lack of background about fishing (i.e., the topic of the fourth essay in her cline, “A View From the Bridge”) influenced her perceptions of difficulty about the vocabulary in each of these essays and thus her decision about where to place these essays in her cline. Annie’s reports support empirical work that has found that students’ domain related background knowledge influences their understanding of domain specific vocabulary and thus their reading comprehension (Allen & Garton, 1968; Anderson & Freebody, 1979; Chalmers et al., 1997; Huang, 1999; Lankamp, 1989; Steffensen, Joag-Dev, & Anderson, 1979; Ulijn & Salager-Meyer, 1998).

For the area of vocabulary (conjoined with interest), two (20%) of the informants (Ben, Annie) offered feedback. Ben offered a general comment, explaining that he is willing to spend more time to understand an essay with difficult vocabulary if he is interested in the essay. The second informant, Annie, illustrated how background knowledge about and interest in the topic influenced her perceptions of difficulty about the vocabulary in the “Salvation” essay. She explained that her interest in religion, the topic of the "Salvation" essay, helped her to have a large vocabulary to draw on when reading the essay: “If you have more interest in some topic, you may know more . . . vocabulary.” We interpreted
her response to mean that she felt that her interest in religion fueled her background knowledge that in turn led to her increased vocabulary in this area. Accepting this interpretation, her report is related to research that has found a correlation between background knowledge and interest (Bargh & Schul, 1980; Bugel & Buunk, 1996; Carrell & Wise, 1998; Entin, 1981; Ercetin (2010); Lin et al., 1997).

**Sentence length.** Sentence length was reported to be a conjoined feature by five (50%) of the informants (Annie, Ben, Jacob, Linda, Nelson). Three features were reported to influence the amount of difficulty caused by sentence length: (a) vocabulary, (b) punctuation, and (c) grammar.

Three (30%) of the informants (Annie, Jacob, Linda) reported that they felt that long sentences were difficult because of the increased amount of unfamiliar vocabulary such sentences contain. Annie, for example, pointing to the “Grammy Rewards,” essay reported she felt that the long sentences in the essay were difficult because of the amount of unknown vocabulary they have. These informants’ reports are supported by work that has shown the difficulty long sentences pose is related to the difficult vocabulary they contain (Coleman & Miller, 1968; Dwaik, 1997; Guo, 2008).

One (10%) of the informants (Nelson) reported that he felt that sentence length was influenced by grammar. Nelson explained that he felt the long sentences in the second essay of his cline (i.e., “Freedom and Security”) were difficult because of their complex grammatical structure. Nelson’s report supports McLaughlin’s (1969) argument and others' work (Coleman & Miller, 1968;
McElree, 2000; McElree et al., 2003; Mikk, 2008) that girds McLaughlin’s idea that long sentences “nearly always have complex grammatical structure, which is a strain on the reader's immediate memory because he has to retain several parts of each sentence before he can combine them into a meaningful whole” (p. 640). Nelson’s report may also support work that argues that while grammatical complexity is an important factor, student awareness is also a factor, one that is dependent on whether the reader has enough awareness of grammar to process the sentence (Bormuth, 1966; Dwaik, 1997; Guo, 2008; Nilagupta, 1977; Strom, 1956).

For the area of sentence length as a feature which is influenced by punctuation, one (10%) of the informants, Ben, offered feedback. Pointing to the second essay in his cline, i.e., “Freedom and Security,” he reported that he felt that the long sentences in this essay were difficult because of the amount of punctuation they contain. This report may support Freedle and Kostin’s (1993) findings that show larger amounts of certain types of punctuation reduce student comprehension. It may also support others’ arguments and findings that punctuation facilitates reading comprehension (Backscheider, 1972; Carver, 1970; Durkee, 1952; Summey, 1919; Van Diem, 1969; Weaver et al., 1970) but only when students are aware of its purpose (Carr, 1978; Durkee, 1952; Graesser, McNamara, & Louwerse, 2003; Hasbrouck, Ihnot, & Rogers, 1999; Nagy, 2007; Shih, 1992; Taillefer & Pugh, 1998).

**Overall length.** Overall length was reported to be a conjoined feature by five (40%) of the informants (Ben, Eve, Marsha, Harold). Two features were
reported to influence the amount of difficulty caused by overall length: (a) vocabulary and (b) interest.

For the area of vocabulary, three (30%) of the informants (Eve, Marsha, Harold) offered comments, but they did not all offer the same reason. Eve and Harold explained that they felt longer essays were harder than shorter ones because of the amount of unfamiliar vocabulary they felt the essays contained. Marsha, on the other hand, explained she felt that short essays can also be difficult if they have too much unfamiliar vocabulary. Each of these reports is supported by Buck et al. (1997) who found that vocabulary was related to text length.

For the area of interest, two (20%) of the informants (Ben, Harold) offered comments. Ben, for example, pointed to the “A View From the Bridge” essay and explained he felt that the essay was difficult because of its long overall length, but that he was willing to read it because it “touched his heart.”

Logical organization. Logical organization was reported to be a conjoined feature by four (40%) of the informants (Annie, Ben, Dan, Kala). Three features were reported to influence the amount of difficulty caused by logical organization: (a) vocabulary, (b) background knowledge, and (c) titles.

Two (20%) of the informants (Annie, Kala) explained that they felt the amount of unfamiliar vocabulary in an essay diminished their ability to understand its logical organization. Kala, for example, referring to the “A View From the Bridge” essay, explained (via the translator) that she felt that “the vocabulary [in the essay] was so difficult” that she could not even understand the
essay's organization. Kala's report is related to Hirsch and Nation's (1992) work that has shown that students need to have a minimum command of vocabulary to access a text. Her report is also related to Carrell's (1983) work which has shown that when students are presented with texts beyond their ability, the students may remain linguistically tied to the text, unable to access other features which would normally help them process the text.

For the other two features (i.e., background knowledge and titles), one response was given about each by separate informants. For the first, background knowledge, Ben, explained that he felt his background knowledge about hand washing (i.e., the topic of the "A Guide to Proper Hand-washing Technique" essay) helped him to identify its rhetorical organization, which in turn helped him to anticipate and follow the text. For the second feature, titles, Dan explained why he felt the title of the "A Guide to Proper Hand-washing Technique" essay was helpful. He reported that the essay's title helped him to understand the essay's logical organization because he could anticipate the essay would be reporting a procedure. Dan's report is in accordance with Bock's work (1978 ctd. in Bock, 1980) which explained that titles can help informants set up ideas about forthcoming logical organization.

**Paragraph length.** Three (30%) of the informants (Ben, Harold, Marsha) reported one feature, vocabulary, influenced the amount of difficulty caused by long paragraphs. One informant, Ben, for example, complained that he found the paragraphs in the "Grammy Rewards" essay difficult because of the unfamiliar
vocabulary he found in it. Ben’s report is related to the findings of Buck et al. (1997) who demonstrated that vocabulary and text length are related.

**Interest.** Interest was reported to be a conjoined feature by two (20%) of the informants (Kala, Harold). Four features were reported to influence the feature of interest: (a) vocabulary, (b) overall length, (c) sentence length, (d) logical organization.

Kala offered a comment about vocabulary. She explained that she was interested in the topic of the “Grammy Rewards” essay, but that the amount of difficult vocabulary in the essay diminished her understanding of its content and thus her perceptions about whether she could understand the essay. Kala’s report supports the idea that readers feel that vocabulary is the most significant predictor of whether they can understand a passage (Statman, 1987; Yorio, 1971), even more so than interest.

Harold offered comments about the other three features: (a) overall length, (b) sentence length, and (c) logical organization. He pointed out the “Salvation” essay’s overall length reduced his interest and increased his perception of difficulty about the essay. Harold’s report is loosely supported by Schriver’s (1997) work that has shown that a text’s appearance can influence readers’ interest in reading an essay and their perception of difficulty, making them feel the essay is formal and unapproachable if they associate the look of a text with other texts they have had negative experiences with in the past.

Harold also offered reports which are related to student efficacy, one about one about logical organization and one about sentence length. Harold
commented that his understanding of the type of logical organization (i.e., point by point contrast structure) used in the “Grammy Rewards” essay raised his interest to read this essay. This is because it can be assumed that Harold, as a reader who is aware of his past successful and unsuccessful reading encounters, is able to reflect on what contributed to his past experiences when predicting their success with the current materials. Harold also explained that he felt that the short sentences in the “Salvation” essay increased his interest to read it. Harold’s report is also associated with work that has found that shorter sentences facilitate reading comprehension (Coleman, 1962; Coleman & Miller, 1968; Freedle & Kostin, 1993; Gray & Leary, 1935; McElree, 2000; McElree et al., 2003; McLaughlin, 1969; Mikk, 2008).

**Titles.** Two features were reported to impact the amount of influence titles can have on an informant’s perception of difficulty about an essay: (a) vocabulary and (b) vocabulary in context.

Two (20%) of the informants (Ben, Linda) explained that whether they could make out the meaning of the title of an essay helped them to determine how difficult an essay would be. Specifically, they explained that how difficult they found a title of an essay was influenced by how understandable the vocabulary used in the title was. Ben, for example, offered an illustration of this. He explained that the vocabulary in the title of the essay he placed as easiest (i.e., “A Guide to Proper Hand-washing Technique”) was easier to understand than the vocabulary in the title of the other essays. He further illustrated this by explaining that he had trouble with the conceptual meaning of the phrase freedom and
security which made up the title of the essay he placed last (i.e., “Freedom and Security”). Ben’s report is in accordance with studies that showed that the meaningfulness of titles is a factor in how helpful they are (Bock, 1978 ctd. in Bock, 1980; Fan & Liu, 2008; Schallert, 1976; Zhang & Hoosain, 2001).

