SYNTACTIC DIFFERENCES AND FOREIGN LANGUAGE READING ANXIETY: AN INVESTIGATION OF TAIWANESE UNIVERSITY STUDENTS

DISSERTATION

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Abstract

This study explored the potential link between Chinese-English syntactic differences and English reading anxiety in Chinese learners of English. Using the survey and the immediate written recall protocol, this study examined 202 Taiwanese university students’ perspectives on issues concerning (a) the extent of English reading anxiety they experienced; (b) factors attributing to their English reading anxiety and their reading anxiety associated with Chinese-English syntactic differences; (c) the role of Chinese-English syntactic differences in English reading anxiety; and (d) whether there exists a certain type of English structure which elicits a higher level of English reading anxiety in Taiwanese university students. The 202 survey respondents’ English reading anxiety and reading anxiety associated with Chinese-English syntactic differences were measured using two survey instruments: the Foreign Language Reading Anxiety Scale (FLRAS; Saito, Horwitz, & Garza, 1999) and the Survey of Anxiety in Reading Chinese-English Syntactic Differences (SARCE, a self-designed measure), respectively. Based upon levels of English reading anxiety, 30 out of the 202 survey respondents were further selected as recall participants in an attempt to understand how they comprehended texts containing either none or gross Chinese-English syntactic differences.

The survey results confirmed the overall results of the written recall protocol data. First of all, the results indicated that the participants experienced a mid-to-high level of English reading anxiety, as could be predicted by three background variables—frequency
of reading English per week, informal English learning experience, and length of time staying in an English-speaking country. The results also showed that most participants regarded Chinese-English syntactic differences as an important factor causing their English reading anxiety. In addition, it was found that the English relative clause, the English passive, and anxiety in reading an authentic text that contains large Chinese-English syntactic differences were three underlying common factors contributing to the participants’ reading anxiety associated with Chinese-English syntactic differences. Furthermore, the English relative construction was found to elicit higher English reading anxiety than did the English passive construction. Lastly, apart from the major influence of syntactic differences, the study showed that other textual factors (such as word recognition and syntactic features) and non-textual factors (such as intratextual perception, prior linguistic knowledge in L1, L2 reading proficiency, and perceived reading difficulties) could affect reading comprehension and the shaping of English reading anxiety.

This study concluded that due to the complex nature of foreign language reading anxiety, further research is needed to examine whether syntactic differences between an alphabetic language and a non-alphabetic language or among languages of the same writing system have an actual or long-term impact on the formation of FL reading anxiety.
Dedication

To Amita Buddha, Avalokitesvara Bodhisattva, Manjushri Bodhisattva,
my grandmother, and my beloved parents
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Pursuing the doctoral study is one of the most important decisions that I have ever made in my life. Looking back, I never thought that I would actually complete my study one day. However, this dream has come true. This is a dream full of tears, surprises, and challenges. I would like to thank people who have helped and encouraged me in the past four years. I am most appreciative of the support and guidance of Amita Buddha, Avalokitesvara Bodhisattva, and Manjushri Bodhisattva. Without them, I would not have had the courage, the perseverance, and the wisdom to achieve my goal. I especially want to show my gratitude to my dissertation committee: my advisor Dr. Keiko Samimy, Dr. Eric Anderman, and Dr. Alan Hirvela. Having Dr. Keiko Samimy as my advisor has been truly blissful. I sincerely thank Dr. Samimy for her tremendous patience, kindness, and constant support. She is a role model for me for she has taught me what it means to be a mentor, a scholar, and a caring teacher. Without her, I could not finish my dissertation and overcome challenges that I faced in my doctoral life. I would also thank Dr. Eric Anderman, who generously helped me with the research design and kindly provided constructive feedback on my study. I have learned so much from his expertise and scholarship. Furthermore, I would thank Dr. Alan Hirvela, who suggested using the recall protocol to explore the topic of my interest. Thanks to his suggestion, I was able to
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CHAPTER 1

INTRODUCTION

1.1 Background

Since the 1970s, foreign language (FL) research has acknowledged the indispensable role of anxiety in foreign language learning (Cheng, 2004). Krashen’s affective filter hypothesis (1985), for instance, indicates that successful and efficient language learning occurs when learners learn with a low level of anxiety (i.e., when the filter is not lifted to block input processing). Following MacIntyre and Gardner’s (1991a) notion that FL anxiety is “situation-specific” (p.85) and unique in language classrooms, many researchers, such as Horwitz, Horwitz, and Cope (1986), Gardner and MacIntyre (1993), and Oxford (1999), have started to explore FL anxiety with respect to its nature and influences. For Horwitz, Horwitz, and Cope, FL anxiety should be conceived as situational anxiety because it is “a distinct complex of self-perceptions, beliefs, feelings and behaviors related to classroom language learning arising from the uniqueness of the language learning process” (p. 128). For Gardner and MacIntyre (1993) and Oxford (1999), the definition of language anxiety seems blurry because language anxiety could form as a result of one’s personality traits (i.e., trait anxiety) and emotions (i.e., state anxiety) or could be triggered by specific situations (i.e., situational anxiety). At the outset of FL learning, learners may experience “transitory episodes of fear” in a situation
that requires them to use their FL (Oxford, 1999, p. 4), but if this fear or anxiety continues with time and does not disappear as learners accumulate more FL learning experiences, chances are that this fear and anxiety will transform into a personality trait that could impede learners’ language performance in the future (Horwitz, Horwitz, & Cope, 1986; Oxford, 1999). To summarize, researchers’ multiple interpretations of language anxiety significantly echo the “epistemologically inaccessible” nature of anxiety (Casado & Dereshiwsky, 2001, p. 539). Just as Scovel (1978) indicated, anxiety is by nature a multidimensional construct in that it consists of “a cluster of affective states” impacted by intrinsic and extrinsic learner factors (p. 134). Therefore, no single factor can fully explain the phenomenon of anxiety in FL learning.

Foreign language anxiety is worthy of examination because FL learning usually provokes more anxiety than do other types of academic learning (e.g., science or mathematics) (Horwitz, Horwitz, & Cope, 1986). In most cases, language learners tend to experience more anxiety when they feel incapable of expressing themselves well in the FL (Ganschow et al., 1994; McCroskey, Gudykunst, & Nishida, 1985; Phillips, 1992). The impact of anxiety on overall language learning has been recognized in the field of FL. Although findings of previous research suggest that language anxiety can either facilitate or debilitate language learning (Scovel, 1978), in most cases, language anxiety has a detrimental effect on language performance (e.g., Bailey, & Daley, 1999; MacIntyre, Noels, & Clement, 1997; Onwuegbuzie, Mills, Pajares, & Herron, 2006). Language learners are inclined to learn more and better in an anxiety-free environment (Gardner & MacIntyre, 1993; Liu & Jackson, 2008).
Although there are numerous discussions concerning anxiety in language learning, very little is known about anxiety associated with FL reading. In FL reading research, researchers tend to examine FL reading from the linguistic or cognitive perspective. Chan (2004a, 2004b) and Chen (2005), for instance, noted that first language (L1) syntactic transfer has a debilitating effect on second language (L2) reading. Similarly, Koda (2004) identified the crucial role of L1 in L2 reading, asserting that language distance (between L1 and L2) is a significant factor influencing L2 reading. Apart from Chan, Chen, and Koda, Carlo and Royer (1999) and Bang and Zhao (2007) noted that, under the influence of L1, learners of different languages would use different types of reading strategies to process FL reading. For example, Chinese readers would usually transfer visual-orthographic strategies specific to Chinese to their reading of English, whereas Korean readers would employ phonological strategies instead to process texts written in English (Bang & Zhao, 2007). To summarize, previous empirical studies are more concerned with how readers process L2 reading (Koda, 2004) than with what leads to unsuccessful L2 reading. Compared with linguistic variables, very little attention has been paid to affective variables (such as anxiety) and their impact on L2/FL reading.

In recent FL anxiety research, researchers have also noted that a large portion of anxiety research has been conducted mainly on speaking-related anxiety, for speaking has long been viewed as the most anxiety-provoking skill for learners to acquire (Cheng, Horwitz, & Schallert, 1999; Young, 1990). As a result, very little research has been conducted on reading anxiety in FL, as can be observed from the prevalent use of the Foreign Language Classroom Anxiety Scale (FLCAS) in FL anxiety research. Developed
by Horwitz, Horwitz, and Cope (1986), the FLCAS was found to assess primarily speaking or listening anxieties: 20 out of 33 items (60.6%) are related to speaking or listening (Saito, Horwitz, & Garza, 1999). Since the FLCAS has become the primary instrument used to measure FL anxiety in many recent studies (e.g., Casado & Dereshiwsky, 2001; Dewaele, 2005; Onwuegbuzie, Bailey & Daley, 1999), it is not difficult to find that most anxiety research actually investigates anxiety related to speaking components. Hence, up to now, despite a small number of studies designed to investigate anxiety associated with FL reading, our understanding of what attributes to FL reading anxiety and how FL reading anxiety is actually formed remains incomplete in the field of FL learning.

There is a need to investigate anxiety in reading a second or foreign language because L2/FL learning is not limited to the acquisition of speaking-related skills. The acquisition of L2/FL reading skills is important as well, especially in academic contexts, where successful learning is preliminarily determined by one’s ability to read (Grabe, 2009). Good learners know how to read texts efficiently and critically for different purposes, and it is through reading that they develop the abilities to interpret, synthesize, and evaluate (Grabe, 2009). However, the development of L2/FL reading ability is difficult for most L2/FL learners. In most cases, L2/FL learners are faced with difficulty in developing the needed reading ability and skills in the target language because L2/FL reading is affected by multiple factors, such as language proficiency in L1/L2, L1-L2 distance, culture, and affective variables (Aebbersold & Field, 1997). Although much research has examined language-related factors in L2/FL learning (Argyri & Sorace,
2007; Bialystok, McBride-Chang, & Luk, 2005; Cardenas-Hagan, Carlson, & Pollard-Durodola, 2007; Clarke, 1980; Corder, 1992; Wade-Woolley, 1999), comparatively little investigation has focused on the impact of affective variables (such as anxiety) on L2/FL reading (e.g., Koda, 2004; Saito, Horwitz, & Garza, 1999). Discussing L2/FL reading from an additional psychological perspective is necessary because much research has identified the negative effect of anxiety on L2/FL reading (e.g., Brantmeier, 2005; Gonen, 2007; Hsiao, 2002; Saito, Horwitz, & Garza, 1999; Sellers, 2000). For instance, Gass and Selinker (2001), citing Hoffman, critically pointed out that:

Intense anxiety directs one’s attention to physical features of words (acoustic properties, order of presentation, phonetic similarities) and that occurs to the relative neglect of semantic content. This suggests that affect can determine the extent to which semantic and nonsemantic modes of processing are brought into play. (Hoffman, 1986, as cited in Gass & Selinker, 2001, p.358)

As shown, the act of FL reading is affected by a complex mix of linguistic and nonlinguistic factors inextricably linked together; a high level of anxiety usually distracts language learners’ attention from meaning and language forms and may further undermine learners’ FL reading development in the long run (Gass & Selinker, 2001). Given the tremendous impact of anxiety on L2/FL reading, examining how anxiety influences learners’ reading abilities can contribute to the existing research on L2/FL reading.
1.1.1 Studies on Foreign Language Reading Anxiety

Up to now, relatively few attempts have been made to investigate FL reading anxiety. The most seminal research on FL reading anxiety was conducted by Saito, Horwitz, and Garza (1999). In their study “Foreign Language Reading Anxiety,” they employed the Foreign Language Reading Anxiety Scale (FLRAS) to assess American university students’ reading anxiety in Japanese, Russian, and French. They found that anxiety had a tremendous impact on students’ FL reading and that FL reading anxiety was in nature different from overall FL anxiety. Apart from Saito, Horwitz, and Garza, an increasing number of researchers have attempted to investigate FL reading anxiety in association with other variables, such as assessment methods (Oh, 1992), reading comprehension ability (Brantmeier, 2005; Sellers, 2000), gender (Matsuda & Gobel, 2004), the use of reading strategies (Zhou, 2008), and so forth. With respect to assessment methods, Oh (1992) used the Cognitive Interference Questionnaire (CIQ) to examine the influence of testing methods on FL reading anxiety. Her study showed that different assessment methods would produce different levels of FL reading anxiety among Korean university students. Regarding the variable of reading comprehension ability, both Sellers (2000) and Brantmeier (2005) utilized the FLRAS to assess FL reading anxiety in American learners of Spanish. It was found that anxious learners tended to have a lower level of reading comprehension ability than did their less-anxious counterparts. In addition to assessment methods and reading comprehension ability, FL reading anxiety has also been studied together with the variables of gender and the use of
reading strategies. With respect to gender, Matsuda and Gobel (2004) employed the FLRAS and the FLCAS to measure FL reading anxiety associated with gender. Their study indicated that gender was not a significant predictor of Japanese students’ anxiety in reading English as a foreign language. As for the use of reading strategies, Zhou’s survey research showed that, in China, anxious EFL readers and less anxious EFL readers differed in their use of reading strategies; that is, highly anxious readers were unable to use reading strategies efficiently while processing texts written in English. Overall, previous research has shown that anxiety does not work in isolation to affect FL reading. Multiple factors should also be taken into consideration in the interpretation of FL reading anxiety. While previous studies have highlighted the significant influence that anxiety can have on FL reading, they are rather limited in terms of quantity and the selection of participants, research paradigms, and variables investigated. There is uncertainty whether survey results obtained mainly from participants in the Western context reveal a complete picture of FL reading anxiety (e.g., Sparks, Ganschow, & Javorsky, 2000). The present study is of great importance because it addresses these doubts and concerns. In the following section, I will explain in detail the limitations of previous anxiety research in FL reading.

1.2. Statement of the Problem

Today, there exist some crucial issues in FL reading anxiety research that need further exploration. First, the line of FL reading anxiety research is lacking in quantity and in its selection of research paradigms and participants. Reviews of studies on FL
anxiety show that very few studies have been conducted on FL reading anxiety (e.g., Gonen, 2007; Saito, Horwitz & Garza, 1999). With respect to the selection of research paradigms, previous research on FL reading anxiety has been predominantly survey-based (e.g., Brantmeier, 2005; Gonen, 2007; Matsumura, 2001; Miyanaga, 2005; Saito, Horwitz & Garza, 1999; Sellers, 2000). In other words, the phenomenon of FL reading anxiety is interpreted mainly through the quantitative analysis of surveys. Since anxiety is a multidimensional construct (Scovel, 1978), FL reading anxiety should be analyzed and examined with more than simply the quantitative approach. Thus, the incorporation of other research paradigms (e.g., the qualitative approach) would be beneficial to our understanding of what FL reading anxiety really is. Next, with respect to the selection of participants, very little research has attempted to investigate FL reading anxiety among a wider population of FL learners (Cheng, Horwitz, & Schallert, 1999; Hsiao, 2002). Cheng, Horwitz, and Schallert (1999) and Hsiao (2002), for instance, indicated that the majority of participants recruited in previous reading anxiety research were actually from Western countries. To understand how non-Western students perceive FL reading anxiety, the recruitment of a greater number of participants from Asian contexts is therefore necessary.

The second issue lies in the limited scope of anxiety research in FL reading. Most anxiety research tended to examine FL reading anxiety together with individual differences (e.g., gender, reading comprehension ability, etc.) at the expense of linguistic variables (e.g., syntactic differences, orthography, and so forth). Since FL reading is a complex cognitive process affected by L1 and L2 variables (Koda, 2007), linguistic
variables such as syntactic differences should not be overlooked as we examine the influence of anxiety on FL reading. The syntactic differences between two languages are worthy of exploration, especially when we consider reading anxiety in learners whose native language differs tremendously from the FL with respect to syntax (e.g., Cheng, 1993; Cheung, Chan, & Chong, 2007; Li & Thompson, 1989).

Comparing English and Chinese for example, since English is an alphabetic language and Chinese is a logographic language, many syntactic differences have been observed to exist between the two languages. For instance, unlike English, which follows a strict word order of subject-verb-object (SVO), a typical Chinese sentence permits both the SVO word order and the SOV word order (Odlin, 1989). In addition, Chinese is a “topic-prominent language”, whereas English is a subject-prominent language (Li & Thompson, 1989, p. 15; Xiao, 2002). These syntactic differences can play a significant role in the way Chinese learners read English (Chen, 2005; Green, 1996; Yip & Matthews, 2000). For instance, previous studies have shown that Chinese students’ English reading problems and production errors usually result from syntactic interference (e.g., Odlin, 1989) and from students’ lack of awareness of Chinese-English syntactic differences (Chan, 2004a, 2004b; Cheng, 1993). In this sense, Chinese-English syntactic differences may be a crucial factor to consider as we investigate the role of anxiety in Chinese speakers’ English reading. Unfortunately, it appears that no research has ever been conducted to examine how Chinese-English syntactic differences shape English reading anxiety in Chinese students.
The third issue specifically concerns the lack of research on FL reading anxiety in Taiwan. In the Electronic Theses and Dissertations System, an online research database provided by The National Central Library in Taiwan, only seven theses addressing the topic of FL reading anxiety can be found, and these were published between 2002 and 2008. Since the Electronic Theses and Dissertation System is one of the most comprehensive, well-known, and widely used research databases in Taiwan, the small number of empirical studies retrieved from the database is rather surprising. However, this does not suggest that language anxiety is an underdeveloped topic in Taiwan. In fact, 30 studies on language anxiety, conducted between 1999 and 2009, can be found in the same database. These results suggest that, first, in Taiwan’s FL research, overall language anxiety has gained more attention than has skill-specific anxiety such as FL reading anxiety. Second, these results indicate that the topic of reading anxiety has been neither well-addressed nor fully studied among Taiwanese EFL learners.

In fact, more research on FL reading anxiety is needed in Taiwan because reading anxiety has a shaping influence on Taiwanese students’ reading performance (Hsiao, 2002). In addition to language variables (such as FL reading proficiency), affective variables such as anxiety usually determine how well Taiwanese students read in English. A growing number of studies have shown the negative effect of anxiety on Taiwanese students’ reading of English as a foreign language. For instance, with the use of the FLRAS, Huang (2001) discovered that many Taiwanese university students had been anxious about reading English since they were in senior high school and that anxiety is a significant factor in predicting poor reading performance. Anxiety, according to Huang,
would impede English reading comprehension for Taiwanese students. In addition to Huang, Hsu (2004) noted that junior college students also suffered from English reading anxiety. Through the FLRAS and a cognitive interference questionnaire, Hsu found that less-anxious readers recalled more passage content than did their more-anxious counterparts. Complementing the research by Huang and Hsu, Hou (2008) paid particular attention to English reading anxiety in non-English majors in a vocational high school. Through such instruments as the FLRAS, the Foreign Language Learning Motivation Scale, a background questionnaire, and a reading comprehension test, Hou found that anxiety would result in poor reading comprehension ability and lower students’ motivation for learning English. Overall, the findings of the above studies demonstrate that anxiety is harmful to Taiwanese students’ English reading performance. These findings also indicate that anxiety should be of considerable concern to language teachers who attempt to diagnose the English reading problems of Taiwanese students. As explained above, students, regardless of their proficiency levels, tend to learn better and more efficiently in an anxiety-free environment. If improving students’ levels of reading proficiency is the ultimate goal of reading instruction, Taiwanese teachers should learn how to create an anxiety-free environment for their students and become aware that learners’ reading performance is affected not only by their L1/L2 skills, but also by the anxiety they experience while processing texts written in English. In this vein, anxiety should deserve more attention in reading research in Taiwan. After all, to ignore the potential effect of anxiety on FL reading is to reject the fact that “language learning is a complex interpersonal and social endeavor” (Horwitz, 2000, p. 258). In addition to the
linguistic and cognitive perspectives, foreign language reading should also be interpreted using the psychological perspective, which also applies to reading research in Taiwan.

