Korean EFL College Students' Reading Strategy Use to Comprehend Authentic Expository/Technical Texts in English

By

C2010
Yong-Hyo Park

Submitted to the Department of Curriculum and Teaching and the Faculty of the Graduate School of the University of Kansas in partial fulfillment of the requirements for the degree of Doctor of Philosophy

Dissertation committee:

_____
Dr. Manuela Gonzalez-Bueno (Chairperson)

_____
Dr. William Skorupski

_____
Dr. Marc Mahlios

_____
Dr. Karen Jorgensen

_____
Dr. Greg Simpson

Date defended: _____

The Dissertation Committee for Yong-Hyo Park certifies
that this is the approved version of the following dissertation:

Korean EFL College Students' Reading Strategy Use to Comprehend Authentic Expository/Technical Texts in English

Dissertation committee:

Dr. Manuela Gonzalez-Bueno (Chairperson)

Dr. William Skorupski

Dr. Marc Mahlios

Dr. Karen Jorgensen

Dr. Greg Simpson

Date approved: _____

ABSTRACT

Korean EFL College Students' Reading Strategy Use to Comprehend
Authentic Expository/Technical Texts in English

Yong-Hyo Park
directed by Dr. Manuela Gonzalez-Bueno
Dept. of Curriculum and Teaching, University of Kansas

This study explored reading strategy use of Korean college students learning English as a foreign language when they read authentic expository/technical texts in English. This study investigated the relationship between the use of reading strategies and reading comprehension ability and the relationship between the use of reading strategies and personal characteristics. This study also examined differences in the use of reading strategies when the students read authentic expository/technical texts versus when they read authentic narrative texts.

One hundred fifteen college students in Korea participated in this study. Survey of Reading Strategy (SORS) and modified SORS were used to measure the students' general reading strategy use and text-specific reading strategy use respectively. Reading comprehension section of Test of English as a Foreign Language (TOEFL) was administrated to measure the students' reading comprehension ability. One authentic expository/technical reading passage and one authentic narrative reading passage were used for the students' reading tasks. Background Information Questionnaire (BIQ) was used to collect the students' background information.

The results indicated that the Korean EFL college students reported using reading strategies with high frequency when they read authentic expository/technical texts in English. The Korean college students' reading comprehension ability was related to their reading strategy use to some

degree; the higher their reading comprehension ability, the more they used sophisticated reading strategies. The Korean college students employed the reading strategies differently according to their personal characteristics, such as grade levels, academic majors, enjoyment of reading English materials, self-perception of being a proficient English reader, and gender. The Korean college students used more volume of reading strategies when reading authentic expository/technical texts than when reading authentic narrative texts; they frequently used some specific reading strategies when reading authentic expository/technical texts, whereas they did not often use these strategies when reading authentic narrative texts.

ACKNOWLEDGEMENT

I thank many people who helped me make this achievement. Most of all, I would like to express my sincere appreciation to my committee members. My deepest gratitude goes to my advisor, Dr. Manuela Gonzalez-Bueno, who gave me opportunities, encouragement, and guidance throughout the entire journey of my doctoral study including this dissertation. Dr. Gonzalez-Bueno was always there when I needed her help. Nothing would have been possible without her help. My gratitude also goes to Dr. Karen Jorgensen, who helped me improve my work by giving constructive feedback. I also would like to thank Dr. Phil McKnight, Dr Greg Simpson, and Dr. William Skorupski, who provided invaluable advice and insightful suggestions to strengthen my dissertation. Special thanks go to Dr. Marc Mahlios, who was willing to join in my committee members at the very last moment and share critical thoughts on my work.

I deeply appreciate Dr. Kyung-Whan Cha, who has encouraged me to make this achievement since I was his student in Korea and also helped me conduct this research with his students. My thanks also go to Dr. Hye-Kyoung Kim, who was willing to help me to conduct this research in her classes. I wish to thank all the students, who were willing to participate in this research.

Finally, my heart goes to my family in Korea, whose boundless love and continuous support and encouragement made me finish this work. This dissertation is dedicated to my parents, Soonbeen Park and Soolja Kim.

April, 5th 2010
Lawrence, KS
Yong-Hyo Park

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I
INTRODUCTION

Background Statement

Over the past few decades, we have vividly witnessed the increase of interest in teaching and learning English as a second or a foreign language (i.e., ESL/EFL). Also, we know that this interest will continue along with the international trend. This trend is not exceptional in Korea.

Korean students start to learn English as a required course from the third grade in elementary school and have to continue to study English until the twelfth grade in high school, as mandated by the Eighth Korea National Curriculum which is published by South Korea's Ministry of Education (2003). Furthermore, universities in Korea regard students' English proficiency as an important component that the students have to acquire for not only their academic success, but also their competitive career, and so most require it from the students.

The universities take a variety of different approaches to ensure students obtain a strong level of English proficiency during their education. In an effort to achieve this goal, many classes at the universities choose an authentic imported textbook originally written for native English speakers as the textbook for their academic studies rather than textbooks translated into Korean. The number of the classes and universities that prefer to choose the authentic textbook is increasing and even some classes in the universities are open as an English only class, which means that not only the authentic textbook is used but also the language used in the class is English, not Korean. Accordingly, Korean college students' English proficiency has become more important for their academic success than ever before. In particular, college students' English reading comprehension ability is now a necessary component for their academic success in Korea, especially in comprehending the academic language used in their new textbooks.

However, through third grade to twelfth grade, English reading instruction in a classroom environment in Korea is focused on reading in English from non-authentic texts in a traditional grammar translation approach. The students are seldom exposed to authentic expository/technical textbooks in English before college. To put it in another way, the students do not have a chance to develop their academic English reading skills and strategies before college, but they are forced to read authentic expository/technical texts in English for their academic success as soon as they enter college. As a result, although they have a certain level of English reading ability in general, they may have difficulties in reading authentic expository/technical texts which require different reading skills and strategies from reading non-authentic texts. In other words, Korean college students might have basic communication skills in reading in English, but they still lack academic English reading skills because of the reasons mentioned above. Thus, it is critical for EFL educators in Korea to improve students' academic English reading proficiency, specifically at the college level.

Statement of the Problem

Durkin (1993) states that reading comprehension is the "essence of reading". Accordingly, development of reading comprehension is also the essence of reading development. Reading ability or proficiency is considered one of four sub-skills, if oversimplified, in constructing language proficiency: listening, speaking, writing, and reading. Thus, development of reading comprehension itself is crucial for learners in terms of developing one of the sub-skills of their target language. Particularly, in a view of roles of input in second language (L2) development, reading in L2 is a primary resource for L2 learners to develop general proficiency in their target language.

There have been useful studies on reading comprehension of language learners, such as 'how

to develop or improve it', in the research fields of first language acquisition and second/foreign language acquisition, including the ESL/EFL context. Those studies have been conducted in terms of various aspects such as linguistic knowledge, learning strategies, individual characteristics like motivation or attitude, and cultural views.

One specific example is that the relationship between language learners' reading comprehension and reading strategy use has been of interest for scholars in the field such as second/foreign language (L2) acquisition. Not surprisingly, substantial research on this research topic has been performed in a second/foreign language context including an ESL/EFL context (Anderson, 1991; Block, 1992; Carrell, Pharis, & Liberto, 1989; Lee, 2007; Phakiti, 2003; Schueller, 1999; Sheorey & Mokhtari, 2001; Song, 1999; Wu, 2005; Young & Oxford, 1997). In particular, many scholars have been interested in understanding what skilled readers typically do while they read and identifying the types of strategies they use, how they use those strategy, and under what conditions they use them (Block, 1992; Brantmeier, 2000, 2002; Jimenez, Garcia, & Pearson, 1996; Kern, 1989; Lee, 2007; Wu, 2005; Zhang, 2001; Zhicheng, 1992).

Researchers show that learners' use of reading strategies and their reading comprehension are related. In addition, researchers have been interested in the role of metacognition in learners' use of reading strategies because metacognitive awareness has been regarded as crucial for enhancing learners to improve their performance, particularly in problem-solving and language learning (Alexander & Jetton, 2000; Barnett, 1988; Carrell, Gajdusek, & Wise, 1998; Schoonen, Hulstijn, & Bossers, 1998; Sheorey & Mokhtari, 2001; Zhang, 2001).

To date, however, there is a still limited number of research identifying Korean college students' use of reading strategies (Lee, 2007; Song, 1999). Furthermore, studies on authentic expository/technical texts reading and reading strategy use at the college level have been even

scarcer in the Korean EFL context. For instance, Lee (2007) conducted a study about the effect of reading strategy instruction for Korean college students, but her study did not focus on reading authentic expository/technical texts. In the current situation, in which the importance of academic reading proficiency is especially critical for Korean college students to achieve their academic success, it is necessary to do research about Korean college students' reading strategy use in reading authentic expository/technical texts.

Theoretical Backgrounds

Reading is a cognitive process engaging an interaction between a reader and a text. Rosenblatt's (1994) transactional theory describes that every reading act is a transaction involving a particular reader and a particular text in a particular context, and "meaning" comes into during the transaction between the reader and the text.

Various components are involved in the process of reading. Specifically, the National Reading Panel (NRP) (2000) identifies key components for the development of reading: phonemic awareness, phonics, fluency, vocabulary, comprehension, and comprehension strategy. Among the components, comprehension is the essence of reading development.

According to cognitive theorists, the reader actively participates in the interaction and uses his/her own cognitive resources such as individual knowledge and experiences to construct the meaning. Particularly, schema theory explains how the reader brings his/her own knowledge (schemata) to the process of reading with comprehension. Schema theory posits that the process of reading with comprehension involves the interaction between reader's schema and the text. Furthermore, comprehension is enhanced when the reader actively uses his/her cognitive strategies such as comprehension strategies in the reading process.

In reading, metacognition refers to an awareness of one's own reading processes (Brown,

1980). Metacognition enhances the reader's reading comprehension through an awareness of the reader's own understanding, of comprehension strategies, and of monitoring, evaluating, and regulating comprehension during reading (Fitzgerald, 1995; Pressley, 2002).

Lastly, language proficiency is multi-dimensional. Cummins's framework of language proficiency highlights a notion of cognitive involvement. Accordingly, Cummins' (1981, 2003) language proficiency distinguishes a cognitively demanding aspect—Cognitive Academic Language Proficiency (CALP) or Academic Language Proficiency (ALP)—from a cognitively undemanding aspect—Basic Interpersonal Communicative Skills (BICS) or Conversational Fluency (CF) and Discrete Language Skills (DLS). The distinction is more striking to L2 reader (learner).

This study is based on these theoretical backgrounds as follows: 1) reading is a cognitive interactive process considering active reader's role critical, 2) reading comprehension is the essence of reading, 3) comprehension strategies and awareness of comprehension strategies enhance reading comprehension, 4) development of academic reading (language) skills are different from development of basic reading (language) skills.

Purpose of the Study

The primary purpose of the study is to explore Korean college students' use of reading strategies when they read authentic expository/technical texts in English. Another purpose is to examine how the students' use of reading strategies is related to their reading proficiency. In addition, the study investigates how the student's use of reading strategies is related to their personal characteristics. The study also identifies differences in using reading strategies when the students read authentic expository/technical texts versus when they read authentic narrative texts. In order to achieve these purposes, the study addresses the following research questions.

Research Questions

1. What reading strategies do Korean college students use when they read authentic expository/technical texts in English?
2. Are there relationships between reading strategy use and English reading proficiency of Korean college students?
3. Are there any significant differences in reading strategy use of Korean college students among their personal characteristics?
4. Are there any significant differences in reading strategy use of Korean college students when they read authentic expository/technical texts versus when they read authentic narrative texts?

Significance of the Study

First of all, this study will contribute to providing a comprehensive picture of Korean college students' reading strategy use when they read authentic expository/technical texts in English. The study will provide Korean EFL teachers with information on what reading strategies their students use when reading authentic expository/technical texts in English. Furthermore, the teachers will recognize how good English readers and poor English readers use reading strategies differently, especially in terms of types and frequency. They will also understand how the Korean college students employ the reading strategies differently according to their personal characteristics. This information will be useful to the Korean EFL teachers who consequently could modify their teaching to incorporate training on those reading strategies when reading authentic expository/technical English texts, and thus help their students, especially low proficiency students, achieve higher levels of reading comprehension of their authentic expository/technical English textbooks.

Definition of Key Terms

The following are operational definitions of key terms for this study.

Reading comprehension: There are various perspectives of approaching reading comprehension. The various perspectives will be addressed in the next literature review chapter in detail. For this study, reading comprehension was measured with a reading comprehension section of the Test of English as a Foreign Language (TOEFL). The TOEFL is the most well-known standardized English proficiency test for non-native English speakers. Particularly, the TOEFL is intended to measure academic language proficiency of L2 learners at a college level, which fits well to the purpose and context of this study. Therefore, the score of the reading comprehension test of the TOEFL was defined as the English reading comprehension ability (or reading proficiency) of the participants.

Reading strategy: Brantmeier (2002) defines "reading strategies" as "the comprehension processes that readers use in order to make sense of what they read" (p. 1) Another definition of reading strategy comes from comparing the term 'strategy' with the term 'skill'. Carrell et al. (1998) summarized several scholars' comparisons of those terms as the following: "The term strategies emphasizes that reader's active participation and actual way of doing something, or the reader's performance, whereas the term skills may suggest the reader's competence or only passive abilities which are not necessarily activated" (p. 97). Like reading comprehension, there are various theoretical definitions of a "reading strategy". These too will be addressed more in the next chapter. The current study will use "Survey of Reading Strategies (SORS)", developed by Mokhtari and Sheorey (2002), to measure the students' perceived use of reading strategies. Accordingly, for this study, the definition of reading strategy follows their descriptions: reading strategies mean intentional, carefully planned techniques by which readers monitor or manage

their reading comprehension, actions and procedures that the readers use while working directly with a text, and basic support mechanisms intended to aid the readers in comprehending the text (Mokhtari & Sheorey, 2002).

Authentic expository/technical text & authentic narrative text: Reading purposes are a primary criterion distinguishing authentic expository/technical texts from authentic narrative texts. Authentic expository/technical texts are the ones to be read for studying subject knowledge (e.g., textbooks). Authentic narrative texts are the ones to be read for entertainment (e.g., story). In this study, the authentic expository/technical text is a reading passage excerpted from an authentic textbook in one study area, and the authentic narrative text is a reading passage excerpted from one authentic story. Authentic texts mean that texts are written by and written for native English speakers.

English as a foreign language (EFL): The use of English by a non-native English speaker in a country where English is not spoken natively. English is primarily learned in a classroom setting (e.g., Korea).

English as a second language (ESL): The use of English by a non-native English speaker in a country where English is spoken natively.

First language (L1): A language people acquire or learn from birth, a mother tongue.

Second language (L2): A language people acquire or learn after the first language.

Chapter Summary

This chapter described an overview of this study. The current trend of Korean EFL learning and teaching requires academic reading comprehension ability from Koran college students. Research on reading strategy use and reading comprehension ability has been conducted in L1 and L2 contexts, but research on these issues in the Korean EFL context, particularly at a college

level, has not been sufficiently performed in spite of the need. Thus, this study was purposed to explore those issues and provide profiles of Korean college students' reading strategy use.

CHAPTER II
REVIEW OF THE LITERATURE

Reading in First Language (L1) and Second Language (L2)

Reading is considered one of the most complicated cognitive processes achieved by human beings. Gates (1949) states that reading is "a complex organization of patterns of higher mental processes… [that] …can and should embrace all types of thinking, evaluating, judging, imagining, reasoning, and problem-solving" (as cited in Hoover & Gough, 1990, p. 127).

Substantial efforts to define and explain the process of reading have been done in various research areas. Over the past decades, subsequent research in the area of reading mostly focused on explaining reading from the perspective of the process and components involved in the process (Anderson, Hiebert, Scott, & Wilkinson, 1985; Goodman, 1967; Hoover & Gough, 1990; Just & Carpenter, 1980; Stanovich, 1980). The efforts to understand the process of reading have brought various models and views of reading. There are some that are cited most frequently in research of L1 and L2 reading: Goodman's (1967) "psycholinguistic" model, Smith's (1971) "top-down" model, Gough's (1972) "bottom-up" model, and Stanovich's (1980) "interactive approaches". Reading as a research area is an extremely large field and an issue about which much has been written. Following is an introduction to widely-accepted views and models to briefly explain the reading process in a first language, and to provide some fundamental background and theories for comparison with reading in English as a second/foreign language.

Through a very comprehensive review of many reading models, Barnett (1988) categorizes the models into three basic types: "bottom-up" models, "top-down" models, and interactive models. In "bottom-up" processing, the reader begins decoding letters, words, phrases, and sentences and finally building up meaning from this incoming text. Phonics would be one

example employing “bottom-up” processing, where a reader learns letter/sound relationships, moves to decoding words, reading sentences and then focus on the meaning of a text (Reynher, 2008). In “top-down” processing, the reader begins with higher-order concepts (general knowledge of the world or a specific situation) and full texts (paragraphs and sentences), and works down to the actual features of the texts (e.g., letters, words, phrases, and grammatical structures). Whole language would be one example employing “top-down” processing, where a reader constructs meaning for a text based on his/her prior knowledge (Reynher, 2008). The terms of ‘text-based’ and ‘reader-based’ are frequently used for “bottom-up” and “top-down” respectively. Regarding terminology of “top-down”, Urquhart and Weir (1998) indicate that

> the term ‘top-down’ is deceptive, appearing to offer a neat converse to ‘bottom up’, a converse which in reality does not exist….Given the somewhat misleading nature of the term ‘top-down’, we suggest that the related terms ‘text (or data)-driven’ and ‘reader-driven’ are more generally useful when describing the contrast between ‘bottom-up’ and ‘top-down’(p. 42).

Interactive models posit interaction between “bottom-up” processing and “top-down” processing (Rumelhart, 1985; Stanovich, 1980). Rumelhart (1985) states that reading involves both “top-down” and “bottom-up” processing. Stanovich (1980) points out that “interactive models assume that a pattern is synthesized based on information provided simultaneously from several knowledge sources…a deficit in any knowledge source results in a heavier reliance on other knowledge sources, regardless of their level in the processing hierarchy” (p. 63). Grabe (1991) points out that interactive approaches refer to two different conceptions: general interaction between a reader and a text, and interaction of many component skills. Most second language researchers stress the general interaction of which the basic concept is that the reader

constructs meanings of the text based on both the knowledge drawn from the text and background knowledge of the reader. In contrast, most cognitive psychologists and education psychologists stress the interaction of component skills, implying that reading involves both lower-level skills, such as decoding, and higher-level skills, such as comprehension.

The interactive model incorporates the role of background knowledge in the language comprehension process. A theoretical model to explain and formalize the role played by background knowledge in language comprehension is known as schema theory (Carrell & Eisterhold, 1983). Hadley (2001) briefly describes the schema theory in language learning as follows:

> One of the basic tenets of this theory is that any given text does not carry meaning in and of itself. Rather, it provides *direction* for listeners or readers so that they can construct meaning from their own cognitive structure (previously acquired or background knowledge). The previously acquired knowledge structures accessed in the comprehension process are called schemata (p. 147).

Schema theory, emphasizing the role of background knowledge in language comprehension, also indicates that "bottom-up" processing and "top-down" processing occur at all levels simultaneously; "The data that are needed to instantiate, or fill out, the schemata become available through bottom-up processing; top-down processing facilitates their assimilation if they are anticipated by or consistent with the listener/reader's conceptual expectations" (Carrell & Eisterhold, 1983, p. 557).

Identifying the components that constitute reading was another aim of researchers to define and explain the process of reading. They explored how the components explain individual differences in reading. There were attempts to break reading down into the components, and the

results of these attempts helped us understand the reading process (Carr & Levy 1990; Frederikesen, 1980; Haberlandt, 1988; Just & Carpenter 1980; Palmer, MacLeod, Hunt, & Davison, 1985). Grabe (1991) summarized the components involved in the reading process as six general component skills and knowledge areas: automatic recognition skills, vocabulary and structural knowledge, formal discourse structure knowledge, content/world background knowledge, synthesis and evaluation skills/strategies, and metacognitive knowledge and skills monitoring. These six components skills could be categorized into three broad concepts for successful reading as indicated by Phillips (1984): linguistic knowledge, cognitive skill, and general experience and knowledge of the world.

With more instructional aspects, NRP (2000) identified key components for development of reading: phonemic awareness, phonics, fluency, vocabulary, text comprehension, and comprehension strategy. In identifying these elements, NRP recognizes that reading is a complex cognitive process and an active process requiring an intentional and thoughtful interaction between a reader and a text. It should be noted that even though these elements were indentified entirely from L1 reading research, they are key components for L2 reading development as well. Besides these key components identified by NRP, the National Literacy Panel on Language-Minority Children and Youth (NLP) (August & Shanahan, 2006) noted that literacy in the first language and oral proficiency in English are critical components for English Language Learners' literacy development in English, including reading comprehension and reading strategies. NLP also emphasized individual differences in general language proficiency, age, cognitive abilities, previous learning, the similarities and differences between the first language and English, and sociocultural variables on the literacy development. In terms of the cognitive abilities and literacy in the first language as key components in L2 reading, adolescent or adult ESL/EFL

learners have some advantages over children learning to read in a first language. These ESL/EFL learners are cognitively more developed than children in a first language context, and they have command in literacy in their first language. That is, these ESL/EFL learners have more cognitive skills, general experience, and knowledge of the world and they can transfer their L1 reading skills to their L2 reading development. Particularly, this aspect of development of L1 literacy has crucial implications supporting that a bilingual program is necessary for ESL students in the U.S.

Whether or not the process of L2 reading is similar to the process of L1 reading and whether or not theories or models for L1 reading is applicable to L2 reading are still highly controversial issues among reading scholars (Bernhardt, 1991; Fitzgerald, 1995; Garcia, 2000; Hadley, 2001; Koda, 2005). For example, Bernhardt (1991) claims that L2 reading is "a different phenomenon" from L1 reading and a reading theory specific to L2 reading is needed (p. 226). Fitzgerald (1995), in contrast, believes that L2 reading is highly similar to L1 reading. Based on the results of analyses of 67 studies on ESL learners' cognitive reading processes, Fitzgerald (1995) concluded that "the cognitive reading processes of ESL learners are substantively the same as those of native English speakers" (p. 180). She added that L1 reading theories and views, such as a psycholinguistic view, schema theory, an interactive view of reading, and views of metacognition in reading, fit well to L2 reading. This study follows the view that the process of L2 reading is similar to the process of L1 reading. Accordingly, this study adopts theories and views of both L1 and L2 reading, most specifically the interactive view, schema theory, and the metacognition view.

Regardless of these controversial issues, it is true that reading is probably the most important ability for not only first language learners but also second language learners, particularly in English for second or foreign language learners in academic contexts, given their dependence on

textbooks. That might be a reason why research on reading in a second language, particularly in ESL/EFL contexts, has been considerably conducted over the past decades in comparison to other areas. A primary goal of these tremendous efforts explaining and understanding the process of reading is to improve learners' reading comprehension ability.

Reading comprehension has been defined in various ways. For example, the RAND Reading Study Group (RRSG) defines it as "the process of simultaneously *extracting* and *constructing* meaning through interaction and involvement with written language" (Snow & Sweet, 2003, p. 10). According to the study group, the reader, the text, and the activity or purpose for reading are three key components for reading comprehension. Furthermore, these three components define "a phenomenon—reading comprehension—that occurs within a larger sociocultural context that shapes and is shaped by the reader" (Snow & Sweet, 2003, p. 10). Koda (2005) describes as "comprehension occurs when the reader extracts and integrates various information from the text and combines it with what is already known" (p. 4). Based on the literature, reading comprehension for this study means an active meaning construction process through interactions between a reader and a text involving both lower-order skills, such as decoding and word recognition, and higher-order skills, such as comprehension and comprehension strategy.

Various reading theories, models, and views and studies based on these theories, models, and views have one common goal as described above: to develop learners' reading comprehension. Although the theories, models, and views and the studies pursue the one goal, approaches or directions have been diverse. However, there have always been certain trends within the diverse approaches or directions. Particularly, reading research in L2 contexts tends to follow the trends of reading research in L1 even though there have been critics for these trends (Weber, 1991). Interests in L2 reading strategies could be attributed to these trends.