Ben also noted that he could not initially make out the title of the “Freedom and Security,” but that he was later able to infer its meaning from context because of the meaning related to the terms in the text itself. Ben’s report is associated with work that has shown that ELL readers rely on context clues to catch the meaning of unknown words (Cooper, 1999; Fraser, 1999; Nassaji, 2003; Paribakht & Wesche, 1999).

**Vocabulary in context.** Vocabulary in context was reported to be a conjoined feature by two (20%) of the informants (Annie, Dan). Two features were reported to impact the amount of influence vocabulary in context has on an informant’s perception of difficulty about an essay: (a) paragraph length and (b) logical organization.

One informant, Annie, reported that she felt the area of vocabulary in context was influenced by paragraph length. She explained that the examples following an unknown phrase (*Freedom is rooted in choice*) in the “Freedom and Security” essay helped her to make sense of the phrase. Annie’s report is associated with Ames’ (1966) argument that clues derived from supporting details, which also add length, help readers to make inferences about unknown words. Annie’s report is also related to Shokouhi and Askari’s (2010) study that
showed that the redundancy found in additional length facilitates ELLs’ ability to make inferences.

The second informant, Dan, reported that he felt vocabulary in context was influenced by logical organization. He explained that he had trouble fully understanding the concepts *freedom* and *security* when he first came across them in the title of the “Freedom and Security” essay, but that he was later able to understand them because of the essay’s logical contrast organization. Dan’s report is associated with Dubin and Olshtain’s (1993) work which showed that comparison or contrast clues can assist readers’ ability to make inferences. It also supports others’ reports that inference clues at the sentence and paragraph level are helpful (Bengeleil & Paribakht, 2004; Paribakht & Wesche, 1999).

**Background knowledge.** One (10%) of the informants, Annie, indicated that she felt that the area of background knowledge was influenced by vocabulary. She explained that she felt the abundance of unfamiliar vocabulary she found in the “Freedom and Security” essay diminished her understanding of the concepts in the essay her background knowledge might ordinarily provide. Annie’s report supports Huang’s (1999) findings that showed those with inadequate vocabularies are unable to access their background knowledge to help their reading comprehension.

**Grammar.** One (10%) of the informants, Kala, reported that she felt that the difficulty grammar causes was influenced by sentence length. To illustrate this, she offered a general comment explaining that she felt that if sentences were too long, she would misunderstand their grammatical meaning. Kala’s
report supports McLaughlin’s (1969) argument and others’ work that demonstrates long sentences nearly always have complex grammatical structure (Coleman & Miller, 1968; McElree, 2000; McElree et al., 2003; McLaughlin, 1969; Mikk, 2008), “which is a strain on the reader’s immediate memory because he has to retain several parts of each sentence before he can combine them into a meaningful whole” (McLaughlin’s, 1969, p. 640). Kala’s report may also support research that has reported that while grammatical complexity is an important factor, reader awareness is also a contributing factor, and the latter is dependent on whether the reader has enough grammar competency to process the sentence (Bormuth, 1966, Dwaik, 1997; Guo, 2008; Nilagupta, 1977; Strom, 1956).

**Simply Influential Features**

The results of the interviews demonstrate that one (10%) of the informants found one feature to be a simply influential feature; a feature that is neither a primary feature nor a conjoined one, but instead simply influences another feature.

**Punctuation.** Punctuation (i.e., the way sentences are punctuated, e.g., the use of periods, question marks, exclamation marks, commas, colons, semicolons, dashes/hyphens, ellipses, etc.) was not cited as a primary feature, nor was it cited as a conjoined feature. It was, however, cited as influencing one other feature, sentence length. (See Sentence Length for a note on this.)
Findings For Research Question Three

The purpose of step three of the study was to collect the data needed to answer research question three: What features related to readability beyond the two measured by the Lexile Readability Formula (i.e., vocabulary and sentence length) do the participants feel affect the readability of the exemplars in the anthologies? The data collected in this step provided answers for each of the four subquestions related to this question. The results for each subquestion are presented here.

Q3a. What features related to readability measured by the Lexile Readability Formula (i.e., vocabulary and sentence length) do the participants feel affect the readability of the exemplars in the anthologies?

Examining the data gathered during this part of the investigation, the results demonstrate that one or more informants feel that each of the features measured by the Lexile Readability Formula (i.e., vocabulary and sentence length) affect the readability of the exemplars in the anthologies. These data are listed alphabetically in Table 33.
Q3b. What features related to readability beyond those measured by the Lexile Readability Formula (i.e., vocabulary and sentence length) do the participants feel affect the readability of the exemplars in the anthologies?

Examining the data gathered during this part of the investigation, the results, as shown in Table 33, demonstrate that one or more of the informants feel that 14 features beyond the two measured by the Lexile Readability Formula (i.e., vocabulary and sentence length) affect the readability of the exemplars in the anthologies.

Q3c. Which of the features related to readability do the participants feel are primary features (i.e., an isolated feature)?
The data collected during this step of the study demonstrate that one or more of the informants feel 15 features affect the readability of the exemplars in the anthologies as primary features (i.e., isolated features). These data are listed by frequency and then alphabetically in Table 34.

Table 34

Features the Informants Reported to Be Primary (Revisited)

<table>
<thead>
<tr>
<th>Feature</th>
<th>%</th>
<th>Feature</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Vocabulary</td>
<td>90%</td>
<td>9. Formatting</td>
<td>30%</td>
</tr>
<tr>
<td>2. Vocabulary in Context</td>
<td>90%</td>
<td>10. Overall Length</td>
<td>30%</td>
</tr>
<tr>
<td>3. Logical Organization</td>
<td>80%</td>
<td>11. Supp Materials 1&lt;sup&gt;a&lt;/sup&gt;</td>
<td>30%</td>
</tr>
<tr>
<td>4. Signal Words</td>
<td>80%</td>
<td>12. Grammar&lt;sup&gt;b&lt;/sup&gt;</td>
<td>20%</td>
</tr>
<tr>
<td>5. Interest</td>
<td>70%</td>
<td>13. Sentence Length</td>
<td>10%</td>
</tr>
<tr>
<td>6. Background Knowledge</td>
<td>60%</td>
<td>14. Supp Materials 2&lt;sup&gt;c&lt;/sup&gt;</td>
<td>20%</td>
</tr>
<tr>
<td>7. Structure</td>
<td>50%</td>
<td>15. Paragraph Length</td>
<td>10%</td>
</tr>
<tr>
<td>8. Titles</td>
<td>40%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.*
<sup>a</sup> Supp Materials 1. Supplementary Materials (Advance organizers: Introductions prior to the writing text.)
<sup>b</sup> Grammar was not included on the original questionnaire.
<sup>c</sup> Supp Materials 2. Supplementary Materials (Pre- and post questions: The questions before and/or after the text.)

Q3e. *Which of the features related to readability do the participants feel are conjoined features (i.e., one feature is conjoined with--influenced by--another feature)?*

The data collected during this step of the study demonstrate that one or more of the informants feel 10 features act as conjoined features to affect the readability of the exemplars in the anthologies (e.g., vocabulary was influenced by background knowledge). These data, both the conjoined and influential features, are listed first by frequency and then alphabetically in Table 35.
Table 35

Features the Informants Reported to Be Conjoined (Influenced by Other Features) (Revisited)

<table>
<thead>
<tr>
<th>Conjoined Features</th>
<th>%</th>
<th>Influential Features</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Vocabulary</td>
<td>70%</td>
<td>Background Knowledge</td>
<td>60%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Interest</td>
<td>20%</td>
</tr>
<tr>
<td>2. Sentence Length</td>
<td>50%</td>
<td>Vocabulary</td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Grammar</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Punctuation</td>
<td>10%</td>
</tr>
<tr>
<td>3. Overall Length</td>
<td>40%</td>
<td>Interest</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vocabulary</td>
<td>20%</td>
</tr>
<tr>
<td>4. Logical Organization</td>
<td>30%</td>
<td>Vocabulary</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Background Knowledge</td>
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<td>Titles</td>
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<td>5. Paragraph Length</td>
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<td>Vocabulary</td>
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<td>6. Interest</td>
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<td>Logical Organization</td>
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<td>Sentence Length</td>
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<td>Vocabulary</td>
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<td>7. Titles</td>
<td>20%</td>
<td>Vocabulary</td>
<td>20%</td>
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<td>8. Vocabulary in Context</td>
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<td>Logical Organization</td>
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<td></td>
<td>Paragraph Length</td>
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<td>9. Background Knowledge</td>
<td>10%</td>
<td>Vocabulary</td>
<td>10%</td>
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<td>10. Grammar</td>
<td>10%</td>
<td>Sentence Length</td>
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Chapter Summary

This chapter presented the results for question three. The next chapter, Chapter Ten, concludes the paper with a presentation of three sections: (1) A Summary of the Study and Its Findings, (2) Conclusions and Discussion, and (3) Suggestions for Future Study. This is followed by References, Appendices, and End Notes.
CHAPTER TEN
SUMMARY OF THE STUDY AND ITS FINDINGS, CONCLUSIONS AND DISCUSSION, AND SUGGESTIONS FOR FURTHER STUDY

Introduction

I began this dissertation with a description of the long and adventurous journey that led me to conduct this study. In keeping with this Odyssean like theme, I hope this study is but one moorage in a long voyage: One that explains what brought me to explore this topic, describes what was learned from it, and provides fresh sail for future explorations, both practical and theoretical. With this in mind, I finish this leg of the journey with the presentation of three sections: (1) Summary of the Study and Its Findings, (2) Conclusion and Discussion, and (3) Suggestions for Future Study.

Summary of the Study and Its Findings

The purpose of this study was to gather information to help the writing center staff at Mountain View University in Taipei, Taiwan select the best anthologies for purchase as self-access materials. It specifically sought to answer three research questions:

1. What anthologies are available on the Taiwan Market?
2. Which of the anthologies available on the Taiwan Market are accessible to the ELLs who will potentially use them in the campus writing center as indicated by (a) a quantitative assessment of the texts’ readability level(s) via the Lexile Readability Formula, (b) an
examination of the students’ reading levels via the SRI, and (c) a comparison of the two?