This present study was conducted to address the above concerns. First, responding to the call for greater diversity in the selection of participants and research paradigms, this study employed a quantitatively-focused, mixed-methods design to investigate FL reading anxiety among a less-examined population, i.e., Asian students. Specifically, the study explored further Taiwanese university students’ English reading anxiety. Using a mixed methods design incorporating both quantitative and qualitative data, the results of this study should add more insights to the existing quantitative research on FL anxiety research. Second, given that syntactic differences are a significant but less-examined factor in accounting for Asian students’ FL reading anxiety (e.g., Chan, 2004a, 2004b; Odlin, 1989), this study paid particular attention to the role of Chinese-English syntactic differences in Taiwanese university students’ perceptions of English reading anxiety. Since no research has yet been conducted to address that topic, the results of this study should open new directions for future research on whether syntactic differences are a determinant of Taiwanese students’ perceptions of FL reading anxiety.

1.3 Research Questions

In order to investigate the role of Chinese-English syntactic differences in Taiwanese university students’ perceptions of English reading anxiety, six research questions are posed in this concurrent mixed methods study:
1. To what extent do Taiwanese university students experience anxiety in reading English?

2. What background variables best predict English reading anxiety in Taiwanese university students?

3. What are the underlying common factors behind Taiwanese university students’ English reading anxiety that is associated with Chinese-English syntactic differences?

4. What role do Chinese-English syntactic differences play in Taiwanese university students’ English reading anxiety?

5. Which English structure may evoke a higher level of English reading anxiety in Taiwanese university students?

6. How do textual and non-textual factors influence Taiwanese university students’ reading of two texts written in different structures?

1.4 Significance of the Study

The present study contributes to anxiety research in four aspects. First, due to the scarcity of publications on FL reading anxiety, the study provides FL reading research with new insights into how a specific population, i.e., Taiwanese university students, perceives FL reading anxiety. Second, unlike previous research in which quantitative research methods were much favored for use, the current study values equally the qualitative and quantitative research paradigms. Since previous anxiety research was mostly survey-based, the qualitative data provided by this study not only broaden the scope of past research but also offer a qualitative account of FL reading anxiety. Third, this study may become a springboard for future research to examine FL reading anxiety
associated with syntactic differences, a variable which has been overlooked in past research. Through this study, researchers are able to gain a better understanding of how syntactic differences between languages using different writing systems (i.e., an alphabetic language and a logographic language) may shape learners’ perceptions of FL reading anxiety. Results and findings of the study therefore serve as a new index for future researchers who are interested in interpreting FL reading from the psychological and linguistic perspectives. Fourth, this study enhances FL reading teachers’ understanding of what accounts for their students’ reading anxiety. If syntactic differences play a significant role in students’ FL reading anxiety, teachers should help students identify those syntactic differences to reduce reading anxiety.

1.5 Definition of Terms

**Anxiety**: Clinically, anxiety can be defined as “the subjective feeling of tension, apprehension, nervousness, and worry associated with an arousal of the autonomic nervous system” (Horwitz, Horwitz, & Cope, 1986, p. 125) and is categorized into three types, namely trait anxiety, state anxiety, and situational anxiety (MacIntyre & Gardner, 1991a). Of the three types of anxiety, trait anxiety is regarded as “a general personality trait that is relevant across situations,” state anxiety describes “the here-and-now experience of anxiety as an emotional state,” and situational anxiety functions as a specific type of anxiety which “occurs consistently over time within a given situation” (MacIntyre & Gardner, 1991a, p. 87).
Foreign language anxiety (FL anxiety): Horwitz, Horwitz and Cope (1986) defined foreign language anxiety as “a distinctive complex of self-perceptions, beliefs, feelings, and behaviors related to classroom language learning arising from the uniqueness of the language learning process” (p. 128). Basically, foreign language anxiety has been identified as anxiety that differs from anxieties provoked by other types of academic learning.

Foreign language reading anxiety (FL reading anxiety): FL reading anxiety is the type of anxiety language learners may experience as they read texts written in a second or foreign language. According to Saito, Horwitz, and Garza (1999), readers’ unfamiliarity with scripts, writing systems and cultural materials might lead to foreign language reading anxiety.

Chinese-English syntactic differences: The term Chinese-English syntactic differences refers to how the Chinese language differs from the English language in terms of syntactic structure. The so-called syntactic structure, according to Richards, Platt, and Platt (1998), refers to “the arrangement of words and morphemes into larger units (phrases, clauses, and sentences)” (pp. 461-462). Richards, Platt, and Platt (1998) also indicate that, due to large language distance, Chinese and English should be compared for differences in syntactic structure. Today, Chinese-English syntactic differences have long been the subject of many researchers’ interest in the fields of linguistics and foreign language learning. In the scope of this study, Chinese-English syntactic differences are defined as syntactic differences between Chinese and English in passive and relative
constructions. Passive and relative constructions are selected because Chinese and English differ considerably in the two constructions and because these are two of the most difficult structures for Chinese students to learn in English reading and writing (Li & Thompson, 1989; Odlin, 1989). In this study, Chinese-English syntactic differences are operationalized as the difference in the number of passive constructions and relative constructions between Article A and Article B of the reading task.

1.6 Basic Assumptions

This study incorporates the following assumptions:

1. In accordance with Saito, Horwitz, and Garza (1999), Sellers (2000), and Brantmeier (2005), foreign language reading anxiety was assumed to distinguish from overall foreign language anxiety and other types of skill-specific anxieties (i.e., writing anxiety, listening anxiety, speaking anxiety).

2. Given the high validity and reliability of the Foreign Language Reading Anxiety Scale (FLRAS) (Gonen, 2007; Matsumura, 2001; Miyanaga, 2005; Saito, Garza, & Horwitz, 1999), the FLRAS was assumed to be a valid and reliable instrument for assessing the FL reading anxiety of participants in this study.

3. Despite the facilitating effect of anxiety on FL learning, anxiety was assumed to be debilitating to foreign language reading in this study. This is because, in most cases, anxiety has a detrimental effect on reading performance (Gonen, 2007; Matsumura, 2001; Miyanaga, 2005; Saito, Garza, & Horwitz, 1999).
4. The participants of this study were assumed to understand what anxiety actually means and how it feels according to their life experiences. They were also assumed to have the ability to differentiate comfort from anxiety as they responded to the surveys of the study.

5. Due to the difficulty of having a direct and long-term observation of the participants’ responses to FL reading anxiety, the participants were assumed to be honest in reporting their typical levels of anxiety on the surveys.

6. Since the participants were university students who had passed the Joint College Entrance Examination held in Taiwan, they were assumed to have sufficient knowledge, skills, and experiences in reading their first language, Chinese. Hence, English reading for them was assumed to be a language problem, rather than a reading problem.

1.7 Limitations

The current study has several limitations. First, in view of the small size of the sample and the limited scope of this study, it is inappropriate to generalize the findings and results of this study to learners from other FL contexts. In other words, this empirical study is more helpful to researchers who are interested in investigating FL reading anxiety among students in the context of Taiwan. Second, some weaknesses may be found in the study’s selection and sampling of participants. Some selection errors, sampling errors, and frame errors may appear as a result of the convenience sampling method. Third, although employing a concurrent mixed methods design is conducive to
understanding a fuller picture of FL reading anxiety, the researcher acknowledges that the immediate recall data might be limited if participants did not honestly reveal their anxieties, feelings, or opinions about issues discussed.

1.8 Organization of the Study

This dissertation study is organized as follows: Chapter 1 consists of an overview of the research background, research problems, research purposes, and significance and limitations of the study. Chapter 2 reviews the existing literature that addresses background and critical issues relevant to the study; Chapter 3 describes the methodology of the study, including its research design, sample, instruments, data collection procedures, and data analysis. Chapter 4 presents the quantitative results of the survey data as well as the results of the immediate recall protocol data. Finally, Chapter 5 presents findings, discussions, and conclusions of the study, together with limitations, implications, and recommendations for future research. Appendices, including instruments and recall protocol questions, and a reference list are provided at the end of this study.
CHAPTER 2

REVIEW OF THE LITERATURE

This chapter reviews important issues and studies concerning foreign language (FL) anxiety, FL reading anxiety and syntactic differences between Chinese and English. The review is divided into three major sections. The first section is an overview of previous research on second language (L2) or foreign language anxiety. Since FL reading anxiety is related to but distinct from general L2/FL anxiety (Saito, Horwitz, & Garza, 1999; Sellers, 2000), reviewing studies on general L2/FL anxiety can enhance our understanding of FL reading anxiety. Specific issues such as the role of anxiety in L2/FL learning and the combined influence of anxiety and multiple factors on learners’ FL performance and achievement are discussed. The second section presents a review of previous studies on FL reading anxiety. Given that the Foreign Language Reading Anxiety Scale (FLRAS; Saito, Garza, & Horwitz, 1999) is the most widely used instrument to measure FL reading anxiety in previous research, the goals of the second section are to explain the development of the FLRAS and to review studies that have used the FLRAS. The final section of this chapter consists of an overview of how Chinese and English differ in terms of syntax. The review begins with a brief introduction of how the two languages differ in structure and word order and then
investigates how Chinese and English compare in the use of the passive construction and the relative construction. The two constructions are chosen because the Chinese passive and relative constructions vary tremendously from their English counterparts and because, among other structures, they have been viewed as two of the most difficult structures for Chinese students in their acquisition of English literacy skills.

2.1 Research on Foreign Language Anxiety

Research on L2/FL anxiety has been inconsistent in interpreting the influences of anxiety on language learning (Cheng, 2004; MacIntyre & Gardner, 1991a; Onwuegbuzie, Bailey, & Daley, 1999; Scovel, 1978). Over the past decade, many researchers have shown that language learning is affected by both facilitating anxiety and debilitating anxiety. For instance, Scovel (1978) indicated that facilitating anxiety “motivates the learner to ‘fight’ the new learning task; it gears the learner emotionally for approach behavior. Debilitating anxiety, in contrast, motivates the learner to ‘flee’ the new learning task, [and] it stimulates the individual emotionally to adopt avoidance behavior” (p. 139). In other words, debilitating anxiety prevents learners from using the L2 and participating in related practices, whereas facilitating anxiety encourages learners to tackle difficult L2 structures, thus improving their language performance at later stages. Despite the disparity between facilitating anxiety and debilitating anxiety, volumes of anxiety research have demonstrated that most learners experience more debilitating anxiety than facilitating anxiety in L2/FL learning and that a potentially negative relationship usually
exists between anxiety and language achievement (e.g., Horwitz, Horwitz, & Cope, 1986; MacIntyre & Gardner, 1991a).

Related to the debilitating and facilitative nature of language anxiety, there is some research interest in studying the interplay between overall language anxiety and L2/FL achievement or performance. In the literature, it is notable that no agreement has been reached regarding whether it is poor performance that leads to debilitating anxiety or whether it is debilitating anxiety that results in poor performance (Ganschow et al., 1994; MacIntyre & Gardner, 1991b). It seems that most studies have addressed the influence of anxiety on language performance, rather than the other way around. What is common in these studies is their finding that language anxiety might interfere with the process of L2/FL learning, although to what extent debilitating anxiety can actually lead to poor performance is still unclear (e.g., Gardner & MacIntyre, 1993; Onwuegbuzie, Bailey, & Daley, 1999; Saito & Samimy, 1996)

2.1.1 The Influence of Anxiety on L2/FL Learning

The negative effect of anxiety on language learning has been reported by many researchers. For instance, Horwitz, Horwitz, and Cope’s seminal research “Foreign Language Classroom Anxiety” (1986) delineates the negative impact of anxiety on formal FL learning. In order to measure FL classroom anxiety, Horwitz, Horwitz, and Cope developed the Foreign Language Classroom Anxiety Scale (FLCAS), which consists of three performance anxieties: communication apprehension, test anxiety, and fear of negative evaluation. The FLCAS was administered to 75 beginning learners of
Spanish in their study, and it was found that anxious learners were in fear of speaking and revealing personal opinions or feelings in the target language. From the results of the FLCAS, the researchers concluded that FL anxiety would have a negative effect on their participants’ language behaviors. It is notable in the literature that many researchers have indicated that the FLCAS actually measures speaking-related anxiety (Cheng, Horwitz, & Schallert, 1999; Saito, Horwitz, & Garza, 1999) in that 20 out of 33 items (60.6%) on the FLCAS are speaking related.

Saito and Samimy’s (1996) survey-based study also investigated the influence of FL anxiety on language performance among 257 college-level learners of Japanese in the U.S. To assess participants’ anxiety in learning Japanese, they developed a questionnaire adapted from instruments from Gardener, Ely, Samimy, and Tabuse. The questionnaire contained ten different variables including gender, year in college, length of time in Japan, time spent for study, language class anxiety, language class risk-taking, language class sociability, strength of motivation, attitude toward the Japanese class, and concern for the grade. Their results showed that, for beginning level students, year in college (4.7% of explained variance) best predicted language performance; for intermediate and advanced students, Language class anxiety best predicted language performance (17% and 22.4% of explained variance, respectively). Their findings supported MacIntyre and Gardner’s anxiety theory (1989, as cited in Saito and Samimy) in which learners tend to experience a greater level of language anxiety as they acquire more experience with the FL they are learning.
Different from the aforementioned studies, Onwuegbuzie, Bailey, and Daley (2000) noted a small but significant negative relationship between anxiety and achievement. The major purpose of their study was to use the Input Anxiety Scale, the Processing Anxiety Scale, and the Output Anxiety Scale to investigate the relationship between achievement and anxiety (input anxiety, processing anxiety, and output anxiety) among 224 college students who learned Japanese, French, or German as a foreign language. Findings of their study showed that, despite a negative relationship, achievement did not correlate with input anxiety, processing anxiety, or output anxiety. However, given the limited scope of their study, the researchers recommended for future research to investigate anxiety beyond the output stage, a stage which had been fully investigated in early research, and to examine “whether anxiety at one stage is more pervasive than at the other stages” (p. 1092).

Among various studies, Onwuegbuzie, Bailey, and Daley’s study (1999) is one that identifies both debilitating and facilitative nature of anxiety in FL and academic learning. Their survey-based study explored potential variables (such as demographic variables, self-perception, and course level) that might predict FL anxiety. Participants of this study were 210 college students learning Japanese, French, and German at a mid-southern university in the U.S. Six instruments (the FLCAS, the Self-Perception Profile for College Students, the Social Interdependence Scale, the Academic Locus of Control Scale, the Study Habit Inventory, and the Background Demographic Form) were employed to examine how anxiety interacts with 26 variables. Through Pearson product-moment correlations, multiple regression analyses, and a series of univariate analyses,
seven variables (age, academic achievement, prior history of visiting foreign countries, prior high school experience with foreign languages, expected overall average for current language course, perceived scholastic competence, and perceived self-worth) were found to correlate with FL anxiety. Importantly, an inverse relationship was found between anxiety and students’ expectations of their overall achievement in FL courses, perceived self-worth, perceived scholastic competence, and experiences of visiting foreign countries. Language anxiety however was positively correlated to age, general academic achievement, self-esteem, and self-concept. In addition to these findings, the researchers also found that “students with the highest levels of academic achievement also tend to have the highest level of foreign language anxiety,” suggesting that “facilitating anxiety may also be a factor in the acquisition of a foreign language” (pp. 230-231).

Similar to Onwuegbuzie, Bailey, and Daley, Ganschow et al. (1994) also reported that anxiety is not always harmful to FL learning. In their study, Ganschow et al. examined how native oral and written languages and FL aptitude are associated with FL classroom anxiety. Drawn from a pool of 501 volunteers, 37 college level learners of Spanish were classified into three groups, high-anxious (HI-ANX), average-anxious (AVE-ANX), and low-anxious (LO-ANX), based on their primary language skill levels, L2 aptitude, and levels of anxiety in FL learning. Results of their study showed that the LO-ANX group performed better than their HI-ANX counterpart in language skills and FL aptitude. However, the HI-ANX group was found to be good language learners because they performed better than the LO-ANX group on phonological tasks and in foreign language classes. Important in this study is that the researchers stress the need to
identify “‘subtypes’ of anxious learners—students who are anxious and do well in FL and students who are anxious and do poorly in FL” (p. 52).

Noteworthy in these studies is that anxiety has either a direct or an indirect influence on L2/FL learning. In addition, these studies investigate the combined influence of anxiety and other multiple variables (such as age, length of time learning FL, etc.) on L2/FL learning, which significantly echoes the notion that anxiety is not a unitary construct in L2/FL learning (e.g., Scovel, 1978). The shaping influence of anxiety and other factors in L2/FL learning will be reviewed in the following section.

2.1.2 Language Anxiety in Association with Other Variables

An increasing number of researchers have attempted to study how anxiety interacts with other variables in L2/FL learning because, in the words of Yan and Horwitz (2008), “anxiety does not work in isolation” (p. 152). To date, much attention has been paid to such factors as learners’ actual and self-perceived L2 proficiency level (MacIntyre, Noels, & Clement, 1997; Montgomery & Spalding, 2005), self-confidence, self-perception, experiences with L2 (Casado & Dereshiwsky, 2001; Gardner & MacIntyre, 1993), self-expectation (e.g., Ewald, 2007), personality factors such as introversion and extroversion (Dewaele, 2005), gender (Yan & Horwitz, 2008; Zhao, 2007), language learning beliefs (Onwuegbuzie, Bailey, & Daley, 1999), settings (e.g., Oxford, 1999; Pichette, 2009), and instructor variables (Onwuegbuzie, Bailey, & Daley, 1999; Oxford, 1999). Except for settings and instructor variables, most factors reviewed are intrinsic to learners. A detailed review of these studies is provided below.
2.1.2.1 Learners’ Actual and Perceived L2/FL Proficiency

Learners’ actual and perceived L2/FL proficiency could interact with anxiety, exerting an influence over their language performance. With respect to actual language proficiency, Gardener and MacIntyre (1993) asserted that “anxiety levels are highest early on in language learning and decline as proficiency increases” (p. 6), yet in some cases, no decline of anxiety level can be found to affect overall anxiety especially when temporary state anxiety becomes permanent trait anxiety. (Casado & Dereshiwsky, 2001; Oxford, 1999). For example, Casado and Dereshiwsky (2001) used the FLCAS to measure 283 beginning-level college students’ perception of FL anxiety in their Spanish classes in a U.S. university. Of the 283 randomly-selected participants, 114 from Spanish 101 were recruited as Group 1 and were surveyed in the first semester, whereas the remaining 169 from Spanish 102 were later recruited as Group 2 and were surveyed in the second semester. The two groups of participants were compared with regard to their perceived anxiety in their Spanish classes. Contrary to the researchers’ assumption, Group 2 displayed more anxiety than did Group 1, showing that anxiety did not decrease as learners became more proficient in Spanish. The researchers attributed this unexpected result to the increasing level of difficulty in Spanish 102; that is, the participants experienced more anxiety in learning Spanish as they moved up to Spanish 102, where the participants were required to learn more complex grammar and vocabulary.