Reading Strategies

Since the 1980s', research on language learning strategies, particularly reading strategies in both L1 and L2 reading has increased. Studies have investigated how effective the reading strategies are for the language learners' reading comprehension (Block, 1992; Block & Pressley, 2002; Brantmeier, 2000, 2002; Carrell et al., 1998; Jimenez et al., 1996; Kern, 1989; Lee, 2007; Mokhtari & Reichard, 2002, 2008; Pressley, 2002; Sheorey & Mokhtari, 2001; Song, 1999; Wu, 2005; Zhang, 2001; Zhicheng, 1992). Carrell et al. (1998) explain the reason for the increase of researchers' interests in reading strategy as follows: "Reading strategies are of interest not only for what they reveal about the ways readers manage interactions with written text but also for how the use of strategies is related to effective reading comprehension" (p. 97). Furthermore, RRSG (2002) emphasizes instruction of reading strategies by stating as follows: "Because meaning does not exist in text, but rather must be actively constructed, instruction in how to employ strategies is necessary to improve comprehension" (p. 32). That is, the increase of interests in reading strategy is attributed to a belief that using reading strategies helps the development of reading comprehension.

Definitions & Characteristics

Several definitions of 'reading strategy' are available in the literature on reading, but there is no clear-cut definition. Garner (1987) defines reading strategies as "generally deliberate, planful activities undertaken by active learners, many times to remedy perceived cognitive failure" (p. 50). Additionally, Paris, Wasik, and Turner (1991) describe strategies as "actions selected deliberately to achieve particular goals" (p. 692). Carrell et al. (1998) addressed that "The term 'strategies' is used deliberately … to refer to actions that readers select and control to achieve desired goals or objectives" (p. 97). Brantmeier (2002) characterizes reading strategies as "the

comprehension processes that readers use in order to make sense of what they read" (p. 1). Koda (2005) characterizes reading strategies with three core elements: "deliberate, goal/problem-oriented, and reader-initiated/controlled" (p. 205). In a very similar view, Afferbach, Pearson, and Paris (2008) define reading strategies as follows: "Reading strategies are deliberate, goal-directed attempts to control and modify the reader's efforts to decode text, understand word, and construct meanings out of text" (p. 15). As mentioned in the first chapter, this study used Survey of Reading Strategies (SORS), developed by Mokhtari and Sheorey (2002), to measure readers' reading strategy use. Accordingly, for this study, the definition of reading strategy also follows Mokhtari and Sheorey's descriptions: reading strategies mean 1) intentional, carefully planned techniques by which readers monitor or manage their reading, 2) actions and procedures that the readers use while working directly with a text, and 3) basic support mechanisms intended to aid the readers in comprehending the text.

Categories of reading strategies

Traditionally recognized reading strategies include the following: skimming and scanning, rereading, contextual guessing or skipping unknown words, tolerating ambiguity, making predictions, confirming or disconfirming inferences, using cognates, activating background knowledge or schemata, and recognizing text structure (Carrell et al., 1998). As reading research has progressed, researchers have been interested in identifying the variety of reading strategies used by language learners and classifying those strategies. However, the categories of the strategies vary from researcher to researcher.

There have been several different binary divisions in categorizing reading strategies: Block's (1986) "general comprehension" and "local linguistic"; Barnard's (1980) "global" and "local"; Hosenfeld's (1977) "main meaning line" and "word-solving strategies"; and Barnett's (1988)

"text-level" and "word-level". Although those divisions use different terminologies, they have similar implications. The underlying framework in the division is from two primary reading models: "top-down" and "bottom-up" processing.

There is a widely accepted classification in research and education as to reading strategies: cognitive and metacognitive strategies. This distinction is based on the general learning strategies because much of research on reading strategies is part of a larger framework of the learning strategies. O'Malley, Chamot, Stewner-Mazanares, Russo, and Kupper (1985) posit that

> metacognitive strategies involve thinking about the learning process, planning for learning, monitoring of comprehension or production while it is taking place, and self-evaluation of learning after the language activity is completed. Cognitive strategies are more directly related to individual learning tasks and entail direct manipulation or transformation of the learning materials (p. 560).

The cognitive strategies include adjusting speed of reading, guessing the meaning of unknown words, skipping a word, rereading the text to improve comprehension, and visualizing information in the text. However, Grabe (2009) recently claims that there are no distinct metacognitive strategies as a counterpart of cognitive strategies. Rather, readers use reading strategies with varying levels of metacognitive awareness according to their reading goals or purposes.

Mokhtari and Sheorey's (2002) SORS uses another classification scheme to classify the reading strategies. SORS classifies the reading strategies into three different types of strategies: Global, Problem-solving, and Support strategies. They will be described in detail in the next chapter.

The Relationships between Reading Comprehension and Reading Strategies

As mentioned above, there has been substantial research on the relationship between reading comprehension and the reading strategy performed in a second/foreign language context (Al-Nujaidi, 2003; Anderson, 1991; Barnett, 1988; Block, 1992; Brantmeier, 2000, 2002; Carrell et al., 1989; Lee, 2007; Schueller, 1999; Sheorey & Mokhtari, 2001; Song, 1999; Wu, 2005; Young & Oxford, 1997; Zhang, 2001; Zhicheng, 1992). Block (1992) explored differences of reading strategy use between proficient ESL readers and non-proficient ESL readers and drew the results that less proficient readers used local strategies and more proficient readers relied on global strategies. Al-Nujaidi (2003) conducted research on the relationship between reading comprehension and reading strategy use of EFL learners in Saudi Arabia and concluded that there is a significant but weak correlation between them. Al-Nujaidi (2003) also added that types and frequencies of reading strategies students use are different according to the students' reading comprehension ability. Wu (2005) conducted research on the use of metacognitive reading strategies of EFL Taiwanese college students. As a part of the results, Wu reported that there is gender difference in the frequency of use of metacognitive reading strategy and students' academic major difference in the use of the reading strategy. Like the result of Al-Nujaidi's, Wu concluded that student's English reading proficiency is a significant factor of students' use of reading strategies when they read materials in English.

Meanwhile, Brantmeier (2000), performing research toward native English speakers learning Spanish as a second/foreign language, showed different results from those of Wu's in terms of the gender difference. According to Brantmeier's results, there is no gender-related difference in reading strategic behavior. Males and females use almost the same number of global and local strategies. Young and Oxford (1997), conducting research with a similar research setting (similar characteristics of participants but a different instrument) as Brantmeier's, reported that there are

no significant gender differences in the use of global and local strategies, which is the same result found by Brantmeier.

Although those studies were conducted within the theoretical framework of reading comprehension and reading strategies, yielding different conclusions may be due to the fact that each study employed different participants, reading materials, tests or measurement instruments, and methodologies. As a result, it seems hard to draw a simple and unified conclusion from those studies. Brantmeier (2002), who comprehensively but not exhaustively, reviewed the research on reading strategies, stated the following: "Because of the wide variety of participants, tasks, and reading materials employed in studies that examine L2 reading strategies, it is difficult to compare results across studies" (p. 2). This could be another reason why it is crucial to replicate research in reading strategies and reading comprehension in different cultures and language learning environments.

Anderson (1991) conducted research on reading strategy use of Spanish speaking adult ESL students and reported that students who used more strategies comprehend better and that there was no significant relationship between the amount of unique strategies and comprehension. He concluded from his study that "strategic reading is not only a matter of knowing what strategy to use, but the reader must also know how to use it successfully and orchestrate its use with other strategies. It is not sufficient to know about strategies, but a reader must also be able to apply them strategically" (pp. 468-469). Carrell et al. (1998) stated that "the relationships between strategies and comprehension are not simple and straightforward; use of certain reading strategies does not always lead to successful reading comprehension, while use of other strategies does not always result in unsuccessful reading comprehension" (p. 99). Anderson's (1991) conclusion and Carrell et al.'s (1998) statement showed needs of readers' awareness of

their own comprehension and strategy use in reading.

Metacognitive Awareness of Strategy Use in Reading Comprehension

Since Flavell (1979) described "metacognition" in his classic article "Metacognition and Cognitive Monitoring", metacognition generally refers to "the knowledge and control that we have over our cognitive processes" (Grabe, 2009, p. 222). In reading, "It entails awareness of one's own understanding and nonunderstanding, of reading strategies, and of monitoring comprehension during reading" (Fitzgerald, 1995, p. 150). Metacognition simply refers to awareness of one's own reading processes (Brown, 1980).

Recently metacognition or metacognitive awareness has been regarded as critical for improving learners' performance in language learning, particularly reading comprehension (Alexander & Jetton, 2000; Guthrie & Wigfield, 1999; Pressley, 2000, 2002; Pressley & Afflerbach, 1995). Baker (2002) claims that increasing language learners' awareness of how, when, and why to use reading strategies that regulate their comprehension is a critical factor of reading comprehension instruction.

Researchers have monitored reading comprehension of skilled and unskilled readers and recognized the importance of metacognitive awareness in reading comprehension. For example, Pressley and Afflerbach (1995) examined 38 studies on native English speakers' reading and concluded that proficient readers are strategic and "constructively responsive" and take conscious steps to comprehend what they are reading. Pressley (2002) points out that the metacognitively sophisticated reader knows comprehension strategies, knows how to use them, and uses them frequently.

The importance of metacognition has been recognized in L2 reading as well as in L1 reading. Researchers in L2 reading empirically showed that learners' metacognitive awareness of strategy

use influences their comprehension. Barnett (1988) found that the subjects' awareness of strategy use significantly correlated with their actual use of strategies and with reading comprehension. Carrell et al. (1989) found a significant relationship between the metacognitive perceptions about L2 reading strategies and reading comprehension of college L2 readers. Particularly, Carrell et al. (1989) showed in their study that the ESL readers who were more aware of the utility of "global" strategies (i.e., concerning background knowledge, text gist, and textual organization) demonstrated better comprehension of the text than those who were more aware of the utility of "local" strategies (i.e., concerning sound-letter, word-meaning, and text details). Schoonen, Hulstijn, and Bossers (1998) found that Dutch EFL students' metacognitive knowledge of reading strategies contributed significantly to their L1 and L2 reading.

Carrell et al. (1998) states, "If learners are not aware of when comprehension is breaking down and what they can do about it, strategies introduced by the teacher will fail" (p. 100). That is, readers' awareness of their own comprehension in reading is a crucial factor in using reading strategies, which leads to successful reading comprehension.

Reading Authentic Expository/Technical Texts and Authentic Narrative Texts

In L1 reading, researchers have emphasized two factors potentially influencing readers' processing strategies: the type of material to be read and the purpose or goal for which a text is to be read (Just & Carpenter, 1980; Lorch, Lorch, & Klusewitz, 1993). Particularly, Rosenblatt (1994), in her "transaction theory" of reading, claims that the "reader's stance" reflecting the reader's purpose is essential in reading. Rosenblatt (1994) defines reading as "choosing activity" and emphasizes a transaction between a reader and a text (p. 1064). She suggests two types of a reader's stance: "efferent" and "aesthetic". Readers usually adopt an efferent stance when reading a textbook or a legal brief requiring factual, analytical, logical, and quantitative aspects

of meaning. In contrast, readers usually adopt an aesthetic stance when reading narratives and literary texts requiring affective, emotive, and qualitative aspects of meaning.

A distinction between reading authentic expository/technical texts and authentic narrative texts can be directly related to reading purposes. The purpose of reading authentic expository/technical texts is more likely to be for studying while reading authentic narrative texts is more likely to be for entertainment or information. Alderson (2000) points out that the most frequent research on text type examines differences in the comprehension and processing of expository and narrative texts.

Researchers have empirically shown that the text which students read influences their text processing strategies in L1 (Englert & Hiebert, 1984; Kucan & Beck, 1996; Lorch, Lorch, & Matthew, 1985; Reynolds, Shepard, Lapan, Kreek, & Goetz, 1990). For example, Kucan and Beck (1996) explored how students employ processing strategies differently when they read narrative texts and expository texts in L1 reading. Five general processing strategies were identified through think-aloud methodology: paraphrasing, questioning, elaborating, hypothesizing, and monitoring. When the students read narrative texts, they spent a greater percentage of the time in hypothesizing, and they made more inferences, predictions, and interpretations. However, when the students read expository texts, they spent a greater percentage of the time in elaborating, and they focused more on personal knowledge and experiences. Based on findings, Kucan and Beck (1996) concluded that there were possible effects of type of texts on processing strategies as the students read narrative texts and expository texts.

Lorch et al. (1993) studied college students' conditional knowledge about reading and how this knowledge influences their strategic reading. This study found that students made clear

distinctions between school-assigned reading and personal-choice reading with regard to their reading purpose. Moreover, students perceived school-assigned reading as much more cognitively demanding than personal-choice reading.

Mokhtari and Reichard (2008) studied the influence of the two reading purposes, namely reading for study and reading for entertainment, on students' metacognitive awareness and use of reading strategies. They asked 65 high school students to complete a self-report questionnaire twice. First, the students were asked to identify the strategies they use while reading for study, and second the students were asked to identify the strategies they use while reading for entertainment. The results showed that reading purpose influenced the students' selection of reading strategies and the students used the reading strategies more frequently when reading for study than when reading for entertainment.

Narvaez, Broek, and Ruiz (1999) conducted a study on the influence of reading purpose on college students' inference generation and reading comprehension in a L1 context. They asked 20 undergraduate students to read narrative and expository texts and analyzed their thinking-aloud and reading comprehension performance. The results showed that reading purpose did not influence reading comprehension performance but did influence strategic reading processes. Specifically, "Readers with a study purpose more often repeated the text, acknowledged a lack of background knowledge, and evaluated the text content and writing than did readers with an entertainment purpose" (p. 488). This pattern of strategic reading was stronger for the expository than for narrative text reading. Narvaez et al. (1999) concluded that reading purpose and text type influence the types of inferences that readers make. In addition, the researchers asked participants to complete a questionnaire on metacognitive awareness of reading strategies in relation to reading for study and reading for entertainment. They found no significant differences

between readers with a study purpose and an entertainment purpose in their response. They concluded that reading purpose did not affect the strategies that readers considered relevant to comprehension, but they explained that the null effect might have been attributed to a too small sample size.

Several studies have been conducted to investigate how different reading purposes or text types influence reading strategies or comprehension in L2 reading (Abdulmajid, 2000; Chang, 1997; Lage, 1993; Liang, 1997). Abdulmajid (2000) explored the processing strategies that Malaysian ESL college students used when they were engaged in reading authentic expository/technical texts (a passage from a textbook for class) and authentic narrative texts (a passage from a magazine). The study employed qualitative research methodology including interviews, think-aloud tasks, and observation to collect data from five male native speakers of Malay. Based on findings from the study, Abdulmajid (2000) stated that the specific strategies used when the participants read authentic expository/technical texts versus authentic narrative texts were not much different. "The strategies are interpreting ideas, paraphrasing ideas, stating success in understanding, rereading, summary and affirming meaning" (p. 260). However, he added that the students activated a certain strategy, for example, using background knowledge, more often when reading the textbook than when reading the magazine. On the other hand, they used critical reading strategies more often when reading the magazine. As another finding, he reported participants' reading problems in reading authentic expository/technical texts in L2. The reading difficulty reported by the participants was attributed to general non-technical words and relating ideas to what the participants already knew about the topics of the texts.

Chang (1997) examined the reading strategies used by Taiwanese college students learning English for academic purposes in an EFL context. One of the issues the study explored to answer

was the differences in strategy use in different types of texts. Qualitative research methodology, including think-aloud procedures and interviews, was used to collect the data. The results indicated that paraphrasing and stating main ideas were the two major strategies readers used to comprehend the text. In addition, regardless of content familiarity and text difficulty, the participants employed similar patterns of strategy use in the process of reading. When reading difficult text, the subjects reported using a dictionary and giving up reading.

Liang (1997) investigated the reading strategies of Chinese college students in an EFL context. One purpose of the study was to investigate what cognitive, metacognitive, and motivational strategies the students employed to deal with difficulties in their reading comprehension when reading both curricular and extracurricular reading materials. The study employed a qualitative approach such as think-aloud tasks and interviews to collect data. The findings from the study revealed that the reading context, metacognition, and motivation were important factors that influenced the students' strategy use. Students' use of strategies was different in different reading contexts. Liang (1997) concluded that the differences seem to arise from their metacognition and regulation of strategy use rather than from ability differences represented by grades.

Basic Interpersonal Communicative Skill (BICS) vs. Cognitive Academic Language Proficiency (CALP)

Cummins (1979, 1981) suggested the conceptual distinction between "Basic Interpersonal Communicative Skills" (BICS) and "Cognitive Academic Language Proficiency" (CALP). He suggested this distinction to debunk a misconception about ESL students' language proficiency: that ESL students' conversational fluency in English is a valid indicator of their overall English proficiency. He was concerned that this misconception has resulted in ESL children prematurely

out of ESL program and then being diagnosed as learning disabled.

Cummins (1999) states, "There are clear differences in acquisition and development patterns between conversational language and academic language, or BICS and CALP" (p.2). According to Cummins (1981), it takes only 2 to 3 years for ESL students to be proficient in BICS English. On the contrary, it takes 5 to 7 years for ESL students to be proficient in CALP English because CALP English used in academic learning is cognitively more demanding than BICS English. In a similar view, Collier (1995) claims as follows:

> Non-native speakers of English with no schooling in their first language take 7-10 years or more to reach age and grade-level norms of their native English speaking peers. Immigrant students who have had 2-3 years of first language schooling in their home country before they come to the U.S. take at least 5-7 years to reach typical native-speaker performance (p. 5).

Cummins (1994) also stresses that "the distinction between conversational aspects and academic aspects of language proficiency is not one between oral and written language" (p. 42). In order to achieve CALP in written language, particularly reading, language learners need to equip themselves with academic vocabulary including specialized terms of subject areas in authentic expository/technical texts besides basic vocabulary for BICS. The learners also need to have different syntactic or discourse knowledge of sentence structures in the authentic expository/technical texts from those in authentic narrative texts.

Recently, Cummins (2003) updated his framework of language proficiency by adding one more dimension, named *"discrete language skills",* and renaming BICS as "*Conversational Fluency"* and CALP as "*Academic Language Proficiency",* respectively. According to Cummins, *conversational fluency,* more focused on oral language unlike BICS, is "the ability to carry on a conversation in familiar face-to-face situations"; *academic language proficiency* includes

"knowledge of the less-frequent vocabulary of English as well as the ability to interpret and produce increasingly complex written (and oral) language"; and *discrete language skills* reflect "specific phonological, literacy, and grammatical knowledge that students acquire as a result of direct instruction and both formal and informal practice (e.g., reading)" (pp. 4, 5).

The distinction between BICS and CALP has been an issue in bilingual education, particularly in ESL contexts. However, it is not clear enough whether the distinction can be applied directly to EFL contexts in which this study was performed, but the fundamental idea of this study is related to the distinction to some degree. In other words, Korean college students might have basic reading skills such as basic vocabulary and the syntactic or discourse knowledge for the non-authentic texts in English, but they still lack academic English reading proficiency including academic vocabulary and the syntactic or discourse knowledge for the authentic expository/technical texts. Likewise, the two dimensions—Discrete Language Skills (DLS) and Academic Language Proficiency (ALP)—also support a primary framework of this study. To put it in another way, Korean college students might have DLS, such as grammatical knowledge and basic vocabulary knowledge, acquired through direct instruction in an EFL classroom setting. However, they might still need to develop ALP to comprehend complex written language or authentic expository/technical text. In terms of *conversational fluency*, it is probably the most difficult ability to be developed in EFL contexts because there are no chances for face-to-face conversation in English unlike in ESL contexts.

Chapter Summary

This chapter reviewed reading theories and empirical studies related to reading strategies. First, L1 and L2 reading models or views were described as fundamental backgrounds, and critical components for development of reading were identified. Second, definitions and

characteristics of reading strategies were presented, and empirical research on relationships among reading strategy use, reading comprehension, and metacognition of reading strategy use was reviewed. Third, differences between authentic expository/technical text reading and authentic narrative text reading were explained, and research on reading strategy use according to the differences was reviewed. Lastly, a theoretical framework of language proficiency was presented to enhance theoretical backgrounds of this study.

CHAPTER III
METHODOLOGY

This study was purposed to identify the use of the reading strategies by Korean college students and investigate the relationships among the use of reading strategies, students' reading proficiency, and personal characteristics. This study also was purposed to examine differences in the use of reading strategies when the students read authentic expository/technical texts versus when they read authentic narrative texts. Accordingly, the students' use of reading strategies was identified by the Survey of Reading Strategies (SORS), text-specific use of the reading strategies was identified by modified SORS, personal characteristics were collected by Background Information Questionnaire (BIQ), and the students' reading proficiency was measured by a reading comprehension section of the TOEFL. This study applied statistical analyses, a quantitative research method, to examine the data collected by these instruments.

In order to show how this study was conducted, this chapter describes participants, instruments, data collection procedures, and data analysis.

Pilot Study

A pilot study was conducted to check reliability scores of the instruments (e.g., SORS, modified SORS) for the study and determine whether the reading comprehension test and the reading texts for the current study would be appropriate in length, degree of difficulty, and content. In addition, this pilot study was purposed to see what problems would occur while administrating this study, and more importantly how the research design for this study would work. The data collection procedures for this pilot study were the same as for the current study. Nineteen Korean students (male = 13, female = 6) studying at the University of Kansas

participated in this pilot study.

The reliability score of the SORS (Cronbach's Alpha = .901) was high but the reliability score of the modified SORS (for authentic expository/technical text: Cronbach's Alpha = .738, for authentic narrative text: Cronbach's Alpha = .740) was moderate. It was advised that wording and style of sentences in the passage for authentic expository/technical text reading were slightly different from them of a traditional expository/technical text. Thus, the researcher has decided to use a new passage for the authentic expository/technical text reading which is closer to wording and style of the traditional authentic expository/technical text. The researcher has also decided to use only one passage out of the two passages read by the participants in the pilot study for authentic narrative text reading because the participants in the pilot study were concerned about too much reading. No serious problems were found in conducting the pilot study. More importantly, the pilot study showed that the research design for this study worked well.

Main Study

Participants

This study was conducted in five classes in three different universities in Korea. One of the three universities was located in Seoul, Korea, and the other two universities were located in the suburban area of Seoul, Korea. Seventy one students from three classes in the university in Seoul participated in this study. They were mostly sophomores and seniors except for several juniors. Of the 71 students, the majority was studying English Education as their academic major, but there were a small number of students studying different majors such as Business, Education, English literature, French, and Law. Twenty seven students from one class in another university in the suburban area of Seoul participated in this study. They were mostly freshmen except for a few sophomores and seniors. Only four of the 27 students had majors other than Business such

as English literature, Engineering, and Science. Seventeen students from one class in the other university in the suburban area of Seoul participated in this study. They were all freshmen studying Engineering as their academic major. Thus, 115 students in total participated in this study. The students ranged in age from 18 to 33, with an average age of 22 years. The students were diverse in terms of gender, age, grade, major, and their experiences in learning English including reading comprehension ability. Based on Oxford's (1990) *Background Questionnaire*, the Background Information Questionnaire (BIQ) modified by the researcher was used to gather the information about individual characteristics of the participants. More characteristics about the participants were summarized in detail in the following tables below.

Sixty participants were female and 55 participants were male, which was an approximately equal proportion in gender (see Table 1).

Table 1

Gender of Participants (N = 115)

Gender	Frequency	Percent
Female	60	52.2
Male	55	47.8
Total	115	100.0

The participants represented all grade levels from freshmen to seniors, but the number of juniors was much smaller than the number of the other grade levels (see Table 2).

Table 2

Grade Year of Participants (N = 115)

Grade Year	Frequency	Percent
Freshman	37	32.2
Sophomore	20	17.4
Junior	9	7.8
Senior	49	42.6
Total	115	100.0

The academic majors of the participants were diverse but three academic majors, such as

Business, English Education, and Engineering, covered the majority of the participants (see Table 3).

Table 3

Academic Majors of Participants (N = 115)

Majors	Frequency	Percent
Business	25	21.7
Education	10	8.7
English Education	56	48.7
English Literature	3	2.6
Engineering	18	15.7
French	1	.9
Law	1	.9
Science	1	.9
Total	115	100.0

Table 4 shows how long the participants had been studying English by the time they participated in this study.

Table 4

Years of Studying English (N = 115)

Years	Frequency	Percent	Mean	S.D.
2	1	.9		
3	1	.9		
4	1	.9		
5	1	.9		
6	1	.9		
7	7	6.1		
8	9	7.8		
9	8	7.0		
10	34	29.6	10.57	2.64
11	16	13.9		
12	11	9.6		
13	12	10.4		
14	4	3.5		
15	3	2.6		
16	5	4.3		
17	1	.9		
Total	115	100.0		

The majority of the students had been studying English for more than eight years. The students' average year of studying English was almost 11 years, which reflects that they had

learned English as a required course throughout a secondary school and in some cases throughout a primary school and a secondary school. Furthermore, many of them must have kept studying English for their own purpose even after entering the universities.