3. What features related to readability beyond those measured by the Lexile Readability Formula (i.e., vocabulary and sentence length) do the participants feel affect the readability of the exemplars in the anthologies?

Using an adaptation of Creswell’s (2002) sequential mixed method research design, three steps were performed, one for each research question. The first step was an investigation of international publishers’ local distributors’ catalogues, records, and databases. This step found there are 12 anthologies available on the Taiwan Market.

The second step was a quantitative three stage assessment to determine which of the 12 texts found in step one are accessible to the ELLs who will potentially use them in the campus writing center: (a) a quantitative assessment of the texts’ readability level(s), (b) an examination of the students’ reading levels, and (c) a comparison of the two.

The first stage of step two examined each of the exemplars in the 12 texts (N= 867) using the Lexile Readability Formula and found that all of the exemplars in each of the texts to be above 600L with varying frequencies in each of the Lexile zones up through 2200L-2290L.

The second stage examined the reading levels of a purposive sample of the students who potentially visit the campus writing center using the SRI (N = 91). This stage found that 53.85% of the participants read below 600L and the
other 46.15% read in one of five groups: 600L-699L (18.68% of the population), 700L-799L (9.89% of the population), 800L-899L (14.29% of the population), 900L-999L (2.2% of the population), and 1100L-1199L (1.1% of the population).

Comparing the data from stages one and two using rank and frequency tables, the third stage found that all 12 texts are inaccessible to students who read below 600L (53.85% of the population) and that only a limited number of exemplars in the texts are available to the 46.15% of the students who read in the five remaining groups. The group who read from 600L-699L (18.68% of the population) could only access three of the texts and only a mean 1.5% of those texts. The students who read from 700L-799L (9.89% of the population) were found to be able to access 11 of the 12 texts, but only a mean 2.97% of the samples therein. And the remaining three groups were found to be able to access all 12 texts, but again only in limited amounts: Group 800L-899L (14.29% of the population) could access a mean 8.67% of the 12 texts, Group 900L-999L (2.2% of the population) could access a mean 19.16%, and Group 1100L-1199L (1.1% of the population) could access a mean 60.45%.

The third step was a two stage exploration of what features related to readability beyond the two measured by the Lexile Readability Formula (i.e., vocabulary and sentence length) the participants feel affect the readability of the exemplars in the anthologies. This was measured by two data gathering techniques: (a) a quantitative cline-questionnaire procedure and (b) a qualitative semi-structured retrospective interview.
The first stage (i.e., the cline-questionnaire procedure) had two untimed phases, (a) a cline and (b) a questionnaire. In the cline phase, a purposively chosen cluster sample of informants \((n = 11)\) read five exemplars from the anthologies and ranked them in order of difficulty (easiest to most difficult) so that they could reflect on this activity during the questionnaire phase.

The informants were identified because they received SRI scores at the top of their class; thus allowing them to examine a wide range of exemplars. The exemplars were purposively chosen to be below, within, and slightly above the informants’ Lexile range.

In the questionnaire phase, the informants completed a Likert questionnaire designed to help them reflect on why they ranked the essays the way they did and relate this in such a way that would provide insight into what features they felt influenced their perceptions of difficulty when reading exemplars from the texts. The questionnaire was adapted from the sources cited in Chapter Two of this dissertation that indicate which features contribute to text difficulty.

Examining the responses of the informants in this stage, it was found that the informants felt the two features measured by the Lexile Readability Formula (i.e., vocabulary and sentence length) and 12 others influenced their perceptions of difficulty when reading exemplars taken from the anthologies.

In the second stage, the informants participated in semi-structured retrospective interviews to elaborate on the quantitative findings of the cline-questionnaire procedure. Examining the responses of the informants who
successfully completed this stage \((n = 10)\), a deeper understanding of how the informants perceived both the features measured and not measured by the Lexile Readability Formula measured. In total, they reported that they felt a total of 16 features influenced their perceptions of difficulty: The two the Lexile Readability Formula measures (i.e., vocabulary and sentence length) and 14 others. These data are reproduced from Table 33 and presented again here in Table 36 for the reader’s convenience. The data are listed alphabetically.

Table 36

<table>
<thead>
<tr>
<th>Features the Respondents Perceived as Influencing Text Difficulty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Features Considered by the Lexile Readability Formula</td>
</tr>
<tr>
<td>---------------------------------------------------------</td>
</tr>
<tr>
<td>1. Sentence Length</td>
</tr>
<tr>
<td>2. Vocabulary</td>
</tr>
<tr>
<td></td>
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<td></td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>

Note.

a Supp Materials 1. Supplementary Materials (Advance organizers: Introductions prior to the writing text.)
b Supp Materials 2. Supplementary Materials (Pre- and post questions: The questions before and/or after the text.)

The results of the interviews further showed that the informants, as a group, perceived each of these 16 features when considering the difficulty of the reading exemplars from anthologies (a) sometimes as a primary feature (i.e., an isolated feature, e.g., vocabulary); (b) sometimes as conjoined feature (i.e., consisting of two or more associated entities where the second impacts the first: The informant’s background knowledge helped him/her understand difficult
vocabulary); and (c) sometimes as neither primary or conjoined, but simply as an influential feature (i.e., punctuation). Punctuation, for example was found to be neither a primary feature nor a conjoined one, but it was found to influence another feature (i.e., punctuation influences the difficulty long sentences cause).

Specifically, the results showed that the informants considered 15 of these features to be primary features. These data are reproduced from Table 34 and presented again here in Table 37 for the reader’s convenience. The data are listed first by frequency and then alphabetically.

Table 37

<table>
<thead>
<tr>
<th>Primary Features</th>
<th>Feature %</th>
<th>Feature %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Vocabulary</td>
<td>90%</td>
<td>9. Formatting</td>
</tr>
<tr>
<td>2. Vocabulary in Context</td>
<td>90%</td>
<td>10. Overall Length</td>
</tr>
<tr>
<td>3. Logical Organization</td>
<td>80%</td>
<td>11. Supp Materials 1</td>
</tr>
<tr>
<td>4. Signal Words</td>
<td>80%</td>
<td>12. Grammar</td>
</tr>
<tr>
<td>5. Interest</td>
<td>70%</td>
<td>13. Supp Materials 2</td>
</tr>
<tr>
<td>6. Background Knowledge</td>
<td>60%</td>
<td>14. Paragraph Length</td>
</tr>
<tr>
<td>7. Structure</td>
<td>50%</td>
<td>15. Sentence Length</td>
</tr>
<tr>
<td>8. Titles</td>
<td>40%</td>
<td></td>
</tr>
</tbody>
</table>

Note.

a Supp Materials 1. Supplementary Materials (Advance organizers: Introductions prior to the writing text.)
b Grammar was not included on the original questionnaire.
c Supp Materials 2. Supplementary Materials (Pre- and post questions: The questions before and/or after the text.)

The results of the interviews additionally showed that one or more of the informants in the group felt that 10 features affect the readability of the exemplars in the anthologies as conjoined features (e.g., vocabulary was influenced by background knowledge). These data, both the conjoined and influential features, are reproduced from Table 35 and presented again here in Table 38 for the
reader’s convenience. The data are listed first by frequency and then alphabetically.

Table 38

Features the Informants Reported to Be Conjoined (Influenced by Other Features) (Revisited)

<table>
<thead>
<tr>
<th>Conjoined Features</th>
<th>%</th>
<th>Influential Features</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Vocabulary</td>
<td>70%</td>
<td>Background Knowledge</td>
<td>60%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Interest</td>
<td>20%</td>
</tr>
<tr>
<td>2. Sentence Length</td>
<td>50%</td>
<td>Vocabulary</td>
<td>30%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Grammar</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Punctuation</td>
<td>10%</td>
</tr>
<tr>
<td>3. Overall Length</td>
<td>40%</td>
<td>Interest</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vocabulary</td>
<td>20%</td>
</tr>
<tr>
<td>4. Logical Organization</td>
<td>30%</td>
<td>Vocabulary</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Background Knowledge</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Titles</td>
<td>10%</td>
</tr>
<tr>
<td>5. Paragraph Length</td>
<td>30%</td>
<td>Vocabulary</td>
<td>30%</td>
</tr>
<tr>
<td>6. Interest</td>
<td>20%</td>
<td>Logical Organization</td>
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<td>Overall Length</td>
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<td></td>
<td></td>
<td>Sentence Length</td>
<td>10%</td>
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<tr>
<td></td>
<td></td>
<td>Vocabulary</td>
<td>10%</td>
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<tr>
<td>7. Titles</td>
<td>20%</td>
<td>Vocabulary</td>
<td>20%</td>
</tr>
<tr>
<td>8. Vocabulary in Context</td>
<td>20%</td>
<td>Logical Organization</td>
<td>10%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Paragraph Length</td>
<td>10%</td>
</tr>
<tr>
<td>9. Background Knowledge</td>
<td>10%</td>
<td>Vocabulary</td>
<td>10%</td>
</tr>
<tr>
<td>10. Grammar</td>
<td>10%</td>
<td>Sentence Length</td>
<td>10%</td>
</tr>
</tbody>
</table>

The results of the interviews further demonstrated that one of the informants considered one feature (i.e., punctuation) simply to be a feature that influences another feature (i.e., punctuation influences the difficulty long sentences cause).

Conclusions and Discussion

This study provided information the writing center staff at Mountain View University can draw on when considering which texts are appropriate for purchase as self-access materials for the students who visit the center.
The results show that there are 12 anthologies available for purchase on the local market, but that these texts (as indicated by a comparison of the texts’ and students’ Lexile measures) are inaccessible to the reading levels of 53.85% of the students who visit the center. The results also show that there are only a limited number of exemplars within these texts that are accessible to the reading levels of the other 46.15% of this population.