With respect to self-perceived L2 proficiency level, it has been discovered that anxious learners and less anxious learners are different in their perceptions of L2 competence. As an illustration, MacIntyre, Noels, and Clement’s (1997) empirical study
explored the influence of anxiety on perceived and actual L2 competences. They utilized MacIntyre and Gardner’s French class anxiety scales as well as a “can-do” list (containing 4 skills tasks) to investigate perceived L2 competence of 37 English learners of French. Their overall findings showed that anxiety might negatively correlate with both perceived and actual L2 competences. That is, learners with high anxiety were inclined to underestimate their L2 competence, whereas learners with less anxiety tended to overestimate their L2 competence. It was also found that anxious students might communicate and express less than their less anxious peers. Lastly, except for reading, learners were biased when asked to evaluate their own proficiency in speaking, writing, and listening skills. Basically, the researchers recognized a “reciprocal link” between anxiety and proficiency (p. 279) by showing that “students who are reluctant to speak will not progress as rapidly as their more relaxed counterparts and more probably retain a relatively high level of anxiety” (p. 279).

2.1.2.2 Self-Confidence, Self-Esteem, and Self-Expectation

Self-confidence, self-esteem, and self-expectation are also significant variables to consider in the discussion of anxiety in L2/FL learning. Gardner and MacIntyre (1993) reviewed previous research and pointed out that self-confidence is positively related to L2/FL proficiency and motivation, but they did not specify the strength and direction of the relationship between self-confidence and anxiety. Rather, they concluded that language anxiety appears in response to multiple factors, such as experiences with L2, motivation, self-concept, and so forth.
In regard to self-esteem, Onwuegbuzie, Bailey, and Daley (1999) found a negative relationship between self-esteem and language anxiety. In their study, learners with highly perceived intellectual and scholastic competences and self-esteem tended to have lower anxiety in learning a foreign language. However, contrary to Onwuegbuzie, Bailey, and Daley, Ewald (2007) discovered different findings in her qualitative study. With an aim to investigate the role of FL learning anxiety in an upper-level Spanish class, Ewald found that students with higher self-expectation were inclined to be anxious language learners. In her study, Ewald first asked 21 university-level participants to complete a questionnaire adapted from the FLCAS and then had them discuss the questionnaire results together with the article “Foreign Language Classroom Anxiety” written by Horwitz et al. (1986). Three types of data—participants’ written questionnaire responses, class discussions, and reflections from discussion facilitators—were analyzed to show participants’ perspective on anxiety about learning Spanish. Findings showed that, in this upper-level class, learners’ anxiety was determined mainly by self-confidence, the instructor, the level of comfort felt, self-expectation, classroom practices (e.g., whether learners were being called on to answer questions, how well they had prepared before class, etc.), and beliefs about FL learning. Overall, although the participants experienced more anxiety in this upper-level class than in other beginning or intermediate-level classes, they agreed that anxiety about learning Spanish should be attributed to various factors as well. In other words, the participants agreed that no single factor could be used to fully explain language anxiety.
2.1.2.3 Personality

Apart from the variables discussed above, personality is another intrinsic factor worthy of examination in L2/FL anxiety research (Dewaele, 2005; Dewaele & Thirtle, 2009). Dewaele’s “Investigating the Psychological and Emotional Dimensions in Instructed Language Learning: Obstacles and Possibilities” (2005) calls the reader’s attention to studying instructed SLA via the psychological and sociocultural perspectives. Basically, Dewaele in his review-based study problematized traditional SLA research’s exclusion of other disciplinary areas, its preference for the quantitative research paradigm over the qualitative research paradigm, and its disregard of individual differences and affective and sociocultural factors. Crucial in this study is Dewaele’s observation that “introverts tend to suffer more from communicative anxiety than extraverts” and that “the combination of high anxiety and high introversion...reinforces the effects on speech production in the L2, especially in stressful interpersonal situations” (p. 373). Continuing this investigation of personality variables, Dewaele and Thirtle (2009) further explored reasons why FL learners discontinue their FL learning. The researchers employed the FLCAS and the Multiple Personality Questionnaire (MPQ) to investigate the impact of language anxiety on language learners’ decisions regarding whether to abandon FL learning. The recruited participants were 79 teenagers taking Spanish or French as a foreign language in a school setting in London. The findings suggested that it was FL classroom anxiety, rather than general personal traits, that most affected learners’ decisions whether to continue FL learning. Taken together, although the above studies show that introversion and extroversion might play a role in language learning, anxiety
seems to be more influential in determining learners’ willingness to learn a foreign language.

2.1.2.4 Gender

Several researchers have also considered gender as a potential factor associated with language anxiety. Among the research, it has been noted that gender is not a significant factor to determine levels of L2/FL anxiety in the Western context (e.g., Saito & Samimy, 1996), while gender is a significant variable to determine language anxiety in the Asian context (e.g., Cheng, 2002; Yan & Horwitz, 2008; Zhao, 2007). For instance, Zhao (2007) surveyed 115 high school students regarding their FL classroom anxiety in formal school settings in China. Through the results of the FLCAS and students’ scores on their final exams in English, Zhao found an overall debilitating effect of anxiety on students’ achievement in English. For these students, the major source of their anxiety came from their fear of negative evaluation by teachers and peers. Interesting in this study is the finding that male students experienced more anxiety than their female counterparts. Zhao concluded that Chinese culture and learning situations in China were responsible for her findings. Another study conducted by Yan and Horwitz (2008) also showed that, in China, gender could play a role in university students’ EFL learning. Through interviews, they found that gender was a significant factor to account for participants’ differences in language aptitude and use of learning strategies. For instance, the interview data showed that most participants perceived females as better English learners than males and that male students had experienced more anxiety than had their
female counterparts when learning English. In addition, participants also showed that females and males utilized different approaches to learning English.

2.1.2.5 Context

Context, in terms of the learning setting (e.g., formal classroom or informal learning settings), is a significant factor that should not be overlooked in the investigation of language anxiety in L2/FL learning. For example, it has been found that learners are more anxious in formal learning situations than in informal settings (MacIntyre & Gardner, 1991a). In addition, there is no significant difference between anxiety arising from distance language learning and anxiety arising from traditional classroom language learning (Pichette, 2009). In addition to examining anxiety arising from formal/informal and online/traditional classroom settings, a growing number of researchers have narrowed their focus to investigating language anxiety in particular groups. Brown (2008), for instance, paid specific attention to international postgraduates’ language anxiety in the British academia and in their daily life domains. In this one-year ethnographic study, Brown conducted 13 interviews and observed 150 international postgraduates; the results of her study showed that culture shock and inability to socialize and communicate in academia and daily lives, together with limited language proficiency, had reinforced overall anxiety among international postgraduates in the study abroad context.
2.1.3 Section Summary

So far, I have reviewed the debilitating and facilitating nature of language anxiety in L2/FL learning and identified that, in most studies, anxiety has a negative impact on L2/FL learning. I have also discussed the interplay between anxiety and other variables in L2/FL learning, accentuating that anxiety should never be examined in isolation. From the studies reviewed, several observations can be made. First, despite a limited number of recent studies (e.g., Brown, 2008; Yan & Horwitz, 2008), previous anxiety research in L2/FL learning is more quantitatively-based than qualitatively-based. Hence, the interpretation of L2/FL anxiety in previous research is usually made in accordance with statistical survey results. Second, just as Saito, Horwitz, and Garza (1999) have noticed, since the FLCAS mainly measures anxiety related to speaking components and is widely employed as a measure to assess FL anxiety in many studies, it is not surprising that a large volume of studies have sought to investigate speaking-related anxiety, rather than other skill-specific anxieties (Casado & Dereshiwsky, 2001; Dewaele, 2005; Liu & Jackson, 2008; McCroskey, Gudykunst, & Nishida, 1985; Onwuegbuzie, Bailey, & Daley, 1999; Phillips, 1992; Young, 1990).

Interest in other skill-specific anxieties did not advance until recently. Recent researchers have displayed interests in investigating listening anxiety (Carrier, 1999; Mills, Pajares & Herron, 2006; Vogely, 1998), writing anxiety (Cheng, 2002, 2004; Cheng, Horwitz, & Schallert, 1999; Daly & Wilson, 1983), and reading anxiety (Matsuda & Gobel, 2004; Saito, Horwitz, & Garza, 1999; Sellers, 2000). These researchers are consistent in their views that skill-specific anxiety is related to but distinct from general
FL anxiety. In comparison to other skill-specific anxieties, reading anxiety has received greater attention in recent L2/FL research (e.g., Saito, Horwitz, & Garza, 1999). The trend is further addressed in the review of studies concerning FL reading anxiety in the next section.

2.2 Research on Foreign Language Reading Anxiety

In recent years, a growing interest has emerged in the study of FL reading anxiety in the field of FL learning. Despite a scant amount of research on FL reading anxiety, more and more researchers have begun to investigate the phenomenon of FL reading anxiety in different learning contexts. Prior to reviewing these studies, it is of importance that I first introduce Saito, Garza, and Horwitz’s (1999) study, “Foreign Language Reading Anxiety,” which has long been viewed as the initial and most seminal work on FL reading anxiety. Basically, the term foreign language reading anxiety was initially coined by Saito, Garza, and Horwitz (1999). Although the researchers did not explicitly define FL reading anxiety in their study, they referred to it as a type of language-specific anxiety learners might experience when reading texts written in a foreign language. Saito et al. state, “FL reading anxiety is a specific anxiety type distinguishable from the more general types of FL anxiety that have been linked to oral performance” (p. 215). Their assertion was based on the survey results of their study. In their study, Saito et al. designed the Foreign Language Reading Anxiety Scale (FLRAS) to measure reading anxiety in 383 American beginning learners of French, Japanese, and Russian at a university in the United States (please see Appendix 1 for the FLRAS). The FLRAS
includes 20 items scored on a 5-point Likert-type scale, ranging from *strongly disagree* to *strongly agree*. Several findings were obtained from the results of the FLRAS and the FLCAS. First, FL reading anxiety was found to be related to but distinct from the FL anxiety. The FLRAS displayed good internal reliability, with Cronbach’s alpha .86, and was found to be distinct from (approximately 59% of the variance not shared by the FLRAS and the FLCAS) but related to the FLCAS ($r = .64, p < .01$). Second, the participants’ levels of FL anxiety varied according to the target language they chose to learn. That is, students of Japanese were found to be more anxious than students of French or Russian, which, according to the researchers, resulted from the Japanese learners’ unfamiliarity with the Japanese writing system and the related cultural content. The final finding of their study showed that highly anxious participants tended to perceive FL reading to be more difficult than did their less anxious counterparts.

Importantly, Saito et al. showed that “Whereas general FL anxiety has been found…to be independent of target language, levels of reading anxiety were found to vary by target language and seems to be related to the specific writing systems” (p. 215). In other words, FL reading anxiety is associated with learners’ unfamiliarity with scripts, writing systems, and cultural knowledge embedded in FL texts.

Noteworthy however is that Saito et al. did not describe how they actually developed the FLRAS. In their *Instruments* section, they only showed that “The FLRAS elicits students’ self-reports of anxiety over various aspects of reading, their perceptions of the relative difficulty of reading as compared to the difficulty of other language skills” (p. 204). As a result, following Saito et al. (1999), many researchers have started to
examine FL reading anxiety together with the use of the FLRAS in foreign language research (e.g., Brantmeier, 2005; Matsuda & Gobel, 2004). Although anxiety has been identified as a significant factor that impacts FL reading, there is little agreement as to whether anxiety is responsible for students’ poor reading performance or not. For instance, Sparks, Ganschow, and Javorsky (2000) criticized the study conducted by Saito et al., claiming that it was not anxiety but other confounding variables such as L1 deficits that caused poor achievement in L2/FL reading. Responding to Sparks et al., Horwitz (2000) showed that whereas L1 deficits are likely to be a factor in explaining poor FL achievement, L1 deficits did not act as a confounding variable in Saito et al.’s study because participants selected from their studies were those who had met strict SAT and GPA entrance requirements from a prestigious university. Furthermore, Horwitz indicated that Sparks et al. misinterpreted the nature of FL/L2 reading by showing that “Simply finding new and better ways to help learners decode (recognize) foreign language words, as Sparks et al. suggest, will not address the inherent difficulty of second language reading. More importantly, such instructional strategies would not address the needs of the many learners who are successfully decoding words but are still not able to make sense of a text” (p. 258). Despite the critique by Sparks et al., more and more researchers are in line with Saito et al., confirming that anxiety indeed has a harmful effect on L2/FL reading (e.g., Gonen, 2007; Hsiao, 2002; Matsumura, 2001; Miyanaga, 2005; Sellers, 2000; Zhou, 2008). In the remaining sections, I will review studies on FL reading anxiety in more detail and discuss particularly the use of the FLRAS as a major instrument in these studies.
2.2.1 Studies Conducted in the Western Context

Apart from Saito, Garza, and Horwitz’s study, several studies on FL reading anxiety have been conducted in the U.S. context. For instance, Sellers (2000) investigated the relationship between reading comprehension ability and reading anxiety among 89 university-level Spanish learners. In that study, numerous instruments were used, including two anxiety measures (i.e., Reading Anxiety Scale (RAS) and the FLCAS), two reading comprehension assessment measures (i.e., a written recall protocol and a multiple-choice test) and a measure of off-task thought (i.e., the Cognitive Interference Questionnaire). Results of this study showed that Spanish reading anxiety is related to but different from general Spanish learning anxiety given that the FLCAS shared 49% of the variance with the RAS and that a positive relationship was found between Spanish reading anxiety and overall Spanish learning anxiety. In addition, Sellers also reported that, compared with less anxious readers, highly anxious readers not only recalled less page content and fewer main ideas of the reading, but also were easily distracted by off-task, irrelevant thoughts which are harmful to their long-term memory and information-processing capability.

In his study of the nature of L2 reading anxiety, anxiety about post-reading tasks, and the possible effect of anxiety on reading comprehension, Brantmeier (2005) used the Reading Anxiety Scale (RAS) and the FLCAS to investigate 92 university-level learners’ reading anxiety in an advanced Spanish class in the United States. In this study, anxiety, as an affective variable, was examined in relation to performance variables (such as oral and written tasks) and reading comprehension. Findings showed that advanced readers in
general were not anxious about reading Spanish, but instead, they felt anxiety in doing after-reading tasks which entailed oral and writing skills (e.g., reading aloud, orally answering questions regarding what they have read, and post-reading writing activities). In addition, this study also showed that, for advanced learners, anxiety arising from reading did not impede comprehension, especially in recall and multiple choice tasks. Brantmeier concluded that “anxiety about reading at the advanced level may not be a function of reading itself, but rather a function of oral or written reading comprehension tasks” (p. 67).

2.2.2 Studies Conducted in the Non-Western Context

Several researchers have studied FL reading anxiety among learners from the non-Western context. For instance, Matsuda and Gobel (2004) were interested in investigating how Japanese EFL learners perceive the relationship between FL anxiety and FL reading anxiety as well as the role of group membership (i.e., school years or grade levels) in FL anxiety and in FL reading anxiety. In their study, 252 participants who were English majors were divided into three groups according to school years (i.e., freshman, sophomore, and junior) and were tested by the FLCAS and the FLRAS. Acknowledging that the two instruments were developed in the Western context and therefore may not be applied to the Japanese context, Matsuda and Gobel presented Japanese versions of the FLCAS (Cronbach’s alpha was .78) and the FLRAS (Cronbach’s alpha was .71) to participants, with a slight change of wording in two instruments (e.g., replacing foreign language with English). They used principal component analyses to examine the
interrelationship among the items included in the FLCAS and the FLRAS, discovering that for the FLCAS, two factors, namely General English Classroom Performance Anxiety and Low Self-Confidence in Speaking English, are significant to determine general anxiety. For the FLRAS, three factors were found to impact FL reading anxiety: English Vocabulary and Grammar, Reading Confidence/Enjoyment, and Language Distance. Unlike previous research (e.g., Saito et al., 1999) which indicated that FL reading anxiety was related to but distinct from general FL anxiety, the major results of this study showed that FL reading anxiety was independent of FL anxiety because no significant relationship was found between the FLCAS and the FLRAS. In addition, the study also showed that participants’ levels of anxiety would vary with their school years: due to unfamiliarity with English grammar and limited lexical knowledge, the freshmen group was more anxious than their sophomore and junior counterparts in English reading.

Matsuda and Gobel’s study essentially points out some shortcomings of previous research on either the FLRAS or FL reading anxiety. First, “the FLRAS is not as thoroughly tried and tested as the FLCAS” (p. 243). Second, some items on the FLRAS might not be appropriate in use especially for Japanese learners. For instance, inapplicability appears to be an issue in item #10 (By the time you get past the funny letters and symbols in (French, Russian, Japanese), it’s hard to remember what you’re reading about) and item #11 (I am worried about all the new symbols you have to learn in order to read (French, Russian, Japanese) because, Japanese university students in general have acquired English alphabets and the English writing system since junior high
school. In the Japanese students’ case, unfamiliarity with letters or symbols in English was not a problem from the perspective of Matsuda and Gobel.