It is very popular for Korean students to take private tutoring or to attend a cram school to improve their English proficiency besides studying English as a required course in their schools. Table 5 shows this unique phenomenon in Korea. The participants were asked if they had experiences in taking private tutoring or attending the cram school for improving their English. Of 115 students, 37 students had experiences of both having private tutoring and attending the cram school, but only 10 students did not have any experiences of either having private tutoring or attending the cram school at all.

Table 5

Experiences in Private Tutor or Cram School (N =115)

Length	Private Tutor		Cram School	
	Frequency	Percent	Frequency	Percent
Never	71	61.7	16	13.9
Less than 6 months	16	13.9	27	23.5
6 months~ 1 year	10	8.7	6	5.2
1 ~ 2 years	9	7.8	16	13.9
More than 2 years	9	7.8	50	43.5
Total	115	100.0	115	100.0

Of the 115 students, 44 students had experiences in staying in English speaking countries (see Table 6). Twenty six of the 44 students stayed for the purpose of language training like the program of Applied English Center (AEC) at KU. The number of students having the purpose of vacation (or visiting) or education at college was seven respectively. The students stayed mostly in the U.S.A. and Canada, and a small number of students stayed in UK and Australia.

Table 6

Experiences in Staying in English Speaking Country (N =115)

Length	Frequency	Percent
Never	71	61.7
Less than 6 months	11	9.6
6 months~ 1 year	26	22.6
1 ~ 2 years	4	3.5
More than 2 years	3	2.6
Total	115	100.0

Table 7 shows how the participants evaluated their English proficiency. Over 80 percent of them rated their English proficiency either 'Fair' or 'Poor', and about 15 percent of them rated their English proficiency either 'Good' or 'Very Good'. One student did not respond to this question.

Table 7

Self-rate in English Proficiency (N = 114)

Rate	Frequency	Percent
Very Good	2	1.8
Good	16	14.0
Fair	55	48.2
Poor	41	36.0
Total	114	100.0

Table 8 shows how the participants evaluated their English reading proficiency. The participants showed very similar self-rate patterns with the ones for their English proficiency. Eighty percent of them rated their English reading proficiency either 'Fair' or 'Poor', and 20 percent of them rated their English reading proficiency as either 'Good' or 'Very Good'. However, overall they rated their English reading proficiency slightly higher than their English proficiency. This seems to reflect how the Korean students have learned or have been taught English through their school years. As already mentioned in Chapter 1, teaching and learning English in a classroom in Korea has focused on reading based on grammar and vocabulary

knowledge. One student did not respond to this question.

Table 8

Self-rate in English Reading Proficiency (N = 114)

Rate	Frequency	Percent
Very Good	3	2.6
Good	19	16.7
Fair	59	51.8
Poor	33	28.9
Total	114	100.0

The participants were asked whether they enjoy reading English texts regardless of types of text or not. Their responses of 'Yes' or 'No' were split almost in half. However, there were different response patterns by gender. More than half of the female students responded 'Yes', but less than half of male students responded 'Yes' (see Table 9).

Table 9

Enjoyment of Reading English Texts (N = 115)

	Enjoyment		Sub-total
	Yes	No	
Female	34 (56.7%)	26 (43.3%)	60
Male	22 (40.0%)	33 (60.0%)	55
Sub-total	56 (48.7%)	59 (51.3%)	115

The participants were asked how important it is for them to become proficient in reading in English. Most of them considered it important or very important for themselves (see Table 10).

Table 10

Importance of Being Proficient in Reading in English (N = 115)

Response	Frequency	Percent
Very Important	60	52.2
Important	53	46.1
Not So Important	2	1.7
Not Important	0	.0
Total	115	100.0

Instruments

Survey of Reading Strategies (SORS) (see Appendix A)

Several researchers in the area of L1 reading have developed inventories to measure metacognitive awareness and use of reading strategies for L1 learners, such as the Index of Reading Awareness (Jacobs & Paris, 1987) and Reading Strategy Use (Pereira-Laird & Deane, 1997). Based on critiques of the existing inventories, Mokhtari and Reichard (2002) have developed a reading strategy questionnaire targeting L1 readers, Metacognitive Awareness of Reading Strategies Inventory (MARSI). Based on the MARSI, Mokhtari and Sheorey (2002) have developed the Survey of Reading Strategies (SORS) to measure non-native English speakers' metacognitive awareness and perceived use of reading strategies. For the SORS, Mokhtari and Sheorey (2002) made three revisions on the MARSI: they refined wording for non-native English speakers to comprehend the items more easily, added two new strategies, and removed two items. After the revisions, they field-tested the SORS with ESL college students and then obtained internal reliability (Cronbach's Alpha =.89 or better).

The SORS consists of 30 items, each of which uses a 5 point Likert scale ranging from 1 ("I never or almost never do this") to 5 ("I always or almost always do this"). The SORS measures three broad categories of reading strategies: namely, Global strategies, Problem Solving strategies, and Support strategies. These categories (or subscales) were based on MARSI's factor analysis and theoretical considerations (Mokhtari & Sheorey, 2002). The following is a brief description of each category of the SORS and the number of items within each category.

- Global strategies (GLOB) are those intentional, carefully planned techniques by which learners monitor or manage their reading, such as having a purpose in mind, previewing the text as to its length and organization, or using typographical aids and tables and figures (13 items).

> • Problem Solving Strategies (PROB) are the actions and procedures that readers use while working directly with the text. These are localized, focused techniques used when problems develop in understanding textual information; examples include adjusting one's speed of reading when the material becomes difficult or easy, guessing the meaning of unknown words, and rereading the text to improve comprehension (8 items).
> • Support Strategies (SUP) are basic support mechanisms intended to aid the reader in comprehending the text such as using a dictionary, taking notes, underlining, or highlighting textual information (9 items). (p. 4)

The SORS was adapted for this study as a main instrument because it emphasizes the importance of cognitive strategies and metacognitive awareness in L2 reading, which fits the theoretical framework of this study. The SORS was not translated into Korean because the language for the SORS is simple and easy.

Modified SORS (see Appendix B)

The original SORS was slightly modified in order to measure text-specific reading strategy use (i.e., authentic expository/technical text vs. authentic narrative text). Unlike the original SORS with a 5 point Likert scale, the modified SORS had "Yes" or "No" response choices to measure text-specific reading strategy use. "Yes" or "No" responses reflected whether the participants did or did not use the strategies on the immediately preceding reading texts. Accordingly, the statements of items of the modified SORS were restated into past tense sentences. The modified SORS was not translated into Korean either. "Yes" was scored as a 1 point and "No" was scored as a 0 point for statistical analyses.

Reading Comprehension Test (see Appendix C)

The reading comprehension section of the TOEFL was used to measure reading proficiency of the participants. The TOEFL is the most well-known standardized English proficiency test for non-native English speakers. The TOEFL has three different formats according to how it is administered: Paper Based Test (PBT), Computer Based Test (CBT), and Internet Based Test (IBT). This study used the PBT format because of practical matters of administering the test. The reading comprehension part of the TOEFL consists of academic reading passages and multiple choice questions following each passage. Passages and questions for this study were excerpted from a reading comprehension part of a practice TOEFL test distributed by Educational Testing Service (ETS). The permission for using the passages and questions was acquired from the publisher, ETS (see Appendices).

The reading comprehension test for this study had two passages, and each passage had five multiple choice questions. One passage had contents related to geology and the other one had contents related to sociology. Ten questions in total were given, each question was worth one point, and so a total score was 10 points.

Texts for Reading (see Appendix D, E)

The participants read two different passages in English. One was excerpted from an authentic expository/technical text (textbook) and the other one was excerpted from an authentic narrative text (story). For the authentic expository/technical text, the passage was excerpted from a book titled *Introduction to Classical and Modern Test Theory* by Linda Crocker and James Algina (1986). For the authentic narrative text, the passage was excerpted from *The Last Lecture* by Randy Pausch and Jeffrey Zaslow (2008). The permission for using both the texts was acquired from each publisher (see Appendices).

The passage for authentic expository/technical text reading was followed by comprehension questions (True or False) based on contents of the text, and the passage for authentic narrative text reading was followed by questions asking participants' opinions about the text rather than comprehension questions. This was done in order to clarify a distinction of reading purposes. An informative expository text was selected for the authentic expository/technical text, and a narrative story was selected for the authentic narrative text. This was done in order to clarify effects of text types on processing strategy.

***Background Information Questionnaire* (BIQ)** (see Appendix F)

Based on Oxford's (1990) *Background Questionnaire* (p. 282), the Background Information Questionnaire (BIQ), modified by the researcher was used to gather information about individual characteristics of the participants. The BIQ had two sub-categories: demographic information and experiences in learning English. The sub-category of demographic information had items of gender, age, major, and grade. The sub-category of experiences in learning English had items such as "How long have you been studying English?" "Have you ever stayed in a country where English is the main language spoken?" "How do you rate your overall English proficiency?" "How do you rate your English reading proficiency?" "How important is it for you to become proficient in reading in English?", and "Do you enjoy reading English texts?" Because the language for the items was simple and easy, the items were not translated into Korean.

Data Collection Procedures

Before beginning the following procedures, the participants had brief explanations about the purposes of this study and general instructions about doing the following procedures.

First step, the participants were asked to complete the informed consent statement that has

been approved by The Human Subject Committee University of Kansas (HSCL) (see Appendix G).

Second step, the participants were asked to complete the SORS intending to measure the participants' general reading strategy use in reading authentic expository/technical texts.

Third step, the participants were asked to take the reading comprehension test intending to measure the participants' general academic reading proficiency. There was a time limit in only this step. Twenty minutes were given for the students to complete the test.

Fourth step, the participants were asked to read the authentic expository/technical text in English and then immediately complete the modified SORS intending to measure text-specific reading strategy use. At this time, they were asked to respond to each item of the modified SORS based on their strategy use while they read the authentic expository/technical text.

Fifth step, the participants were asked to complete the Background Information Questionnaire (BIQ).

Sixth step, the participants were asked to read the authentic narrative text in English and then immediately complete another modified SORS intending to measure text-specific reading strategy use. At this time, they were asked to respond to each item of the modified SORS based on their strategy use while they read the authentic narrative text.

In order to control practice effects that might happen during these data collection procedures, one half of the participants followed the order of these steps as described above, but the order of the fourth step and the sixth step was reversed for the other half of the participants.

One hundred fifteen students in total participated in this data collection, but one student did not respond to the modified SORS in the fourth and the sixth step which is necessary for the fourth research question. Since other data of the student were still valid, the student's data were

included to be analyzed for other research questions except the fourth research question.

Data Analysis

This study employed statistical data analysis procedures: descriptive statistics, a linear regression analysis, a one-way Analysis of Variance (ANOVA), a one-way Multivariate Analysis of Variance (MANOVA), an independent *t* test, and a Paired samples *t* test. Specifically, the analyses that were employed for each research question are detailed below. The Statistical Package for the Social Science (SPSS, version 15.0) was used to analyze the data.

Research Q.1: Descriptive statistics were employed to identify what reading strategies Korean college students used and how frequently they used them. The descriptive statistics provided frequencies, means, and standard deviations. These data were used to describe what reading strategies the participants used (e.g., the most or least frequently used strategies, the mean score of overall reading strategy use, and the mean score of each strategy category).

Research Q.2: A simple linear regression analysis was conducted to investigate the relationship between the overall use of reading strategies and English reading comprehension ability. The scores of reading comprehension test served as the dependent variable, and the scores of the overall use of reading strategies served as the predictor. A multiple linear regression analysis was conducted to investigate relationships between the use of the three reading strategy categories (i.e., Global strategies, Problem solving strategies, and Support strategies) and English reading comprehension ability. The scores of reading comprehension test served as the dependent variable, and the scores of the use of each strategy category served as the predictors. Furthermore, an independent *t* test for each reading strategy was performed in order to determine a reading proficiency level difference in the use of each reading strategy.

Research Q.3: One-way ANOVAs were employed to find significant differences in the

overall use of reading strategies across levels of the variables of interest. The scores of the overall use of reading strategies served as the dependent variable. The independent variables included the participants' personal characteristics such as gender, grade levels, academic majors, self-perception of being a proficient English reader, and enjoyment of reading English materials. One-way MANOVAs were employed to find significant differences in the use of the three strategy categories across levels of the variables of interest. The scores of the use of the Global strategy, the Problem Solving strategy, and the Support strategy served as multiple dependent variables. The independent variables were the same as the ones in the ANOVA tests.

Research Q. 4: A Paired samples *t* test was conducted to compare the mean scores of the overall use of reading strategies when the subjects read the authentic expository/technical text versus the authentic narrative text. Additional paired samples *t* tests were conducted to compare the mean scores of the use of each strategy category (i.e., GLOB, SUP, and PROB) when the participants read the authentic expository/technical text versus the authentic narrative text. Furthermore, paired samples *t* tests were conducted to compare the mean score of the use of each reading strategy when the participants read the authentic expository/technical text versus the authentic narrative text.

Throughout the study, .05 alpha level was set for a significant test. When follow-up analyses were necessary, Type I error adjustment procedures were applied to control the probability of committing one or more Type I errors across multiple hypothesis tests. Mostly, the Bonferroni procedure was used for multiple hypothesis tests and multiple pairwise comparison tests when an independent variable had more than three levels. However, when an independent variable had three levels, the LSD procedure was especially applied for multiple pairwise comparison tests because "The LSD is a powerful method to control Type I errors across all pairwise comparisons

if a factor has three levels" (Green & Salkind, 2005, p. 224).

Chapter Summary

This chapter described the methodology of this study. This study was conducted in five classes in three different universities in Korea. One hundred fifteen Korean college students participated in this study. The participants were diverse in terms of gender, age, grade, academic major, and their experiences in learning English, including reading comprehension ability. The instruments used in this study were described, including the Survey of Readings Strategies (SORS), the modified SORS, the reading comprehension test, and the reading texts. The data collection procedures were described and the statistical analyses employed for each research question were presented.

CHAPTER IV
RESULTS

This chapter presents the results of data analyses and the findings for this study. The purpose of this study was to explore the use of reading strategies when Korean college students read authentic expository/technical texts in English. This study also examined how the students' use of reading strategies is related to their reading proficiency. In addition, the study investigates how the student's use of reading strategies is related to their personal characteristics. The study also identifies differences in the use of the reading strategies when the students read authentic expository/technical texts versus when they read authentic narrative texts. In order to fulfill the purposes of this study, four research questions were addressed in the previous chapter. The results and findings are reported according to the research questions.

Some important assumptions for the statistical analysis were checked with the collected data (i.e., SORS, modified SORSs, and reading comprehension test scores). First, any particular participant's scores on the SORS, the modified SORSs, and the reading comprehension test were not affected by the scores of all other participants, and thus the participants' scores were independent. Second, the assumption of normality was examined with skewness and kurtosis, and it was concluded that the assumption of normality for this data was tenable. Third, the assumption of homogeneity of variance was examined with Levene's test for ANOVA and with Box's test for MANOVA. Results of Levene's test in all ANOVAs and results of Box's test in all MANOVAs were not significant, which means that the assumption of homogeneity of variance was met.

The Cronbach's Alpha score was measured to examine the internal consistency of reliability for the SORS and the modified SORSs with the participants for this study. Cronbach's Alpha

scores were as follows: for the SORS, Cronbach's Alpha was .835; for the modified SORS for authentic expository/technical text, Cronbach's Alpha was .786; for the modified SORS for authentic narrative text, Cronbach's Alpha was .835.

Q. # 1: ***What reading strategies do Korean college students use when they read authentic expository/technical texts in English?***

Descriptive statistics were employed to answer the first research question. The descriptive statistics included means and standard deviations of each strategy use, the overall use, and the use of three strategy categories. The average score of the overall use of the reading strategies was 3.62, which is high according to Mokhtari and Sheorey's (2002) interpretation key. Mokhtari and Sheorey interpret that mean of 3.5 or higher is high usage, mean of 2.5 to 3.4 is moderate usage, and mean of 2.4 or lower is low usage. These three levels of reading strategy usage were identified along the lines suggested by Oxford and Burry-Stock (1995) for general learning strategy usage. The average scores of each category of the reading strategies were 3.57 for Global strategies (GLOB), 3.38 for Support strategies (SUP), and 3.92 for Problem Solving strategies (PROB). As shown in Table 11, Global and Problem Solving strategies were at the high level of usage, while Support strategies were at the moderate level of usage.

Table 11

Use of Each Strategy Category (N = 115)

Categories of Strategy	Mean	S.D.	Level
Global (GLOB)	3.57	.49	High
Support (SUP)	3.38	.54	Moderate
Problem Solving (PROB)	3.92	.47	High
Overall	3.62	.42	High

The averages of self-reported scores for reading strategy use are summarized in Table 12. Eighteen strategies were reported as high usage, and twelve strategies were reported as

moderated usage. No strategy was reported as low usage.

Table 12

Scores of Each Strategy Use (N = 115)

Category	Strategy	Mean	S.D.	Level
G 1	Setting purpose for reading	3.71	0.93	High
S 2	Taking notes while reading	2.99	1.12	Moderate
G 3	Using prior knowledge	3.86	0.88	High
G 4	Previewing text before reading	3.46	1.13	Moderate
S 5	Reading aloud when text becomes hard	2.83	1.29	Moderate
G 6	Checking how text content fits purpose	3.30	1.01	Moderate
P 7	Reading slowly and carefully to make sure I understand	3.89	0.93	High
G 8	Noting text characteristics (e.g., length, organization)	3.62	1.07	High
P 9	Trying to stay focused on reading when losing concentration	4.25	0.79	High
S 10	Underlining information in text to help me remember it	4.46	0.86	High
P 11	Adjusting reading speed	3.67	1.05	High
G 12	Determining what to read	3.55	0.92	High
S 13	Using reference materials (e.g., dictionary)	4.00	1.02	High
P 14	Paying close attention to reading when text becomes difficult	4.18	0.85	High
G 15	Using text features (e.g., tables, figures)	3.92	1.09	High
P 16	Pausing and thinking about reading	3.46	1.04	Moderate
G 17	Using context clues	3.90	0.92	High
S 18	Paraphrasing (restate ideas in my own words) for understanding	3.23	1.10	Moderate
P 19	Visualizing information read	3.48	1.06	Moderate
G 20	Using typographical features (e.g., bold, italics)	3.72	1.15	High
G 21	Analyzing and evaluating what is read	2.77	0.99	Moderate
S 22	Going back and forth in text to find relationship among ideas	3.70	0.97	High
G 23	Checking my understanding when new information comes	3.64	0.84	High
G 24	Predicting or guessing text meaning	3.69	0.99	High
P 25	Re-reading for better understanding when text becomes difficult	4.43	0.76	High
S 26	Asking oneself questions	2.67	1.13	Moderate
G 27	Confirming predictions	3.33	1.01	Moderate
P 28	Guessing meaning of unknown words	3.96	0.82	High
S 29	Translating into a native language	3.33	1.30	Moderate
S 30	Thinking about information in both English and mother tongue	3.23	1.22	Moderate

Thirteen strategy items which fall into the category of Global strategies are listed in the order of mean of the strategy use score reported by the participants in Table 13.

Table 13

Use of Global Strategies (N = 115)

	Global Strategies	Mean	S.D.	Level
GLOB	Using text features (e.g., tables, figures)	3.92	1.09	High
GLOB	Using context clues	3.90	0.92	High
GLOB	Using prior knowledge	3.86	0.88	High
GLOB	Using typographical features (e.g., bold, italics)	3.72	1.15	High
GLOB	Setting purpose for reading	3.71	0.93	High
GLOB	Predicting or guessing text meaning	3.69	0.99	High
GLOB	Checking my understanding when new information comes	3.64	0.84	High
GLOB	Noting text characteristics (e.g., length, organization)	3.62	1.07	High
GLOB	Determining what to read	3.55	0.92	High
GLOB	Previewing text before reading	3.46	1.13	Moderate
GLOB	Confirming predictions	3.33	1.01	Moderate
GLOB	Checking how text content fits purpose	3.30	1.01	Moderate
GLOB	Analyzing and evaluating what is read	2.77	0.99	Moderate

Nine strategy items which fall into the category of Support strategies are listed in the order of mean of the strategy use score reported by the participants in Table 14.

Table 14

Use of Support Strategies (N = 115)

	Support Strategies	Mean	S.D.	Level
SUP	Underlining information in text to help me remember it	4.46	0.86	High
SUP	Using reference materials	4.00	1.02	High
SUP	Going back and forth in text to find relationship among ideas	3.70	0.97	High
SUP	Translating into a native language	3.33	1.30	Moderate
SUP	Paraphrasing (restate ideas in my own words) for understanding	3.23	1.10	Moderate
SUP	Thinking about information in both English and mother tongue	3.23	1.22	Moderate
SUP	Taking notes while reading	2.99	1.12	Moderate
SUP	Reading aloud when text becomes hard	2.83	1.29	Moderate
SUP	Asking oneself questions	2.67	1.13	Moderate

Eight strategy items which fall into the category of Problem Solving strategies are listed in the order of mean of the strategy use score reported by the participants in Table 15.

Table 15

Use of Problem Solving strategies (N = 115)

	Problem Solving Strategies	Mean	S.D.	Level
PROB	Re-reading for better understanding when text becomes difficult	4.43	0.76	High
PROB	Trying to stay focused on reading when losing concentration	4.25	0.79	High
PROB	Paying close attention to reading when text becomes difficult	4.18	0.85	High
PROB	Guessing meaning of unknown words	3.96	0.82	High
PROB	Reading slowly and carefully to make sure I understand	3.89	0.93	High
PROB	Adjusting reading speed	3.67	1.05	High
PROB	Visualizing information read	3.48	1.06	Moderate
PROB	Pausing and thinking about reading	3.46	1.04	Moderate

Five most frequently used strategies by the Korean college students were “underlining information in text to help me remember it”, “re-reading for better understanding when text becomes difficult”, “trying to stay focused on reading when losing concentration”, “paying close attention to reading when text becomes difficult”, and “using reference materials (e.g., dictionary)”. As shown in Table 16, all five strategies were at the high level of usage. No Global strategies were in the five most frequently used strategies.

Table16

Five Most Frequently Used Strategies (N =115)

Category	Strategy	Mean	S.D.	Level
SUP	Underlining information in text to help me remember it	4.46	0.86	High
PROB	Re-reading for better understanding when text becomes difficult	4.43	0.76	High
PROB	Trying to stay focused on reading when losing concentration	4.25	0.79	High
PROB	Paying close attention to reading when text becomes difficult	4.18	0.85	High
SUP	Using reference materials (e.g., dictionary)	4.00	1.02	High

Five least frequently used strategies by the Korean college students were “asking oneself questions”, “analyzing and evaluation what is read”, “reading aloud when text becomes hard”, “taking notes while reading”, and “paraphrasing (restate ideas in my own words) for

understanding". As shown in Table 17, all five strategies were at the moderate level of usage. There were no Problem Solving strategies.

Table 17

Five Least Frequently Used Strategies (N = 115)

Category	Strategy	Mean	S.D.	Level
SUP	Asking oneself questions	2.67	1.13	Moderate
GLOB	Analyzing and evaluating what is read	2.77	0.99	Moderate
SUP	Reading aloud when text becomes hard	2.83	1.29	Moderate
SUP	Taking notes while reading	2.99	1.12	Moderate
SUP	Paraphrasing (restate ideas in my own words) for understanding	3.23	1.10	Moderate

Unlike the five most frequently used strategies, these five strategies seem to require more techniques or actions from readers. This issue will be discussed in detail in the chapter five.

Q. 2: ***Are there relationships between the use of reading strategies and English reading proficiency of Korean college students?***

Table 18 shows the participants' reading comprehension test results including both the frequency and mean of the scores. No participants obtained the actual mean score and no subjects obtained scores of 0 or 1. The lowest and highest scores obtained by the participants were 2 and 10 respectively.

Table 18

Reading Comprehension Test Scores (N = 115)

Scores	Frequency	Percent	Mean	S.D.
0	0	.0		
1	0	.0		
2	1	.9		
3	5	4.3		
4	1	.9		
5	18	15.7	7.37	2.06
6	18	15.7		
7	11	9.6		
8	18	15.7		
9	22	19.1		
10	21	18.3		
Total	115	100		

Based on the results of the reading comprehension test, the participants' English reading comprehension ability seem to be above average. Meanwhile, the female students (M = 8.02, S.D. = 1.83) outperformed male students (M = 6.67, S.D. = 2.01) in the reading comprehension test.