The results further show that the informants consider a total of 16 features in the holistic decision process they go through when determining the difficulty of the exemplars in anthologies: the two the Lexile Readability Formula measure (i.e., vocabulary and sentence length) and 14 others:

1. Background Knowledge
2. Formatting
3. Grammar
4. Interest
5. Logical Organization
6. Overall Length
7. Paragraph Length
8. Punctuation
9. Signal Words
10. Structure
11. Supp Materials 1 (Advance organizers: Introductions prior to the writing text.)
Having presented these data, this study has reached its practical objective: It has gathered and presented the information needed to help the writing center with its purchasing decisions. The study has not suggested which texts the center should purchase. Using these data, the center may now undertake the comprehensive text selection process it intends to, making decisions as it sees fit.

In addition to having achieved its practical goal, the data this study has provided can practically and theoretically inform instructors and writing center staff at Mountain View University and other institutions, members of the publishing industry, and the research community as a whole. These data are as follows:

1. The study has provided a complete survey of all of the anthologies available on the Taiwan Market.

2. The study has shown that there are a limited number of anthologies available on the Taiwan Market which are appropriate for the population that participated in this study, Taiwanese postsecondary ELLs.

3. The study has shown, as others have, that many Taiwanese postsecondary ELLs may not have the reading levels necessary to
access college level texts (Chang, 2003; Her, 1994; Huang, 2004; Lin, 2003; Tan, 2009).

4. The study has shown, like the studies reviewed in Chapter Two and revisited in Chapter Nine, that a variety of features contribute to reading comprehension.

5. The study has furthered our knowledge about what contributes to readability with regards to the features measured and not measured by the Lexile Readability Formula. Specifically, the study demonstrated that the informants feel that the two features measured by the Lexile Readability Formula (i.e., vocabulary and sentence length) and 14 others act as primary, conjoined, or simply influential features to influence the difficulty they have with exemplars found in anthologies of paragraphs and essays.

6. Examining the informants’ reports, other research is also supported and furthered. Vocabulary, for example, was reported to be a primary feature by 90% of the informants and a conjoined feature by 70%. Vocabulary was further reported to influence seven of the 16 features found to be influential in this study. Sentence length was also reported as a primary feature, a conjoined feature, and one that was seen to influence three other features. Examining these data, it can be concluded that these two features are, as others have argued, strong predictors of the difficulty students have with texts (Dubay, 2007a). However, it can also be seen that these two features are only two of
the 16 features the informants feel contribute to the difficulty they have when reading exemplars form anthologies. Considering these data together, the results of this study support others’ work that argues that while vocabulary and sentence length are strong predictors of how difficult students find texts, other features need to be considered when selecting texts (Chall & Dale, 1995; Fry, 2002; Gunning, 2003; Lexile, 2010; Meyer, 2003; Weaver, 2000; Zakaluk & Samuels, 1988). The data also furthers the literature by providing a list of such features which can be considered when choosing texts.

**Suggestions for Future Study**

The information this study provides is certainly worthwhile for the writing center staff at Mountain View University to draw on when making their text purchase decisions. It also furthers the literature in ways that can be useful to instructors and writing center staff at Mountain View University and other institutions, members of the publishing industry, and the research community as a whole, but the reported data raises additional questions which merit investigation.

The first step (i.e., an investigation of international publishers’ local distributors’ catalogues, records, and databases) found that there are 12 anthologies available on the Taiwan Market. The quantitative comparison of those texts’ and the students’ Lexile measures in the second step showed that the exemplars in the texts are inaccessible to 53.85% of the sample (those who read between BR and 599L). It also showed that the remaining 46.15% of the
population can only access a limited number of the exemplars in these texts.

Examining these data, two questions arise:

1. Are there anthologies available for purchase from other markets which may be accessible to more of the students, albeit via special orders which may entail additional costs?
2. Considering the students' reading levels, what other texts required by the major the students are enrolled in (i.e., applied English) are beyond their reading levels?

During the third step (i.e., the cline-questionnaire procedure and interview), the informants were asked to rank the essays from easiest to most difficult. This procedure was a preparatory one for the next phase, the questionnaire. The data provided in this cline phase was shown to help the reader follow the study, not as an attempt to validate or invalidate the use of the Lexile Readability Formula with this population or anthologies of paragraphs and essays. For such interpretations to be made, further investigation would be required.

During the cline-questionnaire and following interview stage, it was found that the informants (as a group) perceive a total of 16 features as contributing to text difficulty when reading exemplars from anthologies of paragraphs and essays, but each informant reported a different mix of features. Examining these data, one question arises: What prompted the variances in the features each informant reported?

A broader potential focus also presents itself. As this was a study of one population and may not be representative of other ELL populations, similar
examinations might be conducted to explore the experiences of other populations both at Mountain View University and other institutions in Taiwan and around the world.
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doi:10.1037/h0075325


APPENDICES
Appendix A

Institutional Review Board for the Protection of Human Subjects Approval Letter

Indiana University of Pennsylvania

Institutional Review Board for the Protection of Human Subjects
School of Graduate Studies and Research
Stright Hall, Room 113
210 South Third Street
Indiana, Pennsylvania 15705-1048

October 28, 2010

John Baker

Dear Mr. Baker:

Your proposed research project, [REDACTED], has been reviewed by the IRB and is approved as an expedited review for the period of October 28, 2010 to October 28, 2011.

It is also important for you to note that IUP adheres strictly to Federal Policy that requires you to notify the IRB promptly regarding:

1. any additions or changes in procedures you might wish for your study (additions or changes must be approved by the IRB before they are implemented),
2. any events that affect the safety or well-being of subjects, and
3. any modifications of your study or other responses that are necessitated by any events reported in (2).

Should you need to continue your research beyond October 28, 2011 you will need to file additional information for continuing review. Please contact the IRB office at (724) 357-7730 or come to Room 113, Stright Hall for further information.

Although your human subjects review process is complete, the School of Graduate Studies and Research requires submission and approval of a Research Topic Approval Form (RTAF) before you can begin your research. If you have not yet submitted your RTAF, the form can be found at http://www.iup.edu/page.aspx?id=91883.

This letter indicates the IRB’s approval of your protocol. IRB approval does not supersede or obviate compliance with any other university policies, including, but not limited to, policies regarding program enrollment, topic approval, and conduct of university-affiliated activities.

I wish you success as you pursue this important endeavor.

Sincerely,

John A. Millis, Ph.D., ABPP
Chairperson, Institutional Review Board for the Protection of Human Subjects
Professor of Psychology

[REDACTED]

X: Dr. Jeannine Fontaine, Dissertation Advisor
Ms. Beverly Obitz, Thesis and Dissertation Secretary
Appendix B

Informed Consent Form

Title: Choosing materials for a writing center resource library in an ELL setting

You are invited to participate in this research study. The following information is provided in order to help you make an informed decision whether or not to participate. If you have any questions, please do not hesitate to ask.

The purpose of this study is to help the writing center gather information so it can conduct a comprehensive step text evaluation process of the anthologies of paragraphs and essays available on the local market. Participation in this study will involve: reading five passages, answering a survey about the passages, and participating in an interview. There are no known risks or discomforts associated with this research.

You may find the interview experience enjoyable, and it will help you learn how to choose texts which are appropriate for you.

Your participation in this study is voluntary. You are free to decide not to participate in this study or to withdraw at any time without adversely affecting your relationship with me. If you choose to participate, you may withdraw at any time by notifying the Project Director Dr. Jeannine M. Fontaine, or me. Upon your request to withdraw, all information pertaining to you will be destroyed. If you choose to participate, all information will be held in strict confidence.

If you are willing to participate in this study, please sign the statement below.

Researcher: John R. Baker, PhD candidate, Indiana University of Pennsylvania

Project Director: Dr. Jeannine M. Fontaine
334 Sutton Hall
Indiana University of Pennsylvania
Indiana, PA 15701
724-357-2457
This project has been approved by the Indiana University of Pennsylvania Institutional Review Board for the Protection of Human Subjects (phone: 724-3557-7730)

Informed Consent Form

VOLUNTARY CONSENT FORM:

I have read and understand the information on the form and I consent to volunteer to be a subject in this study. I understand that my responses are completely confidential and that I have the right to withdraw at any time. I have received an unsigned copy of this informed consent form to keep in my possession.

**Name** (please print):

____________________________________________________

**Signature**: ________________________________________

____

**Date**: _______________ Phone where you can be reached: ________

Best days and times to reach you: __________________________

I certify that I have explained to the above individual the nature and purpose, the potential benefits, and possible risks associated with participating in this research study, have answered any questions that have been raised, and have witnessed the above signature.

**Date**: _____________ **Investigator's signature**: ________________

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Appendix C
Exemplars

A Guide to Proper Hand-Washing Technique

Jennifer Traig

It's true that you should wash your hands to help prevent disease, but how do you keep them clean when you still have to turn off the faucet, dry them, and get out the door? Jennifer Traig tells you how, but it isn't easy.

Words to Know
contemplate think about
hepatitis inflammation of the liver

Getting Started
What process—doing the laundry, mowing the lawn, or shopping—do you especially dislike? Why?

Did you know that your hands are loaded with bacteria and other contaminants? They're filthy! They spread disease! Oh, it's just awful. And it's not scientifically possible to sterilize your hands. You can, however, get them really, really clean. Here's how!