Another study conducted by Matsumura (2001) was aimed at examining the interplay between FL reading anxiety and reading proficiency among 75 female university students in Japan. Based on the reading scores on Test of English for International Communication (TOEIC), Matsumura grouped participants into three proficiency groups: intermediate, low-intermediate, and low. Participants’ reading anxiety and general language anxiety were measured by the FLRAS and the FLCAS, respectively. However, different from the original FLRAS and FLCAS, which are based on a 5-point Likert-type scale, the adapted FLRAS and the FLCAS employed in this study were changed to a 7-point Likert-type scale in order to “find out subtle differences in [participants’] perception” (Matsumura, 2001, p. 26). In addition to that change, Matsumura also modified the FLRAS by replacing two items concerning unfamiliar letters and symbols with the ones related to timed reading and dependence on dictionaries (i.e., new items: item #19 “I get nervous when I have to read within a time limit” and item #20 “Whenever I encounter unfamiliar words, I am inclined to look them up in a dictionary”). Therefore, the numbering of the modified FLRAS differed from the original FLRAS (the Cronbach’s alpha of the modified FLRAS was .84). No changes were made to the FLCAS. Through an analysis of the Pearson product-moment correlation coefficient, it was found that (1) the FLCAS is closely related to the FLRAS ($r = .735, p < .001$); that (2) a low but significant relationship existed between the FLRAS and two reading tests (the reading sections of the TOEIC and Secondary Level English
Proficiency (SLEP); $r_{FLRAS, TOEIC} = - .262, p < .05, r_{FLRAS, SLEP} = - .325, p < .01$); and that (3) the FLCAS was negatively related to the SLEP ($r = - .345, p < .01$). Several one-way ANOVAs showed that groups with different levels of proficiency had different levels of anxiety. The low reading proficiency group was more anxious than the intermediate reading proficiency group. Lastly, results of the principal component analysis with a varimax rotation identified 4 factors important in the FL reading anxiety, which are “the anxiety toward the unfamiliar and the incomprehensible,” “anxiety arising from unfamiliarity with reading under constraints,” “the lack of confidence and positive attitudes toward reading,” and “anxiety arising from lack of prior knowledge about the topic” (pp. 30-31). Crucial in Matsumura’s study is his suggestion for future research. Matsumura indicated that “Reading anxiety may vary with respect to the complexity of specific reading tasks and the conditions under which anxiety is measured,” and that more insights would be added if future researchers explored further “the comparison of anxiety arousal between groups asked to perform a reading task and groups not asked to do so, and between groups in test conditions and groups in normal classroom reading conditions” (p. 33).

Similar to Matsuda and Gobel and Matsumura, Miyanaga (2005) also paid specific attention to FL reading anxiety in Japanese learners of English. The sample of Miyanaga’s study was drawn from 444 students in a Japanese university. Two instruments were used in this study: a reading test from the reading section of the practice Test of English as a Foreign Language (TOEFL) and an adapted version of the FLRAS. Like Matsuda and Gobel, Miyanaga determined that items #10 and #11 from the original
FLRAS were inappropriate, and excluded them. Thus, an 18 item adapted version of the FLRAS was used instead to measure participants’ reading anxiety in English. The major goals of Miyanaga’s study were to examine the reliability and validity of the adapted version of the FLRAS and to explore the link between reading anxiety and levels of reading proficiency. To fulfill the first goal, Miyanaga utilized Cronbach’s alpha to test reliability of the instrument as well as a principal component analysis with varimax rotation to examine the structure of the adapted FLRAS. Three major findings were reported in this study. First, it was found that the adapted FLRAS had a Cronbach’s alpha equal to .75, which is relatively low compared with the original FLRAS in Saito et al.’s study (.86). Second, four components of the adapted FLRAS were identified to explain FL reading anxiety, namely Difficulty in Global Reading, Lack of Confidence and Enjoyment, Unfamiliar Topic, Grammar, and Vocabulary, and Dissatisfaction with their Reading Ability and Activities. The four components accounted for a total of 47.22% of the variance in participants’ FL reading anxiety. Third, it was noted that more proficient readers had a lower level of reading anxiety than did less proficient readers, particularly in global reading.

In the context of Taiwan, Hsiao (2002) conducted a large-scale empirical study to investigate validity and reliability of a Chinese version of the FLRAS among 1,251 low-intermediate to intermediate college EFL learners. Despite English-to-Chinese translation, no other changes were made to the original FLRAS. Through a confirmatory factor analysis with the maximum likelihood method, the Chinese version of the FLRAS was found to be a valid and reliable instrument to measure reading anxiety (the Cronbach’s
alpha of the Chinese version of the FLRAS was .93). Similar to studies conducted by Matsumura (2001) and Miyanaga (2005), Hsiao’s study showed that some items of the FLRAS failed to load on a single anxiety factor (e.g., item #15: The hardest part of learning English is learning to read; item #19: English culture and ideas seem very foreign to me; and item #20: You have to know so much about English history and culture in order to read English). According to Hsiao, these items seemed insignificant in predicting FL reading anxiety because Taiwanese college students had long been very familiar with American culture and the English language before they entered college.

In the context of Turkey, Gonen (2007) investigated the relationship between FL reading anxiety and proficiency levels among 225 university-level EFL students from the beginning, intermediate, and advanced levels. Gonen employed the FLCAS and the modified FLRAS to explore (1) whether FL reading anxiety distinguishes itself from general FL anxiety and (2) whether feelings of anxiety may differ as learners become more proficient in English. Results of Gonen’s study showed that FL anxiety and FL reading anxiety were related to ($r = .52, p < .01$) but distinct from each other (27% of the total variance shared) and that there existed a negative relationship between FL proficiency level and FL reading anxiety.

In the context of China, Zhou (2008) conducted survey-based research exploring the relationship between reading anxiety and the use of reading strategies among 120 college students in China. Zhou employed a Chinese version of the FLRAS (Cronbach’s alpha = .71) as a measure of participants’ English reading anxiety and the Survey of the Reading Strategies (SOR) (the Cronbach’s alpha was .89) as a measure of participants’
strategy use. The findings of Zhou’s study were as follows: (1) most participants (85%) experienced anxiety in reading English; (2) self-confidence is a significant factor in determining English reading anxiety in readers with a low- or middle level of anxiety, whereas vocabulary and syntax are significant factors in determining English reading anxiety in readers with a high level of anxiety; (3) participants tended to use cognitive strategies as they read in English; (3) participants with a middle level of reading anxiety used more metacognitive strategies than did those with a low or high level of reading anxiety; (4) gender was not a significant determinant of reading anxiety or strategy use; (5) highly anxious learners failed to use strategy effectively when reading English; and (6) participants with a higher level of reading anxiety were observed to use fewer reading strategies.

2.2.3 Section Summary

The aforementioned studies essentially show that FL reading anxiety is related to but distinct from general FL anxiety. Several observations can be made from previous research. To begin with, previous literature has shown that anxiety indeed plays a vital role in L2 or FL reading. To be specific, reading anxiety is proved to be harmful to L2/FL students’ reading comprehension ability and their use of reading strategies (e.g., Saito, Horwitz, & Garza, 1999; Zhou, 2008). Another important observation is that, although the FLRAS was adapted to suit different researchers’ needs, the original FLRAS has so far been the most widely used instrument to measure FL reading anxiety due to its high reliability and validity as reported by previous research. In addition to the above
observations, it is noted that, similar to FL anxiety research, most FL reading anxiety research is conducted within the quantitative research framework in that almost every study is survey-based. Consequently, our understanding of FL reading anxiety remains incomplete. More insight should be gained if we further adopt a qualitative approach to interpret FL reading anxiety. The fourth observation is that previous research has paid insufficient attention to FL learners from other language and cultural backgrounds.

Among the studies under review, most were conducted in Japan (Matsuda & Gobel, 2004; Matsumura, 2001; Miyanaga, 2005) and in the U.S (e.g., Brantmeier, 2005; Sellers, 2002). Hence, our knowledge regarding FL reading anxiety in learners from countries other than Japan and America is still limited. Finally, it is observed that FL reading anxiety has been examined in association with variables such as reading confidence (Matsuda & Gobel, 2004; Matsumura, 2001; Miyanaga, 2005), unfamiliarity with the FL (Matsumura, 2001; Miyanaga, 2005), vocabulary/grammar (Matsuda & Gobel, 2004; Miyanaga, 2005), and syntax (Zhou, 2008). For Asian students, factors such as syntactic differences, vocabulary, and grammar are especially significant in determining their FL reading anxiety (Matsuda & Gobel, 2004; Miyanaga, 2005; Zhou, 2008).

These observations are important for the research purpose of the present study. In contrast to previous research which is structured in the quantitative research framework, the present study employed a mixed methods design, using both quantitative survey data and qualitative recall protocol data to explore FL reading anxiety in Taiwanese university students, a less examined population in previous research. Given the high validity and reliability of the FLRAS, the FLRAS was used as a measure of FL reading anxiety in this
study. Furthermore, due to the crucial role of syntactic differences in Asian students’ FL reading anxiety (Matsuda & Gobel, 2004; Miyanaga, 2005; Zhou, 2008), the present study was conducted to investigate whether there is a potential link between Chinese-English syntactic differences and Taiwanese university students’ perceptions of English reading anxiety.

Presented in the next section is a review how Chinese differs from English with respect to syntax. The review is conducive to survey development of this study.

2.3 Research on Chinese-English Syntactic Differences

The main purpose of this section is to review syntactic differences between Chinese and English. Given the scope of this study, the review will not cover every Chinese-English syntactic difference discussed in previous research. Rather, the review will begin with a summary of how Chinese structures differ from English structures and then describe how the two languages compare in terms of the relative construction and the passive construction. Specific attention will be paid to the relative construction and the passive construction because they are used and processed very differently in Chinese and English and have been regarded as two of the most difficult structures for Chinese students to learn in English reading (Chan, 2004a, 2004b; Cheng, 1993; Li & Thompson, 1989; Odlin, 1989).
2.3.1 An Overview of Syntactic Differences Between Chinese and English

Chinese syntax varies from English syntax in many aspects. One of the most striking differences is that Chinese is a topic-prominent (or topic-comment) language, whereas English is a subject-prominent language (Chen, 1996; Li & Thompson, 1989; Xiao, 2002). In English, since the subject needs to maintain “a direct semantic relationship with the verb as the one that performs the action or exists in the state named by the verb” (Li & Thompson, 1989, p. 15), the subject functions as the core of each sentence. However, in Chinese, it is the topic rather than the subject that dominates the focus of the sentence. That is, Chinese is a discourse-oriented language in which “the topic extends its semantic domain over several sentences to form a topic chain” (Xiao, 2002, p. 236). The notion of the topic is complex because, on one hand, it sometimes plays a similar role as the grammatical subject in English, but on the other hand, unlike the subject, it is unmarked by any case markers, position, or agreement and is in a close semantic relationship with the follow-up comment (i.e., the predicate) (Li & Thompson, 1989). The topic in a Chinese sentence can be a noun, a verb, or any other part of speech, depending on the speaker’s intention and choice. The example below (Chen, 1996, p. 391) demonstrates a typical topic-comment structure in Chinese:

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象 鼻子 長
xiang  bizi  chang
Elephant  trunk  long
The trunk of an elephant is long.
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In this sentence, the topic is 象 (elephant), followed by the comment 鼻子長 (trunk long) with the sentential meaning that the trunk of an elephant is long. As shown in this example, the comment is added to explain or describe the focal topic. Basically, a topic-prominent language like Chinese differs from a subject-prominent language like English in sentence structure, presence or absence of dummy subjects, use of double nominative constructions, coreferential noun phrase deletion and verb-agreement (Li & Thompson, 1989; Xiao, 2002).

Another syntactic difference between Chinese and English lies in their word order. Due to the topic-prominent feature, the word order in Chinese is much more complex than that in English. For instance, words and phrases in Chinese are ordered according to meaning rather than grammatical functions (Li & Thompson, 1989). In addition, unlike English, which follows a strict word order of subject-verb-object (SVO), Chinese word order can be either SVO or SOV (Li & Thompson, 1989; Odlin, 1989). Below are three examples illustrating these features (Li & Thompson, 1989, p. 21):

(a) 我 買書了 (SVO)

wo mai shu le.
I buy book PVF/CRS
I bought a/the book.

(b) 我 買書了 (SOV)

wo shu mai le
I book buy PVF/CRS
I bought a/the book.

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Although example (a) and example (b) are different in word order (SVO for (a); SOV for (b)), the two examples are similar in meaning in that the speaker simply describes an event that happened in the past. However, example (c) is a typical topic-comment structure in which 書 (shu) functions as the highlighted topic and is placed at the initial place of the sentence, followed by the comment or predicate 我买了 (wo mai le). The speaker of example (c) intends to tell the interlocutor that he or she has bought a particular book that both the speaker and the interlocutor are aware of. The above examples show that in Chinese, word order is usually determined by meaning and the intention of the speaker, rather than grammatical functions (Chen, 1996; Li & Thompson, 1989).

Owing to these linguistic differences, an increasing number of studies have started to recognize the impact of Chinese-English syntactic differences on Chinese students’ acquisition of literacy skills in English and have noted that first language transfer (i.e., Chinese, in this case) is a determining factor that affects students in their processing of texts written in English (Chan, 2004a, 2004b; Chen, 2005; Green, 1996; Xiao, 2002; Yip & Matthews, 2000). The common view shared by these studies is that English reading is not a reading problem, but a language problem resulting from negative L1 transfer.
To illustrate, numerous studies (e.g., Chan, 2004a, 2004b; Chen, 2005) have associated negative syntactic transfer with English reading problems in their discussions of how native Chinese speakers read or process in English. Chan (2004a), for instance, summarized English structural problems faced by Chinese EFL learners in Hong Kong. She noted that Chinese students’ English reading problems primarily originated from the large syntactic difference between English and Chinese. Chan identified seven types of syntactic errors produced by Hong Kong EFL learners, including the use of the Chinese topic-comment structure in place of the English SVO/complement structure, inappropriate choice of relative pronouns, the use of resumptive pronouns, missing relatives, missing verbs, word-for-word translation, and missing subjects. These errors were made as a result of negative Chinese-to-English syntactic transfer.

Yip and Mathew (2000) and Xiao (2002) have been attentive to how Chinese children process English sentences or structures. In their longitudinal study, Yip and Mathew (2000) investigated the role of syntactic transfer in a Cantonese-English bilingual child’s English reading. With transcripts of longitudinal recordings and diaries, they observed that the child would transfer his knowledge of wh-in-situ interrogatives, null objects, and pronominal relatives in Chinese to reading in English. Their overall findings showed that the bilingual child’s English reading was under the influence of Cantonese. For example, the child produced non-echo wh-in-situ interrogatives frequently between 2.01 and 2.10 years of age, had a more frequent use of structures with null objects than did other monolingual children between 2.04 and 2.08 years of age, and employed regularly pronominal relative clauses based on Cantonese between 2.07 and
2.11 years of age. The above findings essentially suggested that Chinese-English bilingual children’s path of reading development might be different from that of monolingual children, and the directionality of transfer might be determined by language dominance.

Xiao (2002) also studied three six-to-seven-year-old Chinese-speaking children’s L2 syntactic development in an attempt to explore how the Chinese topic-comment construction may shape participants’ English learning. Through picture book reading and story-telling, participants were found to transfer topic-prominence properties in Chinese to their subsequent English reading. Xiao’s study showed that, in addition to discourse/pragmatic language universals and perceptual saliency, L1 influence, particularly the topic-prominence effect, plays a vital role by affecting participants’ development of Chinese-English interlanguage.

Equally important to note is some researchers’ interest in studying Chinese to English transfer among young adult or adult learners. For example, Chan (2004b) conducted a large-scale study to explore the nature and process of syntactic transfer among 710 lower-intermediate to upper-intermediate ESL college students in Hong Kong. Through interviews, translation tasks, and grammaticality judgment tasks, Chan found that participants, regardless of their proficiency levels, tended to rely on Chinese while processing English, thus signifying the role of syntactic transfer in Chinese adult learners’ English reading. Furthermore, similar to what was found in Chan’s study (2004a), Chan noted that negative transfer was the main cause of participants’ ungrammatical errors.
In addition to Chan, Chen (2005) also explored 26 Chinese/Taiwanese adult ESL learners’ perception and actual use of small clauses, particularly those introduced by two English verbs *find* and *consider*, from the crosslinguistic perspective. Two tasks, grammaticality judgment and oral translations, were utilized to examine how participants processed and produced sentences that include small clause complements after *find* and *consider*. Results of the study suggested that participants tended to avoid sentences containing small clause complements and were more in favor of using tensed clauses and *that*-clauses, as influenced by their L1.

The afore-mentioned studies show that Chinese-English syntactic differences are a significant factor in accounting for Chinese students’ English reading. In most cases, reading problems and production errors of Chinese learners of English are due to L1 interference at the syntactic level. When L1 and L2 diverge tremendously in word order and in structure, processing L2 through existing L1 knowledge does more harm than good in reading comprehension.

In the following sections, two language structures—the relative construction and the passive construction—will be specifically reviewed along with the discussion of Chinese-English syntactic differences. They are discussed in detail because their forms and uses vary considerably between Chinese and English and for many Chinese students, they are two of the most difficult structures to acquire (e.g., Chan, 2004a, 2004b; Cheng, 1993; Li & Thompson, 1989; Odlin, 1989).
2.3.2 Comparison between the Chinese Passive and the English Passive

The review of the Chinese and English passives will include a description regarding how passives of the two languages differ in terms of form and function, a comparison of the get- and be-passive in English with the bei-passive in Chinese, and a discussion of how Chinese students may benefit from learning the crosslinguistic differences between the Chinese passive and the English passive.

The topic of passivization has attracted the attention of many researchers in crosslinguistic studies because passivization is hardly a shared norm across languages. This is especially evident in the case of Chinese and English (e.g., Li & Thompson, 1989). The Chinese passive distinguishes itself greatly from the English passive in form and in structure. In English, a typical passive sentence like *The book was published by her family* is composed of a patient (“the book”) as a grammatical subject, a be- or get-verb (in this case, “was”) and a past participle (“published”), with the appearance or absence of a passive marker by and an agent (“by her family”) (Berk, 1999; Celce-Murcia, 1983; Li & Thompson, 1989). According to Celce-Murcia (1983), Berk (1999), and Wang and Li (2007), the English passives can be classified into three types, namely the be-passive, the get-passive, and the notional-passive (or the middle voice/pseudo-passive), in which the verb of a sentence is active in voice, but passive in meaning. Although, in comparison to the be- or get-passive, the notional passive is less frequent in use, sentences employing the notional passive are important to convey the quality, state, and potentiality of the patient (Wang & Li, 2007).
In Chinese, the passive construction is rather limited in use because Chinese, as a language of topic-prominence, does not carry an overt passive marker, such as bei (被), gei (給), rang (讓), and jiao (叫), to convey passiveness (Chu, 1973; Ting, 1998; Wang & Li, 2007). For example, although a sentence like the following contains no passive marker in its surface structure, it implies a sense of passiveness in meaning by suggesting that the teacher’s hair was cut by someone else.

老師的頭髮剪了 (Shi, 1997).

Laoshide toufa jianle
Teacher’s hair cut Asp.
The teacher’s hair was cut.