A simple linear regression analysis was conducted to examine how well the participants' scores of overall use of the reading strategies predicted the participants' reading comprehension test scores. The participants' scores of overall use of the reading strategies were not significantly related to the participants' reading comprehension test scores. This information is summarized in Table 19.

Table 19
Simple Linear Regression

Independent Variable	R	R^2	b	β	t	Sig.
Model	.182	.033				
Overall use			.885	.182	1.965	.052
Model F (1, 113) = 3.859						

A multiple regression analysis was conducted to evaluate how well the participants' scores of use of each strategy category (i.e., GLOB, SUP, & PROB) predicted their reading comprehension test scores. The multiple regression model was analyzed with the participants' reading scores as the dependent variable, and their scores of the use of each strategy category as independent variables were entered into the multiple regression model. The linear combination of the participants' scores of the use of each strategy category was significantly related to their reading comprehension scores, $R^2 = .169$, F (3, 111) = 7.537, $p < .01$. The multiple correlation coefficient was .411, indicating that approximately 16.9% of the variance of the participants' reading comprehension test scores can be accounted for by the linear combination of the participants' scores of the use of each strategy category. As shown in Table 20, both the Global strategies and the Support strategies were statistically significant predictors accounting for the

participants' reading comprehension test scores, but the Problem Solving strategies were not statistically significant. The values of square of part correlation (i.e., sr^2 in Table 20) between individual predictors and the dependent variable were calculated to indicate the unique contribution of the individual predictors. Looking at it in detail, the participants' scores of the use of the Global strategies can uniquely account for approximately 5.9% of the variance of their reading scores, and the participants' scores of the use of the Support strategies can uniquely account for approximately 8.6 % of the variance of their reading scores. The correlation coefficient for the Global strategies was positive while the coefficient for the Support was negative. This means that the correlation between the participants' scores of the use of the Global strategies and their reading comprehension scores was positive while the correlation between the participants' scores of the use of the Support strategies and their reading comprehension scores was negative. This information is summarized in Table 20.

Table 20

Multiple Linear Regression (N = 115)

Independent Variables	R	R^2	b	β	t	Sig.	sr^2
Model	.411*	.169*					
GLOB			1.422	.342	2.81	.006*	.059
SUP			-1.372	-.357	-3.39	.001*	.086
PROB			.858	.195	1.66	.100	.020
Model F (3, 111) = 7.537, $p < .01$							

*. Significant at .05 level. Dependent variable: Reading test scores

Moreover, in order to determine a reading proficiency level difference in the use of individual reading strategies, an independent *t* test for each reading strategy was performed. For this analysis, the students who obtained scores *below* the mean in the reading comprehension test were grouped as a *low*-reading proficiency group (M = 5.48, S.D. = 1.23, n =54), whereas those who obtained scores *above* the mean were grouped as a *high*-reading proficiency group (M =

9.05, S.D. = .81, n = 61). The results are summarized in Table 21. Some individual strategies showed a significant difference, and those strategies are highlighted.

Table 21

Difference in Reading Strategy Use between High and Low Reading Proficiency Students

Category	Strategy	Low (n = 54)		High (n = 61)		*t* (113)	*p*-value
		M	S.D.	M	S.D.		
G1	Setting purpose for reading	3.54	1.04	3.87	0.81	-1.92	0.06
S2	Taking notes while reading	3.02	1.16	2.97	1.09	0.24	0.81
G3	Using prior knowledge	3.65	0.85	4.05	0.86	-2.5	0.01*
G4	Previewing text before reading	3.26	1.07	3.64	1.16	-1.82	0.07
S5	Reading aloud when text becomes hard	2.61	1.19	3.03	1.35	-1.76	0.08
G6	Checking how text content fits purpose	3.11	1.06	3.46	0.94	-1.87	0.06
P7	Reading slowly and carefully	4.04	0.82	3.75	1.01	1.63	0.11
G8	Noting text characteristics (e.g., length, organization)	3.46	1.19	3.75	0.94	-1.46	0.15
P9	Trying to stay focused on reading	4.11	0.82	4.38	0.76	-1.81	0.07
S10	Underlining information in text	4.30	1.06	4.61	0.61	-1.95	0.05*
P11	Adjusting reading speed	3.35	1.18	3.95	0.83	-3.18	0.01*
G12	Determining what to read	3.56	1.04	3.54	0.81	0.08	0.93
S13	**Using reference materials (e.g., dictionary)**	**4.28**	**1.00**	**3.75**	**0.98**	**2.84**	**0.01***
P14	Paying close attention to reading	3.91	1.03	4.43	0.56	-3.4	0.01*
G15	Using text features (e.g., tables, figures)	4.04	1.16	3.82	1.01	1.07	0.29
P16	Pausing and thinking about reading	3.37	1.1	3.54	0.98	-0.88	0.38
G17	Using context clues	3.67	0.99	4.1	0.81	-2.57	0.01*
S18	Paraphrasing for better understanding	3.37	1.14	3.1	1.06	1.33	0.19
P19	Visualizing information read	3.57	1.06	3.39	1.07	0.91	0.37
G20	Using typographical features (e.g., bold, italics)	3.39	1.14	4.02	1.09	-3.02	0.01*
G21	Analyzing and evaluating what is read	2.8	1.07	2.75	0.92	0.23	0.82
S22	Going back and forth in text	3.54	1.09	3.84	0.82	-1.67	0.1
G23	Checking understanding when new information presents	3.46	0.86	3.8	0.79	-2.21	0.03*
G24	Predicting or guessing text meaning	3.61	1	3.75	0.98	-0.78	0.44
P25	Re-reading for better understanding	4.41	0.77	4.44	0.76	-0.25	0.81
S26	Asking oneself questions	2.74	1.17	2.61	1.1	0.63	0.53
G27	Confirming predictions	3.31	0.99	3.34	1.05	-0.15	0.88
P28	Guessing meaning of unknown words	3.78	0.92	4.11	0.69	-2.24	0.03*
S29	**Translating into a native language**	**3.78**	**1.19**	**2.93**	**1.26**	**3.67**	**0.01***
S30	Thinking in both English & mother tongue	3.39	1.16	3.08	1.27	1.35	0.18

*. Significant at .05 level.

As shown in Table 21, out of all 30 reading strategies, the participants showed a significant difference in the use of 10 reading strategies between the groups of low and high reading

proficiency level. The high proficiency group reported using eight of the 10 reading strategies more frequently than the low proficiency group did. However, the only two reading strategies that the low proficiency group reported using more frequently than the high proficiency group were 'using reference materials (e.g., dictionary)' and 'translating into a native language'. This result will be discussed in detail in the chapter five.

Q. 3: ***Are there any significant differences in the use of reading strategies of Korean college students among their personal characteristics?***

3-1. Grade levels

Descriptive statistics, including means and standard deviations for overall use of reading strategies across levels of grade of the participants, are summarized in Table 22. A one-way ANOVA was conducted to determine the effect of grade levels (i.e., freshman, sophomore, junior, and senior) on the overall use of the reading strategies. A significant difference was found among the grade levels on the dependent measure, F (3, 111) = 2.841, $p < .05$, $\eta^2 = .071$. This means that the participants' overall use of reading strategies was related to their grade levels.

Table 22

Overall Strategy Use by Grade Levels (N = 115)

Grade	Overall strategy use		
	Mean	S.D.	N
Freshman	3.47	.40	37
Sophomore	3.55	.39	20
Junior	3.71	.29	9
Senior	3.72	.45	49

Because the ANOVA on the overall use of reading strategies was significant, follow-up tests to the ANOVA were performed. The follow-up tests consisted of conducting pairwise comparisons to find which two grade levels showed a significant difference in the overall use of reading strategies. The Bonferroni method was used to avoid inflating overall type I error rate.

Accordingly, the pairwise comparisons were tested at .05 divided by 6 (i.e., the number of comparisons) or .008 level, but any pairwise comparison was not significant. This information is summarized in Table 23. This result means that no two grade levels showed a significant difference in using the reading strategies even though there were overall differences across the grade levels in using the reading strategies.

Table 23

Pairwise Comparisons of Overall Strategy Use by Grade Levels

Dependent Variable	(I) Grade	(J) Grade	Mean difference (I – J)	Sig.
Overall strategy use	Freshman	Sophomore	-.077	1.000
		Junior	-.240	.724
		Senior	-.247	.043
	Sophomore	Junior	-.164	1.000
		Senior	-.170	.739
	Junior	Senior	-.007	1.000

Table 24 contains the means and standard deviations of the dependent variables for each level of grades. A one-way MANOVA was conducted to determine the effect of grade levels on the three dependent variables—scores of the use of the GLOB, PROB, and SUP strategies. Significant differences were not found among the grade levels on the dependent measures, Wilks's $\Lambda = .861$, F (9, 265.42) = 1.07, $p = .056$, $\eta^2 = .049$. This result indicates that the participants' grade levels was not related to the use of each strategy category.

Table 24

Use of Each Strategy Category by Grade Levels (N = 115)

Grade Level	GLOB		SUP		PROB	
	M	S.D.	M	S.D.	M	S.D.
Freshman (n = 37)	3.40	.47	3.30	.51	3.78	.51
Sophomore (n = 20)	3.46	.38	3.44	.51	3.82	.45
Junior (n = 9)	3.69	.38	3.38	.50	4.11	.44
Senior (n = 49)	3.73	.53	3.42	.57	4.03	.42

3-2. Academic majors

The academic majors of the participants were diverse: Business, Education, English Education, English Literature, French, Law, Engineering, and Science (see Table 3). Three academic majors, such as Business, English Education, and Engineering, covered the majority of the participants, but the other majors had a very small number of participants. For a further analysis, the academic majors were categorized into three academic major groups: Business, Education/Social science/Humanities (hereafter, Ed./So-Sci./Hu.), and Engineering/Science (hereafter, Engi./Sci.). These categories were adopted from the categorization that Oxford and Nyikos (1989) used for their research on L2 learners' learning strategies. Accordingly, the group of Ed./So-Si./Hu. included Education, English Education, English Literature, French, and Law, and the group of Engi./Sci. included Engineering and Science. Descriptive statistics, including means and standard deviations of the overall use of reading strategies across the three academic major groups, are summarized in Table 25.

Table 25

Overall Strategy Use by Academic Majors (N = 115)

Academic Major	Overall strategy use		
	Mean	S.D.	N
Business	3.54	.44	25
Ed./So-Sci./Hu.	3.68	.41	71
Engi./Sci.	3.43	.41	19

An ANOVA was conducted to determine the effect of academic majors on the overall use of reading strategies. A significant difference was found among the three groups on the dependent measure, F (2, 112) = 3.260, p = .042, η^2 = .055. Because the ANOVA on the overall use of reading strategies was significant, follow-up tests to the ANOVA were performed. The follow-up tests consisted of conducting pairwise comparisons to find which two groups showed a significant difference in the overall use of reading strategies. Because the independent variable

has three levels, the LSD method was used to avoid inflating overall type I error rate. The only difference between the Ed./So-Sci./Hu. major group and the Engi./Sci. major group was significant (p = .020). The differences based on other pairwise comparisons were not significant. This information is summarized in Table 26. This result suggests that the participants' academic majors were related to the overall use of reading strategies, and more specifically the Ed./So-Sci./Hu. major students used the reading strategies more frequently than the Engi./Sci. major students.

Table 26

Pairwise Comparisons of Overall Strategy Use by Academic Majors

Dependent Variable	(I) Grade	(J) Grade	Mean difference (I – J)	Sig.
Overall (SORS)	Business	Ed./So-Sci./Hu.	-.144	.140
		Engi./Sci.	.110	.386
	Ed./So-Sci/Hu.	Engi./Sci.	.253*	.020

*. The mean difference is significant at the .05 level.

Table 27 contains the means and standard deviations of three strategy categories for three different academic major groups.

Table 27

Use of Each Strategy Category by Academic Major Groups (N = 115)

Academic Major	GLOB		SUP		PROB	
	M	S.D.	M	S.D.	M	S.D.
Business (n = 25)	3.47	.51	3.36	.56	3.83	.57
Ed./So-Sci./Hu. (n = 71)	3.67	.48	3.42	.54	3.99	.40
Engi./Sci. (n =19)	3.57	.45	3.25	.47	3.76	.52

A one-way MANOVA was conducted to determine the effect of academic majors on the three dependent measures—scores of use of GLOB, PROB, and SUP strategies. Significant differences were not found on the dependent measures, Wilks's λ = .923, F (6, 222) = 1.500, p

= .179, η^2 = .039. This result means that the subjects' academic majors was not related to the use of each strategy category.

3-3. Enjoyment of reading English materials

Table 28 contains the means and standard deviations of the overall use of reading strategies for each level of enjoyment of reading English materials. A one-way ANOVA was conducted to determine the effect of levels of enjoyment in reading English materials on the scores of overall use of reading strategies. A significant difference was not found between the levels on the dependent measure, F (1, 113) = 2.353, p = .128, η^2 = .020. This result indicates that the participants' levels of enjoyment of reading English materials was not related to their overall reading strategy use.

Table 28

Overall Strategy Use by Levels of Enjoyment of Reading English Text (N = 115)

Enjoyment	Overall strategy use		
	Mean	S.D.	N
No	3.55	.44	59
Yes	3.67	.40	56

Table 29

Use of Each Strategy Category by Levels of Enjoyment of Reading English Text (N = 115)

Enjoyment	GLOB		SUP		PROB	
	M	S.D.	M	S.D.	M	S.D.
No (n = 59)	3.46	.50	3.41	.55	3.84	.50
Yes (n = 56)	3.69	.46	3.35	.52	3.99	.42

Table 29 contains the means and standard deviations of the dependent variables for the participants who enjoy reading English materials and do not enjoy it. A one-way MANOVA was conducted to determine the effect of levels of enjoyment in reading English materials on the three dependent measures—scores of use of the GLOB, PROB, and SUP strategies. Significant

differences were found on the dependent measures, Wilks's $\Lambda = .893$, F (3, 111) = 4.422, $p < .05$, $\eta^2 = .107$. This result suggests that the participants' levels of enjoyment of reading English materials were related to the way that they employ the three strategy categories.

A one-way ANOVA on each dependent variable was conducted as follow-up tests to the MANOVA. Using the Bonferroni method, ANOVAs were tested at .017 (= .05/3) level. The ANOVA on the GLOB strategies was significant, F (1, 113) = 6.517, $p < .017$, $\eta^2 = .055$, while the ANOVA on the PROB strategies was not significant, F (1, 113) = 3.017, $p = .085$, $\eta^2 = .004$, and the ANOVA on the SUP strategies was not significant either, F (1, 113) = .403, $p = .527$, $\eta^2 = .026$. This information is summarized in Table 30. This result suggests that the participants who enjoy reading English materials used the Global strategies more frequently than the participants who do not enjoy reading English materials.

Table 30

ANOVA on GLOB, SUP, & PROB across Levels of Enjoyment of Reading English Text

Source	Dependent Variable	df	Mean Square	F	Sig.	Partial Eta Squared
Enjoyment	GLOB	1	1.519	6.517	.012*	.055
	SUP	1	.116	.403	.527	.004
	PROB	1	.648	3.017	.085	.026
Error	GLOB	113	.233			
	SUP	113	.288			
	PROB	113	.215			

*. Significant at .017 level.

3-4. Self-perception of being a proficient English reader

Table 31 contains the means and standard deviations of the overall strategy use for each level of the self-perception of being a proficient English reader. A one-way ANOVA was conducted to determine the effect of the self-perception on the overall use of reading strategies. A

significant difference was found among the levels of the self-perception on the dependent measure, F (2, 112) = 3.741, $p < .05$, $\eta^2 = .063$. This result suggests that the reading strategy use was related to the participants' perception of being a proficient English reader.

Table 31

Overall Strategy Use by Levels of Self-perception of Being Proficient English Reader (N = 115)

Self-perception	Overall strategy use		
	Mean	S.D.	N
Very important	3.71	.38	60
Important	3.50	.45	53
Not so important	3.47	.33	2
Not important	-	-	0

Because the ANOVA was significant, follow-up tests to the ANOVA were performed. The follow-up tests consisted of conducting pairwise comparisons to find which two groups showed a significant difference in the overall use of reading strategies.

Table 32

Pairwise Comparisons of Overall Strategy Use by Self-perception in English Reading

Dependent Variable	(I) Importance	(J) Importance	Mean difference (I – J)	Sig.
Overall (SORS)	Very Important	Important	.210*	.008
		Not So Important	.243	.415
	Important	Not So Important	.034	.911

*. The mean difference is significant at the .05 level.

The level of 'Not Important' did not have a case, and thus the pairwise comparisons were conducted only among the three levels of the independent variable. Accordingly, the LSD method was used to avoid inflating overall type I error rate because the independent variable has the three levels. The only difference between the level of 'Very Important' and the level of

'Important' was significant (p = .008). The differences based on other pairwise comparisons were not significant. This information is summarized in Table 32. This result suggests that the participants who perceive being a proficient English reader as 'Very Important' used the reading strategies more frequently than the participants who perceive being a proficient English reading as 'Important'.

Table 33 contains the means and standard deviations of the dependent variables for each level of self-perception of being a proficient English reader. A one-way MANOVA was conducted to determine the effect of self-perception of importance being a proficient English reader on the three dependent measures. Significant differences were not found on the dependent measures, Wilks's Λ = .930, F (6, 222) = 2.585, p = .231, η^2 = .036. This result indicates that the participants' perception of being a proficient English reader was not related to the way that they use the three strategy categories.

Table 33

Use of Each Strategy Category by Levels of Self-perception of Being Proficient English Reader

Importance	GLOB		SUP		PROB	
	M	S.D.	M	S.D.	M	S.D.
Very important (n = 60)	3.68	.46	3.47	.52	4.03	.42
Important (n = 53)	3.46	.52	3.29	.53	3.80	.50
Not so important (n = 2)	3.50	.06	3.17	1.03	3.75	.00
Not important (n = 0)	-	-	-	-	-	-

3-5. Gender

Table 34 contains the means and standard deviations of the overall use of reading strategies for females and males. A one-way ANOVA was conducted to determine the effect of gender on the overall use of reading strategies. A significant difference was found between male and female

students on the dependent measure, F (1, 113) = 5.318, $p < .05$, $\eta^2 = .045$. This result suggests that gender was related to the participants' reading strategy use.

Table 34

Overall Strategy Use by Gender (N = 115)

Gender	Overall strategy (SORS)		
	Mean	S.D.	N
Female	3.69	.41	60
Male	3.51	.42	55

Table 35 contains the means and standard deviations of the dependent variables for females and males. A one-way MANOVA was conducted to determine the effect of gender on the three dependent variables—scores of GLOB, SUP, and PROB strategies. Significant differences were not found between female and male students on the dependent measures, Wilks's $\lambda = .948$, F (3, 111) = 2.042, $p = .112$, $\eta^2 = .052$. This result indicates that gender was not related to the way that the participants use the three strategy categories.

Table 35

Use of Each Category Strategy by Gender (N =115)

Gender	GLOB		SUP		PROB	
	M	S.D.	M	S.D.	M	S.D.
Female (n = 60)	3.68	.51	3.46	.53	3.98	.44
Male (n = 55)	3.46	.46	3.30	.54	3.85	.49

In order to determine a gender difference in the use of each reading strategy, an independent t test for each reading strategy was performed, and the results are summarized in Table 36. Ten strategies showed a significant gender difference, and those strategies are highlighted.

Table 36

Differences in Reading Strategy Use between Males and Females (N = 115)

Category	Strategy	Female (n = 60)		Male (n = 55)		*t* (113)	*p*-value
		M	S.D.	M	S.D.		
G1	Setting purpose for reading	3.88	.85	3.53	1.00	2.07	.04*
S2	Taking notes while reading	3.27	1.10	2.69	1.07	2.84	.01*
G3	Using prior knowledge	4.00	.94	3.71	.79	1.79	.08
G4	Previewing text before reading	3.65	1.20	3.25	1.00	1.90	.06
S5	Reading aloud when text becomes hard	3.23	1.24	2.40	1.21	3.64	.01*
G6	Checking how text content fits purpose	3.45	1.03	3.13	.96	1.73	.09
P7	Reading slowly and carefully	3.82	.98	3.96	.88	-.84	.40
G8	Noting text characteristics (e.g., length, organization)	3.92	.96	3.29	1.10	3.25	.01*
P9	Trying to stay focused on reading	4.40	.67	4.09	.89	2.12	.04*
S10	Underlining information in text	4.63	.66	4.27	1.01	2.28	.02*
P11	Adjusting reading speed	3.82	.97	3.51	1.12	1.58	.12
G12	Determining what to read	3.48	.95	3.62	0.89	-.78	.44
S13	Using reference materials (e.g., dictionary)	3.98	1.03	4.02	1.01	-.18	.86
P14	Paying close attention to reading	4.35	.73	4.00	.94	2.23	.03*
G15	Using text features (e.g., tables)	3.78	1.18	4.07	.96	-1.44	.15
P16	Pausing and thinking about reading	3.65	1.02	3.25	1.02	2.07	.04*
G17	Using context clues	4.10	.86	3.67	.94	2.54	.01*
S18	Paraphrasing for better understanding	3.13	1.16	3.33	1.04	-.94	.35
P19	Visualizing information read	3.45	1.06	3.51	1.07	-.30	.77
G20	Using typographical features (e.g., **bold**, *italics*)	4.20	.94	3.20	1.15	5.15	.01*
G21	Analyzing and evaluating what is read	2.78	1.04	2.76	.94	.11	.92
S22	Going back and forth in text	3.83	.98	3.55	.94	1.61	.11
G23	Checking understanding when new information presents	3.70	.87	3.58	.81	.75	.45
G24	Predicting or guessing text meaning	3.57	1.03	3.82	.92	-1.37	.17
P25	Re-reading for better understanding	4.50	.70	4.35	.82	1.09	.28
S26	Asking oneself questions	2.68	1.10	2.65	1.17	.14	.89
G27	Confirming predictions	3.33	1.08	3.33	.94	.03	.98
P28	Guessing meaning of unknown words	3.83	.83	4.09	.80	-1.70	.09
S29	Translating into a native language	3.17	1.33	3.51	1.25	-1.43	.16
S30	Thinking in both English & mother tongue	3.18	1.26	3.27	1.19	-.39	.70

* Significant at .05 level.

As shown in Table 36, 10 strategies showed significant gender differences, and the female students reported using all the 10 strategies more frequently than the male students. This result will be discussed in detail in the chapter five.

Q.4, ***Are there any significant differences in the use of reading strategies of Korean college students when they read authentic expository/technical texts versus when they read*** **authentic narrative** ***texts?***

Paired-samples *t* tests were conducted to examine differences in the use of reading strategies by Korean college students between reading the authentic expository/technical text and reading the authentic narrative text. Before conducting the paired-samples *t* tests, one prior analysis to verify the control of practice effects that might have happened during the data collection procedures was conducted. As described in the data collection procedures from the chapter three, one half of the participants (hereafter, 'exp./tec. text reading first group') completed authentic expository/technical text reading first, which was followed by the first modified SORS, and later they completed authentic narrative text reading, which was followed by the second modified SORS. The other half of the participants (hereafter, 'narrative text reading first group') completed authentic narrative text reading first, which was followed by the first modified SORS, and later they completed authentic expository/technical text reading, which was followed by the second modified SORS. Two ANOVAs and two MANOVAs were conducted to evaluate if there were significant differences in the participants' responses ("yes" = 1 point, or "no"= 0 point) to the modified SORSs between the two groups. One student did not respond to the modified SORSs at all, and thus the total number of the cases analyzed for this research question was 114, not 115.

Table 37 contains means and standard deviations of overall responses to the modified SORS of each group (i.e., exp./tec. text reading first group vs. narrative text reading first group) after reading the authentic expository/technical text. In the first ANOVA, a dependent variable was the scores of the overall responses to the modified SORS following authentic expository/technical

text reading, and the order of types of text read by the participants was an independent variable. A significant difference was not found between the exp./tec. text reading first group and the narrative text reading first group, F (1, 112) = 1.293, p = .258, η^2 = .011.

Table 37

Overall Response to Modified SORS for Reading Authentic expository/technical Text

Order of text types	Overall response		
	Mean	S.D.	N
exp./tec. text reading first	.64	.14	59
narrative text reading first	.61	.19	55

Table 38 contains means and standard deviations of overall responses to the modified SORS of each group after reading the authentic narrative text. In the second ANOVA, a dependent variable was the scores of the overall responses to the modified SORS following authentic narrative text reading, and the order of types of text read by the participants was an independent variable. A significant difference was not found between exp./tec. text reading first group and narrative text reading first group, F (1, 112) = 1.469, p = .228, η^2 = .013.