1. First, you need to get some water going. We want it hot, hot, hot! The hot-water tap is contaminated, but that's okay, because you're about to wash. Touch it again, just to show how brave you are. Touch it one more time. Three taps wards off bad things. Now we're ready to wash!
2. Next, choose your poison. What kind of soap is for you? Bar soap is out; other people have probably used it (a possibility too horrible to contemplate), and even if it's unopened, it's made from animal fats, which is revolting. The whole thing just seems so dirty. Liquid soap is! Choose an antibacterial formula if you're worried about contamination from germs. If you're worried about contamination from death, choose dishwashing liquid. It's so death-free it's safe to use on plates and flatware! But only if it's BRAND-NEW. Even then, you never know. Okay, let's skip the soap altogether. Plain water will be fine.
3. Rub your hands together vigorously and scrub, scrub, scrub. The Centers for Disease Control recommend you wash your hands for ten seconds, but what do they know? If they're such geniuses, why do people still get hepatitis? A full minute, minimum. How about
this: you keep your hands under that tap until you answer the philosophical question “Is water clean?”
4. I don’t know if water is clean. What if water isn’t clean? What if water just makes you dirtier?
5. You’ll wash and wash and wash, but you’ll never be safe.
6. Okay, try not to think about it. Let’s just say water is clean and move on.
7. But what if it’s not clean?
8. We’re moving on. This next part is tricky. Your hands are clean—but they’re wet. How to get them dry without getting them dirty again? The air-dry technique is best. Sure, it’s slow, but it’s safe. Simply hold your hands in the air until they’re completely dry. Be sure not to touch anything! If you touch something, or if for some reason you think you maybe touched something, go back to Step 1. Yes, let’s go back to Step 1 just to be safe.
9. Now we’re in a hurry. You’re going to have to dry your hands with 10 paper napkins. That’s fine. Just make sure it’s a new package. Did you touch the part of the package that was sealed with glue? Is that glue? Glue is dirty. Wash again, just to be safe, then dry your hands on a napkin that absolutely for sure didn’t touch the glue.
10. Use a napkin to turn off the tap and another napkin to open the door on the way out. Some people won’t even touch the door with a napkin; they’ll just wait until somebody comes to open the door for them. But they’re crazy!

Questions About the Reading
1. Why does the writer say you need to get your hands “really, really clean”?
2. How many times does the writer start over in the process of washing her hands?
3. What is the writer’s opinion of different soaps? What does she mean by saying dishwashing soap is “death-free”?

Questions About the Writer’s Strategies
1. What is the tone of the essay?
2. Is the point of view (person) of the essay consistent? If it changes, is the change justified or necessary? Why or why not?
3. What is the irony in the essay?
Writing Assignments

1. Write an essay in which you explain making a peanut butter and jelly sandwich, changing the oil in a car, or opening a bank account.
2. Write an essay in which you explain the process of painting a room in your house.
Salvation

Langston Hughes

Among the chief figures of the Harlem Renaissance in the 1920s, Langston Hughes (1902–1967) is one of the best-known poets and playwrights in America. A native of Mississippi, Hughes also wrote numerous essays that detail life in the South during the early part of this century. His novels and his autobiography, I Wonder as I Wander, are still read widely. In this selection, he captures the trauma and disillusionment he experienced during a childhood incident.

The title and first line of this piece, though ironic, stand as models for the kinds of beginnings that never fail to pique the reader’s interest. Although brief, this essay is an emotional tour de force in which the author assumes the persona of himself as an adolescent. What we read here is testament to the power of narration as a tool for analysis and persuasion.

1 I was saved from sin when I was going on thirteen. But not really saved. It happened like this. There was a big revival at my Auntie Reed’s church. Every night for weeks there had been much preaching, singing, praying, and shouting, and some very hardened sinners had been brought to Christ, and the membership of the church had grown by leaps and bounds. Then just before the revival ended, they held a special meeting for children, “to bring the young lambs to the fold.” My aunt spoke of it for days ahead. That night I was escorted to the front row and placed on the mourners’ bench with all the other young sinners, who had not yet been brought to Jesus.

2 My aunt told me that when you were saved you saw a light, and something happened to you inside! And Jesus came into your life! And God was with you from then on! She said you could see and hear and feel Jesus in your soul. I believed her. I had heard a great many old people say
the same thing and it seemed to me they ought to know. So I sat there calmly in the hot, crowded church, waiting for Jesus to come to me.

The preacher preached a wonderful rhythmical sermon, all moans and shouts and lonely cries and dire pictures of hell, and then he sang a song about the ninety and nine safe in the fold, but one little lamb was left out in the cold. Then he said: “Won’t you come? Won’t you come to Jesus? Young lambs, won’t you come?” And he held out his arms to all us young sinners there on the mourners’ bench. And the little girls cried. And some of them jumped up and went to Jesus right away. But most of us just sat there.

A great many old people came and knelt around us and prayed, old women with jet-black faces and braided hair, old men with work-gnarled hands. And the church sang a song about the lower lights are burning, some poor sinners to be saved. And the whole building rocked with prayer and song.

Still I kept waiting to see Jesus.

Finally all the young people had gone to the altar and were saved, but one boy and me. He was a rounder’s son named Westley. Westley and I were surrounded by sisters and deacons praying. It was very hot in the church, and getting late now. Finally Westley said to me in a whisper: “God damn! I’m tired o’ sitting here. Let’s get up and be saved.” So he got up and was saved.

Then I was left all alone on the mourners’ bench. My aunt came and knelt at my knees and cried, while prayers and songs swirled all around me in the little church. The whole congregation prayed for me alone, in a mighty wail of moans and voices. And I kept waiting serenely for Jesus, waiting— but he didn’t come. I wanted to see him, but nothing happened to me. Nothing! I wanted something to happen to me, but nothing happened.

I heard the songs and the minister saying: “Why don’t you come? My dear child, why don’t you come to Jesus? Jesus is waiting for you. He wants you. Why don’t you come? Sister Reed, what is this child’s name?”

“Langston,” my aunt sobbed.

“Langston, why don’t you come? Why don’t you come and be saved? Oh, Lamb of God! Why don’t you come?”

Now it was really getting late. I began to be ashamed of myself, holding everything up so long. I began to wonder what God thought about Westley, who certainly hadn’t seen Jesus either, but who was now sitting proudly on the platform, swinging his knickerbockered legs and grinning down at me, surrounded by deacons and old women on their knees praying. God had not struck Westley dead for taking his name in vain or for lying in the temple. So I decided that maybe to save further trouble, I’d better lie, too, and say that Jesus had come, and get up and be saved.

So I got up.

Suddenly the whole room broke into a sea of shouting, as they saw me rise. Waves of rejoicing swept the place. Women leaped in the air. My aunt threw her arms around me. The minister took me by the hand and led me to the platform.
When things quieted down, in a hushed silence, punctuated by a few ecstatic “Amens,” all the new young lambs were blessed in the name of God. Then joyous singing filled the room.

That night, for the last time in my life but one—for I was a big boy twelve years old—I cried. I cried, in bed alone, and couldn’t stop. I buried my head under the quilts, but my aunt heard me. She woke up and told my uncle I was crying because the Holy Ghost had come into my life, and because I had seen Jesus. But I was really crying because I couldn’t bear to tell her that I had lied, that I had deceived everybody in the church, that I hadn’t seen Jesus, and that now I didn’t believe there was a Jesus any more, since he didn’t come to help me.

**QUESTIONS FOR DISCUSSION**

**Content**

a. What is Hughes’s purpose in recalling this event?
b. The author’s portrayal of the revival meeting is extremely realistic. What rhetorical techniques make it so?
c. What exactly is a religious revival?
d. What biblical metaphor is Hughes alluding to when he tells the reader that this was to be a special meeting “to bring the young lambs to the fold”?
e. Why does Hughes spend time talking about Westley? How is young Langston different from this boy?
f. What does the author’s waiting so long before going up to be “saved” tell you about him?
g. Explain why Langston cries so much after coming home. Is there only one reason behind his tears? What does the last paragraph tell you about the young Langston?

**Strategy and Style**

h. The telling of this story is enhanced by the author’s description of the church and the members of the congregation. In which paragraphs is Hughes’s facility with description most evident?
i. What examples of metaphoric language do you find in this essay? How do such figures of speech help Hughes accomplish his purpose?
j. Hughes often makes use of a childlike perspective to relate the incident at his aunt’s church. What details help him create that perspective? Does he use words like those a child might use?
k. What is Hughes’s attitude or tone when recalling this incident?
ENGAGING THE TEXT

a. Write about one of your religious experiences, comparing or contrasting it to that of Hughes. Include specific reference to his essay.

b. Write an imaginary interview (both your questions and his answers) with Hughes, asking him about his experiences at the revival meeting. Hughes’s answers should be consistent with what he writes in the essay.

SUGGESTIONS FOR SUSTAINED WRITING

a. At one time or another, we all have been pressured into doing things we did not want to do. Recount such an incident from your experience; make sure to describe your feelings both during that experience and after it occurred. If appropriate, narrate the incident in a letter addressed to the individual or individuals who did the pressuring. In the process, however, make reference to Hughes’s experience in “Salvation” and compare or contrast it to your own.

b. Read Ortiz Cofer’s “A Partial Remembrance of a Puerto Rican Childhood” in chapter 2. Then write an essay that draws similarities and differences between the kinds of families in which Hughes and Ortiz Cofer grew up. In other words, from the reading, draw inferences that would compare and contrast the emotional lives these two authors experienced as children.

c. Describe a religious ceremony that has or used to have significance for you. As clearly and convincingly as you can, describe the emotional or spiritual benefits you derive or derived from that ceremony. Address your essay to someone who you know is skeptical about the value of religious or social ceremonies and observances. Support your position by including facts, ideas, and opinions about this ceremony or about religious or social ceremonies in general, which you research in at least three secondary sources found in your college library or on the Internet. (We list a few below to get you started.) Make sure to include and cite your research, using a format or style approved by your instructor.