In the above example, 老師的頭髮 (Laoshide toufa; i.e., the teacher’s hair) functions as the topic of the sentence and is followed by the predicate or comment “jianle” (i.e., was cut). This instance demonstrates Wang and Li’s view of the subjectivity in the Chinese language. According to Wang and Li (2007), “Chinese people tend to see the world from the perspective of man: the world exists for man, and the action is performed by man. Hence, the agent or the actor is often implicit in the sentence, for the subjectivity is embedded in the language psychology of people” (p. 51). In this vein, “Chinese passive meaning is mainly expressed in a semantic way, [and] a single grammatical realization is often hard to arrive at” (Wang & Li, 2007, p.49). It is noteworthy in Wang and Li’s study that they underscore the role of the notional passive
in Chinese, indicating that Chinese notional passives can be realized through the following patterns (Wang & Li, 2007, pp. 49-50):

(a) NP\(_1\) (patient)+NP\(_2\) (agent)+VP
(e.g., 練習我做完了/lianxi wo zuowan le/ I have finished the exercise)

(b) NP\(_1\) (agent)+NP\(_2\) (patient)+VP
(e.g., 我軟的欺,硬的怕/ wo ruande qi yingde pa/ I bully the weak and am afraid of the strong)

(c) NP (patient)+VP
(e.g., 在大海邊種地的人,終日吹著海風,大抵是這樣/zài dàhǎibiān zhǒngdì de rén, zhōngrì chuīzhu hai fēng, dàdǐ shì zhèyàng/ A feature common to most of the peasants who work by the sea, and are exposed all day to the wind from the sea).

These patterns importantly show that, in some cases, Chinese passives are expressed semantically without overt passive markers.

However, some Chinese sentences do employ passive markers to achieve passivization. In Chinese, a sentence is sometimes passivized through the use of a passive marker bei, which is equivalent to the preposition by in English. Li and Thompson (1989) propose two patterns of the bei construction in Chinese:

(1) NP\(_1\) bei NP\(_2\) Verb (p. 492)
   e.g., 他 被 姐姐 罵了
   ta bei jiejie ma le
   3sg BEI elder sister scold PFV/CRS
   S/He was scolded by (his/her) older sister.

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As shown, the bei-passive has two patterns, with the first called the “long passive,” in which the agent (i.e., NP2, jiejie/sister) is retained, and with the second called the “short passive,” in which the agent is omitted. Apart from the passive marker bei, other content words like jiao (叫), rang (讓), and gei (給) can replace bei to form the passive voice in Chinese.

Comparing Chinese with English, we notice that, with respect to form, both Chinese and English have the long passive and the short passive. In the long passive, Chinese and English are similar because both of their passive markers by and bei precede the agent. However, the two languages vary because, in the English long passive, the agent introduced by by is placed after the passivized verb (e.g., He was found by me), whereas in the Chinese long passive, the agent is placed just before the passivized verb (e.g., 他被我找到了/ta bei wo zhaodao le/ He was found by me). As for the short passive, the agent and the passive marker by are omitted in English, whereas in Chinese, the passive marker bei must be retained even when the agent is omitted (Xiao, McEnery, & Qian, 2006).
In addition to the above differences, there are more constraints imposed upon the patient of the English passive than those upon the patient of the Chinese passive (Li, 1997; Berk, 1999). First, the patient of the English passive cannot be a reflexive pronoun (e.g., *John blamed himself* cannot be passivized as *Himself blamed John*), whereas sometimes the patient of the Chinese passive can be a reflexive pronoun, as illustrated in the example, “自己被自己嚇一跳”/ziji bei ziji xia yitiao/ Myself BEI myself frighten/ I was frightened by myself). Moreover, no passivization is allowed when a part-and-whole relationship exists between the patient and the agent in a sentence (e.g., “John washed his (own) face” cannot be passivized into “*His face was washed by John.”), whereas the Chinese passive does not have such a constraint set between the patient and the agent (e.g., 她的脸被她塗得好像下了一層霜/ Ta de lian bei ta de haoxiang xia yicengshuang/ Her face BEI she applied like a layer of frost/ Her face looked as if covered by a layer of frost after she applied something to her face). Second, when functioning as a grammatical subject, the patient of the Chinese passive is always definite, while its English counterpart can be either definite or indefinite. Third, although it is true that both languages disallow passivization of stative verbs (such as want, like, etc.), the English passive has more constraints with regard to the types of verbs being passivized. For example, some sensory verbs (e.g., smell) and possession verbs (e.g., have, own, possess, etc.) cannot be passivized (e.g., two examples: (a) “Smoke was smelled by the guests” and (b) “That land is possessed by the Jones family.” Berk, 1999, p. 117).
Having discussed form differences, I will further discuss how the English passive and the Chinese passive compare in terms of function. In Chinese, it is generally believed that the use of *bei* construction signals a sense of “adversity” and “disposal” (Celce-Murcia, 1983; Chu, 1973; Li & Thompson, 1989; Xiao, McEnery, & Qian, 2006). For instance,

(1) 我 被 你们 利用了 (Shi, 1997, p.42)

> Wo bei nimen liyong le.

> I was used by you.

(2) 她 的 执照 被 警察 没收了 (Shi, 1997, p. 53)

> Ta de zhizhao bei jingcha moshou le.

> Her license was confiscated by the police.

Introduced by the *bei* passive, the embedded meanings of examples (1) and (2) are adversative and unfavorable, with the former suggesting an unfortunate situation “being used by someone” and the latter indicating an unwanted consequence caused by the police. Note that the verbs used in the two sentences, 利用 (liyong/ use) and 没收 (moshou/ confiscate), are negative in meaning, which corresponds to the adversative nature of the *bei*-passive in Chinese.

Nevertheless, under the influence of English, the adversative nature of the *bei*-passive has changed somehow to a more neutral one in modern Chinese language (Li,
According to Li (2005), the use of *bei* is rather “textually motivated” in that the *bei* construction is able to “assign variable discourse status to components within the clause and, as a result, helps to regulate the flow of information as the text unfolds” (p. 190). Similar to the Chinese *bei*-construction, the *get*-passive in English has long been viewed as a type of passive construction that signals adversity. However, whether the *get*-passive necessarily carries the meaning of adversity remains debatable among researchers. On one hand, many researchers are inclined to attribute semantically unfavorable property to the *get*-passive construction (Berk, 1999; Celce-Murcia, 1983, Collins, 1996). On the other hand, some researchers caution against that view, thus advocating a more neutral nature of the *get*-passive (Chappell, 1980; Shi, 1997). For example, Chappell (1980) conducted a critical analysis of different types of *get*-passives to demonstrate that “verbs occurring in *get*-passives cannot be divided into an ‘adversative’ set and a ‘beneficial’ set” because “the speaker’s intentions, aided by the context, determine which of the two interpretations is appropriate” (p.444).

In general, Chinese passives and English passives are used for discourse reasons (Berk, 1999; Celce-Murcia, 1983; Xiao, McEnery, & Qian, 2006). Perhaps the most comprehensive and recent study concerning passive constructions in Chinese and English was conducted by Xiao, McEnery and Qian (2006). In their corpus study, Xiao, McEnery and Qian compared Chinese with English in regard to semantic properties, syntactic functions, and genre distinctions. They reported that, semantically, the use of the English passive tends to be neutral compared with that of the Chinese passive although the former is more marked than the latter. Syntactically, passives were found to be more frequently
used as predicates in English than in Chinese and they would function as the grammatical object in both languages. As for genre distinctions, it was discovered that the English passive appears predominantly in formal and academic writing so as to convey objectivity, whereas the Chinese passive usually exists in genres of mystery stories or detective stories due to adversity and negativity implied by the Chinese passive.

I have briefly compared the English passive with the Chinese passive with regard to form and function. In the remainder of the section, I will narrow my focus on the discussion of two specific passive constructions in English, namely the get-passive and the be-passive, with an aim to cast some light on the crucial differences between the two. Numerous researchers have attempted to distinguish the get-passive from the be-passive in English (e.g., Berk, 1999; Celce-Murcia, 1983; Chappell, 1980; Collins, 1996; Ting, 1998). They discuss the two constructions from either the syntactic or the functional perspective. The syntactic perspective pays specific attention to types of verbs and the role of agent in both constructions. For example, Chappell (1980) and Celce-Murcia (1983) indicated that the get-passive is more constrained than the be-passive because the get-passive cannot be used in conjunction with stative verbs (e.g., love, consider, etc.) and with verbs denoting “spontaneous change” or “creation” (e.g., build) (Chappell, 1980, pp. 421-422). For instance, “She was loved by her parents” is more appropriate than “She got loved by her parents.” Furthermore, compared with the be-passive, the get-passive rarely takes an agent (Celce-Murcia, 1983).

From the functional perspective, several differences are observed between the get-passive and the be-passive in English. To begin with, Chappell (1980) cited Lakoff to
show that “The get-passive in English, unlike the be-passive, is frequently used to reflect the attitude of the speaker toward the events described in the sentence” (p. 416) and that, in the get-passive, “the subject is thought of as having more control in determining the resulting situation than for the corresponding be-passive where the subject is purely an undergoer” (pp. 416-417). Thus, different from the factual statement, “Jane was promoted,” the sentence “Jane got promoted” may suggest that Jane did something to make her promotion happen (p. 434). Another difference between the get-passive and the be-passive lies in their semantic meaning. Researchers have noticed that, in most cases, the get-passive projects more degrees of adversity and negativity than does the be-passive. For example, Xiao, McEnery, and Qian (2006) found that 15% of be-passives and 37.7% of get-passives in their corpus data were used in unfavorable situations. Given the presumably adverse nature of the get-passive, Xiao, McEnery and Qian further claimed that there exists resemblance between the get-passive in English and the bei-passive in Chinese. In addition to the above differences, researchers also agree that the get-passive is comparatively more informal than the be-passive in style and in writing (Berk, 1999; Celce-Murcia, 1983).

Just as the get-passive varies from the be-passive in English, the bei-passive differentiates itself from the passive introduced by gei (給/literally, “to give”) in Chinese. Prior to comparing the bei-passive with the gei-passive, it is necessary to discuss some recently changing views about the bei-passive. The bei-passive, despite its adversative denotation in the traditional view, has become neutral in use to signal both favorable and unfavorable situations (Li & Thompson, 1989; Yin, 2004). Chu (1973), for example, cast
doubt on the traditional view of the *bei*-passive, asserting that “the claim that a passive sentence only expresses an unfavorable event is false.” (p. 451). In this sense, it seems that the *bei*-passive is becoming more similar to the *be*-passive in English. Recognizing a more neutral use of the *bei*-passive is important as we compare it with the *gei*-passive. Comparing *bei* with *gei*, Yin (2004) noted that the semantics of *bei* and *gei* passives vary due to the fact that “the *gei* construction is more likely to express unfavorable or detrimental situation” (p. 11). The sentences below explain why *gei* is coded more negatively than *bei*:

(3) 她/他 被 老闆 加薪了
   Ta bei laoban jiaxin le.
   S/he BEI boss raise PERF.
   His/Her boss gave her a raise

(4) ?她/他 給 老闆 加薪了
   ? Ta gei laoban jiaxin le.
   S/he GEI boss raise PERF.
   His/Her boss gave her a raise

Although example (4) is grammatical, it is inappropriate in semantics because the negative *gei* contradicts 加薪 (jiaxin/raise), a positive verb that constructs a favorable condition for the grammatical subject 她/他 (ta/he or she). However, it is undeniable that in some contexts, example (4) could be logical, especially if the sentence is produced or used in the context of Taiwan, where *gei* is viewed as a substitute of *bei* in the speech discourse (Hu, 2006). The following are several examples showing how *gei* is used as a
passive marker in Taiwanese Mandarin (the examples are drawn from Liu, Pan, and Gu (1996, p. 448) and Hong (2010)).

(5) 我的 杯子 昨天 給 打破 了
    Wode beizi zuotian gei dapo le
    My cup yesterday GEI break PERF
    My cup was broken yesterday.

(6) 孩子 給 嚇壞 了
    haizi gei xiahuai le
    Child GEI terrify PERF
    The child was terrified.

(7) 我 給 他 罵
    wo gei ta ma
    I GEI he scold
    I was scolded by him.

In examples (5), (6), and (7), gei can be replaced by bei to express passiveness in the speech discourse. What is common in (5) and (6) is that both of them are the short passive, in which the agent is omitted and usually negligible. In fact, the two examples are not only accepted in the context of Taiwan, but also in Southern China (Liu, Pan, & Gu, 1996). Example (7), however is different from (5) and (6) because it reflects a special use of gei in Taiwanese. The example is originally derived from the sentence: “我予伊 罵” (wo hoo yi mei), as found in the Taiwanese passive construction “hoo+NP+VP”
Therefore, it seems that (7) is common only in Taiwan, but not in other contexts. To summarize, the gei-passive can be coded with more negativity than can the bei-passive in Chinese, which is similar to the case between the get-passive and the be-passive in English.

Due to the many differences between the Chinese passive and the English passive, it is not surprising that Chinese learners of English will experience difficulty in their acquisition of the be- or get-passive in English. Several researchers have offered suggestions to Chinese learners of English who are interested in learning English passives. First, Chinese students must be aware that passives take different forms and functions in Chinese and in English. In other words, it is not practical to assume a perfect match of form or function between the Chinese passive and the English passive. For instance, the common belief that the bei-passive is the same as the English passives is a misconception (e.g., Chu, 1973; Li & Thompson, 1989). Negative L1 transfer may occur if students attempt to comprehend the English passive based on their L1 knowledge. Second, a contrastive analysis of Chinese and English will increase Chinese learners’ understanding of how passive constructions are conceptualized and used in both languages. Third, Chinese students should differentiate the get-passive from the be-passive even though the get-passive is rarely taught in school. Last but not least, Chinese students should be aware that the Chinese passive is less common for use in both speech and writing than its English counterpart. Therefore, Chinese students should pay specific attention to the learning of the English passive. The English passive, according to Celce-Murcia (1983), should be used when the agent is less significant than the patient, when the writer intends
to maintain the topic of discourse, and when the purpose of objective writing is to be achieved.

2.3.2.1 Section Summary

In concluding this section, it is evident that many discrepancies exist between the Chinese passive and the English passive. With regard to form, Chinese and English have their own rules or constraints on the patient, the agent, and the passivized verb. With regard to function, although it was believed that both the *get*-passive and the *bei*-passive express adversity, the *bei*-passive, under the influence of English, is now more neutral in use to reflect both favorable and unfavorable situations.

2.3.3 Comparison between Chinese and English Relative Clauses

In sentence structure, a relative clause is a clause that modifies a noun phrase (NP), primarily to “restrict the reference of the head noun” (Li & Thompson, 1989, p. 579). The concept of relativization however is not universal across languages. As an illustration, although both Chinese and English have relative constructions, previous research has identified a significant crosslinguistic difference between Chinese and English relative clauses (Li & Thompson, 1989; Odlin, 1989). In English, a relative clause is introduced by a relative pronoun (such as *who*, *which*, and *that*) and is usually placed after the modified NP, whereas in Chinese, a relative clause consists of a truncated clause plus the particle 的 (*de*) that precedes the modified NP (Chen, 1996; Hsiao & Gibson, 2003). Among many contrastive differences between Chinese and English relative clauses,
Researchers have been interested in exploring how the two languages vary in their branching structure and the use of pronominal forms. Hence, the purpose of this section is to provide a contrastive analysis of the Chinese relative construction and the English relative construction, with a particular focus on their differences in branching and pronominal forms.

The most salient difference between Chinese and English relative clauses lies in the fact that Chinese is a “Left Branching Direction (LBD)” language and English is a “Right Branching Direction (RBD)” language (Chang, 2004, p. 1). Many researchers, such as Tsao (1986) and Sadighi (1994), have pointed out that the Chinese relative construction (RC) precedes its head NP, whereas the English RC follows its head NP. The analysis of relative clause stacking may help illustrate this difference (Tsao, 1986). A so-called stacked relative clause, according to Tsao, is defined as a “self-embedded” clause that modifies “any NP contained in another relative clause” (pp. 28-29). Therefore, in the sentence, “The girl that the boy kissed that the cow chased, blushed”, the head noun is “the girl,” modified by the relative clause “that the boy kissed that the cow chased,” and the main verb is “blushed” (Tsao, 1986, pp. 28-29). As shown, the relative clause is placed right after the head noun, thus forming a right-branching structure in English. Contrary to the right-branching English RC, the Chinese RC is left-branching as demonstrated in the following NP provided by Tsao (1986):

抓到了 偷了 我 上星期 買了 的 手錶 的 小偷 的 警員
Zhuodaole toule wo shangxingqi mailede shoubiao de xiaotou de jingyuan
{catch PERF [steal PERF my (last week buy PERF) DE watch] DE} policeman
The police who caught the thief who stole the watch that I bought last week.
In the above sentence, the major relative clause “抓到了偷了我上星期買了的手錶的小偷的” (who caught the thief who stole the watch that I bought) is placed before the head noun 警員 (policeman). Through the analysis of relative clause stacking, we are able to capture the complex nature of branching in both the Chinese RC and the English RC. Although Chinese and English do not share the same branching direction in their RC, their relative clauses have the same grammatical function: they serve as modifiers of nouns (e.g., Chen, 2008; Yuan & Zhao, 2005).

Apart from branching differences, Chinese differs from English in the use of pronominal forms. As mentioned earlier, a typical English relative clause is usually introduced by a relative pronoun (e.g., who, whom, which, where, when, that, etc.) that modifies the head NP or the referent. In English, the relative clause is patterned according to the relationship between the head NP and the relative pronoun. According to Celce-Murcia (1983), the relative pronoun can take the role of a grammatical subject in SS (where “subject of the embedded sentence is identical to the subject of the main clause” as in The man who sat next to me is my brother) and in OS (where “subject of the embedded sentence is identical to the object of the main clause” as in Mary did not recognize the person who spoke French). The relative pronoun can also take the role of an object in SO (where “object of the embedded sentence is identical to the subject of the main clause” as in The woman whom you met is my sister) and in OO (where “object of the embedded sentence is identical to the object of the main clause” as in I bought the book that you recommended) (Celce-Murcia, 1983, p. 366).
In addition, English relative pronouns have two functions: (1) the “connective function” which helps “the demarcation of the main clause and the relative clause,” and (2) narrowing the diverse roles assigned to the referent (Tsao, 1986, p. 17; Zhang, Yip, & Li, 2008). In discussing relative pronouns, note that relative pronouns can be omitted if they function as the object, thus forming a reduced relative clause in English (e.g., Celce-Murcia, 1983; Kim & Sells, 2008).

In contrast to English, Chinese does not require any relative pronouns in its relative constructions because in Chinese, relativization is realized through nominalization and the use of the nominalizer de (的) (e.g., Chan, 2004a; Pu, 2007). However, just as the English relative pronoun connects the main clause to the relative clause, the particle de is also able to build a link between the referent and its preceding modifier (Tsao, 1986). According to Chen (2008), a Chinese relative clause preceding the head noun can be formed into the following patterns:

1. verb + 的(de)
   (e.g., 支持的/ zhichi de/support DE/ who supports)
2. verb+object+ 的(de)
   (e.g., 支持總統的/ zhichi zongtong de/support president DE/ who supports the president)
3. verb+verb+object+的(de)
   (e.g., 決定支持總統的/ jueding zhichi zongtong de/ decide support president DE/ who decide(s) to support the president)
4. sentence+的(de)
   (e.g., 你們決定支持總統的/ nimen jueding zhichi zongtong de/ you decide support president DE/ You who decide to support the president)
Unlike the English relative pronoun that can be deleted when it functions as the object, the particle *de* is obligatory at the end of the Chinese RC. Whereas Chinese contains no relative pronoun to specify the referent, pronouns (i.e., resumptive pronouns) that are in indirect object position and in genitive position are retained in the Chinese RC in order to achieve specification (Chang, 2004; Sadighi, 1994; Yuan & Zhao, 2005). For example:

> 你昨天給他錢的那個乞丐今天早上被捕了
> Ni zuotian gei ta qiande nageqigai jintianzaoshang bei bu le.
> You yesterday give him moneyDE that beggar today morning BE arrest PERF.
> The beggar (whom) you gave him* some money yesterday was arrested this morning.