Table 38

Overall Response to Modified SORS for Reading Authentic Narrative Text

Order of text types	Overall response (SORS)		
	Mean	S.D.	N
exp./tec. text reading first	.57	.19	59
narrative text reading first	.61	.19	55

Table 39 contains means and standard deviations of responses to each strategy category of the modified SORS of each group after reading the authentic expository/technical text. In the first MANOVA, dependent variables were the scores of the responses to each strategy category of the modified SORS following authentic expository/technical text reading, and the order of types of

text read by the participants was an independent variable. Significant differences were not found between the exp./tec. text reading first group and the narrative text reading first group, Wilks's $\Lambda = .982$, F (3, 111) = .664, $p = .576$, $\eta^2 = .018$.

Table 39

Responses to Each Strategy Category for Reading Authentic Expository/Technical Text

Order of text types	GLOB		SUP		PROB	
	M	S.D.	M	S.D.	M	S.D.
exp./tec. text reading first (n = 59)	.65	.18	.52	.22	.78	.17
narrative text reading first (n = 55)	.62	.23	.49	.21	.73	.21

Table 40 contains means and standard deviations of responses to each strategy category of the modified SORS of each group after reading the authentic narrative text. In the second MANOVA, dependent variables were the scores of the responses to each strategy category of the modified SORS following authentic narrative text reading, and the order of types of text read by the participants was an independent variable. Significant differences were not found between the exp./tec. text reading first group and the narrative text reading first group, Wilks's $\Lambda = .966$, F (3, 111) = 1.280, $p = .285$, $\eta^2 = .034$.

Table 40

Responses to Each Strategy Category for Reading Authentic Narrative Text

Order of text types	GLOB		SUP		PROB	
	M	S.D.	M	S.D.	M	S.D.
exp./tec. text reading first (n = 59)	.56	.23	.42	.25	.75	.24
narrative text reading first (n = 55)	.63	.21	.47	.23	.75	.21

Based on these results of both the two ANOVAs and two MANOVAs to find the practice effects that might have happened during the data collection procedures, it was verified that there were no practice effects by the sequence of the data collection on the participants' responses to

the modified SORS following the authentic expository/technical text reading and the authentic narrative text reading.

Table 41
Responses to Modified SORS for Reading Authentic expository/technical and Authentic narrative Text (N = 114)

Text type	GLOB		SUP		PROB		Overall		N
	M	S.D.	M	S.D.	M	S.D.	M	S.D.	
Authentic expository/technical text	.64	.21	.50	.21	.76	.19	.63	.17	114
Authentic narrative text	.59	.22	.44	.24	.75	.22	.59	.19	114

Table 41 contains means and standard deviations of responses to the modified SORSs of the participants following authentic expository/technical text reading and authentic narrative text reading. Overall the participants used reading strategies more frequently when they read the authentic expository/technical text than when they read the authentic narrative text. Regarding to the use of each strategy category, the participants used all three strategy categories more frequently when they read the authentic expository/technical text than when they read the authentic narrative text.

Table 42
Paired samples *t* test (N = 114)

Modified SORS	Strategy	MD	SD	*d(E.S.)*	*t*	df	Sig.
Authentic	GLOB	.05	.18	.278	2.458	113	.015*
expository/technical text	SUP	.06	.19	.316	3.320	113	.001*
–	PROB	.01	.19	.053	.394	113	.695
Authentic narrative text	Overall	.04	.14	.286	2.817	113	.006*

*. Significant at .05 level

According to results of paired samples *t* test (see table 42), statistically significant differences were found in the use of the Global strategies and the Support strategies between reading the authentic expository/technical text and reading the authentic narrative text, while no significant difference was found in the use of the Problem Solving strategies. In other words, the

participants' use of the Global strategies, use of the Support strategies, and overall use of reading strategies were significantly greater when they read the authentic expository/technical text than when they read the authentic narrative text. However, the participants' use of the Problem solving strategies was not significantly greater when they read authentic expository/technical text than when they read the authentic narrative text.

Table 43
Differences in Reading Strategy Use between Authentic expository/technical & Authentic narrative Text (N = 114)

Category	Strategy	Exp./Tec. text (N =114)		Narrative text (N =114)		*t* (113)	*p*-value
		M	S.D.	M	S.D.		
G1	Setting purpose for reading	.80	.40	.76	.43	.82	.42
S2	Taking notes while reading	.33	.47	.26	.44	.72	.09
G3	Using prior knowledge	.72	.45	.68	.47	.84	.40
G4	Previewing text before reading	.68	.47	.56	.50	2.24	.03*
S5	Reading aloud when text becomes hard	.35	.48	.32	.47	.65	.52
G6	Checking how text content fits purpose	.47	.50	.46	.50	.38	.71
P7	Reading slowly and carefully	.78	.42	.75	.44	.78	.44
G8	Noting text characteristics (e.g., length, organization)	.60	.49	.55	.50	.93	.36
P9	Trying to stay focused on reading	.88	.33	.82	.38	1.35	.18
S10	Underlining information in text	.74	.44	.58	.50	3.44	.01*
P11	Adjusting reading speed	.72	.45	.68	.47	1.00	.32
G12	Determining what to read	.68	.47	.63	.48	1.14	.26
S13	Using reference materials (e.g., dictionary)	.41	.49	.40	.49	.19	.85
P14	Paying close attention to reading	.89	.31	.90	.30	-.28	.78
G15	Using text features (e.g., tables)	.53	.50	.42	.50	2.09	.04*
P16	Pausing and thinking about reading	.56	.50	.61	.49	-1.00	.32
G17	Using context clues	.82	.39	.72	.45	2.15	.03*
S18	Paraphrasing for better understanding	.41	.49	.34	.48	1.52	.13
P19	Visualizing information read	.43	.50	.54	.50	-1.97	.06
G20	Using typographical features (e.g., **bold**, *italics*)	.50	.50	.51	.50	-.16	.87
G21	Analyzing and evaluating what is read	.31	.46	.18	.39	2.53	.01*
S22	Going back and forth in text	.84	.37	.72	.45	2.72	.01*
G23	Checking understanding when new information presents	.74	.44	.72	.45	.41	.68
G24	Predicting or guessing text meaning	.81	.40	.89	.32	-1.82	.07
P25	Re-reading for better understanding	.91	.28	.82	.39	2.59	.01*
S26	Asking oneself questions	.28	.45	.32	.47	-.68	.50
G27	Confirming predictions	.61	.49	.61	.49	-.18	.86
P28	Guessing meaning of unknown words	.85	.36	.86	.35	-.28	.78
S29	Translating into a native language	.54	.50	.54	.50	.26	.80
S30	Thinking in both English & mother tongue	.61	.49	.53	.50	1.75	.08

*. Significant at .05 level.

The responses to each strategy item of the modified SORS for reading the authentic expository/technical text and the authentic narrative text are summarized in Table 43. In order to determine a difference of text types in the use of individual reading strategies, a paired samples *t* test for each reading strategy was performed, and the strategy items showing a significant difference were highlighted.

Chapter Summary

This chapter presented the results of this study. The major findings are summarized below.

1. Korean college students reported using reading strategies with high frequencies when they read authentic expository/technical texts in English. They reported using Problem Solving strategies more frequently than Global strategies which were used more frequently than Support strategies.
2. The overall use of the reading strategies by Korean college students was not significantly related to their reading comprehension ability.
3. The combined use of the three strategy categories by Korean college students was significantly related to their reading comprehension ability. The use of the Global strategies and the use of the Support strategies were significant predictors of Korean college students' reading comprehension ability.
4. The Korean college students' frequency of reading strategy use was different according to their grade levels. However, no two grade levels showed a significant difference in reading strategy use.
5. Academic majors were significantly related to Korean college students' overall use of the reading strategies.
6. The levels of enjoyment of reading English materials were not related to Korean college

students' overall use of the reading strategies. However, Korean college students who enjoy reading English materials reported using Global strategies significantly more frequently than Korean college students who do not enjoy it.

7. The more important Korean college students perceived being a proficient English reader, the more frequently they reported using the reading strategies.
8. Female Korean college students reported using the reading strategies more frequently than male Korean college students.
9. Korean college students used the reading strategies more frequently when they read authentic expository/technical texts than when they read authentic narrative texts.

CHAPTER V

DISCUSSION AND CONCLUSION

The purposes of this study were to explore the use of reading strategies by Korean college students and investigate the relationships among the use of reading strategies, students' reading proficiency, and personal characteristics. This study also was purposed to examine differences in the use of reading strategies when the students read authentic expository/technical texts versus when they read authentic narrative texts. This chapter discusses the results and findings of this study, presents the implications, limitations, and suggestions for future research, and finally makes conclusions.

Discussion

First, Korean college students showed high usages of reading strategies when reading authentic expository/technical texts in English and they used Problem Solving strategies more frequently than Global and Support strategies. Second, overall use of the reading strategies by Korean college students was not significantly related to their reading comprehension ability, but among the three reading strategy categories the use of Global strategies and Support strategies was significantly related to Korean college students' reading comprehension ability. Third, as for the Korean college students' personal characteristics, the results showed that grade levels, academic majors, enjoyment of reading English materials, self-perception about being a proficient English reader, and gender were respectively related to ways that Korean college students employ the reading strategies. Lastly, this study found significant differences in the use of reading strategies by Korean college students when they read authentic expository/technical

texts in English versus when they read authentic narrative texts in English. These results and findings are discussed in detail below.

1. Profile of Reading Strategy Use of Korean College Students in Reading Authentic Expository/Technical Texts in English

The average score of overall use of the reading strategies was 3.62 (S.D. = .42) on the 5-point Likert scale. According to established strategy usage criteria as described previously, this indicates that Korean college students show "high" usage of the reading strategies when they read authentic expository/technical texts in English. In terms of frequency of reading strategy use, this result was slightly different from previous studies conducted in EFL learning environments, such as in Korea (Lee, 2007) and in other Asian countries (Al-Nujaidi, 2003; Wu, 2005). For example, Lee (2007) investigated reading strategy use in reading general English texts among 72 Korean EFL college students and reported moderate usage of reading strategies (M = 2.92 for one group; M = 3.01 for the other group, on 5 point Likert scale). Al-Nujaidi (2003) examined the use of reading strategies among 225 EFL first-year university students in Saudi Arabia and reported moderate usage of reading strategies (M = 3.80, on 6-point Likert scale). Wu (2005) investigated the use of reading strategies among 204 Taiwanese EFL college students and reported moderate usage of the reading strategies (M = 3.08, on 5 point Likert scale). Wu used the SORS to measure reading strategy use just as this study had while Al-Nujaidi modified the SORS for his own purpose and Lee developed her own measure for her own purpose. If the difference in measures is not accounted for, this study found a much more frequent use of the reading strategies by Korean college students compared to the results of other studies. One possible explanation for this result is that current trends in universities in Korea, where authentic English textbooks are popular in a class and academic reading comprehension ability is

considered very important for academic success, might make the Korean college students use reading strategies actively when they read authentic expository/technical texts in English. In particular, even though Lee's (2007) study was conducted with very similar target participants to this study's participants, the differences in the results between Lee's study and this study seem to show that there could be differences in reading strategy use of Korean college students between reading general English texts and reading authentic expository/technical texts.

With regard to each category of the reading strategies, the most frequently used category of the reading strategies was Problem Solving strategies (M = 3.92, S.D. = .47), followed by Global strategies (M = 3.57, S.D. = .49) and Support strategies (M = 3.38, S.D. = .54). That is, the participants in this study showed a greater use of the Problem Solving strategies. This result is understandable by recognizing features of the Problem Solving strategies as Mokhtari and Sheorey (2002) described them as follows: "problem solving strategies are the actions and procedures that readers use while working directly with the text. These are localized, focused techniques…" (p. 4). Direct and localized Problem Solving strategies, for example 're-reading for better understanding', 'trying to stay focused', 'paying close attention', and 'reading slowly and carefully', do not seem to demand many resources from readers to be implemented. The readers just need to decide if they use those strategies when they encounter comprehension problems during interaction with texts.

Compared to the usage of the Problem Solving strategies, the use of the Global strategies and the Support strategies by the participants was much less frequent even though they still showed high usage of the Global strategies and moderate usage of the Support strategies. One possible explanation for this result is that the Global strategies and the Support strategies might be demanding to readers unlike the Problem Solving strategies. Some strategies, for example

‘analyzing and evaluating what is read’ (GLOB), ‘checking how text content fits purposes’ (GLOB), ‘confirming predictions’ (GLOB), ‘previewing text before reading’ (GLOB), ‘asking oneself questions’ (SUP), ‘reading aloud when text becomes hard’ (SUP), ‘taking notes while reading’ (SUP), and ‘paraphrasing for understanding’ (SUP), can be demanding by requiring additional resources or actions from readers. Another possible explanation is that Korean college students might be unfamiliar with or unaware of how to implement those strategies. Some strategies, for example ‘analyzing and evaluating what is read’, ‘asking oneself questions’, and ‘taking notes while reading’ might require more sophisticated techniques or actions beyond reading lines of texts.

In terms of the order of frequency using each strategy category, the result of this study is consistent with the results of other studies (Al-Nujaidi, 2003; Wu, 2005)—Problem Solving strategies were used most frequently followed by Global strategies and Support strategies. It is also consistent with the results of Sheorey and Mokhtari’s (2001) study on reading strategy use of ESL college students and native English speaking American college students.

This study identified the five most and the five least frequently used reading strategies by the participants (see Tables 16 & 17). Three of the five most frequently used strategies fell into the category of Problem Solving strategies: ‘re-reading for better understanding’ (PROB, M = 4.43), ‘trying to stay focused’ (PROB, M = 4.25), and ‘paying close attention to reading’ (PROB, M = 4.18). As explained above, these three strategies are less demanding and do not require sophisticated techniques or actions to be implemented. This might be the reason that Korean college students used these strategies very frequently when they read authentic expository/technical texts in English. The other two fell into the category of Support strategies: ‘underlining information in text to help me remember it’ (SUP, M = 4.46), ‘using reference

materials (e.g., dictionary)' (SUP, M = 4.00). Probably, Korean college students are very familiar with these two Support strategies and also they seem to be well aware of how to implement those strategies. In particular, as to the reading strategy of 'using reference materials (e.g., dictionary)', Korean EFL learners learn how to use a bilingual dictionary (i.e., the English-Korean dictionary) or even a monolingual dictionary (i.e., the English-English dictionary) through their formal instructions in English classes. Furthermore, they are encouraged to use the dictionary for their English learning, particularly for unknown words they encounter while they read English texts. Thus, Korean EFL learners are very much aware of how to use the dictionary and they use it frequently. This might be able to explain why Korean college students reported using the reading strategy, 'using reference materials', very frequently.

Four of the five least frequently used strategies fell into the category of Support strategies: 'asking oneself questions' (SUP, M = 2.67), 'reading aloud when text becomes hard' (SUP, M = 2.83), 'taking notes while reading' (SUP, M = 2.99), and 'paraphrasing for understanding' (SUP, M = 3.23). The last one of the five least frequently used strategies fell into the category of Global strategies: 'analyzing and evaluating what is read' (GLOB, M = 2.77). As explained above, these strategies seem to require more sophisticated techniques or actions beyond just decoding words. Therefore, unless specific instructions for reading strategies like these ones are given, it might be difficult to know what these strategies are, how to use them, when to use them, and why to use them. It is difficult to implement these strategies without that knowledge. Considering Korean EFL teaching and learning environments in classrooms where resources including time, materials, and qualified teachers are very limited and a size of the class is big, Korean EFL learners are more likely to have few chances for the specific instructions to develop those reading strategies through their English classes. This might be a reason that Korean college students reported using

these reading strategies less frequently.

Among the individual reading strategies, some reading strategies showed interesting results. The reading strategy item 28, 'guessing meaning of unknown words' was reported as high usage (M = 3.96). Since Korean EFL learners use a dictionary for unknown words frequently as explained above, they might not guess the meaning of the unknown words frequently. Unexpectedly, however, Korean college students reported using both reading strategies, 'guessing meaning of unknown words' and 'using reference materials (e.g., dictionary)', frequently. One possible explanation for this is that Korean college students might guess the meaning of the unknown words if they think that the unknown words do not cause critical comprehension problems. However, they might look up in the dictionary if they think that knowing the exact meaning of the unknown words is critical for their comprehension. That is, Korean college students might decide whether they use the dictionary for the meaning of the unknown words or guess it based on monitoring their comprehension in reading texts. This might be the reason that they reported high usage in both reading strategies.

Another reading strategy that showed interesting results was the reading strategy item 29, 'translating into a native language' (M = 3.33). Unexpectedly, the participants reported moderate usage of this reading strategy. Considering traditional reading instruction in English classes in Korea, as Song (1994) argues, focusing on intensive reading, vocabulary building, grammar exercise, and translation, the participants were expected to report very high usage of the reading strategy 'translating into a native language'. One plausible explanation is that Korean college students might recognize that the reading strategy is not helpful any more for their comprehension in reading authentic expository/technical texts. They would be familiar with the reading strategy of 'translating into a native language' by the traditional reading instruction they

had in English classes through their school years before entering a college, and this reading strategy might have been effective in reading non-authentic English texts. However, they might figure out that this reading strategy is ineffective in reading authentic English texts they have to read in their college classes. Another possible explanation for this result comes from my personal experience as an EFL learner in Korea. Korean EFL learners, particularly learners above a beginner level, are encouraged to try not to translate every single sentence in English texts into Korean during reading the English text in order to become a more proficient English reader. Probably, Korean college students who are above a beginner level might try not to use the reading strategy of 'translating into a native language' on purpose.

To briefly summarize these findings, Korean college students frequently use reading strategies when they read authentic expository/technical English texts. They employ certain types of reading strategies and some specific reading strategies more frequently than others.

2. Relationship between Reading Strategy Use and Reading Comprehension Ability

A part of the results of this study showed that there was no significant correlation between Korean college students' reading comprehension ability and the overall use of reading strategies. To put it in another way, the overall use of reading strategies by Korean college students was not a significant predictor for their reading comprehension ability. This result is different from results of other studies (Al-Nujaidi, 2003; Song, 1999), investigating the relationship between reading comprehension ability and reading strategy use of EFL learners. For example, Al-Nujaidi (2003) reported a weak but significant correlation between Saudi Arabian university students' reading comprehension and their reading strategy use (r = .19, p < .005); Song (1999) reported very strong correlation between Korean college students' reading proficiency and their reading strategy use (r = .73, p = .001). On the other hand, Brantmeier (2000) examined the relationship

between reading strategy use (global and local) and reading comprehension of American college students learning Spanish as a second language, and she concluded that there was no positive correlation between reading strategy use and reading comprehension. According to Grabe (2009), one of the general findings on strategy use in both L1 and L2 reading is that "all readers use many strategies" (p. 227). That is, readers use reading strategies frequently regardless of their reading proficiency.

Interestingly, however, when a relationship between reading comprehension ability and the use of three strategy categories was examined, this study found slightly different results (see Table 20). The results showed a significant correlation between reading comprehension ability and the linear combination of the three strategy categories ($r = .41$, $p < .01$). To put it in another way, the use of the three strategy categories by Korean college students was a significant predictor for their reading comprehension ability. More specifically, Global strategies and Support strategies were significant predictors for reading comprehension ability, but Problem Solving strategies were not a significant predictor. Global strategies had positive correlation with reading comprehension ability, while the Support strategies had negative correlation with reading comprehension ability. The positive correlation between the use of Global strategies and reading comprehension ability means either that Korean college students who reported more frequent use of Global strategies showed better reading comprehension ability than those who reported less frequent use of Global strategies, or that Korean college students who showed better reading comprehension ability reported more frequent use of Global strategies than those who showed worse reading comprehension ability. Likewise, the negative correlation between the use of Support strategies and reading comprehension ability means either that Korean college students who reported less frequent use of Support strategies showed better reading comprehension ability

than those who reported more frequent use of Support strategies, or that Korean college students who showed better reading comprehension ability reported less frequent use of Support strategies than those who showed worse reading comprehension ability. However, because the relationship that the results of this study showed is correlation, but not causation, it is not possible to determine whether the students show better reading comprehension ability because they use Global strategies more frequently, or whether the students use Global strategies more frequently because they have better reading comprehension ability. Likewise, it is not possible to determine whether the students show better reading comprehension ability because they use Support strategies less frequently, or whether the students use Support strategies less frequently because they have better reading comprehension ability.

In looking at differences in the use of each reading strategy between the two groups, interesting results were found. Out of all 30 reading strategies, the participants showed a significant difference in the use of ten reading strategies between the groups of low and high reading proficiency level: for example, ‘using prior knowledge’, ‘using reference materials (e.g., dictionary)’, ‘using context clues’, ‘guessing meaning of unknown words’, and ‘translating into a native language’ (see Table 21). The high proficiency group reported using eight of the ten reading strategies more frequently than the low proficiency group did. Interestingly, however, the only two reading strategies that the low proficiency group reported using more frequently than the high proficiency group were ‘using reference materials (e.g., dictionary)’ and ‘translating into a native language’. These two strategies are typical learning strategies that low proficiency ESL/EFL learners use frequently, particularly when reading. Low proficiency ESL/EFL learners rely much on looking up in a dictionary for unknown words and word-for-word translation. On the contrary, high proficiency ESL/EFL learners try to avoid literal translation and they try to

guess meaning of the unknown words by using linguistic clues, such as cognation and previous knowledge of certain words they already know, and non-linguistic clues, such as context clues and general world knowledge. In terms of using these reading strategies, Oxford (1990) describes characteristics of low and high proficiency language learners as follows: High proficiency language learners make educated guesses when they encounter unknown expressions, but low proficiency language learners try to look up every unfamiliar word; low proficiency language learners use translating more frequently than high proficiency language learners do and sometimes it can slow the language learners down, forcing them to go back and forth constantly between a native language and a target language. Result of the current study clearly showed that there is a difference in the use of individual reading strategies between Korean college students having high reading proficiency and low reading proficiency.

Korean college students who have low reading proficiency might need to implement more sophisticated reading strategies, which the high proficient students already employ. The sophisticated reading strategy use itself might be helpful to comprehend the authentic English texts, and it also might lead Korean college students having low English reading proficiency to achieve higher *Academic Language Proficiency* (ALP). It might be difficult to comprehend authentic expository/technical English texts by relying much on *Discrete Language Skills* (DLS), such as basic grammatical and vocabulary knowledge and less sophisticated reading strategies that the low proficiency Korean college students use frequently.

To briefly summarize these results, the overall frequency or volume of reading strategy use was not related to Korean college students' reading comprehension ability. However, it was shown that their reading comprehension ability was related to the use of certain types (i.e., GLOB, SUP) of reading strategies. In particular, some specific reading strategies that they

employ frequently were different according to their reading proficiency levels.

3. Relationships between Reading Strategy Use and Personal Characteristics

3-1. *Grade levels*

A significant difference among four grade levels was found in the overall use of reading strategies. Senior students (M = 3.72) reported using the reading strategies more frequently than juniors (M = 3.71) who reported using them more frequently than sophomores (M = 3.55) who reported using them more frequently than freshmen (M = 3.47). This result was consistent with results of other studies. For example, Kung (2007) showed that higher grade Taiwanese college students use more various reading strategies than lower grade students.

Unexpectedly, however, looking at the difference among the grade levels in detail, the difference between seniors and freshmen was the largest but not significant. In addition, no significant difference among four grade levels was found in the use of the three strategy categories. Therefore, unfortunately it should be stated that it is hard to identify two specific grade levels showing differences in using reading strategies even though there are overall differences in using reading strategies across the grade levels. If the very conservative Type I error adjustment (i.e., Bonferroni method) in the statistical analysis for this study is considered, it might be stated very cautiously that Korean college students at a higher grade level use reading strategies more frequently than Korean college students at a lower grade level. As Korean college students go up to a higher grade level, they might become more familiar with authentic expository/technical texts in English, they might further understand that they need to use reading strategies frequently to comprehend the authentic expository/technical texts, and they might better know how to employ them. Through the school years at college, Korean college seniors seem to develop these features and thus they might become proficient English readers, which is

the primary reason that many universities in Korea choose the authentic English textbooks for their classes. However, Korean college freshmen might not have had the chance yet to develop those features that the seniors have.