READ MORE

Hughes and His Works


“Langston Hughes” (http://www.poets.org/poet.php/prmPID/83): Background on Hughes’s life and work, along with biography and important links.
Revival Meetings/Early Twentieth-Century African-American Culture and History

"The Encyclopedia Britannica Guide to Black History" (http://www.britannica.com/): Articles on many aspects of African-American history, with audio and video, links, bibliographies, and much more.

CHEROKEE PAUL MCDONALD

A VIEW FROM THE BRIDGE

Cherokee Paul McDonald (b. 1949) is a fiction writer and journalist. His latest book, Into the Green (2001), recounts his months of combat as an Army lieutenant in Vietnam. (One of the themes of the book, says McDonald, “is hate the war, but don’t hate the soldier.”) After Vietnam, McDonald served for ten years on the police force of Fort Lauderdale, Florida, an experience that he draws on in numerous crime novels and that he describes graphically in Blue Truth (1991). McDonald is also a fisherman and the father of three children, roles that come together in the following descriptive essay about a boy who helps the author see familiar objects in a new light. The essay was first published in Sunshine, a Florida sporting magazine.

I was coming up on the little bridge in the Rio Vista neighborhood of Fort Lauderdale, deepening my stride and my breathing to negotiate the slight incline without altering my pace. And then, as I neared the crest, I saw the kid.

He was a lumpy little guy with baggy shorts, a faded T-shirt and heavy sweat socks falling down over old sneakers.

Partially covering his shaggy blond hair was one of those blue baseball caps with gold braid on the bill and a sailfish patch sewn onto the peak. Covering his eyes and part of his face was a pair of those stupid-looking ’50s-style wrap-around sunglasses.

He was fumbling with a beat-up rod and reel, and he had a little bait bucket by his feet. I puffed on by, glancing down into the empty bucket as I passed.

“Hey, mister! Would you help me, please?”

The shrill voice penetrated my jogger’s concentration, and I was determined to ignore it. But for some reason, I stopped.
With my hands on my hips and the sweat dripping from my nose I asked, “What do you want, kid?”
“Would you please help me find my shrimp? It’s my last one and I’ve been getting bites and I know I can catch a fish if I can just find that shrimp. He jumped outta my hand as I was getting him from the bucket.”

Exasperated, I walked slowly back to the kid, and pointed.
“There’s the damn shrimp by your left foot. You stopped me for that?”
As I said it, the kid reached down and trapped the shrimp.
“Thanks a lot, mister,” he said.
I watched as the kid dropped the baited hook down into the canal. Then I turned to start back down the bridge.
That’s when the kid let out a “Hey! Hey!” and the prettiest tarpon I’d ever seen came almost six feet out of the water, twisting and turning as he fell through the air.
“I got one!” the kid yelled as the fish hit the water with a loud splash and took off down the canal.
I watched the line being burned off the reel at an alarming rate. The kid’s left hand held the crank while the extended fingers felt for the drag setting.
“No, kid!” I shouted. “Leave the drag alone . . . just keep that damn rod tip up!”
Then I glanced at the reel and saw there were just a few loops of line left on the spool.
“Why don’t you get yourself some decent equipment?” I said, but before the kid could answer I saw the line go slack.
“Ohhh, I lost him,” the kid said. I saw the flash of silver as the fish turned.
“Crank, kid, crank! You didn’t lose him. He’s coming back toward you. Bring in the slack!”
The kid cranked like mad, and a beautiful grin spread across his face.
“He’s heading in for the pilings,” I said. “Keep him out of those pilings!”
The kid played it perfectly. When the fish made its play for the
pilings, he kept just enough pressure on to force the fish out. When the water exploded and the silver missile hurled into the air, the kid kept the rod tip up and the line tight.

As the fish came to the surface and began a slow circle in the middle of the canal, I said, "Whooee, is that a nice fish or what?"

The kid didn’t say anything, so I said, "Okay, move to the edge of the bridge and I’ll climb down to the seawall and pull him out."

When I reached the seawall I pulled in the leader, leaving the fish lying on its side in the water.

"How’s that?" I said.

"Hey, mister, tell me what it looks like."

"Look down here and check him out," I said. "He’s beautiful."

But then I looked up into those stupid-looking sunglasses and it hit me. The kid was blind.

"Could you tell me what he looks like, mister?" he said again.

"Well, he’s just under three, uh, he’s about as long as one of your arms," I said. "I’d guess he goes about 15, 20 pounds. He’s mostly silver, but the silver is somehow made up of all the colors, if you know what I mean." I stopped. "Do you know what I mean by colors?"

The kid nodded.

"Okay. He has all these big scales, like armor all over his body. They’re silver too, and when he moves they sparkle. He has a strong body and a large powerful tail. He has big round eyes, bigger than a quarter, and a lower jaw that sticks out past the upper one and is very tough. His belly is almost white and his back is a gunmetal gray. When he jumped he came out of the water about six feet, and his scales caught the sun and flashed it all over the place."

By now the fish had righted itself, and I could see the bright-red gills as the gill plates opened and closed. I explained this to the kid, and then said, more to myself, "He’s a beauty."

"Can you get him off the hook?" the kid asked. "I don’t want to kill him."

I watched as the tarpon began to slowly swim away, tired but still alive.

By the time I got back up to the top of the bridge the kid had his line secured and his bait bucket in one hand.
He grinned and said, "Just in time. My mom drops me off here, and she'll be back to pick me up any minute."
He used the back of one hand to wipe his nose.
"Thanks for helping me catch that tarpon," he said, "and for helping me to see it."
I looked at him, shook my head, and said, "No, my friend, thank you for letting me see that fish."
I took off, but before I got far the kid yelled again.
"Hey, mister!"
I stopped.
"Someday I'm gonna catch a sailfish and a blue marlin and a giant tuna and all those big sportfish!"
As I looked into those sunglasses I knew he probably would. I wished I could be there when it happened.

FOR DISCUSSION

1. Which of the five senses does Cherokee Paul McDonald appeal to in his DESCRIPTION of the tarpon in paragraph 35? In "A View from the Bridge" as a whole?
2. How much does McDonald's jogger seem to know about fish and fishing? About boys?
3. What is the attitude of the jogger toward the "kid" before he realizes the boy is blind? As one reader, what is your attitude toward the jogger? Why?
4. How does the jogger feel about the kid when they part? How do you feel about the jogger? What, if anything, changes your view of him?
5. How does meticulously describing a small piece of the world help the grumpy jogger to see the world anew?

STRATEGIES AND STRUCTURES

1. McDonald serves as eyes for the boy (and us). Which physical details in his DESCRIPTION of the scene at the bridge do you find to be visually most effective?
2. McDonald's description is part of a NARRATIVE. At first, the narrator seems irritable and in a hurry. What makes him slow down? How does his behavior change? Why?
3. The narrator does not realize the boy is blind until paragraph 31, but we figure it out much sooner. What descriptive details lead us to realize that the boy is blind?

4. McDonald, of course, knew when he wrote this piece that the boy couldn’t see. Why do you think he wrote this piece as if he didn’t know at first? How does he restrict his point of view in paragraph 6? Elsewhere in the essay?

5. How does the narrator’s physical viewpoint change in paragraph 26? Why does this alter the way he sees the boy?

6. “No, my friend,” says the jogger, “thank you for letting me see that fish” (43). So who is helping whom to see in this essay? How? Cite examples from the essay.

****** WORDS AND FIGURES OF SPEECH ******

1. Metonymy is a figure of speech in which a word or object stands in for another associated with it. How might the blind boy’s cap or sunglasses be seen as examples of metonymy?

2. Point out words and phrases in this essay—for example, “sparkle”—that refer to sights or acts of seeing (35).

3. What possible meanings are suggested by the word “view” in McDonald’s title?

4. Besides its literal meaning, how else might we take the word “bridge” here? Who or what is being “bridged”?

****** FOR WRITING ******

1. Suppose you had to describe a flower, bird, snake, butterfly, or other plant or animal to a blind person. In a paragraph, describe the object—its colors, smell, texture, movement, how the light strikes it—in sufficient physical detail so that the person could form an accurate mental picture of what you are describing.

2. Write an extended description of a scene in which you see a familiar object, person, or place in a new light because of someone else who brings a fresh viewpoint to the picture. For example, you might describe the scene at the dinner table when you bring home a new girlfriend or boyfriend. Or you might take a tour of your campus, home town, neighborhood, or workplace with a friend or relative who has never seen it before.
SYDNEY J. HARRIS

SYDNEY J. HARRIS, whose essay on clichés appears on p. 275, wrote on important issues of the day. How we think about such issues is of concern to Harris. He says the following in a companion essay: “We should
be firmly resistant toward ideas we believe to be wrong, but immensely tolerant toward the people who hold such ideas, never for a moment confusing the person with the idea, which is the besetting sin of bigotry in all its manifold forms.” (“Opposing Threats to Civilization”) His essay on freedom and security is deductive in showing what various assumptions about these entail.

**Freedom and Security**

One of the main reasons people think so poorly (and therefore draw such mistaken conclusions from their thinking) is that they fail to understand the nature of opposites.

Most of us reason something like this: “wet” and “dry” are opposites. Therefore, the more wet you are, the less dry you are, and vice versa. This is impeccable logic, and is also true.

We then proceed from there to abstract qualities, like freedom and security. In one sense, freedom and security are opposites; and so we reason: the more freedom we have, the less security, and the more security, the less freedom.

But this is utterly false. Freedom and security are polarities along the same axis, and not opposites on the same order as wet and dry. They do not deny or cancel out one another, but sustain each other.

Consider what the idea of freedom is rooted in. It is rooted in choice. If you have no choice, you have no freedom. If you are hungry, you must eat what is available, or you will die. If you are hungry, you must satisfy your appetite before anything else; you have no real freedom to choose other or higher goals when your stomach is empty.