In the above example, that “他” (ta) (as a repetitive coreferential pronoun of the referent “那個乞丐” (that beggar)) coexists with the referent is acceptable in Chinese, but forbidden in English. The resumptive pronoun “他” (ta) additionally identifies which beggar the speaker is trying to address in the context.

Given the crosslinguistic differences in the branching structure and the use of pronominal forms, it is expected that Chinese learners of English are faced with much difficulty as they learn relativization in English. Chan (2004a), for instance, indicated that Chinese ESL learners have a tendency to misuse English relative pronouns, including their use of missing relatives and resumptive pronouns and their inappropriate choice of relative pronouns. Below are several ungrammatical sentences produced by Chinese learners of English in Chan’s study (pp. 41-42):
(a) *She is my mother which is the most important person in my life.

(b) *You are the first person came to Hong Kong.

(c) *There is one thing which I can remember it very clearly.

(d) *Did you remember the person you met him yesterday?

(e) *My father he always gets my mother’s money.

In example (a), the inanimate relative pronoun which is mistakenly selected as the human subject of the relative clause in this sentence. This inappropriate choice of relative pronouns may result from the fact that Chinese has no relative pronouns in the RC, and therefore, confusion arises as Chinese learners of English must choose and decide between different relative pronouns. Examining example (b), we note that the sentence would be grammatical if the relative pronoun who was inserted between person and came. Given that “Chinese allows serial verb constructions, coupled with the absence of relative pronouns in a relative structure” (Chan, 2004, p. 42), it seems reasonable for Chinese ESL learners to exclude the use of relative pronouns, directly juxtaposing the be-verb “are” and the verb “come” to form ungrammatical sentences similar to (b).

Examples (c) “*There is one thing which I can remember it very clearly” and (d) “*Did you remember the person you met him yesterday?” are semantically grammatical in Chinese but not in English because Chinese permits the use of resumptive pronouns, whereas English prohibits such use. The repetitive pronouns “it” and “him” should be deleted to make the two sentences grammatical in English. Chan’s example (e) “*My father he always gets my mother’s money” essentially confirms Tsao’s (1986) account
that topicalization is closely associated with relativization in Chinese, particularly in their deletion or prominalization of the NP and in their constraints on predicate nominals (i.e., predicate nominals should be placed after classificatory verbs and noun phrases in a complex NP). Example (d) was produced ungrammatically because Chinese ESL learners attempted to apply their knowledge of topicalization in Chinese to their production of the English relative clause. As a consequence, “my father” was perceived not as a subject but as a topic followed by a comment construction, “he always gets my mother’s money,” in this example.

Based on this analysis of the foregoing ungrammatical examples, we may conclude that the acquisition of the English relative clause is not spontaneous and intuitive for Chinese learners of English due to the diverse crosslinguistic differences between Chinese and English. Prior to discussing some ramifications of these crosslinguistic differences for Chinese learners of English, it is significant to explore the extent to which the Chinese RC varies from its English counterpart. Sadighi (1994) cited Gass showing that the formation of relativized clauses differentiates one language from another in the aspects of (1) “adjacency to the head noun”; (2) “retention or omission the relative clause marker”; (3) “ordering of the RC with respect to the head noun”; (4) “case markings on the relative marker”; and (5) “pronoun retention or omission” (p. 141). Reviewing these categories, we note that the Chinese RC shares very little similarity with the English RC especially in (2), (3), and (5); as a result, it seems reasonable to claim that the Chinese RC is independent of the English RC in this regard. If this is true, then crosslinguistic
differences between the Chinese RC and the English RC should be an issue deserving more attention in language teaching and they will be addressed in this dissertation study.

In fact, several researchers have addressed the need for language teachers and students to become aware of the crosslinguistic differences between the Chinese RC and the English RC. Tsao (1986), for instance, suggested that it is important for learners to distinguish Chinese topicalization from Chinese relativization, to realize the functional contrasts of the RC between Chinese and English, and to do error and contrastive analyses. Examining Taiwanese college students’ text reading in English, Cheng (1993) also noted that Taiwanese students’ English reading problems could result from their “confusion caused by the relative clause that interrupts the subject-verb-object sequence of the independent clause” (p.5) and from their inability to process phrases as chunks in a sentence. Cheng suggested teaching phrase structure rules to students in order to improve students’ English reading. Similarly, Sun and Cong (2005) also encouraged teachers to help students learn English relativization via contrastive analysis and explicit instruction on English nominalization. Last, in discussing Chinese learners’ acquisition of the English RC, Gisborne (2000) and Yuan and Zhao (2005) indicated that the learning of relative constructions is relevant to issues of transfer. With a particular focus on Hong Kong English, Gisborne’s study highlighted the discrepancies between relative constructions of Hong Kong English and English, demonstrating in his study that Hong Kong English is rather localized and affected by Cantonese. Yuan and Zhao (2005) examined the use of resumptive pronouns by English and Arabic learners of Chinese and noticed that learners’ prior L1 grammatical knowledge had a tremendous effect on their
subsequent L2 learning. In summary, most researchers have identified a need for teachers to provide a contrastive description between the Chinese RC and the English RC when teaching the English relative clause to Chinese learners.

2.3.3.1 Section Summary

In this brief review, I have shown that Chinese is a left-branching (or premodifying) language in comparison to English, which is a right-branching (or postmodifying) language. In addition, I have discussed the differences between the Chinese RC and the English RC with respect to the presence or absence of pronominal forms. Basically, unlike English relative clauses, Chinese relative clauses require no relative pronoun. In order to highlight these crosslinguistic differences, I have also provided a brief analysis of ungrammatical sentences produced by Chinese EFL learners and discussed the ramifications and implications of these crosslinguistic differences. Although there is little research in Chinese and English relativization, future research may explore the semantic functions of the relative construction in both languages. A careful examination will enable learners to better understand how relatives actually function in Chinese and English.

2.4 Chapter Summary

The purpose of this study is to explore the role of Chinese-English syntactic differences in Taiwanese students’ perceptions of English reading anxiety. To fulfill that
purpose, this chapter presented an overview of previous research on anxiety in L2/FL learning and in FL reading and the syntactic differences between Chinese and English.

The review of anxiety in L2/FL learning indicated that anxiety has a determining impact on L2/FL learning, that FL learning is under the combined influence of language anxiety and diverse factors associated with it, and that general language anxiety is related to but distinct from skill-specific anxieties in speaking, listening, reading, and writing. Following the review of L2/FL anxiety, the review of research on FL reading anxiety confirmed previous FL anxiety research, showing that FL reading anxiety is related to but different from general FL anxiety. Moreover, the FLRAS was found to be the most valid and reliable instrument available for researchers to measure FL reading anxiety. After reviewing studies that used the FLRAS, it was noted that FL reading anxiety is usually examined together with other variables such as reading confidence, writing systems, and so forth. Studies investigating FL reading anxiety among Asian students have shown that vocabulary, grammar, and syntax are significant factors in explaining Asian students’ FL reading anxiety. In view of the important influence of syntax on FL reading anxiety, the final part of the chapter reviewed syntactic differences between Chinese and English. Through the review of Chinese-English syntactic differences, it was revealed that Chinese and English differ tremendously in the passive construction and in the relative construction. Furthermore, many researchers noted that Chinese students’ English reading problems result mainly from an inability to discern syntactic differences between Chinese and English. The review of Chinese-English syntactic differences showed that
crosslinguistic differences between Chinese syntax and English syntax have played a crucial role in Chinese students’ English reading.

Apart from the above findings, this chapter also highlighted limitations of previous research on FL reading anxiety, recognizing that previous anxiety research has been too quantitatively oriented to portray the complete picture of FL reading anxiety. Furthermore, the participants in previous research were very limited in terms of their language and cultural backgrounds. Considering the findings and limitations of previous research, the present study investigated further the interplay between syntactic differences and FL reading anxiety among Asian students, a less examined population in anxiety research. Specifically, this study was conducted to examine how Taiwanese university students perceive the role of Chinese-English syntactic differences in their English reading anxiety via a mixed-methods research design. The research design of this study is to be presented in the next chapter.
CHAPTER 3
METHODS

Based on the review of studies on foreign language anxiety, foreign language reading anxiety, and Chinese-English syntactic differences, as shown in Chapter Two, this chapter describes methodological issues of this study. This chapter consists of five major sections: (1) research design, (2) participants (3) instruments, (4) data collection procedures, and (5) data analysis.

3.1 Research Design

This study aims to explore the role of Chinese-English syntactic differences in Taiwanese university students’ English reading anxiety. Since Taiwanese students’ FL reading anxiety has not been fully investigated in previous research, the study employed a dominant-less dominant mixed method design (Creswell, 1994), with the quantitative component being the dominant method, to better portray English reading anxiety in Taiwanese university students.

An examination of the use of mixed methods research in social sciences is needed prior to a detailed discussion of the research design of this study. The so-called mixed methods research is defined as “the class of research where the researcher mixes or
combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study” (Johnson & Onwuegbuzie, 2004, p. 17). According to Greene, Kreider and Mayer (2005), the mixed methods approach partially derives from the notion of triangulation, “which involves the use of multiple methods—each representing a different perspective or lens—to assess a given phenomenon in order to enhance confidence in the validity of findings” (p. 274). Since mixed methods research includes both quantitative data (such as surveys or questionnaires) and qualitative data (such as interviews or observations) in a single study, it can “draw from the strengths and minimize the weaknesses of both [i.e., the quantitative and qualitative research approaches] in single research studies and across studies” (Johnson & Onwuegbuzie, 2004, pp. 14-15). According to Greene, Krider, and Mayer (2005), the primary purpose of mixed methods research is to gain a more comprehensive understanding of the topic of interest. This understanding is classified into 4 different types, including

(1) understanding more defensibly, with stronger validity or credibility and less known bias, as with the classic approach of triangulation;
(2) understanding more comprehensively, developing more complete and full portraits of our social world through the use of multiple perspectives and lenses;
(3) understanding more insightfully, with new ideas, fresh perspectives, creative concepts and meanings, as when findings diverge and thus reconciliation via further analysis, reframing or some other shift in perspective; and
(4) understanding with greater value consciousness and with greater diversity of values, stances and positions through the inclusion of different methods that themselves advance different values. (p. 275)
Essentially, researchers employ a mixed methods design in an attempt to attain different understandings of the phenomena they aspire to investigate. Today, the mixed methods research design has been applied to many areas, such as psychology and education.

The present study employed a mixed methods design to investigate Taiwanese university students’ English reading anxiety for the following reasons. First, as discussed in the previous chapter, most research on FL reading anxiety is conducted within the quantitative research framework. Since anxiety is a multidimensional construct under the influence of intrinsic and extrinsic learner variables (Casado & Dereshiwsky, 2001; Scovel, 1978), it is not sufficient to understand FL reading anxiety through quantitative survey data alone. Hence, there is a need to use a mixed methods design to examine FL reading anxiety quantitatively and qualitatively. Second, in comparison to “monomethod research” (Johnson & Onwuegbuzie, 2004, p. 14), such as qualitative or quantitative research, mixed methods research better helps to answer “a broader and more complete range of research questions” of the current study “because the researcher is not confined to a single method or approach” (Johnson & Onwuegbuzie, 2004, p. 21). For the above-mentioned reasons, the mixed methods design was employed in this study.

Two considerations must be addressed in a mixed methods study (Creswell, 2003; Greene, Kreider, & Mayer, 2005; Johnson & Onwuegbuzie, 2004). The first consideration lies in the researcher’s decision on which strategy to use in data collection. That is, the researcher can choose whether the quantitative and qualitative data should be collected at the same time (i.e., concurrent) or in different phases (i.e., sequential) (Creswell, 2003). The second consideration relates to “whether priority or weight is given
to the quantitative or the qualitative approach, especially the use of quantitative data and analysis” (Creswell, 2003, p. 212). With respect to the first consideration, this study utilized what Creswell (2003) calls a “concurrent triangulation strategy” (p. 217), in which quantitative data and qualitative data are collected simultaneously. The concurrent triangulation approach was selected because it is less time-consuming in the data collection procedure (Creswell, 2003). The quantitative survey data of this study were collected using two major instruments—the Foreign Language Reading Anxiety Scale (FLRAS) and the Survey of Anxiety in Reading Chinese-English Syntactic Differences (SARCE). The former measured participants’ English reading anxiety, and the latter measured participants’ English reading anxiety associated with Chinese-English syntactic differences. The qualitative data were gathered from the immediate written recall protocol with participants who had completed the FLRAS and the SARCE.

With respect to the second consideration, Creswell (2003) noted that, in a concurrent mixed-method model, “Ideally, the priority would be equal between the two methods, but in practical application the priority may be given to either the quantitative or the qualitative approach” (p. 217). In this study, more weight was given to the quantitative research paradigm because of the exploratory nature of this study. Since no research has ever been published on the role of Chinese-English syntactic differences in Taiwanese university students’ English reading anxiety, surveying a larger number of participants is important to show whether a potential relationship exists between Chinese-English syntactic differences and English reading anxiety. In addition, since only a small number of participants were recruited in the immediate recall protocol procedure, the
qualitative approach was less dominant in this study. However, the quantitative and qualitative data were valued equally because they were triangulated together to enhance the validity of this study. The retrieved quantitative data and qualitative data were analyzed separately in data analysis and then be compared and interpreted as a whole in the final chapter of this study.

3.2 Participants

Due to the constraints of time, cost, and limited access to a wider population, this study adopted convenience sampling and purposive sampling methods to select survey respondents and participants for the recall protocol, respectively. The sample comprised a total of 202 university students at a northern university in Taiwan. All of the participants were invited to participate in the survey of the study. After the survey, 30 participants (15% of the total number of participants) were purposefully selected from those who volunteered to participate in the follow-up recall protocol task. The sample size was determined using the principles suggested by MacCallum, Widaman, Zhang and Hong (1999), Hatcheson and Sofroniou (1999), and Zhao (2009). According to MacCallum et al. (1994), the minimum sample size of a small-scale study should be at least 100. Similarly, Zhao (2009) reviewed Garson’s and Hatcher’s studies, suggesting that the number of participants should be five times larger the number of variables, or 100. Furthermore, Hucheson and Sofronioiu (1999) recommended that the minimum number of participants should be at least 150 when high correlations are expected between
variables. To increase reliability, the final sample size of this study was determined based on Hutcheson and Sofronioiu’s recommendations (1999).

The sample was selected from the accessible population whose instructors had acquaintance with the researcher. Basically, the targeted participants were recruited from volunteers who displayed interest in participating in the study. The participants were from different disciplines at a university in Taipei. Since the selected university was located in Taipei, the capital city of Taiwan, students entering this university usually came from diverse regional areas, such as Northern Taiwan, Southern Taiwan (e.g., Kaohsiung), Central Taiwan (e.g., Taichung), Western Taiwan (e.g., Yunlin), and Eastern Taiwan (e.g., Hualien). In view of this, the participants of this university were fairly representative of university students in other metropolitan areas of Taiwan.

3.3 Instruments

In order to investigate the role of Chinese-English syntactic differences in Taiwanese university students’ English reading anxiety, three survey instruments (i.e., the FLRAS, the SARCE, and a background questionnaire) and an immediate recall protocol task were employed in this study to collect quantitative and qualitative data (please see Appendices B-E). Since the targeted participants were non-native English speakers, the instructions and questions asked in the surveys and the recall protocol were translated into the participants’ native language (i.e., Mandarin Chinese) to avoid confusion and misunderstanding resulting from language problems (please view Appendix H for the Chinese versions of the instruments). The instructions and questions were translated by
the researcher and another professional translator who was Chinese-English bilingual and specialized in language teaching. The researcher translated the materials into Chinese first and had them translated back to Chinese by the professional translator. Original and back-translated versions of the materials were compared to ensure the quality and accuracy of the translation. The instruments employed in this study are introduced in the following sections.

3.3.1 The Foreign Language Reading Anxiety Scale (FLRAS)

The Foreign Language Reading Anxiety Scale (FLRAS) was modified slightly for the research purpose of the current study (please see Appendix A for the original FLRAS). Developed by Saito, Horwitz, and Garza (1999), the FLRAS “shows good internal reliability, which suggests that the scale is eliciting a single construct. Specifically, the FLRAS shows an internal consistency coefficient of .86 (Cronbach’s alpha, \( n =383 \))” (p. 204). The FLRAS is therefore a reliable instrument to measure participants’ FL reading anxiety in this study. The FLRAS is a 20 item-questionnaire based on a five point summated Likert-type scale. The response categories range from strongly disagree to strongly agree and inquire about “students’ self-reports of anxiety over various aspects of reading, their perceptions of reading difficulties in their target language, and their perceptions of the relative difficulty of reading as compared to the difficulty of other language skills” (Saito et al., 1999, p. 204). However, since the FLRAS was developed to measure non-Asian students’ FL reading anxiety in the U.S. context, the original FLRAS was adapted to meet the needs of the present study.
Basically, the only difference between the adapted FLRAS and the original FLRAS is the wording. For instance, the words “French, Russian, Japanese” on the FLRAS were completely replaced with “English,” since English is a major foreign language learned by Taiwanese university students. Moreover, item 20 “You have to know so much about (French, Russian, Japanese) history and culture in order to read (French, Russian, Japanese)” on the original FLRAS was modified to “You have to know so much about American history and culture in order to read English.” In addition to the above-mentioned items, items 7, 10, and 11 were modified as well. The following table summarizes the differences between the original FLRAS and the adapted FLRAS:

<table>
<thead>
<tr>
<th>Difference</th>
<th>Item</th>
<th>Original FLRAS</th>
<th>Adapted FLRAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wording</td>
<td>All</td>
<td>French, Russian, Japanese</td>
<td>English</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>nervous and confused</td>
<td>nervous</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>funny</td>
<td>various</td>
</tr>
<tr>
<td></td>
<td></td>
<td>letters and symbols</td>
<td>letters</td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>you</td>
<td>I</td>
</tr>
<tr>
<td></td>
<td></td>
<td>new</td>
<td>(deleted “new”)</td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>French, Russian, Japanese</td>
<td>American</td>
</tr>
<tr>
<td></td>
<td></td>
<td>French, Russian, Japanese</td>
<td>English</td>
</tr>
</tbody>
</table>

Table 3.1 Differences Between the Original FLRAS and the Adapted FLRAS

The adapted FLRAS retains the same number, content, and ordering of the items on the original FLRAS. Just like the original FLRAS, the adapted version is a 20 item-
questionnaire based on a five-point summed Likert-type scale, with response categories ranging from strongly disagree to strongly agree (please see Appendix B for the adapted FLRAS). Participants’ responses to the adapted FLRAS were used to answer the first, second, and fourth research questions of this study.