3-2. *Academic majors*

The students studying Ed./So-Sci./Hu major (M = 3.68) reported using the reading strategies more frequently than the Business major students (M = 3.54) who reported using them more frequently than the Engi./Sci. major students (M = 3.43). A significant difference was found in the overall use of reading strategies across the three academic major groups. Looking at the difference among the groups in detail, the difference between the group of Ed./So-Sci./Hu major students and the group of Engi./Sci. major students was the largest and it was significant. In addition, the Ed./So-Sci./Hu major students reported using all the three strategy categories more frequently than the other major students, but no significant difference among the three academic major groups was found in the use of the three strategy categories. Accordingly, the academic majors that Korean college students study seem to be related to the overall frequency of use of the reading strategies, but the academic majors do not seem to be related to the way that Korean college students employ a certain category of reading strategies.

Ed./So-Sci./Hu. major students mostly consisted of students majoring in education and English education. Probably these students are more motivated, more interested, and more proficient in reading in English than science and engineering major students. Furthermore, the Ed./So-Sci./Hu. major students might be more familiar with teaching/learning strategies including reading strategies through their class activities or teaching practicum. That is, they are more aware of what reading strategies are, why to use them, how to use them, and when to use them. This knowledge might make Korean college students majoring in education or English

education use the reading strategies more actively than Korean college students majoring in science, or engineering.

As to the relationship between the academic majors and reading strategy use, the result of this study seems to support results of other studies. Studies showing the influence of academic majors on L2 reading strategy use have been hardly reported. One of the very few was Wu's (2005) study reporting that Taiwanese college students majoring in applied foreign language and education used reading strategies more frequently than those majoring in food beverage management and applied math. Whereas there have been limited studies showing the influence of academic majors on L2 reading strategies, substantial studies on general L2 learning strategies showed that academic majors make highly significant difference in using learning strategies (Dreyer & Oxford, 1996; Lee, 1994; Oxford & Nyikos, 1989; Park, 1999). For example, Oxford and Nyikos (1989) identified that L2 learners majoring in humanities/social science/education use language learning strategies more often than L2 learners majoring in business and technical fields, such as engineering, computer science, and physical science.

3-3. *Enjoyment of reading English materials*

Almost half of the participants responded that they enjoy reading English materials (49%) while the other half of them responded that they do not enjoy it (51%). Students enjoying reading English materials reported using the reading strategies slightly more frequently than the other students. However, there was no significant difference in the overall use of reading strategies between the two groups (M = 3.67 vs. 3.55). With regard to the use of the three strategy categories, the group enjoying reading English materials reported using the category of Global strategies significantly more than the other group (M = 3.69 vs. 3.46). However, no significant differences were found in using the categories of Support and Problem Solving strategies

between the two groups. This result suggests that whether enjoying reading English materials or not is related to the way that Korean college students employ a certain type of reading strategies.

Enjoying reading English materials might be regarded as 'interest' in reading in English. According to Erler and Finkbeiner (2007), although it is hard to make the construct definition of a term of interest, interest is a critical non-linguistic factor influencing reading strategy use along with other non-linguistic factors such as culture, personality, gender, and motivation. The result of this study seems to support Erler and Finkbeiner's view in that Korean college students' interest in reading English materials makes significant difference on using certain types (i.e., Global strategies) of reading strategies. This result is understandable by recognizing features of the Global strategies as Mokhtari and Sheorey (2002) described them as follows: "Global strategies are those intentional, carefully planned techniques by which learners monitor or manage their reading…" (p. 4). It can be assumed that students enjoying reading English materials would approach their reading with their own purposes or plans, whereas students not enjoying reading English materials might approach their reading with only purposes given by certain situations that they cannot control. Thus, this study showed that enjoying reading English materials might be a critical factor for Korean college students' reading strategy use.

3-4. *Self-perception of being a proficient English reader*

Almost all of the participants responded that being a proficient English reader is 'Very Important' (52%) or 'Important' (46%). Only two of them responded that it is 'Not So Important' to them. There was no one responding that it is 'Not Important'. These responses seem to reflect a current EFL learning situation in Korea, particularly in Korean universities where reading authentic expository/technical texts in English is one of the key points for Korean college students' academic success.

The participants who perceived being a proficient English reader as 'Very Important' (M = 3.71) reported using the reading strategies more frequently than the participants perceiving it as 'Important' (M = 3.50) or 'Not So Important' (M = 3.47). There was a significant difference in the overall use of the reading strategies between the two groups, 'Very Important' and 'Important'. The participants who regarded being a proficient English reader as 'Very Important' reported using the three strategy categories more frequently than the other participants, but no significant differences were found. These results indicate that the more Korean college students regard being a proficient English reader as important, the more frequently they seem to use the reading strategies; however, how importantly Korean college students think of being a proficient English reader might not be related to the way that they use a certain category of reading strategies. These results might be explained by a perspective of 'motivation'. Probably Korean college students who consider being a proficient English reader as important might be more motivated to improve their English reading proficiency than Korean college students who consider it as less important. Considering a widely accepted truth that more motivated language learners tend to use more language learning strategies than the less motivated language learners (Oxford & Nyikos, 1989), it can be applicable in reading strategy use. As previously mentioned, Erler and Finkbeiner (2007) claim that motivation is a non-linguistic critical factor for reading strategy use. Thus, perceiving being a proficient English reader as motivation might be a critical factor for the Korean college students' reading strategy use.

3-5. *Gender*

Female Korean college students (M = 3.69) reported using the reading strategies more frequently than male Korean college students (M = 3.51), and there was a significant gender difference in the overall use of reading strategies. Moreover, the female students reported using

all three strategy categories more frequently than the male students, but no significant gender differences were found. In terms of the order of frequency using each strategy category, both males and females reported using the category of Problem Solving strategies most frequently followed by the category of Global strategies and the category of Support strategies.

Looking at the gender difference in the use of individual reading strategies (see Table 39), 10 strategies showed significant gender differences, and the female students reported using all the 10 strategies more frequently than the male students. Some of these strategies—for example, 'setting purpose for reading', 'taking notes while reading', 'reading aloud', 'noting text characteristics', 'underlining information in text', and 'using context clues'—are demanding strategies that seem to require more actions or techniques rather than less demanding ones. It seems that the male Korean college students' unwillingness to use these demanding strategies make themselves different from the female Korean college students who are more strategic EFL readers in terms of frequency of using reading strategies. Meanwhile, there were some strategies that the male students reported using more frequently than the female students, but those strategies did not show statistically significant differences.

Another possible explanation for this is that the gender difference can be related to reading proficiency. As previously shown in the results of this study, female Korean college students outperformed male Korean college students in the reading comprehension test. Thus, the gender differences in reading strategy use might be attributed to the difference of reading proficiency between females and males.

Results of other studies on the gender difference in reading strategy use have been inconsistent. Some studies (Al-Nujaidi, 2003; Poole, 2006; Sheorey & Mokhtari, 2001; Wu, 2005) reported a significant gender difference while other studies (Brantmeier, 2000; Poole, 2005;

Young & Oxford, 1997) reported no gender difference in reading strategy use. However, the studies reporting the significant gender difference consistently showed that females use reading strategies more frequently than males. In terms of that, this study seems to support a common tendency of the gender difference in reading strategy use.

To briefly summarize these results, Korean college students' overall use of reading strategies seem to be related to several factors, such as grade levels, academic majors, self-perception about being a proficient English reader, and gender, while the factor of 'enjoyment of reading English materials' does not seem to make a difference. However, the factor, 'enjoyment of reading English materials', seems to be related to the way that Korean college students employ a certain category of reading strategies.

4. Differences in Reading Strategy Use When Reading Authentic Expository/Technical Text vs. Authentic Narrative text

The result of this study showed that Korean college students used reading strategies more frequently when they read the authentic expository/technical text than when they read the authentic narrative text and a significant difference was found (see Tables 41 & 42). One possible explanation for this result is that reading the authentic expository/technical text might have been more cognitively demanding than reading the authentic narrative text. Thus, reading the authentic expository/technical text might have required Korean college students to use a larger variety of reading strategies for their comprehension.

In addition, Korean college students used Global and Support strategies significantly more when they read the authentic expository/technical text than when they read authentic narrative text. However, they did not show a significant difference in the use of Problem Solving strategies when they read authentic expository/technical text versus when they read authentic narrative text.

This result is very similar to Mokhtari and Reichard (2008)'s study on the influence of the two reading purposes in L1 context, namely reading for study and reading for entertainment. According to their study, native English speaking high school students use reading strategies more frequently when reading for study purpose than when reading for fun or entertainment. They use Global strategies and Support strategies significantly more when reading for study purposes than when reading for fun or entertainment, but they use Problem Solving strategies to the same degree regardless of reading purpose. On the other hand, in terms of difference in using reading strategies according to the type of texts, the result of this study is partially similar to Abdulmajid's (2000) study, examining Malaysian ESL college students' strategy use in reading authentic expository/technical (a passage from textbook for class) and authentic narrative texts (a passage from a magazine). According to Abdulmajid, the Malaysian ESL college students activated a certain strategy, for example, using background knowledge, more often when reading the textbook than when reading the magazine, even though some strategies used by the students when reading the textbook and the magazine were similar.

Furthermore, in both reading authentic expository/technical and authentic narrative text in this study, Korean college students used Problem Solving strategies most frequently, followed by Global strategy category and Support strategy category. This result is consistent with a part of this study's own results shown previously—Korean college students reported using Problem Solving strategies most frequently, followed by Global strategies and Support strategies. This result also is consistent with the result of Mokhtari and Reichard's (2008) study previously mentioned. Korean college students seem to use direct and localized (i.e., Problem Solving strategies) reading strategies frequently when they read both the authentic expository/technical and authentic narrative text in English. Probably those strategies seem to be fundamental ones

for ESL/EFL learners when they read L2 texts. In other words, as EFL learners, Korean college students seem to employ those fundamental strategies frequently, regardless of the type of texts.

Looking at the difference of text type in the use of individual reading strategies (see Table 46), seven strategies showed significant difference, and the number of the subjects who responded 'Yes' (i.e., used the reading strategy) was larger in reading the authentic expository/technical text than in reading the authentic narrative text. There were some strategies showing that 'Yes' responses were larger in reading the authentic narrative text than in reading authentic expository/technical text, but no significant difference was found in those strategies. To put it in another way, Korean college students seem to employ certain reading strategies—for example, 'previewing text before reading', 'underlining information in text', 'using context clues', 'analyzing and evaluating what is read', 'going back and forth in text', and 're-reading for better understanding'—more frequently when they read authentic expository/technical texts than when they read authentic narrative texts. Probably with their own experiences of reading authentic expository/technical texts and authentic narrative texts, Korean college students might be aware of which strategies they need more and which strategies are more helpful for their comprehension according to text types. That is, based on the awareness, they might employ those strategies more frequently for comprehending the authentic expository/technical text or less frequently for comprehending the authentic narrative text.

Briefly saying, Korean college students seem to employ reading strategies differently according to the text type. Particularly, they seem to use larger variety of reading strategies when reading authentic expository/technical texts than when reading authentic narrative text.

Pedagogical Implications

The findings of this study can suggest some educational implications for EFL teaching and

learning in Korea. The implications are obviously intended for Korean college students who were the target subjects for this study, but the implications might not be limited only to them.

First, Korean EFL teachers might want to identify their students' profiles in reading strategy use when the students read authentic expository/technical English texts. In order to identify the profiles, the teachers might use diverse techniques, such as questionnaire, observation, interview, journal, and think-aloud protocol. A questionnaire like the SORS can be a good option for profiling the students' typical reading strategy use and wide array of reading strategies, particularly in a large classroom setting like a Korean EFL teaching/learning environment. The modified SORS can be also a good choice for identifying the students' text specific reading strategy use. With the identification of the profile, Korean EFL teacher could incorporate reading strategies into their teaching of reading.

Second, as shown in this study, Korean college students who have good reading comprehension ability seem to use a certain type of reading strategies (i.e., Global strategy) and some specific reading strategies, such as 'using prior knowledge', 'adjusting reading speed', 'using typographical features (e.g., bold, italics)', 'using context clues', 'checking understanding when new information presents', and 'guessing meaning of unknown words', more often than their colleagues who have less proficient reading comprehension ability. Therefore, it is suggested that Korean EFL teachers introduce high proficiency students' characteristics of using these reading strategies to their students, especially low proficiency English readers, and encourage them to use these reading strategies that they might not be aware of and therefore not be taking advantage of.

Third, Korean college students showed that they do not frequently use certain reading strategies, such as 'asking oneself question' and 'analyzing and evaluating what is read', for

successful comprehension. It is important for readers to be aware of whether their comprehension breaks down or not (Carrell et al., 1998). These two strategies help readers monitor and evaluate if their comprehension is successful or unsuccessful during or after reading. It is quite probable that Korean college students are not familiar with sophisticated reading strategies including these two. Although effects of reading strategy instruction in L2 contexts have been less than conclusive, some studies showed a positive effect of reading strategy instruction on reading comprehension (Dreyer & Nel, 2003; Kitajima, 1997). Accordingly, it is recommended that Korean EFL teachers provide their students with instruction that helps them know what those reading strategies are, how to use them, why to use them, and when to use them, and finally leads the students to be more active strategic English readers. In the mean time, Korean EFL teachers should keep in mind that reading strategy use might be able to help the improvement of their students' reading comprehension, and they also should develop their own awareness of reading strategies.

Fourth, this study showed that there are some factors, such as 'academic major', 'enjoyment of reading English materials', and 'self-perception of being a proficient English reader', that might be related to Korean college students' reading strategy use. Therefore, it is recommended that Korean EFL teachers consider these factors when they develop reading strategy instruction plans or when they implement the plans. Particularly, they might not want to miss critical factors like how much their students enjoy reading English materials and how importantly their students perceive being a proficient English reader. When considering a factor, for example, 'enjoyment of reading English materials', in developing reading strategy instruction plans, Korean EFL teachers might want to include how they identify whether their students enjoy reading English materials or not in their plans. The teacher might use diverse techniques, such as interview,

questionnaire, and observation, to identify it. Through the identification, the teachers could recognize why their students enjoy or do not enjoy reading English materials. If their students have difficulties to enjoy reading English materials because of, for example, their limited linguistic knowledge such as vocabulary and grammatical knowledge, the teachers might want to show that using reading strategies can compensate their limited linguistic knowledge in reading English materials. Likewise, the teachers might need to recognize how importantly their students perceive being a proficient English reader and why or why not. If their students do not regard being proficient English readers as important, the teachers would need to promote their students' motivation of being good, fluent English readers.

Fifth, this study showed that Korean college students seem to use larger variety of reading strategies when reading authentic expository/technical texts than when reading authentic narrative texts, and they seem to use certain reading strategies, such as 'previewing text before reading', 'underlining information in text', 'using context clues', 'going back and forth in text', 're-reading for better understanding', and 'analyzing and evaluating what is read', more frequently when reading authentic expository/technical texts than when reading authentic narrative texts. Therefore, it is suggested that Korean EFL teachers help their students who are not familiar with authentic expository/technical English texts be aware that they might need larger variety of reading strategies than they used to employ, and they might need certain reading strategies that they have not often employed previously in order to comprehend the authentic expository/technical texts. Especially college freshmen, who are forced to read authentic expository/technical English texts as soon as they enter college, might have problems to comprehend the texts with their linguistic knowledge and reading strategies that used to be effective enough for non-authentic texts. After all, Korean EFL teachers should help the students

recognize that they might have to be active strategic readers to comprehend their demanding authentic expository/technical texts and to achieve academic success in their college lives.

Limitations

First, participants' reading strategy use was measured only by the self-reported questionnaire. Thus, the reported reading strategy use was the one perceived by the participants rather than the participants' actual use of reading strategies.

Second, the original instrument (SORS) measuring general reading strategy use was modified in order to measure text-specific reading strategy use. Even though the reliability issue for the modified SORS was to some degree explained by the moderate internal consistency of reliability that was tested through the pilot study and the current study, the validity issue still remains to be explained.

Third, the participants for this study were Korean college students in specific classes in specific universities, which means that they might not exactly represent all Korean college students. Thus, generalization of the results of this study could be limited.

Suggestions for Future Research

In relation to the findings and the limitations of this study, the need for further research arises. First, this study showed correlational relationships between Korean college students' reading comprehension ability and certain categories of readings strategies. Thus, it is hard to determine if use of certain categories of reading strategies improves the reading comprehension of the students. It is suggested that this study be extended to experimental research on the effect of use of the certain categories of reading strategies (e.g., reading strategy instruction or training)

to determine a causal relationship between reading strategy use and reading comprehension.

Second, this study provided the findings about the relationships between reading strategy use and personal characteristics. Among the personal characteristics, 'self-perception of being a proficient English reader' and 'enjoyment of reading English materials', as motivation and interest respectively, might have more crucial influence on reading strategy use than other factors. Up to this point there has been very limited research on the effect of motivation and interest in reading strategy use, particularly in the Korean EFL context. This study drew broad findings about this effect. Thus, if further research is conducted with quality measures for the two factors, it will provide deeper and more detailed findings like the effect of different degrees or types of motivation and interest.

Third, this study showed that there was a difference in reading strategy use between reading an authentic expository/technical text and an authentic narrative text. However, the distinction between reading the authentic expository/technical text and the authentic narrative text in this study was mostly clarified by types of text but not a purpose of reading. Further research with a clearer distinction, by including factors such as reading purposes, might verify the findings of this study.

Lastly, the perceived use of reading strategies reported by Korean college students should be subjected to more qualitative investigations. Korean college students' perceived use of reading strategies might not necessarily reflect their actual use of reading strategies. A replication of this study, employing both quantitative and qualitative research methods, will have more in-depth picture and shed more light on Korean college students' reading strategy use when reading authentic expository/technical English texts.

Conclusions

This study contributed to an understanding of reading strategy use of Korean college students when reading authentic expository/technical texts in English. Based on the results and discussions, this study draws the following conclusions: 1) Korean college students use reading strategies with high frequency when they read authentic expository/technical texts in English. 2) Korean college students' reading comprehension ability seems to be related to their reading strategy use to some degree; the higher their reading comprehension ability, the more they seem to use sophisticated reading strategies, such as 'using prior knowledge', 'using context clues', 'checking understanding when new information presents', and 'guessing meaning of unknown words'. 3) The way that the Korean college students employ the reading strategies seem to vary according to their personal characteristics; for example, Korean college students who enjoy reading in English use Global strategies more than their colleagues who do not enjoy it. Korean college students who regard being a proficient English reader as important use reading strategies more frequently than their colleagues who regard it as less important. 4) Korean college students use more volume of reading strategies when reading authentic expository/technical texts than when reading authentic narrative texts; they frequently use some reading strategies, such as 'previewing text before reading', 'underlining information in text', 'analyzing and evaluating what is read', 'going back and forth in text', and 're-reading for better understanding', when reading authentic expository/technical texts, whereas they do not often use these strategies when reading authentic narrative texts.

This study had its own limitations, and thus the results of this study should be carefully considered. Accordingly, the conclusions drawn from this study are tentative, rather than conclusive. Lastly, if this study can contribute to progression to a certain extent in either research

or practical areas in Korean EFL teaching/learning contexts, this study will find its own meaning.

Chapter Summary

This chapter presented the discussion based on the results of each research question: Korean college students' profiles of reading strategy use, relationships between reading strategy use and reading comprehension ability, relationships between reading strategy use and personal characteristics, and differences in reading strategy use between reading authentic expository/technical text and authentic narrative text. Based on the discussion, the pedagogical implications were presented, and the limitations of this study were also presented. Then, the suggestions for future research were provided. Finally, the conclusions of this study were made.

REFERENCES

Abdulmajid, N. B. (2000). *Reading in authentic environment: Strategy use by Malaysian university students reading academic texts and non-academic texts in English.* Unpublished Doctoral Dissertation, Indiana University.

Afflerbach, P., Pearson, P. D., & Paris, S. (2008). Skills and Strategies: Their Differences, their Relationships, and Why it Matters. In K. Mokhtari & R. Sheorey (Eds.), *Reading Strategies of First- and Second-Language Learners: See How They Read* (pp. 11-24). Norwood, Massachusetts: Christopher-Gordon Publisher, Inc.

Alderson, J. C. (2000). *Assessing reading*. Cambridge: Cambridge University Press.

Alexander, P. A., & Jetton, T. L. (2000). Learning from text: a multidimensional and developmental perspective. In M. L. Kamil, P. B. Mosenthal, P. D. Pearson & R. Barr (Eds.), *Handbook of Reading Research* (Vol. 3, pp. 285-310). Mahwah, NJ: Lawrence Erlbaum.

Al-Nujaidi, A. H. (2003). *The relationship between vocabulary size, reading strategies, and reading comprehension of EFL learners in Saudi Arabia.* Unpublished doctoral dissertation, Oklahoma State University

Anderson, N. J. (1991). Individual differences in strategy use in second language reading and testing. *Modern Language Journal, 75*, 460-472.

Anderson, R., Hiebert, E., Scott, J., and Wilkinson, I. (1985). *Becoming a nation of readers: The report of the Commission on Reading*. Urbana, IL: University of Illinois, Center of the Study of Reading.

August, D., & Shanahan, T. (Eds.). (2006). Executive Summary. *Developing Literacy in Second-Language Learners: Report of the National Literacy Panel on Language-Minority Children and Youth*. Mahwah, NJ: Lawrence Erlbaum Associates.

Baker, L. (2002). Metacognition in comprehension instruction. In C. Block & M. Pressley (Eds.), *Comprehension instruction: Research-based best practices* (pp. 77-95). New York: Guilford Press.

Barnett, M. A. (1988). Reading through context: How real and perceived strategy use affects L2 comprehension. *Modern Language Journal, 72*, 150-160.

Bernhardt, E. B. (1991). *Reading development in a second language: Theoretical, empirical, and classroom perspectives*. Norwood, NJ: Ablex.

Barnard, R., Brookes, H., Pozzo, G., & Rowe, T. (1980). Reading Strategies. In G. Cortese (Ed.), *Readng in a Foreign Language* (pp. 400-415). Milan: Franco Angeli.

Block, C., & Pressley, M. (2002). *Comprehension instruction: Research-based best practices*. New York: Guilford Press.

Block, E. (1986). The comprehension strategies of second language readers. *TESOL Quarterly, 20*, 463-494.

Block, E. (1992). See how they read: Comprehension monitoring of L1 and L2 readers. *TESOL Quarterly, 26*(2), 319-341.

Brantmeier, C. (2000). *The relationship between reader's gender, passage content, comprehension, and strategy use in reading Spanish as a second language.* Unpublished Doctoral dissertation, Indiana University, Bloomington, IN.

Brantmeier, C. (2002). Second language reading strategy research at the secondary and the university level: Variations, disparities, and generalizability. *Reading Matrix: An International Online Journal, 3*(2).

Brown, A. (1980). Metacognitive development and reading. In R. J. Spiro, B. C. Bruce & W. F. Brewer (Eds.), *Theoretical issues in reading comprehension: Perspective from cognitive psychology, linguistics, artificial intelligence, and education*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Carr, T. H., & Levy, B. A. (1990). *Reading and its development: component skills approaches*. : Harcourt Brace Jovanovich: Academic Press.

Carrell, P. L., & Eisterhold, J. C. (1983). Schema Theory and ESL Reading Pedagogy. *TESOL QUARTERLY, 17*(4), 553-573.

Carrell, P. L., Gajdusek, L., & Wise, T. (1998). Metacognition and EFL/ESL reading. *Instructional Science, 26*, 97-112.

Carrell, P. L., Pharis, B. G., & Liberto, J. C. (1989). Metacognitive strategy training for ESL reading. *TESOL Quarterly, 23*, 647-678.

Chang, R. M. (1997). *Strategies for reading English as a foreign language.* Unpublished Doctoral Dissertation, State University of New York, Albany.

Collier, V. P. (1995). Acquiring a second language for school. *Directions in Language and*

Education, Volume 1, Number 4, Fall 1995. Washington, DC: National Clearinghouse for English Language Acquisition (NCELA).

Crocker, L., & Algina, J. (1986). The Classical True Score Model. *Introduction to Classical and Modern Test Theory* (pp. 106-107). Belmont, CA: Wadsworth.

Cummins, J. (1979). Linguistic interdependence and the educational development of bilingual children. *Review of Educational Research, 49*(2), 222-251.

Cummins, J. (1981). Four misconceptions about language proficiency in bilingual education. NABE Journal, 5(3), 31-45.

Cummins, J. (1994). The Acquisition of English as a Second Language. In K. Spangenberg-Urbschat & R. Pritchard (Eds.), *Kids come in all languages: reading instruction for ESL students* (pp. 36-62): International Reading Association.