If freedom is rooted in choice, and if the man who has no choice has no freedom, then the larger the number of choices, the larger the amount of freedom.

And what gives us the largest number of choices? The amount of security we enjoy. If many kinds of jobs are available, we have the freedom to choose any; if only one, we must choose that. If we live in a society that will not let us starve, we have more freedom than if we live in a society where we must support certain leaders or parties in order to make sure we get enough food.
In the personal, social and political realms, freedom and security are not opposites like wet and dry, but polarities that work together to sustain the human person at the maximum of his abilities. Without freedom, security is slavery; without security, freedom is an illusion.

Of course, these two may be combined in different measures, and neither must overwhelm the other—freedom must not degenerate into anarchy, nor security into servitude. Each society has the task of finding the just and proper equation for the best operation of its system.

But the point is that freedom and security are not contraries that deny each other; rather they are as essential to each other as the two blades in a pair of scissors. To fail to understand this is to fail totally in grasping the true needs of the human animal.

VOCABULARY

paragraph 4: polarities, axis
paragraph 9: anarchy, equation

QUESTIONS

1. Harris states that “freedom and security are not contraries that deny each other; rather they are as essential to each other as the two blades in a pair of scissors.” In formal logic, it is impossible for contrary statements to both be true—for example, all Americans are taxpayers, no Americans are. Yet, like these statements, they can both be false. Why are freedom and security not contraries as Harris defines them?

2. In what sense are they “polarities along the same axis”?

3. How do freedom and security “sustain each other”?

4. What inferences does Harris draw about people and society from this truth?
SUGGESTIONS FOR WRITING

1. Harris suggests that we sometimes think of freedom and security as opposites—the more we have of one, the less we have of the other. Write about a situation in which you found yourself thinking in this way. Discuss both the situation and its outcome.

2. Harris suggests that "the larger the number of choices, the larger amount of freedom." Write about how true this has been of choices open to you, possibly in your work experiences or education.
DEBORAH DALFONSO

GRAMMY REWARDS

Deborah Dalfonso is a contributor to Down East, Yankee, and other magazines, including Body and Soul, where she writes a column on spiritual practice. "Grammy Rewards" appeared in Newsweek in 1990. It compares two grandmothers "who are as different as chalk and cheese" and who influence her then six-year-old daughter Jill in wildly different ways. The daughter is puzzled by the contrasts, but Dalfonso herself finds a common ground between them.

Our daughter, Jill, has two grandmothers who are as different as chalk and cheese.

One grandmother taught her to count cards and make her face as blank as a huge, white Kleenex when she bluffed at blackjack. They practiced in the bathroom mirror. The other grandmother taught her where to place the salad forks. When Jill was three, this grandmother taught her not to touch anything until invited to do so. The other grandmother taught her to slide down four carpeted stairs on a cookie sheet.

They are both widows, these grandmothers, and one lives in a trailer park in Florida from October until May, then moves north to an old lakefront camp in Maine for the summer. This is a leaning discouraged-looking structure filled with furniture impervious to wet swimsuits. Raccoons sleep on the deck every night. The other grandmother resides in a townhouse at the Best Address in the City—a brick, regal-looking building boasting a security system and plants in the hallways that are tended by florists who arrive weekly in green vans.

One grandmother plays Lotto America, Tri-State Megabucks, and bingo at the Penobscot Indian Reservation. The other grandmother plays bridge every Tuesday afternoon with monogrammed playing cards. One wears primary colors, favoring fluorescents when she has a tan; the other wears Leslie Fay suits, largely taupe or black.

They both take Jill on adventures, these grandmothers. One took
her to a Bonnie Raitt concert, and the other to a Monet exhibit at a fine art museum.

One grandmother believes in magic; the other believes in the stock market. They both believe in security. To one, security means plenty of white mushrooms, Vermont cheddar, and fresh limes in the refrigerator when the meteorologist says, “We’re gonna have some weather.” The other thinks security refers to a financial planner with solid references.

Both grandmothers are near 70 and have hair the color of good wood smoke. One wears her hair long and braided, and pins her plaits into a crown around her head. Sometimes in the evening she lets Jill loosen all of that heavy hair and fluff it free with an ancient hairbrush. The other grandmother has her hair done twice a week by Cyril, who wears silk shirts with shoulder pads and discourses on the art world.

One grandmother would be delighted to learn that many people think of her as eccentric. The other hopes that people will refer to her as “correct.” This grandmother, when startled, says “Oh, my word,” her strongest expletive. The other one says “Jesus, Mary, and Joseph” or “hot damn,” or both, or worse.

Before entertaining, one grandmother hires help to come in for an extra half day to polish the silver and attend to the table setting. From this grandmother, Jill will learn about civility and elegance and the gleam of things well cared for. The other gram kills the lights, burns candles, smiles, and says, “They’re coming to see me, not my house.”

During Hurricane Bob, one of Jill’s grandmothers bought her a duckling-yellow slicker and took her to Higgins Beach to watch the wind kicking up the surf. She believes that the ocean throws off positive ions, excellent for growth and peace of mind. While they were experiencing the elements, Jill’s other grandmother called to make certain that we were safely down in the cellar.

“Are there many ways to live?” my puzzled six-year-old asked me after a recent overnight visit to the Best Address in the City, where she was expected to bathe and dress for dinner.

“Yes,” I said gently. “There are many, many ways, and you may choose which feels right for you.” And, I promised myself silently, I will let her make her own choice.

Two grandmothers, two different worlds. Both want for Jill no less than the lion’s share. One will be her anchor; the other will be her mainsail.
\textbf{FOR DISCUSSION}\n
1. Deborah Dalfonso compares each of the grandmothers to parts of a sailboat. What parts? Which grandmother is which? How effective is the comparison?\n
2. Dalfonso's daughter is puzzled by the contrasting behavior of her two grandmothers (11). What lesson does she learn from their differences?\n
3. Which of the two grandmothers do you suppose is Dalfonso's own mother? Why do you think so? Which grandmother would you prefer to have? Why?\n
\textbf{STRATEGIES AND STRUCTURES}\n
1. When you compare and contrast two subjects in writing, you can go back and forth between them a trait at a time (point-by-point), as Dalfonso does in paragraph 2. Or you can lay out all the traits of one subject, then all the traits of the other (subject-by-subject), as in paragraph 3. Label the paragraphs in Dalfonso's essay according to which of the two organizational methods she uses.\n
2. Dalfonso's essay is largely made up of specific details about the appearance and behavior of the two older women she is comparing. Which details do you find most interesting and revealing? Why?\n
3. Dalfonso finds more differences between the two grandmothers than similarities, yet she also compares the two women in the sense of discovering a common ground between them. How does she achieve this?\n
\textbf{WORDS AND FIGURES OF SPEECH}\n
1. Just how different are chalk and cheese (1)? anchors and mainsails (13)? What's different about these two contrasting pairs of words as Dalfonso uses them?\n
2. What is "lion's share" (13)? What are the implications of this metaphor?\n
3. Explain the pun, or play on words, in Dalfonso's title.\n
\textbf{FOR WRITING}\n
1. "Two grandmothers, two different worlds" (13). Make a subject-by-subject or point-by-point outline of characteristics of your own grandmothers (or grandfathers) as you know or remember them.\n
2. Write an essay comparing and contrasting two people or places you know well. Use specific details and examples as Dalfonso does. And let the details speak for themselves—avoid explicitly judging your two subjects.
Appendix D

Questionnaire (in English)

Please read the instructions carefully before you begin. If you have any questions, please ask the proctor.

Instructions: Now that you have ordered the texts from 1 (easiest) to 5 (most difficult), please explain your reasons for arranging the texts in the way you did by completing the questionnaire below.

1. Vocabulary: The number of unfamiliar, abstract, figurative, or technical words in the text influenced my decision about how to arrange the texts in the way that I did.
   a. Strongly Agree
   b. Agree
   c. Neither Agree nor Disagree
   d. Disagree
   e. Strongly Disagree

2. Vocabulary in Context: How well the words or sentences surrounding the words I did not know helped me to understand them influenced my decision about how to arrange the texts in the way that I did.
   a. Strongly Agree
   b. Agree
   c. Neither Agree nor Disagree
   d. Disagree
   e. Strongly Disagree

3. Sentence Length: How many words were in each sentence of each text influenced my decision about how to arrange the texts in the way that I did.
   a. Strongly Agree
   b. Agree
   c. Neither Agree nor Disagree
   d. Disagree
   e. Strongly Disagree

4. Background Knowledge Required: How familiar I was with the topic of each text influenced my decision about how to arrange the texts in the way that I did.
   a. Strongly Agree
   b. Agree
   c. Neither Agree nor Disagree
   d. Disagree
   e. Strongly Disagree
5. Interest: How interested I was in the topic of each text influenced my decision about how to arrange the texts in the way that I did.
   a. Strongly Agree
   b. Agree
   c. Neither Agree nor Disagree
   d. Disagree
   e. Strongly Disagree

6. Titles: How well the title of each text described each text influenced my decision about how to arrange the texts in the way that I did.
   a. Strongly Agree
   b. Agree
   c. Neither Agree nor Disagree
   d. Disagree
   e. Strongly Disagree

7. Overall Length: How many total words were in each text influenced my decision about how to arrange the texts in the way that I did.
   a. Strongly Agree
   b. Agree
   c. Neither Agree nor Disagree
   d. Disagree
   e. Strongly Disagree

8. Paragraph Length: How many words in each paragraph of each text influenced my decision about how to arrange the texts in the way that I did.
   a. Strongly Agree
   b. Agree
   c. Neither Agree nor Disagree
   d. Disagree
   e. Strongly Disagree

9. Logical Rhetorical Organization: How the ideas were arranged in each text to help them flow logically from one another influenced my decision about how to arrange the texts in the way that I did.
   a. Strongly Agree
   b. Agree
   c. Neither Agree nor Disagree
   d. Disagree
   e. Strongly Disagree