3.3.2 Texts with and without Chinese-English Syntactic Differences

The participants were asked to read two articles (i.e., Article A, which contained no Chinese-English syntactic differences, and Article B, which contained large Chinese-English syntactic differences; please refer to Appendix D) while they responded to the SARCE and while they participated in the recall protocol task. The two articles were used to examine whether the amounts of Chinese-English syntactic differences have a potential influence on the participants’ levels of English reading anxiety. The two articles were selected according to three criteria: (1) the articles should be authentic and suitable for EFL university students; (2) they must be similar in content and topic; and (3) they vary greatly in structure. With regard to the first criteria, the two articles (each containing 223 words) were drawn from two reading sections of the Practice Test of English as a Foreign Language (TOEFL). Since the TOEFL has long been used as the major gatekeeper language proficiency test for non-English speakers applying to college or graduate school in the U.S., selecting articles from the reading sections of the TOEFL will therefore meet the authenticity principle. In regard to the second criteria, the two articles are relevant because both discuss the life and work of a famous American writer, with the first article (Article A) being on Alice Walker, and the second article (Article B) being on
Marianne Moore. As for the third criteria, the first article is written using the subject-verb-object (SVO) order, which resembles the Chinese word order, yet the second article contains a large number of passive sentences and relative constructions (13 out of 15 sentences (87%) are either passivized or relativized), which is uncommon in a typical Chinese article. Simply put, the two articles differ in the amounts of Chinese-English syntactic differences that they contain. That is, Article A contains neither passive sentences nor relative constructions, whereas Article B includes a great number of the two constructions. More Chinese-English syntactic differences are found in Article B than in Article A.

3.3.3 The Survey on Anxiety in Reading Chinese-English Syntactic Difference (SARCE)

The Survey on Anxiety in Reading Chinese-English Syntactic Differences (SARCE) is a new instrument developed by the researcher in this study (please see Appendix C). As a measure of participants’ post-reading anxiety deriving from a text containing large Chinese-English syntactic differences (i.e., Article B in this study), the SARCE contains 20 survey items on a four point Likert-type scale, with response categories of strongly disagree, disagree, agree, and strongly agree. Based on previous research findings that Chinese students’ English reading problems originate primarily from syntactic differences between the Chinese relative and the English relative constructions, and between the Chinese passive and the English passive voice (e.g., Odlin, 1989), the original survey items were grouped into four domains, with 4 items on awareness of syntactic differences between the assigned texts (i.e., Article A and Article
B), 5 items on the English relative construction, 5 items on the English passive, and 6 items on overall feelings of anxiety in reading the assigned texts. The results of the SARCE were used to address the third, fourth, and fifth research questions posed in this study.

3.3.4 Background Questionnaire

A 14-item background questionnaire was used in this study to inquire about participants’ demographic information, previous experience with English reading, length of time reading in English, interest in American culture, English reading, and English learning, etc. (please see Appendix E). This background questionnaire was designed to address the second research question of the study.

3.3.5 The Immediate Written Recall Protocol

The qualitative data of this study were collected using an immediate written recall protocol (please view Appendix D). The immediate recall protocol is an appropriate tool for use in this study because it is one of the most valid testing methods for evaluating the reading comprehension of foreign language students (Bernhardt, 1983; Berkemeyer, 1989). For many years, researchers have noted that traditional testing methods such as multiple choice or true/false tests are usually problematic because the results of these tests might be based on students’ random guesses and prior knowledge, not on their understanding of the text (Berkemeyer, 1989; Bernhardt, 1983; Johns, 1978). Unlike traditional testing methods, the immediate recall protocol procedure better investigates
the real nature of reading comprehension, that is, the interaction between the reader and the text (Berkemeyer, 1989).

Students engaging in the recall protocol procedure are usually given a written foreign language text to read; after reading the text, they are asked to write down in their first language everything they can recall about the text (Berkemeyer, 1989; Bernhardt, 1983). Bernhardt (1983) identifies numerous advantages of using the immediate recall protocol to assess the reading abilities of foreign language students. These advantages are:

(a) the recall protocol does not assess grammar points, whereas “it does show where a lack of grammar is interfering with the communication which should be going on between the students and the text” (Bernhardt, 1983, pp. 31-32);
(b) with the recall protocol, teachers are better able to diagnose students’ actual reading abilities; that is, students’ recall will be indicative of their different levels of reading comprehension; and
(c) the recall protocol helps students monitor their own reading and allows students to “bring their own experience to the reading process” (Bernhardt, 1983, p. 32).

Recognizing the above advantages, this study employed the immediate written recall protocol procedure to investigate participants’ levels of understanding about two texts written in English (i.e., Article A and Article B, same as the ones used in the survey procedure). In addition to doing the written recall, the participants were asked to answer five follow-up questions concerning their understanding of the texts, reading difficulties, ways of processing English relative clauses and passives, views on L1 syntactic
interference, and so forth (please refer to Appendix D for details). The findings of the recall protocol data were used mainly to address the sixth research question of this study.

The following table summarizes the instruments and tools used in data collection of this study:

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Variable Examined</th>
<th>Item/Content</th>
<th>Research Question Intended</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLRAS</td>
<td>English reading anxiety</td>
<td>Q1-Q20: Other than the wording, items asked are the same as those on the original FLRAS. Saito et al. (1999) did not explain how their items were developed.</td>
<td>RQ1</td>
</tr>
<tr>
<td>SARCE</td>
<td>English reading anxiety associated with Chinese-English syntactic differences</td>
<td>Q1-Q4: Awareness of syntactic differences between the two articles Q5-Q9: The English relative clause Q10-Q14: The English passive Q15-Q20: Overall feelings of anxiety in reading the two texts</td>
<td>RQ3</td>
</tr>
<tr>
<td>Immediate written recall protocol</td>
<td>(Qualitative data) Textual and non-textual factors that may influence English reading comprehension, reading anxiety, and the processing of a text containing large Chinese-English syntactic differences</td>
<td>Q1: Recall information contained in Article A Q2: Recall information contained in Article B Q3: The influence of English relative clauses on reading comprehension Q4: The influence of English passives on reading comprehension Q5: The influence of Chinese on English reading Q6: Textual understanding Q7: Sources of reading difficulties</td>
<td>RQ6</td>
</tr>
</tbody>
</table>

Table 3.2 Instruments Used in the Current Study
Table 3.2 continued

<table>
<thead>
<tr>
<th>Instrument (continued)</th>
<th>Variable Examined</th>
<th>Item/Content</th>
<th>Research Question Intended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Background questionnaire</td>
<td>(1) Experience with English reading</td>
<td>Q1-Q4: Personal information</td>
<td>RQ2</td>
</tr>
<tr>
<td></td>
<td>(2) Informal English learning experience</td>
<td>Q5: Length of time learning English</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(3) Length of time staying in an English-speaking country</td>
<td>Q6-Q7: Contact with foreign cultures</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(4) Frequency of reading English per week</td>
<td>Q8-Q9: Length of time reading in English</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(5) Length of time reading English per day</td>
<td>Q10: Interest in American culture</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Q11: Informal English learning experience</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Q12: Interest in English reading</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Q13: Reading preference</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Q14: Interest in English learning</td>
<td></td>
</tr>
</tbody>
</table>

3.3.6 Reliability and Validity

Validity and reliability are two fundamental issues to consider for the development of instruments. In regard to reliability, Brown (1995) defined it as “the extent to which the results can be considered consistent and stable” (p. 98). In other words, an instrument will not be considered reliable unless it yields consistent results (Orcher, 2007; Rudestam & Newton, 2007). As shown earlier in this chapter, the major instruments used in this study were the FLRAS, the SARCE, and the immediate written recall protocol. The reliability of these instruments was established through Cronbach’s Alpha or internal consistency reliability. Ranging in numeric value between 0 and 1, Cronbach’s alpha, or “internal consistency estimate,” helps to measure “a single occasion using a scale with multiple parts” and “the greater the consistency in responses among items, the higher
Coefficient alpha will be” (Green, Salkind, & Akey, 2000, pp. 303-305). For an instrument to be considered reliable, the value of Cronbach’s alpha should reach at least .70 (Orcher, 2007). Given that little modification was made to the original FLRAS, the validity and reliability of the adapted FLRAS was established partially from previous research in which the FLRAS was tested and shown to be a valid and reliable instrument to assess FL reading anxiety (Gonen, 2007; Matsumura, 2001; Miyanaga, 2005; Saito, Garza, & Horwitz, 1999). Similarly, the reliability of the immediate recall protocol was established by previous research (e.g., Bernhardt, 1983; Berkemeyer, 1989; Sellers, 2000).

The internal consistency of the 20 items on the SARCE was also tested by Cronbach’s alpha. Prior to pilot testing the SARCE, five Taiwanese university students were invited to participate in cognitive interviews to determine that the survey items were clear in meaning and appropriate in content. After the cognitive interviews, the SARCE was then pilot tested with fourteen Taiwanese university students, who were not recruited as participants in the actual study. The reliability results of the pilot test showed that the Cronbach’s alpha for items in the first domain was .78; the Cronbach’s alpha for items in the second domain was .83; the Cronbach’s alpha for items in the third domain was .79; and the Cronbach’s alpha for items in the fourth domain was .74.

With regard to validity, Orcher (2007) defined validity as “the extent to which an instrument measures what it is designed to measure” (p. 128). The validity of the instruments was established by “judgmental validity” (Orcher, 2007, p. 128), such as content validity and face validity.
Content validity, according to Orcher (2007), “is based on experts’ judgment of the appropriateness of the contents of a scale or test for a particular purpose” (p. 218). In this study, content validity was established by a panel of three experts who specialized in second language acquisition, second language reading, and survey research. The panel of experts examined the clarity and representativeness of the items on the instruments. The instruments were revised based on feedback received from the three panel experts.

Face validity refers to “an assessment of validity based on nonexpert judgment of what a test appears to measure on the surface (i.e., on the face of it)” (Orcher, 2007, p. 129). To ensure face validity, five face-to-face interviews were conducted with two language teachers and three university students. They were interviewed regarding the clarity of the survey items. The purpose of these interviews was to understand how interviewees processed items cognitively and whether they interpreted items the same way as the researcher thought (Karabenick et al., 2007).

3.4 Data Collection Procedures

The data collection procedure was approved by The Ohio State University’s Institutional Review Board (IRB). The data were collected at two stages in May and June, 2011 according to the following procedure. During the first stage of data collection, the researcher contacted four professors at the research site to gain their permission to distribute surveys to their students. The researcher administered the surveys to the targeted participants in their class. Prior to group administration of the surveys, the
researcher presented recruitment letters to the targeted participants to encourage their participation. Based upon the regulations of the IRB of The Ohio State University, the researcher informed participants that their participation was completely voluntary and their responses to the surveys would be treated confidentially. After that, the researcher gave volunteers oral instructions on how to complete the surveys. The participants were asked to complete the FLRAS first, to read Article A and Article B next, and to respond to the SARCE last. To increase response rate, the researcher administered surveys to as many accessible students as possible.

During the second stage of data collection, 30 participants (15% of the total number of the participants) were invited to participate in the written recall protocol procedure. The recall participants were purposefully selected from the participants who had participated in the former survey procedure. Prior to taking part in the recall protocol procedure, the volunteers were divided into high-anxiety, mid-anxiety, and low-anxiety groups according to the criteria developed by Sellers (2000) and Gonen (2007). The participants in the high-anxiety group were chosen from those whose individual mean scores on the FLRAS were one or more standard deviations above the total mean. The participants of the low-anxiety group were chosen from those whose individual mean scores on the FLRAS were one or more standard deviations below the total mean. The rest of the participants were classified as the mid-anxiety group.

The recall-protocol task was administered to the participants immediately following the surveys. Instructions for how to complete the recall and how to answer the questions related to the recall were given to the participants prior to group administration.
3.5 Data Analysis

The quantitative and qualitative data were analyzed in a way that addressed the corresponding research questions of the study.

3.5.1 Quantitative Survey Data

The Statistical Package for the Social Science (SPSS) 18.0 was used to analyze the quantitative survey data. The analysis was conducted following Alreck and Settle’s guidelines below:

<table>
<thead>
<tr>
<th>Scale Type</th>
<th>Average</th>
<th>Spread</th>
<th>Shape</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal</td>
<td>Mode</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ordinal</td>
<td>Median</td>
<td>Range</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mode</td>
<td>Maximum and minimum</td>
<td></td>
</tr>
<tr>
<td>Interval</td>
<td>Mean</td>
<td>Standard deviation</td>
<td>Skewness</td>
</tr>
<tr>
<td></td>
<td>Median</td>
<td>Range</td>
<td>Kurtosis</td>
</tr>
<tr>
<td></td>
<td>Mode</td>
<td>Maximum and minimum</td>
<td></td>
</tr>
<tr>
<td>Ratio</td>
<td>Mean</td>
<td>Standard deviation</td>
<td>Skewness</td>
</tr>
<tr>
<td></td>
<td>Median</td>
<td>Range</td>
<td>Kurtosis</td>
</tr>
<tr>
<td></td>
<td>Mode</td>
<td>Maximum and minimum</td>
<td></td>
</tr>
</tbody>
</table>

Note. *1: In Alreck and Settle’s words, average refers to “the most typical value” (p.272). “The average of a distribution is almost always reported because it represents the most typical response, or the researchers’ ‘best guess’ of how someone picked at random from the population sampled would respond” (p. 273).

*2: Spread refers to “the amount of deviation from the average” (Alreck & Settle, 1995, p. 272).

*3: Shape refers to “the form of the distribution” (Alreck & Settle, 1995, p. 272).

Table 3.3 Tool Selection for Descriptive Statistics (From Alreck & Settle, 1995, p. 273)
The table provided by Alreck and Settle (1995) summarizes the descriptive statistics used to analyze data of the following types: nominal data, ordinal data, interval data, and ratio data. The present study followed Alreck and Settle’s guidelines in selecting statistic tools. The table below summarizes the variables and their corresponding statistics to be used for data analysis in this study.

<table>
<thead>
<tr>
<th>Scale Type</th>
<th>Variable</th>
<th>Average</th>
<th>Spread</th>
<th>Shape</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal</td>
<td>(1) Gender</td>
<td>Mode</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2) Major</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(3) Interest in American culture</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(4) Experience with English reading</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(5) Interest in English reading</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(6) Interest in English learning</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ordinal</td>
<td>Grade</td>
<td>Median</td>
<td>Range</td>
<td>Max &amp; Min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mode</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interval</td>
<td>(1) English reading anxiety (items 1-20 on the FLRAS)</td>
<td>Mean</td>
<td>SD</td>
<td>Skewness</td>
</tr>
<tr>
<td></td>
<td>(2) Anxiety in reading Chinese-English syntactic differences (items 1-20 on the SARCE)</td>
<td>Median</td>
<td>Range</td>
<td>Kurtosis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mode</td>
<td></td>
<td>Max &amp; Min</td>
</tr>
<tr>
<td>Ratio</td>
<td>(1) Years of learning English</td>
<td>Mean</td>
<td>SD</td>
<td>Skewness</td>
</tr>
<tr>
<td></td>
<td>(2) Length of time staying in an English-speaking country</td>
<td>Median</td>
<td>Range</td>
<td>Kurtosis</td>
</tr>
<tr>
<td></td>
<td>(3) Frequency of reading English per week</td>
<td>Mode</td>
<td></td>
<td>Max &amp; Min</td>
</tr>
<tr>
<td></td>
<td>(4) Length of time reading English per day</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3.4 Descriptive Statistics Used in Data Analysis of the Study
Research Question 1:

To what extent do Taiwanese university students experience anxiety in reading English?

The FLRAS was employed to measure English reading anxiety, as was operationally defined as the summated average of all 20 responses on the FLRAS according to a five point summated Likert-type scale. The response scale used for items 1 through 20 is a Likert-type, interval scale in which the value of 1 represents strongly disagree, the value of 2 represents disagree, the value of 3 represents neutral, the value of 4 represents agree, and the value of 5 represents strongly agree. The higher the mean of the FLRAS score, the higher the level of the participant’s English reading anxiety.

The analyses consisted of the uses of means, standard deviations, minimum and maximum scores. Item means of each participant and the mean of item means were calculated. Skipped items were treated as missing data and were coded as the numeric value of 9 when the data were entered into SPSS. The missing data were handled according to Alreck and Settle’s principle (1995) in which “some missing data can be tolerated. If the questionnaire is substantially complete, with only an occasional missing answer, it can be used. On the other hand, if entire sections are incomplete or the respondent has completed only the beginning and then terminated prematurely, the case should be rejected” (pp. 238-239).

The participants’ scores on the FLRAS were compared based on the principle defined by Sellers (2000) and Gonen (2007). Participants whose individual mean scores on the FLRAS were one or more standard deviations above the total mean were classified as the “high-anxiety” group; those whose individual mean scores on the FLRAS were one
or more standard deviations below the total mean were classified as the “low-anxiety” group. The rest of the participants were classified as the “mid-anxiety” group.

Research Question 2:

What background variables best predict English reading anxiety in Taiwanese university students?

The results of the FLRAS were used for data analysis. A Pearson product-moment correlation coefficient analysis was employed to explore the relationship between the dependent variable (i.e., English reading anxiety) and each independent demographic variable (e.g., frequency of reading English per week, years of learning English, length of time staying in an English-speaking country, informal English learning experience, etc.). Whether there is a significant relationship between the dependent variable and each independent variable was determined by the value of $r$. The Pearson’s $r$ was interpreted following Hinkle, Wiersma, and Jurs (1998)’s criteria, as described below:

<table>
<thead>
<tr>
<th>Size of Correlation</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>.90 to 1.00 (-.90 to -1.00)</td>
<td>Very high positive (negative) correlation</td>
</tr>
<tr>
<td>.70 to .90 (-.70 to -.90)</td>
<td>High positive (negative) correlation</td>
</tr>
<tr>
<td>.50 to .70 (-.50 to -.70)</td>
<td>Moderate positive (negative) correlation</td>
</tr>
<tr>
<td>.30 to .50 (-.30 to -.50)</td>
<td>Low positive (negative) correlation</td>
</tr>
<tr>
<td>.00 to .30 (.00 to -.30)</td>
<td>Little if any correlation</td>
</tr>
</tbody>
</table>

Table 3.5 Rule of Thumb for Interpreting the Size of a Correlation Coefficient
(From Hinkle, Wiersma, & Jurs, 1998, p. 120)

In addition to the correlation analysis, a stepwise multiple linear regression analysis was also performed to examine the degree of relations between the background variables.
and the dependent variable. The results of the analysis were used to identify background variables that best predicted the dependent variable.