Cummins, J. (1999). *BICS and CALP: Clarifying the distinction.* (No. ED 438 551).

Cummins, J. (2003). Reading and the Bilingual Student: Fact and Friction. In G. G. Garcia (Ed.), *English learners reaching the highest level of English literacy* (pp. 2-33). Newark, DE: International Reading Association.

Dreyer, C., & Nel., C. (2003). Teaching reading strategies and reading comprehension within a technology-enhanced learning environment. *System, 31*(3), 349-365.

Dreyer, C., & Oxford, R. L. (1996). Learning strategies and other predictors of ESL proficiency among Africans-speakers in South Africa. In R. L. Oxford (Ed.), *Language learning strategies around the world: Cross-cultural perspectives* (pp. 61-74). Manoa: University of Hawaii Press.

Durkin, D. (1993). *Teaching them to read* (6th ed.). Boston, MA: Allyn and Bacon.

Englert, C. S., & Hiebert, E. H. (1984). Children's developing awareness of text structures in expository materials. *Journal of Educational Psychology, 76*, 65-74.

Erler, L., & Finkbeiner, C. (2007). A review of reading strategies: focus on the impact of first language. In A. D. Cohen & E. Macaro (Eds.), *Language Learner Strategies* (pp. 187-206). New York: Oxford University Press.

ETS (2003). TOEFL Paper-Based Testing Practice Tests Volume 1 (pp. 78-81): Educational Testing Service.

Fitzgerald, J. (1995). English-as-a-second-language learners' cognitive reading process: A review of research in the United States. *Review of Educational Research, 65*(2), 145-190.

Flavell, J. (1979). Metacognition and cognitive monitoring: A new era of cognitive-development inquiry. *American Psychologist, 34*, 906-911.

Frederikesen, J. R. (1980). Component skills in reading: measurement of individual differences through chronometric analysis. In P. F. R. Snow, & W. Montague (Ed.), *Cognitive process analyses of aptitude* (pp. 105-138). Hillsdale, NJ: Erlbaum Associates, Inc.

Garcia, G. E. (2000). Bilingual children's reading. In M. L. Kamil, et. al. (Eds.), *Handbook of reading research* (pp. 913-834). Mahwah, NJ: Lawrence Erlbaum.

Garner, R. (1987). *Metacognition and reading comprehension*. Norwood, NJ: Ablex.

Gates, A. (1949). Character and purpose of the yearbook. In N. Henry (Ed.), *The forty-eighth yearbook of the National Society for the Study of Education: Part II. Reading in the elementary school* (pp. 1-9). Chicago: University of Chicago Press.

Goodman, K. (1967). Reading: A psycholinguistic guessing game. *Journal of the Reading Specialist, 6*, 126-135.

Grabe, W. (1991). Current Developments in Second Language Reading Research. *TESOL QUARTERLY, 25*(3), 375-406.

Grabe, W. (2009). *Reading in a Second Language: Moving from Theory to Practice*. New York: Cambridge University Press.

Green, S., & Sutton, P. (2003). What do children think as they plan their writing? *Reading Literacy and Language, April*, 32-38.

Green, S. B., & Salkind, N. J. (2005). *Using SPSS for Windows and Macintosh: Analyzing and Understanding Data* (4th ed.). Upper Saddle River, New Jersey: Pearson Prentice Hall.

Guthrie, J., & Wigfield, A. (1999). How motivation fits into a science of reading. *Scientific Studies of Reading, 3*, 199-205.

Haberlandt, K. (1988). Component processing in reading comprehension. *Reading Research: Advances in Theory and Practice, 6*.

Hadley, A. O. (2001). *Teaching language in context* (3rd ed.). Boston, MA: Heinle & Heinle.

Hoover, W. A., & Gough, P. B. (1990). The Simple View of Reading. *Reading and Writing: An Interdisciplinary Journal, 2*, 127-160.

Hosenfeld, C. (1977). A preliminary investigation of the reading strategies of successful and unsuccessful second language learners. *System, 5*(11), 110-123.

Jacobs, J. E., & Paris, S. G. (1987). Children's metacognition about reading: Issues in definition,

measurement, and instruction *Educational Psychologist, 22*, 255-278.

Jimenez, R., Garcia, G., & Person, P. (1996). The reading strategies of bilingual Latina/o students who are successful English readers: Opportunities and obstacles. *Reading Research Quarterly, 31*, 90-112.

Just, M. A., & Carpenter, P. A. (1980). A theory of reading: From eye fixations to comprehension. *Psychological Review, 87*, 329-354.

Kern, R. (1989). Second language reading strategy instruction: Its effects on comprehension and word inference ability. *Modern Language Journal, 73*, 135-146.

Kitajima, R. (1997). Referential strategy training for second language reading comprehension of Japanese texts. *Foreign Language Annals, 30*(1), 84-97.

Koda, K. (2005). *Insights into Second Language Reading: A Cross-Linguistics Approach*. New York, NY: Cambridge University Press.

Kucan, L., & Beck, I. L. (1996). Four Fourth Graders Thinking Aloud: An investigation of Genre Effects. *Journal of Literacy Research, 28*(2), 259-287.

Kung, S.-S. (2007). *A study of the relationship between reading comprehension and the use of reading strategies among EFL college students.* Unpublished doctoral dissertation, Texas A&M University Kingsville.

Lage, M. L. (1993). *Metacognition in Native and Foreign Language Reading: A multiple-case study of Brazilian adult readers.* Unpublished Doctoral Dissertation, Georgetown University.

Lee, H. (1994). Investigating the factors affecting the use of foreign language learning strategies and comparing the strategy use of EFL students. *English Teaching, 48*, 51-99.

Lee, K. R. (2007). *Strategy Awareness-Raising for Success: Reading Strategy Instruction in the EFL context*. Unpublished Doctoral Dissertation, University of Maryland, College Park.

Liang, J. (1997). *How college EFL students regulate their cognition and motivation to deal with difficulties in reading comprehension: A case study of Chinese EFL learners' reading strategy use.* Unpublished Doctoral Dissertation, University of Texas, Austin.

Lorch, R. F. Jr., Lorch, E. P., & Klusewitz, M. A. (1993). College Students' Conditional Knowledge About Reading. *Journal of Educational Psychology, 85*(2), 239-252.

Lorch, R. F., Jr., Lorch, E. P., & Matthews, P. D. (1985). On-line processing of the topic structure of a text. *Journal of Memory and Language, 24*, 350-361.

Mokhtari, K., & Reichard, C. A. (2002). Assessing Students' Metacognitive Awareness of Reading Strategies. *Journal of Educational Psychology, 94*(2), 249-259.

Mokhtari, K., & Reichard, C. A. (2008). The Impact of Reading Purpose on the Use of Reading Strategies. In K. Mokhtari & R. Sheorey (Eds.), *Reading Strategies of First- and Second-Language Learners: See How They Read* (pp. 85-97). Norwood, Massachusetts: Christopher-Gordon Publishers.

Mokhtari, K., & Sheorey, R. (2002). Measuring ESL students' awareness of reading strategies. *Journal of Developmental Education, 25*(3), 2-10.

Narvaez, D., van den Broek, P., & Ruiz, A. B. (1999). The influence of reading purpose on inference generation and comprehension reading. *Journal of Educational Psychology, 91*(3), 488-496.

National Reading Panel (2000). *Report of the National Reading Panel: Teaching children to read*. Retrieved September 11, 2009 from Washington, DC: National Institute of Child Health and Human Development, National Institutes of Health, U.S. Department of Health and Human Services http://www.nichd.nih.gov/publications/nrp/report.cfm

O'Malley, J. M., Chamot, A. U., Stewner-Mazanares, G., Russo, R., & kupper, L. (1985). Learning strategies applications with students of English as a second language. *TESOL Quarterly, 19*(3), 557-584.

Oxford, R. L. (1990). *Language learning strategies: What every teacher should know*. Boston: Heinle & Heinle.

Oxford, R. L., & Byrry-Stock, J. (1995). Assessing the use of language learning strategies worldwide with the ESL/EFL version of the strategy inventory for language learning SILL. *System, 23*, 1-23.

Oxford, R. L., & Nyikos, M. (1989). Variables affecting choice of language learning strategies by university students. *Modern Language Journal, 73*, 291-300.

Palmer, J., MacLeod, C. M., Hunt, E., & Davison, J. E. (1985). Information processing correlates of reading. *Journal of Memory and Language, 24*, 59-88.

Paris, S. G., Wasik, B. A., & Turner, J. C. (1991). The development of strategic reading. In R. Barr, M. L. Kamil, P. B. Mosenthal & P. D. Pearson (Eds.), *Handbook of reading research* (Vol. 2, pp. 609-640). New York: Longman.

Park, Y.Y. (1999). An analysis of interrelationship among language learning strategies, learning

styles, and learner variables of university students. *English Teaching, 54*(4), 281-308

Pausch, R., & Zaslow, J. (2008). *The Last Lecture.* New York: Hyperion.

Pereira-Laird, J. A., & Deane, F. P. (1997). Development and validation of a self-report measure of reading strategy use. *An International Journal, 18*, 185-235.

Phakiti, A. (2003). A closer look at the relationship of cognitive and metacognitive strategy use to EFL reading achievement test performance. *Language Testing, 20*(1), 26-56.

Phillips, J. K. (1984). Practical Implications of Recent Research in Reading. *Foreign Language Annals, 17*(4), 285-296.

Poole, A. (2005). Gender differences in reading strategy use among ESL college students. *Journal of College Reading and Learning, 36*(1), 7-20

Poole, A. (2006). Gender and academic reading strategies: A survey of adult EFL learners in Mainland China. *Hong Kong Journal of Applied Linguistics, 10*(2), 38-51

Pressley, M. (2000). What should comprehension instruction be the instruction of? In M. L. Kamil, P. B. Mosenthal, P. D. Pearson & R. Barr (Eds.), *Handbook of Reading Research* (Vol. 3, pp. 545-561). Mahwah, NJ: Lawrence Erlbaum.

Pressley, M. (2002). Metacognition and self-regulated comprehension. In A. E. Farstrup & S. Samuels (Eds.), *What research has to say about reading instruction* (pp. 291-309). Newark, DE: International Reading Association.

Pressley, M., & Afflerbach, P. (1995). *Verbal protocols of reading: The nature of constructively responsive reading.* Hillsdale, NJ: Erlbaum.

Pressley, M., Beard El-Dinary, P., & Brown, R. (1992). Skilled and not-so-skilled reading: Good information processing or not-so-good processing. In K. H. M. Pressley & J. Guthrie (Eds.), *Promoting academic competence and literacy in school* (pp. 91-127). San Diego, CA: Academic Press.

RAND Reading Study Group. (2002). *Reading for Understanding: Toward an R&D program in reading comprehension*. Santa Monica, CA: Science and Technology Policy Institute, RAND Education.

Reyhner, J. (2008). The Reading Wars: Phonic versus Whole Language, Retrieved September, 11th, 2009, from http://jan.ucc.nau.edu/~jar/Reading_Wars.html

Reynolds, R. E., Shepard, C., Lapan, R., Kreek, C., & Goetz, E. T. (1990). Differences in the use of selective attention by more successful and less successful tenth-grade readers. *Journal of Educational Psychology, 82*, 749-759.

Rosenblatt, L. (1994). The transactional theory of reading and writing. In R. B. Ruddell, M. R. Ruddell & H. Singer (Eds.), *Theoretical models and processes of reading (pp. 1057-1092)*. Newark, DE: International Reading Association.

Rumelhart, D. E. (1985). Toward an interactive model of reading. In H. Singer & R. B. Ruddell (Eds.), *Theoretical models and process of reading* (pp. 722-750). Newark, DE: International Reading Association.

Schoonen, R., Hulstijn, J., & Bossers, B. (1998). Metacognitive and language specific knowledge in native and foreign language reading comprehension: An empirical study among Dutch students of grades 6, 8, & 10. *Language Learning, 48*(1), 71-106.

Schueller, J. (1999). *The effects of two types of strategic training on foreign language reading comprehension. An analysis by gender and proficiency.* Unpublished Doctoral dissertation, The University of Wisconsin-Madison, Madison, WI.

Sheorey, R., & Mokhtari, K. (2001). Differences in the metacognitive awareness of reading strategies among native and non-native speakers. *System, 29*(4), 431-449.

Smith, F. (1971). *Understanding reading: A Psycholinguistic Analysis of Reading and Learning to Read*. New York: Holt, Rinehart & Winston.

Snow, C. E., & Sweet, A. P. (2003). Reading for Comprehension. In A. P. Sweet & C. E. Snow (Eds.), *rethinking reading comprehension* (pp. 1-11). New York: The Guilford Press.

Song, H. S. (1994). The relationship between adult readers' perception of reading in a second language and their reading processes. *English Teaching, 48*, 349-372

Song, M. J. (1999). Reading strategies and second language reading ability: The magnitude of the relationship. *English Teaching , 54*(3), 73-95

Stanovich, K. E. (1980). Toward an interactive compensatory model of individual differences in the development of reading fluency. *Reading Research Quarterly, 16*, 32-71.

Urquhart, S., & Weir, C. (1998). *Reading in a Second Language: Process, Product and Practice.* New York: Longman.

Weber, R. M. (1991). Linguistic diversity and reading in American society. In R. Barr, M. L. Kamil, P. Mosenthal & P. D. Pearson (Eds.), *Handbook of reading research* (Vol. 2, pp.

97-119). New York: Longman.

Wu, C.-P. (2005). *An investigation of metacognitive reading strategies used by EFL Taiwanese college students to comprehend familiar versus unfamiliar Chinese and English texts.* Unpublished Doctoral dissertation, University of Idaho.

Young, D. J., & Oxford, R. (1997). A gender-related analysis of strategies used to process input in the native language and a foreign language. *Applied Language Learning, 8*, 43-73.

Zhang, L. J. (2001). Awareness in Reading: EFL students' metacognitive knowledge of reading strategies in an acquisition-poor environment. *Language Awareness, 10*(4), 268-288.

Zhicheng, Z. (1992). *The effects of teaching reading strategies on improving reading comprehension for ESL learners.* Paper presented at the Annual Meeting of Mid-South Educational Research Association, Knoxville, TN.

APPENDIX (A)

Survey of Reading Strategies (SORS)

The purpose of this survey is to collect information about the various techniques you use when you read academic materials in English (e.g., reading textbooks, reading journal articles, etc.)

All the items below refer to your reading of college-related academic materials (such as textbooks, not newspapers or magazines).

Each statement is followed by five numbers, 1, 2, 3, 4, and 5, and each number means the following:

'1' means that 'I **never or almost never** do this'.

'2' means that 'I do this **only occasionally**'.

'3' means that 'I **sometimes** do this'. (About 50% of the time)

'4' means that 'I **usually** do this'.

'5' means that 'I **always or almost always** do this'.

After reading each statement, **circle the number** (1, 2, 3, 4, or 5) which applies to you. Note that there are **no right or wrong responses** to any of the items on this survey. If you have any questions, let the instructor know immediately.

	Statement	Never				Always
1.	I have a purpose in mind when I read.	1	2	3	4	5
2.	I take notes while reading to help me understand what I read.	1	2	3	4	5
3.	I think about what I know to help me understand what I read.	1	2	3	4	5
4.	I take an overall view of the text to see what it is about before reading it.	1	2	3	4	5
5.	When text becomes difficult, I read aloud to help me understand what I read.	1	2	3	4	5
6.	I think about whether the content of the text fits my reading purpose.	1	2	3	4	5
7.	I read slowly and carefully to make sure I understand what I am reading.	1	2	3	4	5
8.	I review the text first by noting its characteristics like length and organization.	1	2	3	4	5
9.	I try to get back on track when I lose concentration.	1	2	3	4	5
10.	I underline or circle information in the text to help me remember it.	1	2	3	4	5

continued to the next page

continued from the previous page

		Never				**Always**
11.	I adjust my reading speed according to what I am reading.	1	2	3	4	5
12.	When reading, I decide what to read closely and what to ignore.	1	2	3	4	5
13.	I use reference materials (e.g., dictionary) to help me understand what I read.	1	2	3	4	5
14.	When text becomes difficult, I pay closer attention to what I am reading.	1	2	3	4	5
15.	I use tables, figures, and pictures in text to increase my understanding.	1	2	3	4	5
16.	I stop from time to time and think about what I am reading.	1	2	3	4	5
17.	I use context clues to help me better understand what I am reading.	1	2	3	4	5
18.	I paraphrase (restate ideas in my own words) to better understand what I read.	1	2	3	4	5
19.	I try to picture or visualize information to help remember what I read.	1	2	3	4	5
20.	I use typographical features like **bold face** and *italics* to identify key information	1	2	3	4	5
21.	I critically analyze and evaluate the information presented in the text.	1	2	3	4	5
22.	I go back and forth in the text to find relationship among ideas in it.	1	2	3	4	5
23.	I check my understanding when I come across new information.	1	2	3	4	5
24.	I try to guess what the content of the text is about when I read.	1	2	3	4	5
25.	When text becomes difficult, I re-read it to increase my understanding.	1	2	3	4	5
26.	I ask myself questions I like to have answered in the text.	1	2	3	4	5
27.	I check to see if my guesses about the text are right or wrong.	1	2	3	4	5
28.	When I read, I guess the meaning of unknown words or phrases.	1	2	3	4	5
29.	When reading, I translate from English into my native language.	1	2	3	4	5
30.	When reading, I think about information in both English and my mother tongue.	1	2	3	4	5

APPENDIX (B)

Survey of Reading Strategies (modified version)

After reading each statement, **circle either "Yes" or "No**"

'Yes' means that **you used this strategy while you were reading the text you just read.**

'No' means that **you did NOT use this strategy while you were reading the text you just read.**

Please be entirely honest in your response. If you have any questions, let the instructor know immediately.

	Statement	Response	
1.	I had a purpose in mind when I read.	No	Yes
2.	I took notes while reading to help me understand what I read.	No	Yes
3.	I thought about what I know to help me understand what I read.	No	Yes
4.	I took an overall view of the text to see what it was about before reading it.	No	Yes
5.	When the text became difficult, I read aloud to help me understand what I read.	No	Yes
6.	I thought about whether the content of the text fit my reading purpose.	No	Yes
7.	I read slowly and carefully to make sure I understood what I was reading	No	Yes
8.	I reviewed the text first by noting its characteristics like length and organization.	No	Yes
9.	I tried to get back on track when I was losing concentration.	No	Yes
10.	I underlined or circled information in the text to help me remember it.	No	Yes
11.	I adjusted my reading speed according to what I was reading.	No	Yes
12.	When reading, I decided what to read closely and what to ignore.	No	Yes
13.	I used reference materials (e.g., dictionary) to help me understand what I read.	No	Yes
14.	When the text became difficult, I paid closer attention to what I was reading.	No	Yes
15.	I used tables, figures, and pictures in the text to increase my understanding.	No	Yes
16.	I stopped from time to time and thought about what I was reading.	No	Yes
17.	I used context clues to help me better understand what I was reading.	No	Yes
18.	I paraphrased (restated ideas in my own words) to better understand what I read.	No	Yes
19.	I tried to picture or visualize information to help remember what I read.	No	Yes

Continued to the next page

Continued from the previous page

20.	I used typographical features like **bold face** and *italics* to identify key information	No	Yes
21.	I critically analyzed and evaluated the information presented in the text.	No	Yes
22.	I went back and forth in the text to find relationships among ideas in it.	No	Yes
23.	I checked my understanding when I came across new information.	No	Yes
24.	I tried to guess what the content of the text was about when I read.	No	Yes
25.	When the text became difficult, I re-read it to increase my understanding.	No	Yes
26.	I asked myself questions I liked to have answered in the text.	No	Yes
27.	I checked to see if my guesses about the text were right or wrong.	No	Yes
28.	When I read, I guessed the meaning of unknown words or phrases.	No	Yes
29.	When reading, I translated from English into my native language.	No	Yes
30.	When reading, I thought about information in both English and my mother tongue.	No	Yes

APPENDIX (C)

Reading Comprehension Test

Direction: 아래의 지문을 읽고 물음에 답하세요.(사전을 사용하시면 안됩니다)

<Passage #1 & Question #1 ~ #5>

The ocean bottom—a region nearly 2.5 times greater than the total land of the Earth—is a vast **frontier** that even today is largely unexplored and uncharted. Until about a century ago, the deep-ocean floor was completely inaccessible, hidden beneath waters averaging over 3,600 meters deep. Totally without light and subjected to intense pressures hundreds of times greater than at the Earth's surface, the deep-ocean bottom is a hostile environment to humans, in some ways as forbidding and remote as the void of **outer space**.

Although researchers have taken samples of deep-ocean rocks and sediments for over a century, the first detailed global investigation of the ocean bottom did not actually start until 1968, with the beginning of the National Science Foundation's Deep Sea Drilling Project (DSDP). Using techniques first developed for the offshore oil and gas industry, the DSDP's drill ship, the Glomar Challenger, was able to maintain a steady position on the ocean's surface and drill in very deep water, extracting samples of sediments and rock from the ocean floor.

The Glomar Challenger completed 96 voyages in a 15-year research program that ended in November 1983. During this time, the vessel logged 600,000 kilometers and took almost 20,000 core samples of seabed sediments and rocks at 624 drilling sites around the world. The Glomar Challenger's core samples have allowed geologists to reconstruct what the planet looked like hundreds of millions of years ago and to calculate what it will probably look like millions of years in the future. Today, largely on the strength of evidence gathered during the Glomar Challengers' voyages, nearly all earth scientists agree on the theories of plate tectonics and continental drift that explain many of the geological processes that shape the Earth.

The cores of sediment drilled by the Glomar Challenger have also yielded information critical to understanding the world's past climates. Deep-ocean sediments provide a climatic record stretching back hundreds of millions of years, because **they** are largely isolated from the mechanical erosion and the intense chemical and biological activity that rapidly destroy much

land-based evidence of past climates. This record has already provided insights into the patterns and causes of past climatic changes—information that may be used to predict future climates.

1. The author refers to the ocean bottom as a "**frontier**" in the 1st paragraph because it

a. is not a popular area for scientific research
b. contains a wide variety of life forms
c. attracts courageous explorers
d. is unknown territory

2. The author mentions "**outer space"** in the 1st paragraph because

a. the Earth's climate millions of years ago was similar to conditions in outer space
b. it is similar to the ocean floor in being alien to the human environment
c. rock formations in outer space are similar to those found on the ocean floor
d. techniques used by scientists to explore outer space were similar to those used in ocean exploration

3. Which of the following is true of the Glomar Challenger?

a. It is a type of submarine
b. It is an ongoing project
c. It has gone on over 100 voyages
d. It made its first DSDP voyage in 1968

4. The word "**they**" in the 4th paragraph refers to

a. years
b. climates
c. sediments
d. cores

5. Which of the following is NOT mentioned in the passage as being a result of the Deep Sea Drilling Project?

a. Geologists were able to determine the Earth's appearance hundreds of millions of years ago.
b. Two geological theories became more widely accepted by scientists.
c. Information was revealed about the Earth's past climatic changes.
d. Geologists observed forms of marine life never before seen.

<다음 페이지에 계속...>

<Passage #2 & Question #6 ~ #10>

Basic to any understanding of Canada in the 20 years after the Second World War is the country's impressive population growth. For every three Canadians in 1945, there were over five in 1966. In September 1966 Canada's population passed in the 20 million mark. Most of this surging growth came from natural increase. The depression of the 1930's and the war had held back marriages, and the catching-up process began after 1945. The baby boom continued through the decade of the 1950's, producing a population increase of nearly fifteen percent in the five years from 1951 to 1956. This rate of increase had been exceeded only once before in Canada's history, in the decade before 1911, when the prairies were being settled. Undoubtedly, the good economic conditions of the 1950's supported a growth in the population, but the expansion also derived from a trend toward earlier marriages and an increase in the average size of families. In 1957 the Canadian birth rate stood at 28 per thousand, one of the highest in the world.

After the peak year of 1957, the birth rate in Canada began to decline. It continued falling until in 1966 it stood at the lowest level in 25 years. Partly this decline reflected the low level of births during the depression and the war, but it was also caused by changes in Canadian society. Young people were staying at school longer; more women were working; young married couples were buying automobiles or houses before starting families; rising living standards were cutting down the size of families. It appeared that Canada was once more falling in step with the trend toward smaller families that had occurred all through the Western world since the time of the Industrial Revolution.

Although the growth in Canada's population had slowed down by 1966 (the increase in the first half of the 1960's was only nine percent), another large population wave was coming over the horizon. **It** would be composed of the children of the children who were born during the period of the high birth rate prior to 1957.