10. Structure: How well the each text was organized (e.g., an introductory paragraph which contains a clear thesis statement, body paragraphs that contain a topic sentences and supporting details, and a concluding
paragraph) influenced my decision about how to arrange the texts in the way that I did.
   a. Strongly Agree
   b. Agree
   c. Neither Agree nor Disagree
   d. Disagree
   e. Strongly Disagree

11. Signal words: Whether the text contained words that indicated the flow of information (e.g., first, next, finally, etc.) influenced my decision about how to arrange the texts in the way that I did.
   a. Strongly Agree
   b. Agree
   c. Neither Agree nor Disagree
   d. Disagree
   e. Strongly Disagree

12. Punctuation: The way the sentences were punctuated--the use of periods (.), question marks (?), exclamation marks (!), commas (,) colons (:), semicolons (;), dashes/hypens (-), ellipsis (....), etc.--in each text influenced my decision about how to arrange the texts in the way that I did.
   a. Strongly Agree
   b. Agree
   c. Neither Agree nor Disagree
   d. Disagree
   e. Strongly Disagree

13. Format: The physical appearance of the text (i.e., font, type size, spacing--e.g., singe/double, line length) influenced my decision about how to arrange the texts in the way that I did.
   a. Strongly Agree
   b. Agree
   c. Neither Agree nor Disagree
   d. Disagree
   e. Strongly Disagree

14. Supplementary Materials 1: The introductions prior to the writing sample influenced my decision about how to arrange the texts in the way that I did.
   a. Strongly Agree
   b. Agree
   c. Neither Agree nor Disagree
   d. Disagree
   e. Strongly Disagree
15. Supplementary Materials 2 (pre- and post questions): The questions before and/or after the writing sample influenced my decision about how to arrange the texts in the way that I did.
   a. Strongly Agree
   b. Agree
   c. Neither Agree nor Disagree
   d. Disagree
   e. Strongly Disagree
Appendix E

Questionnaire (trans. Mandarin)

問卷調查
請在開始前仔細閱讀說明。如果您有任何疑問，請向問卷提供者詢問。

說明：現在您已將文本教材由難易度從 1 (最容易的) 排至 5 (最困難的)，請回答下列問題，來解釋您為什麼這樣安排文本教材的理由。

1. 字彙：文章裡陌生、抽象、比喻性的字彙或技術性用語的數量，影響我對文本教材難易度排列的決定。
   a. 非常同意
   b. 同意
   c. 普通
   d. 不同意
   e. 非常不同意

2. 文章(上下文)：能藉由文中上下字句組合協助我理解文章中不認識的詞句意義，影響我對文本教材難易度排列的決定。
   a. 非常同意
   b. 同意
   c. 普通
   d. 不同意
   e. 非常不同意

3. 句子長度：文章中每個句子裡面有多少字數，影響我對文本教材難易度排列的決定。
   a. 非常同意
   b. 同意
   c. 普通
   d. 不同意
   e. 非常不同意
4. 必備的背景知識：我對於每一本文本教材主題的熟稔度，影響我對文本教材難易度排列的決定。
   a. 非常同意
   b. 同意
   c. 普通
   d. 不同意
   e. 非常不同意

5. 興趣：對於每一本文本教材主題的興趣多寡，影響我對文本教材難易度排列的決定。
   a. 非常同意
   b. 同意
   c. 普通
   d. 不同意
   e. 非常不同意

6. 書名：每一本文本教材的書名如何描述該文本的內容，影響我對文本教材難易度排列的決定。
   a. 非常同意
   b. 同意
   c. 普通
   d. 不同意
   e. 非常不同意

7. 全文長度：每一本文本教材的總字數，影響我對文本教材難易度排列的決定。
   a. 非常同意
   b. 同意
   c. 普通
   d. 不同意
   e. 非常不同意
8. 段落長度：每一本文本教材裡每個段落的字數，影響我對文本教材難易度排列的決定。
   a. 非常同意
   b. 同意
   c. 普通
   d. 不同意
   e. 非常不同意

9. 邏輯組織：每一本文本中的概念組織符合邏輯的程度，影響我對文本教材難易度排列的決定。
   a. 非常同意
   b. 同意
   c. 普通
   d. 不同意
   e. 非常不同意

10. 結構：每一本文本的組織結構的完整度（例如：前言清楚闡述文章主要論點，文章中間段落每段呈現清楚描述主題及舉證，以及包含結論段落），影響我對文本教材難易度排列的決定。
    a. 非常同意
    b. 同意
    c. 普通
    d. 不同意
    e. 非常不同意
11. 提示詞：文本是否使用提示詞來指出訊息流程(如：首先、下一個、最後等)，影響我對文本教材難易度排列的決定。
   a. 非常同意
   b. 同意
   c. 普通
   d. 不同意
   e. 非常不同意

12. 標點符號：文本教材中句子被標點符號的方式--句點 (.), 問號 (?), 驚嘆號 (!), 逗點 (,), 冒號 (:), 分號 (;), 破折號 (-), 連字號 (---) 等使用，影響我對文本教材難易度排列的決定。
   a. 非常同意
   b. 同意
   c. 普通
   d. 不同意
   e. 非常不同意

13. 排版：文本教材排版整體印象(例如：字體、字型大小、行列長度、空格--單行成頁/雙行成頁)，影響我對文本教材難易度排列的決定。
   a. 非常同意
   b. 同意
   c. 普通
   d. 不同意
   e. 非常不同意

14. 補充資料 1：文本先前提供介紹，影響我對文本教材難易度排列的決定。
   a. 非常同意
   b. 同意
   c. 普通
   d. 不同意
   e. 非常不同意
15. 补充资料2（前後問題）：導引問題列於文章之前與之後，影響我對文本教材難易度排列的決定。
   a. 非常同意
   b. 同意
   c. 普通
   d. 不同意
   e. 非常不同意
For the purposes of this study, the term anthology has been applied to anthologies of paragraphs and essays that are rhetorically organized. Further, for the purpose of this paper, the term anthology is synonymous with Ferris & Hedgcock’s (2005) use of the term rhetoric: Texts which explicate major rhetorical forms, present sample texts exemplifying major rhetorical patterns, and [may] offer procedures to show students how to reproduce these patterns in their own writing (p. 88). Thematic readers, anthologies which are primarily thematically organized, were not included in this study.

The students in the center use self-access materials “independently without the guidance or direction of a teacher” (Richards & Schmidt, 2002, p. 516).


Materials which promote extensive reading: reading in quantity and in order to gain a general understanding of what is read. It is “intended to develop good reading habits, to build up knowledge of vocabulary and structure, and to encourage a liking for reading” (Richards & Schmidt, 2002, p. 133).

A Lexile measure is based on two strong predictors of how difficult a text is to comprehend: word frequency and sentence length (Lexile, 2010).

The quantitative reading level of any particular text as determined by a readability formula.
A writing exemplar is a selection of writing which illustrates a major rhetorical form.

The Lexile Framework measures vocabulary difficulty via word frequency and sentence length by the number of words in a sentence.

Materials which can be purchased from local distributors without having to request special orders from overseas agents.

For the purposes of this study, the word semantic is defined as it is commonly used in readability literature.

For the purposes of this study, the word syntactic is defined as it is commonly used in readability literature.

SAT, The Scholastic Aptitude Test: A test taken for college entrance in the U.S.A. by NSs and ELLs in the U.S.A. and other countries (ETS, 2011).

Graduate Record Exam: A test which is taken by graduate and business school applicants from over 160 counties (ETS, 2012).

Test of English as a Foreign Language: A test which is taken by ELLs from over 180 countries for university admission in over 130 countries (ETS, 2010).

“Essentially, these classic readability measures use similar factors to predict comprehension difficulty--some aspect of word difficulty measured either as word familiarity, word frequency, abstract versus concrete words, or word length--number of syllables, number of letters, or affixes, etc.--and some measure of sentence complexity, measured either by average sentence length, or by complex versus simple sentences” (Chall, 1996, p. 24).
For works larger than articles (e.g., reports and books), Dubay (2007a) provides a description of the work.

Hand-calculated formulae require taking representative samples from throughout a large work to estimate the entire work’s readability level in order to reduce the volume of effort required, as estimating a large work completely by hand is very time-consuming.

Thorndike published three word books: *The teacher’s word book* (1921b), *A teacher’s word book of the twenty thousand words found most frequently and widely in general reading for children and young people* (1932), and the *Teacher’s word book of 30,000 words* (1944).

A second study, Dale and Tyler’s work, also utilized adult learners and was published in 1934. The Ojemann study, however, was published in March, whereas Dale and Tyler’s study was published later, June.

Readability formulae are validated against a criterion (e.g., a set of passages for which the readability has been previously estimated by comprehension or cloze scores or by other readability formulae). Sixty (.60) is generally accepted as the minimum acceptable correlation for this procedure.

Dale-Chall have published two 3,000 word lists. The first was used in their 1948 formula and the second is used in their 1995 formula. (See Dale-Chall 1948; Chall-Dale, 1995).

Dale-Chall have produced two formulae: a 1948 formula (Dale & Chall, 1948) and a more recent 1995 revision (Chall & Dale, 1995). Studies which are
noted in this dissertation as using the formula prior to 1995 used the 1948 formula.

23 The studies that included anthologies (Auvenshine, 1978; Cline, 1971; Dunn 1983; Williamson, 2006) were done in English L1 institutions, and none described the language backgrounds of the participants.

24 All references to the Lexile Analyzer in this paper refer to the non fee based computerized version of the Lexile analyzer available to researchers.

25 BR represents students who scored below a point that could be measured by the SRI.

26 Lexile scores, as directed by Metametrics, are not presented with commas (e.g., 2210 is presented correctly rather than 2,210) (Lexile, 2010).