6. What does the passage mainly discuss?

a. Educational changes in Canadian society
b. Canada during the Second World War
c. Population trends in postwar Canada
d. Standards of living in Canada

<다음 페이지에 계속...>

7. When was the birth rate in Canada at its lowest postwar level?

a. 1966
b. 1957
c. 1956
d. 1951

8. The author mentions all of the following as causes of declines in population growth after 1957 EXCEPT

a. people being better educated
b. people getting married earlier
c. better standards of living
d. couples buying houses

9. It can be inferred from the passage that before the Industrial Revolution

a. families were larger
b. population statistics were unreliable
c. the population grew steadily
d. economic conditions were bad

10. The word "**It**" in the 3rd paragraph refers to

a. horizon
b. population wave
c. nine percent
d. first half

APPENDIX (D)

Academic Text

Direction:
아래의 지문을 읽고, 3 개의 '참/거짓' 질문에 답하세요. 사전을 사용하셔도 됩니다.

The Classical True Score Model

The classical true score model is one of the most significant issues from British psychologist Charles Spearman's fascination with the concept of correlation. From 1904 to 1913 he published logical and mathematical arguments that test scores are fallible measures of human traits, and thus the observed correlation between fallible test scores is lower than the correlation between their "true objective values" (Spearman, 1904). In repeated attempts to explain the terms *fallible measures* and *true objective values*, Spearman (1907, 1913) laid the foundation for the classical true score model. Many authors, most notably Guilfod (1936), Gulliksen (1950), Magnusson (1967), and Lord and Novick (1968), have restated and elaborated this model into the form described here.

The essence of Spearman's model was that any observed test score could be envisioned as the composite of two hypothetical components—a true score and a random error component—expressed in the form

$$X = T + E$$

where X represents the observed test score; T, the individual's true score; and E, a random error component. For example, on a 10-item test, John may actually know the answers to 7 items but by chance mismark 2 answers incorrectly, so that this observed score becomes

$$X = 7 - 2 = 5$$

Sarah, however, knows the answers to only 4 items but makes 3 lucky guesses, so her score is

$$X = 4 + 3 = 7$$

Finally, Ralph knows the answers to 8 items, misses an item by misreading the question, but guesses correctly on an item that he does not know. His positive and negative errors cancel each other so that his score is

$$X = 8 + 0 = 8$$

These numeric examples illustrate the additive effects of positive and negative measurement errors, but it is incorrect to infer that the examinee's "true score" as defined in the classical true score model, is some precise number of items that the examinee can answer.

THE END

---

1. True score can be calculated by the equation (i.e., subtracting random error from observed score). (True or False)
2. True score is exact number of items that the examinee can answer (True or False)
3. Observed score is always different from true score (True or False)

APPENDIX (E)

Non-Academic Text

Direction: 아래 지문을 읽고 물음에 답하세요. 사전을 사용하셔도 됩니다.

'All You Have to Do Is Ask'

On my dad's last trip to Disney World, he and **I** were waiting for the monorail with Dylan, who was then four year old. Dylan had this urge to sit in the vehicle's cool-looking nose-cone, with the driver. My theme-park-loving father thought that would be a huge kick, too.

"Too bad they don't let regular people sit up there," he said.

"Hummmm," I said. "Actually, Dad, having been an Imaginer, I've learned that there's a trick to getting to sit up front. Do you want to see it?"

He said, "Sure."

So I walked over to the smiling Disney monorail attendant and said: "Excuse me, could the three of us please sit in the front car?"

"Certainly, sir," the attendant said. He opened the gate and we took our seats beside the driver. It was one of the only times in my life I ever saw my dad completely flabbergasted.

"I said there was a trick," I told him as we step toward the Magic Kingdom. "I didn't say it was a hard trick."

Sometimes, all you have to do is ask.

I've always been fairly adept at asking for things. I'm proud of the time I got up my courage and contacted Fred Brooks Jr., one of the most highly regarded computer scientists in the world. After beginning his career at IBM in the Fifties, he went on to found the computer science department at University of North Carolina. He is famous in our industry for saying, among other great things: "Adding manpower to a late software project makes it later." (This is now known as "Brooks Law.")

I was in my late twenties and still hadn't met the man, so I emailed him, asking: "If I drive

down from Virginia to North Carolina, would it possible to get thirty minutes of your time to talk?"

He responded: "If you drive all the way down here, I'll give you more than thirty minutes."

He gave me ninety minutes and became a lifelong mentor to me. Years later, he invited me to give a lecture at the University of North Carolina. That was the trip that led to the most seminal moment in my life—when **I** met **Jai.**

Sometimes, all you have to do is ask, and it can lead to all your dreams coming true.

These days, given my short road ahead, I've gotten even better at "just asking." As we all know, it often takes day to get medical results. Waiting around for medical news is not how I want to spend my time lately. So I always ask: "What's the fastest I can get these results?"

"Oh," they often respond. "We might be able to have it for you within an hour."

"*OK* then," I say… "I'm glad I asked!"

Ask those questions. Just ask them. More often than you'd suspect, the answer you'll get is, "Sure."

Your opinions:

1. Do you agree with what "**I**" in the passage mainly want to talk about?

2. What do you think is the relationship between **I** and **Jai** ?

3. This passage is just a part of one story. Is this story interesting enough for you to read the rest of the whole story if you have a chance at some day?

APPENDIX (F)

Background Information Questionnaire (BIQ)

1. Gender _____ 2. Age _____

3. Major: _____

4. Freshmen, Sophomore, Junior, or Senior (circle one)

5. How long have you been studying English? _____ years

6. Have you studied English in a private institute, or have you been privately tutored?

In a private institute:

a. less than 6 months, b. 6 month ~ 1 year, c. 1 ~ 2 years, d. more than 2 years, e. never

By a tutor:

a. less than 6 months, b. 6 month ~ 1 year, c. 1 ~ 2 years, d. more than 2 years, e. never

7. Have you taken TOEIC or TOEFL (PBT, CBT, or IBT)? (circle one)

If so, please write your total score. _____ (If you have more than one, write the latest one)

Other standardized English test _____ Score _____

8. Have you ever stayed in a country where English is the main language spoken (e.g., U.S., Canada, UK, Australia, Singapore, New Zealand, etc…)? How long?

a. less than 6 month, b. 6 month ~ 1 year, c. 1~2 years, d. more than 2 years, e. never

9. What was your purpose of staying in the country? (if you answered “Never” for # 8, skip this one)

a. vacation or visiting b. language training, c. education (elementary, secondary, or college)

d. immigration, e. other, please specify

10 How do you rate your overall English proficiency? (Circle one.)

Very Good Good Fair Poor

11 How do you rate your English reading proficiency? (Circle one.)

Very Good Good Fair Poor

12. How important is it for you to become proficient in reading in English? (Circle one.)

Very Important Important Not so Important Not Important

13. Do you enjoy reading in English? Yes / No

APPENDIX (G)

INFORMED CONSENT STATEMENT

Korean EFL College Students' reading strategy use to comprehend academic texts in English

INTRODUCTION

The Department of Curriculum & Teaching at the University of Kansas supports the practice of protection for human subjects participating in research. The following information is provided for you to decide whether you wish to participate in the present study. You may refuse to sign this form and not participate in this study. You should be aware that even if you agree to participate, you are free to withdraw at any time. If you do withdraw from this study, it will not affect your relationship with this unit, the services it may provide to you, or the University of Kansas.

PURPOSE OF THE STUDY

The primary purpose of the proposed study is to explore Korean college students' reading strategies use when they read academic texts in English.

PROCEDURES

As a participant in this study, you will be asked to respond to a questionnaire, take a reading comprehension test in English, complete the first survey, read two different short English texts, and complete the second and third survey right after reading the short texts. The questionnaire seeks your background information and experiences in learning English. The questionnaire is not expected to take more than 10 minutes. The reading comprehension test seeks your reading comprehension ability in English. The test consists of two short passages and 10 multiple choice questions. The test is not expected to take more than 25 minutes. The first survey seeks information about your reading strategy use. The survey consists of 30 items and each item uses 5 point Likert scale ranging from 1 to 5. The survey is not expected to take more than 10 minutes. The two reading texts are just for the second and third survey. Each text has a short passage in English. The second and third survey is almost same one as the first one. The only difference between them is that you will be asked to answer 'yes' or 'no' instead of responding to 5 point Likert scale. It is not expected to take more than 30 minutes to read two texts and complete the second and third survey. It is not expected to take more than 75 minutes to complete the whole procedures.

RISKS

There are no anticipated risks.

BENEFITS

Although this study is not expected to be directly beneficial or relevant to you, you may find it interesting. In particular, the survey about reading strategy use will give you a chance to think about what types of reading strategies you use, or not use, which you may not be aware of before.

The study will provide EFL (English as a Foreign Language) teachers in Korea with information on what reading strategies their students use. Furthermore, the teachers will recognize how differently good English readers and poor English readers use reading strategies especially in terms of types and frequency. This information will be useful to Korean EFL teachers who consequently could modify their teaching to incorporate training on those reading strategies more often used by high proficiency level students when reading academic English text, and thus helping low proficiency students achieve higher levels of reading comprehension.

PAYMENT TO PARTICIPANTS

There will be no payment involved in this study.

PARTICIPANT CONFIDENTIALITY

Your name will not be associated in any way with the information collected about you or with the research findings from this study. The researcher(s) will use a study number or a pseudonym instead of your name. The researchers will not share information about you unless required by law or unless you give written permission.

Permission granted on this date to use and disclose your information remains in effect indefinitely. By signing this form you give permission for the use and disclosure of your information for purposes of this study at any time in the future.

REFUSAL TO SIGN CONSENT AND AUTHORIZATION

You are not required to sign this Consent and Authorization form and you may refuse to do so without affecting your right to any services you are receiving or may receive from the University of Kansas or to participate in any programs or events of the University of Kansas. However, if you refuse to sign, you cannot participate in this study.

CANCELLING THIS CONSENT AND AUTHORIZATION

You may withdraw your consent to participate in this study at any time. You also have the right to cancel your permission to use and disclose information collected about you, in writing, at any time, by sending your written request to:

Yonghyo Park
1810 Bagley Dr. #10, Lawrence, KS 66044
Tel: 785-764-6687
E-mail: seubang@ku.edu

If you cancel permission to use your information, the researcher will stop collecting additional information about you. However, the research team may use and disclose information that was gathered before they received your cancellation, as described above.

QUESTIONS ABOUT PARTICIPATION

Questions about procedures should be directed to the researcher listed at the end of this consent form.

PARTICIPANT CERTIFICATION:

I have read this Consent and Authorization form. I have had the opportunity to ask, and I have received answers to, any questions I had regarding the study. I understand that if I have any additional questions about my rights as a research participant, I may call (785) 864-7429 or (785) 864-7385 or write the Human Subjects Committee Lawrence Campus (HSCL), University of Kansas, 2385 Irving Hill Road, Lawrence, Kansas 66045-7563, email mdenning@ku.edu or jbutin@ku.edu

I agree to take part in this study as a research participant. By my signature I affirm that I am at least 18 years old and that I have received a copy of this Consent and Authorization form.

_____ _____

Type/Print Participant's Name Date

_____

Participant's Signature

Researcher Contact Information

Yonghyo Park
Principal Investigator
1810 Bagley Dr. # 10,
Lawrence, KS 66044
Phone:(785) 764-6687

Manuela Gonzalez-Bueno, Ph.D.
Faculty Supervisor
1122 W. Campus Rd.
Joseph R. Pearson Hall, Room 342
University of Kansas
Lawrence, KS 66045-3101
Phone: (785) 864-9674

September 26, 2009

Yonghyo Park
University of Kansas
Lawrence, Kansas 66045

Dear Yonghyo Park:

I have received your request for permission to reproduce Educational Testing Service (ETS) copyrighted materials. It is our understanding that you will be using these materials as part of your doctoral dissertation at the University of Kansas.

ETS is pleased to grant royalty-free, nonexclusive, nontransferable permission to reproduce the item listed in the attached Appendix. The following terms apply to this permission:

1. The material is to be used only for the research purposes described in your request and is not to be distributed, published, or used in any other manner without written permission from ETS.

2. You agree to use the following credit line following the source citation on the page where you use the material and/or other appropriate location:

   Reprinted by permission of Educational Testing Service, the copyright owner.

3. The material must be placed in an appendix to the dissertation.

4. You will assume responsibility for the analyses and conclusions of your study and, other than acknowledgment of the source of the material, you will not use ETS' name in such a way as to imply participation in or responsibility for your research.

5. Please send a copy of your research results (and/or dissertation), when available, to Juana Betancourt, Educational Testing Service, Office of General Counsel, Mail Stop 42-L, Rosedale Road, Princeton, NJ 08541.

Educational
Testing Service

Rosedale Road MS23C
Princeton, NJ 08541
phone: (609) 734-5071
fax: (609) 734-1700
web: www.ets.org

If the above arrangements are satisfactory, please print and sign two copies of this letter, and return one to me at the above listed address.

Sincerely,

Juana Betancourt

Juana Betancourt
Manager, Copyright Group

ACCEPTED AND AGREED TO:

BY:_____

TITLE:_____

DATE:_____

Appendix

Materials Covered by this Permission:

Pages 78-81
TOEFL® Paper-Based Testing Practice Tests Volume 1

Questions 10-21

Basic to any understanding of Canada in the 20 years after the Second World War is the country's impressive population growth. For every three Canadians in 1945, there were over five in 1966. In September 1966 Canada's population passed the 20 million mark. Most of this surging growth came from natural increase. The depression of the 1930's and the war had held back marriages, and the catching-up process began after 1945. The baby boom continued through the decade of the 1950's, producing a population increase of nearly fifteen percent in the five years from 1951 to 1956. This rate of increase had been exceeded only once before in Canada's history, in the decade before 1911, when the prairies were being settled. Undoubtedly, the good economic conditions of the 1950's supported a growth in the population, but the expansion also derived from a trend toward earlier marriages and an increase in the average size of families. In 1957 the Canadian birth rate stood at 28 per thousand, one of the highest in the world.

After the peak year of 1957, the birth rate in Canada began to decline. It continued falling until in 1966 it stood at the lowest level in 25 years. Partly this decline reflected the low level of births during the depression and the war, but it was also caused by changes in Canadian society. Young people were staying at school longer; more women were working; young married couples were buying automobiles or houses before starting families; rising living standards were cutting down the size of families. It appeared that Canada was once more falling in step with the trend toward smaller families that had occurred all through the Western world since the time of the Industrial Revolution.

Although the growth in Canada's population had slowed down by 1966 (the increase in the first half of the 1960's was only nine percent), another large population wave was coming over the horizon. It would be composed of the children of the children who were born during the period of the high birth rate prior to 1957.

10. What does the passage mainly discuss?
    (A) Educational changes in Canadian society
    (B) Canada during the Second World War
    (C) Population trends in postwar Canada
    (D) Standards of living in Canada

11. According to the passage, when did Canada's baby boom begin?
    (A) In the decade after 1911
    (B) After 1945
    (C) During the depression of the 1930's
    (D) In 1966

GO ON TO THE NEXT PAGE

12. The word "five" in line 3 refers to
    (A) Canadians
    (B) years
    (C) decades
    (D) marriages

13. The word "surging" in line 4 is closest in meaning to
    (A) new
    (B) extra
    (C) accelerating
    (D) surprising

14. The author suggests that in Canada during the 1950's
    (A) the urban population decreased rapidly
    (B) fewer people married
    (C) economic conditions were poor
    (D) the birth rate was very high

15. The word "trend" in line 11 is closest in meaning to
    (A) tendency
    (B) aim
    (C) growth
    (D) directive

16. The word "peak" in line 14 is closest in meaning to
    (A) pointed
    (B) dismal
    (C) mountain
    (D) maximum

17. When was the birth rate in Canada at its lowest postwar level?
    (A) 1966
    (B) 1957
    (C) 1956
    (D) 1951

18. The author mentions all of the following as causes of declines in population growth after 1957 EXCEPT
    (A) people being better educated
    (B) people getting married earlier
    (C) better standards of living
    (D) couples buying houses

19. It can be inferred from the passage that before the Industrial Revolution
    (A) families were larger
    (B) population statistics were unreliable
    (C) the population grew steadily
    (D) economic conditions were bad

20. The word "It" in line 25 refers to
    (A) horizon
    (B) population wave
    (C) nine percent
    (D) first half

21. The phrase "prior to" in line 26 is closest in meaning to
    (A) behind
    (B) since
    (C) during
    (D) preceding

GO ON TO THE NEXT PAGE

Questions 1-9

The ocean bottom — a region nearly 2.5 times greater than the total land area of the Earth — is a vast frontier that even today is largely unexplored and uncharted. Until about a century ago, the deep-ocean floor was completely inaccessible, hidden beneath
Line waters averaging over 3,600 meters deep. Totally without light and subjected to intense
(5) pressures hundreds of times greater than at the Earth's surface, the deep-ocean bottom is a hostile environment to humans, in some ways as forbidding and remote as the void of outer space.

Although researchers have taken samples of deep-ocean rocks and sediments for over a century, the first detailed global investigation of the ocean bottom did not
(10) actually start until 1968, with the beginning of the National Science Foundation's Deep Sea Drilling Project (DSDP). Using techniques first developed for the offshore oil and gas industry, the DSDP's drill ship, the Glomar Challenger, was able to maintain a steady position on the ocean's surface and drill in very deep waters, extracting samples of sediments and rock from the ocean floor.

(15) The Glomar Challenger completed 96 voyages in a 15-year research program that ended in November 1983. During this time, the vessel logged 600,000 kilometers and took almost 20,000 core samples of seabed sediments and rocks at 624 drilling sites around the world. The Glomar Challenger's core samples have allowed geologists to reconstruct what the planet looked like hundreds of millions of years ago and to
(20) calculate what it will probably look like millions of years in the future. Today, largely on the strength of evidence gathered during the Glomar Challenger's voyages, nearly all earth scientists agree on the theories of plate tectonics and continental drift that explain many of the geological processes that shape the Earth.

The cores of sediment drilled by the Glomar Challenger have also yielded
(25) information critical to understanding the world's past climates. Deep-ocean sediments provide a climatic record stretching back hundreds of millions of years, because they are largely isolated from the mechanical erosion and the intense chemical and biological activity that rapidly destroy much land-based evidence of past climates. This record has already provided insights into the patterns and causes of past climatic change — information that may be used to predict future climates.

1. The author refers to the ocean bottom as a "frontier" in line 2 because it
   (A) is not a popular area for scientific research
   (B) contains a wide variety of life forms
   (C) attracts courageous explorers
   (D) is an unknown territory

2. The word "inaccessible" in line 3 is closest in meaning to
   (A) unrecognizable
   (B) unreachable
   (C) unusable
   (D) unsafe

GO ON TO THE NEXT PAGE

3. The author mentions outer space in line 7 because
   (A) the Earth's climate millions of years ago was similar to conditions in outer space
   (B) it is similar to the ocean floor in being alien to the human environment
   (C) rock formations in outer space are similar to those found on the ocean floor
   (D) techniques used by scientists to explore outer space were similar to those used in ocean exploration

4. Which of the following is true of the Glomar Challenger?
   (A) It is a type of submarine.
   (B) It is an ongoing project.
   (C) It has gone on over 100 voyages.
   (D) It made its first DSDP voyage in 1968.

5. The word "extracting" in line 13 is closest in meaning to
   (A) breaking
   (B) locating
   (C) removing
   (D) analyzing

6. The Deep Sea Drilling Project was significant because it was
   (A) an attempt to find new sources of oil and gas
   (B) the first extensive exploration of the ocean bottom
   (C) composed of geologists from all over the world
   (D) funded entirely by the gas and oil industry

7. The word "strength" in line 21 is closest in meaning to
   (A) basis
   (B) purpose
   (C) discovery
   (D) endurance

8. The word "they" in line 26 refers to
   (A) years
   (B) climates
   (C) sediments
   (D) cores

9. Which of the following is NOT mentioned in the passage as being a result of the Deep Sea Drilling Project?
   (A) Geologists were able to determine the Earth's appearance hundreds of millions of years ago.
   (B) Two geological theories became more widely accepted by scientists.
   (C) Information was revealed about the Earth's past climatic changes.
   (D) Geologists observed forms of marine life never before seen.

GO ON TO THE NEXT PAGE

CENGAGE Learning™

NELSON EDUCATION

Global Rights and Permissions Administration

20 Davis Drive, Belmont, California 94002 USA
Phone: 800-730-2214 or 650-413-7456 Fax: 800-730-2215 or 650-595-4603
Email: permissionrequest@cengage.com

Submit all requests online at www.cengage.com/permissions.

Response # **217198**

09/27/2009

Yonghyo Park
University of Kansas
1810 Bagley Dr. #10
Lawrence, KS 6044

Thank you for your interest in the following Cengage Learning/Nelson Education, or one of their respective subsidiaries, divisions or affiliates (collectively, "Cengage/Nelson") material.

Title:	Introduction to Classical and Modern Test Theory 1E		
Author(s):	CROCKER	ISBN:	9780030616341 (0030616344)
Publisher:	Wadsworth	Year:	1986
Specific material:	Text only under subheadline "THE CLASSICAL TRUE SCORE MODEL" pages 106-107;		
Total pages:	2		

For use by:

Name:	Park
School/University/Company:	University of Kansas
Course title/number:	research for doctoral dissertation
Term of use:	Life of Adoption 2009

Intended use:
For inclusion in a research paper, master's thesis, doctoral dissertation, or manuscript to be prepared and submitted for publication. If at a later date a publishing contract is achieved, additional permission will be required.

The non-exclusive permission granted in this letter extends only to material that is original to the aforementioned text. As the requestor, you will need to check all on-page credit references (as well as any other credit / acknowledgement section(s) in the front and/or back of the book) to identify all materials reprinted therein by permission of another source. Please give special consideration to all photos, figures, quotations, and any other material with a credit line attached. You are responsible for obtaining separate permission from the copyright holder for use of all such material. For your convenience, we may also identify here below some material for which you will need to obtain separate permission.

This credit line must appear on the first page of text selection and with each individual figure or photo:

> From CROCKER. *Introduction to Classical and Modern Test Theory*, 1E. © 1986 Wadsworth, a part of Cengage Learning, Inc. Reproduced by permission. www.cengage.com/permissions

Sincerely,

Sheila Harris
Rights and Permissions Editor

You forwarded this message on 2009-10-04 5:27 PM.

Park, Yong-Hyo

From: Barelli, Lisa [Lisa.Barelli@abc.com] **Sent:** Fri 2009-10-02 2:05 PM
To: Park, Yong-Hyo
Cc:
Subject: RE: Message from www.hyperionbooks.com
Attachments:

Dear Yonghyo,

As this is for academic use only, please feel free to proceed, as long as you properly cite the book. If you seek to use the excerpt for publication, however, please get back in touch.

Sincerely,
Lisa

_____
Please see new contact info below!
Lisa Barelli, Administrator, Contracts & Permissions
Hyperion, an imprint of Buena Vista Books
114 Fifth Avenue, New York, NY 10011
Phone: (917) 661-2086 * Fax: (917) 661-6488

-----Original Message-----
From: admin@hyperionbooks.com [mailto:admin@hyperionbooks.com]
Sent: Friday, September 18, 2009 4:25 PM
To: Barelli, Lisa
Subject: Message from www.hyperionbooks.com

****
****
Name: Yonghyo Park
Email: seubang@ku.edu
Date: 18 Sep 2009
Time: 16:24:36

Comments:

To whom it may concern,

This is Yonghyo Park, who is a doctoral student at School of Education, University of Kansas. I have a question about using a passage excerpted from a book published by Hyperion
I am going to excerpt a passage (p.61~62) from a book titled "The Last Lecture" by Randy Pausch & jeffrey Zaslow in 2008, and I am going to use the passage for a study for my doctoral dissertation.

My study is about EFL learners' reading strategy in reading academic text. So, I am going to use the passage for one example of reading texts. Participants in my study will read the passage for their reading text, and then I would like to include the passage in appendices in my final unpublished dissertation. That's all that I am planning to use the passage for my study.

I am wondering if you can give me a permission for this. I look forward to your response as quick as possible.

If I sent this email to a wrong person, please forward this email to a right person.

Thank you so much for your assist in advance.

Sincerely,

Yonghyo Park.

Park, Yong-Hyo
PhD candidate, Dept. of Curriculum & Teaching (TESL major)
University of Kansas
Phone: (785)764-6687
Email: seubang@ku.edu