**Research Question 3:**

*What are the underlying common factors behind Taiwanese university students’ English reading anxiety that is associated with Chinese-English syntactic differences?*

An exploratory factor analysis using principal components analysis with varimax rotation was performed on 20 items on the SARCE for a sample of 202 participants. The analysis was conducted to identify common underlying factors that accounted for the participants’ English reading anxiety associated with Chinese-English syntactic differences.

**Research Question 4:**

*What role do Chinese-English syntactic differences play in Taiwanese university students’ English reading anxiety?*

The SARCE was used as a measure of participants’ perceptions of English reading anxiety associated with Chinese-English syntactic differences. The analyses included the descriptive item statistics, such as percentages, means, standard deviations, minimum and maximum scores, kurtosis, and skewness. Item means of each participant and the means of item means were calculated. The participant’s perceptions of reading anxiety associated with Chinese-English syntactic differences were analyzed according to their average SARCE scores and their responses to some specific items.
A Pearson product-moment correlation coefficient analysis was also performed to investigate the relationship between the FLRAS and the SARCE to determine whether English reading anxiety had a relationship with anxiety associated with reading a text containing large Chinese-English syntactic differences.

Research Question 5:

*Which English structure may evoke a higher level of English reading anxiety in Taiwanese university students?*

The analyses included descriptive statistics, such as means and standard deviations, and a paired samples *t*-test. A paired samples *t*-test was performed to investigate whether a difference existed between the participants’ anxiety in reading the English relative clause (i.e., items representing the English relative clause on the SARCE) and their anxiety in reading the English passive (i.e., items representing the English passive on the SARCE).
3.5.2 Qualitative Data

Research Question 6:

*How do textual and non-textual factors influence Taiwanese university students’ reading of two texts written in different structures?*

To answer this question, the written recall-protocol data were qualitatively analyzed using Bernhardt’s constructivist model of L2 text comprehension (1986). This model was selected because it is qualitatively based and investigates particularly “the interactions between various textual features and influences external to the text,” which cannot be examined by other quantitative scoring methods (Berkemeyer, 1989, p. 132). In other words, the constructivist model of L2 text comprehension is a useful tool to diagnose sources and problems that prevent students from recalling correctly (Berkemeyer, 1989).

Bernhardt’s constructivist model of L2 text comprehension (1986) is a qualitative method of analysis for the written recall protocol. The model is both text-based and extratext-based. The text-based feature includes three components such as word-recognition, phonemic/graphemic decoding, and syntactic feature recognition. Specifically, word recognition is defined as “the attachment of semantic value to a word via direct translation or conjecture;” phonemic/graphemic decoding refers to readers’ “interpretation of words which have visual or aural similarities;” and syntactic feature recognition concerns “the relationship[s] between and among words” (Berkemeyer, 1989, p. 132). Of the text-based features, word-recognition and phonemic/graphemic decoding relate specifically to the word level, whereas syntactic feature recognition is associated
with syntactic structures. The extratext-based feature involves three components as well, including *intratextual perception, prior knowledge,* and *metacognition.* Basically, intratextual perception refers to “how each part of the text is reconciled with the preceding and succeeding context;” the second component, prior knowledge, describes “the readers’ existing knowledge of the world as well as any assumptions or expectations they may bring to the text from their own experiences;” and the third component, metacognition, describes “the extent to which readers think about or reflect on what they are reading, and is characterized in the written recalls by question marks or parenthetical comments” (Berkemeyer, 1989, p. 132).

The written recalls were qualitatively analyzed based on participants’ levels of anxiety (measured by their average scores on the FLRAS) and the text-based and extratext-based features discussed in Bernhardt’s constructivist model of L2 text comprehension (please view a sample of data analysis used in the recall protocol procedure in Appendix F).
3.5.3 Summary

The following table summarizes the tools used in data analysis of this study:

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Instrument</th>
<th>Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. To what extent do Taiwanese university students experience anxiety in reading English?</td>
<td>FLRAS</td>
<td>Descriptive statistics</td>
</tr>
<tr>
<td>2. What background variables best predict English reading anxiety in Taiwanese university students?</td>
<td>FLRAS &amp; Background questionnaire</td>
<td>(1) Pearson product-moment correlation coefficient analysis (2) Multiple linear regression analysis</td>
</tr>
<tr>
<td>3. What are the underlying common factors behind Taiwanese university students’ English reading anxiety that is associated with Chinese-English syntactic differences?</td>
<td>SARCE</td>
<td>Exploratory factor analysis</td>
</tr>
<tr>
<td>5. Which English structure may evoke a higher level of English reading anxiety in Taiwanese university students?</td>
<td>SARCE</td>
<td>(1) Descriptive statistics (2) Paired samples t-test</td>
</tr>
</tbody>
</table>

Table 3.6 Summary of Tools Used in Data Analysis
CHAPTER 4
RESULTS

This mixed methods study was conducted to investigate the role of Chinese-English syntactic differences in Taiwanese university students’ English reading anxiety. The research questions asked in this study were:

1. To what extent do Taiwanese university students experience anxiety in reading English?
2. What background variables best predict English reading anxiety in Taiwanese university students?
3. What are the underlying common factors behind Taiwanese university students’ English reading anxiety that is associated with Chinese-English syntactic differences?
4. What role do Chinese-English syntactic differences play in Taiwanese university students’ English reading anxiety?
5. Which English structure may evoke a higher level of English reading anxiety in Taiwanese university students?
6. How do textual and non-textual factors influence Taiwanese university students’ reading of the two texts written in different structures?
The results of this study are presented in this chapter. This chapter is organized into three parts: 4.1 presents a detailed description of the demographic information of the participants; 4.2 reports quantitative survey results; and finally 4.3 displays qualitative results of the immediate written recall protocol data. A detailed discussion and explanation of the results will be offered in the next chapter.

4.1 Description of the Participants

4.1.1 Survey Respondents

The survey respondents of this study consisted of 202 Taiwanese university students from assorted majors at a university in Northern Taiwan. A total of 260 questionnaires were distributed to accessible participants, and 232 questionnaires were returned. The response rate was 89.2%. Of the 232 questionnaires, 30 were incomplete and were eliminated. Hence, the selected sample of this study was 202 students, including 95 males (47%) and 107 females (53%). The tables below summarize essential information drawn from the participants’ responses to the background questions.
### Table 4.1 Demographic Information of the Participants

<table>
<thead>
<tr>
<th>Age</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-20</td>
<td>131</td>
<td>64.9</td>
</tr>
<tr>
<td>21-23</td>
<td>63</td>
<td>31.2</td>
</tr>
<tr>
<td>Older than 24</td>
<td>8</td>
<td>4.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>84</td>
<td>41.6</td>
</tr>
<tr>
<td>Sophomore</td>
<td>82</td>
<td>40.6</td>
</tr>
<tr>
<td>Junior</td>
<td>15</td>
<td>7.4</td>
</tr>
<tr>
<td>Senior</td>
<td>21</td>
<td>10.4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Major</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>56</td>
<td>27.7</td>
</tr>
<tr>
<td>Philosophy</td>
<td>8</td>
<td>4.0</td>
</tr>
<tr>
<td>Information management</td>
<td>25</td>
<td>12.4</td>
</tr>
<tr>
<td>Fine arts</td>
<td>26</td>
<td>12.9</td>
</tr>
<tr>
<td>Environmental &amp; hazards-resistant design</td>
<td>5</td>
<td>2.5</td>
</tr>
<tr>
<td>Electronic engineering</td>
<td>15</td>
<td>7.4</td>
</tr>
<tr>
<td>Industrial engineering and management information</td>
<td>13</td>
<td>6.4</td>
</tr>
<tr>
<td>Architecture</td>
<td>9</td>
<td>4.5</td>
</tr>
<tr>
<td>Chinese</td>
<td>15</td>
<td>7.4</td>
</tr>
<tr>
<td>Buddhist studies</td>
<td>1</td>
<td>.5</td>
</tr>
<tr>
<td>Mechatronic engineering</td>
<td>13</td>
<td>6.4</td>
</tr>
<tr>
<td>Industrial design</td>
<td>16</td>
<td>7.9</td>
</tr>
</tbody>
</table>

Total 202 100.0

As shown in Table 4.1, nearly 96% of the participants were between the ages of 19 and 23, with 64.9% between the ages of 18 and 20, and 31.2%, between 21 and 23. With respect to grade, 41.6% of the participants were freshmen and 40.6% of the participants were sophomores. Together the two grades accounted for 82% of the sample.
Table 4.1 also shows that the participants represented 12 diverse majors and most (53%) came from three major areas, i.e., English, fine arts, and information management.

4.1.1.2 Exposure to English

Table 4.2 indicates that 130 out of the 202 participants (64.4%) reported having studied English for five to ten years, and 51 of the participants (25.2%) had learned English more than ten years. In other words, nearly 90% of the participants had at least five years of formal English learning experience.

<table>
<thead>
<tr>
<th>Years of English Learning</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 5 years</td>
<td>21</td>
<td>10.4</td>
</tr>
<tr>
<td>5-10 years</td>
<td>130</td>
<td>64.4</td>
</tr>
<tr>
<td>More than 10 years</td>
<td>51</td>
<td>25.2</td>
</tr>
<tr>
<td>Total</td>
<td>202</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4.2 Formal English Learning Experience of the Participants

In addition to formal English learning experience, the participants also reported having engaged in various activities related to English learning, such as writing E-mails, browsing websites written in English, making friends with people from Western countries, language exchange, watching movies, and listening to English songs. Since the activities reported by the participants varied widely, the participants’ informal English learning experience was calculated according to the total number of activities that they had experienced. Table 4.3 describes the participants’ informal learning experience with English:
As shown in Table 4.3, the participants on average had participated in two informal activities related to English learning (SD = 1.45). The majority of the participants (57%) had engaged in one or two activities associated with English. Seventy-six out of the 202 participants (38%) reported that they had participated in more than two activities associated with English. Table 4.2 and Table 4.3 indicate that most participants had experienced both formal and informal English learning.

### Table 4.4 Length of Time Traveling in an English Speaking Country

<table>
<thead>
<tr>
<th>Length of time</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>155</td>
<td>76.7</td>
</tr>
<tr>
<td>Less than 1 month</td>
<td>29</td>
<td>14.4</td>
</tr>
<tr>
<td>1-3 months</td>
<td>9</td>
<td>4.5</td>
</tr>
<tr>
<td>4-6 months</td>
<td>1</td>
<td>.5</td>
</tr>
<tr>
<td>7-12 months</td>
<td>1</td>
<td>.5</td>
</tr>
<tr>
<td>More than 12 months</td>
<td>7</td>
<td>3.5</td>
</tr>
<tr>
<td>Total</td>
<td>202</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4.4 Length of Time Traveling in an English Speaking Country

105
Table 4.4 shows that approximately 77% of the participants did not have any travel experience in an English-speaking country. Among participants who had traveled to an English speaking country, 14.4% stayed less than a month and 4.5% stayed from one to three months. Only 3.5% of the participants stayed in an English speaking country for more than 12 months.

4.1.1.4 Preferences for English Learning and English Reading

<table>
<thead>
<tr>
<th></th>
<th>Preference</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Learning</td>
<td>Dislike</td>
<td>80</td>
<td>39.6</td>
</tr>
<tr>
<td></td>
<td>Like</td>
<td>122</td>
<td>60.4</td>
</tr>
<tr>
<td>English Reading</td>
<td>Dislike</td>
<td>111</td>
<td>55.0</td>
</tr>
<tr>
<td></td>
<td>Like</td>
<td>91</td>
<td>45.0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>202</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 4.5 Participants’ Preferences for English Learning and English Reading

As shown in Table 4.5, 60% of the participants reported that they liked learning English. However, only 45% of the participants indicated their preferences for reading English. This finding shows that most of the participants preferred English learning to English reading.

In summary, despite the differences in academic majors and in travel experience, the majority of the survey participants had rich experience with English learning. The data show that they tended to be more interested in learning English than in reading English.
4.1.2 Participants in the Written Recall Protocol Task

Thirty participants who had completed the survey (15% of the selected sample) volunteered to participate in the written recall protocol task. The 30 participants were purposefully selected according to the FLRAS scores they received. The participants whose individual mean scores on the FLRAS were one or more standard deviations above the total mean were classified as the high-anxiety group; those whose individual mean scores on the FLRAS were one or more standard deviations below the total mean were placed in the low-anxiety group; the remainder of the participants belonged to the mid-anxiety group. As a result, out of the 30 participants, there were 10 participants selected as the low-anxiety group, 10 as the mid-anxiety group, and 10 as the high-anxiety group.

4.2. Quantitative Results

Presented below are the survey results of the FLRAS and the SARCE, with descriptive statistics (4.2.1 and 4.2.2) and various analyses addressing the six research questions of this study (4.2.3 to 4.2.7).

4.2.1 Descriptive Statistics of the FLRAS

The Cronbach’s alpha of the modified Foreign Language Reading Anxiety Scale (FLRAS) was .83 (n = 202), showing that the slightly modified FLRAS was a reliable
instrument for use in this study. Table 4.7 and Figure 4.1 present descriptive statistics and the histogram of the FLRAS scores, respectively.

<table>
<thead>
<tr>
<th></th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>SD</th>
<th>Skewness</th>
<th>Kurtosis</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLRAS scores</td>
<td>40</td>
<td>91</td>
<td>66.91</td>
<td>10.01</td>
<td>-1.59</td>
<td>.355</td>
<td>202</td>
</tr>
</tbody>
</table>

Table 4.6 Descriptive Statistics of the FLRAS

As shown in the Table 4.6, the mean FLRAS score for the 202 participants was 66.9 ($SD = 10.01$). The participants’ FLRAS scores ranged from 40 to 91. The skewness value -1.59 and the kurtosis value .355, together with the histogram with a normal curve in Figure 4.1, showed that the FLRAS scores were reasonably normally distributed. However, the negative skewness value showed that there were more scores at the high end of the distribution than a typical normal distribution.
Table 4.7 Means and Standard Deviations of Twenty Items on the FLRAS

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Anxiety in reading incomprehensible texts</td>
<td>3.85</td>
<td>.809</td>
<td>202</td>
</tr>
<tr>
<td>2. Difficulty in understanding main ideas</td>
<td>3.47</td>
<td>.983</td>
<td>202</td>
</tr>
<tr>
<td>3. Confusion and memory</td>
<td>3.59</td>
<td>.969</td>
<td>202</td>
</tr>
<tr>
<td>4. Fear in reading English</td>
<td>3.61</td>
<td>1.060</td>
<td>202</td>
</tr>
<tr>
<td>5. Anxiety in reading unfamiliar topics</td>
<td>3.62</td>
<td>1.011</td>
<td>202</td>
</tr>
<tr>
<td>6. Anxiety in reading unknown grammar</td>
<td>3.60</td>
<td>.994</td>
<td>202</td>
</tr>
<tr>
<td>7. Anxiety in reading unknown words</td>
<td>2.90</td>
<td>1.022</td>
<td>202</td>
</tr>
<tr>
<td>8. Anxiety in reading words that are hard to pronounce</td>
<td>3.20</td>
<td>1.070</td>
<td>202</td>
</tr>
<tr>
<td>9. Strategy used in reading difficult texts</td>
<td>3.47</td>
<td>1.093</td>
<td>202</td>
</tr>
<tr>
<td>10. Reading difficulty caused by English letters</td>
<td>3.37</td>
<td>1.095</td>
<td>202</td>
</tr>
<tr>
<td>11. Concern about learning English letters</td>
<td>3.20</td>
<td>1.165</td>
<td>202</td>
</tr>
<tr>
<td>12. Preference for reading English</td>
<td>3.23</td>
<td>.924</td>
<td>202</td>
</tr>
<tr>
<td>13. Confidence in reading English</td>
<td>3.33</td>
<td>1.038</td>
<td>202</td>
</tr>
<tr>
<td>14. Learning to read in English</td>
<td>2.48</td>
<td>.915</td>
<td>202</td>
</tr>
<tr>
<td>15. English reading as the hardest of learning English</td>
<td>3.26</td>
<td>.975</td>
<td>202</td>
</tr>
<tr>
<td>16. Preference for learning to read in English</td>
<td>3.62</td>
<td>1.021</td>
<td>202</td>
</tr>
<tr>
<td>17. Comfort level when reading English aloud</td>
<td>3.33</td>
<td>1.152</td>
<td>202</td>
</tr>
<tr>
<td>18. Level of satisfaction with English reading ability</td>
<td>3.87</td>
<td>1.004</td>
<td>202</td>
</tr>
<tr>
<td>19. Familiarity with American culture</td>
<td>3.25</td>
<td>1.002</td>
<td>202</td>
</tr>
<tr>
<td>20. Knowledge in American history and culture</td>
<td>2.81</td>
<td>1.024</td>
<td>202</td>
</tr>
</tbody>
</table>

Note. Total mean = 3.35 (SD = 1.02).

Table 4.7 presents the means and standard deviations of the 20 items on the FLRAS. The smallest mean value was 2.48 (item 14), whereas the largest was 3.87 (item 18). The mean differences of the items were rather small, varying less than one point from the total mean of 3.35 (N = 202, SD = 1.02). A further investigation of items 1-6, whose item means were higher than the total mean, shows that the participants were more anxious when reading incomprehensible texts, unknown grammar, and unknown topics. Since the response categories of the FLRAS ranged from strongly disagree, disagree, neutral, agree, to strongly agree, where 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree, the total mean of 3.35 indicated that the participants
tended to agree with statements on the 20 items of the FLRAS. In other words, the participants generally had anxiety when reading English, which was particularly evident in view of the higher means of one-third of the items (e.g., items 1, 4, 5, 6, 16 and 18).

4.2.2 Descriptive Statistics of the SARCE

Table 4.8 and Figure 4.2 present descriptive statistics and the histogram of the SARCE scores, respectively.

<table>
<thead>
<tr>
<th></th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>SD</th>
<th>Skewness</th>
<th>Kurtosis</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>SARCE scores</td>
<td>20</td>
<td>79</td>
<td>51.57</td>
<td>8.91</td>
<td>-1.08</td>
<td>1.35</td>
<td>202</td>
</tr>
</tbody>
</table>

Table 4.8 Descriptive Statistics of the SARCE

![Histogram of the SARCE scores](image)

As shown in Table 4.8, the mean SARCE score of the 202 participants was 51.57 ($SD = 8.91$). The participants’ SARCE scores ranged from 20 to 79. The skewness value -1.08 and the kurtosis value 1.35, together with the histogram with a normal curve in Figure 4.2, showed that the SARCE scores were reasonably normally distributed.
However, the negative skewness value (-1.08) showed that there were more scores at the high end of the distribution than a typical normal distribution.

Table 4.9 below presents the means and standard deviations of the 20 items on the SARCE. The largest mean value was 2.92 (item 18), whereas the smallest was 2.26 (item 14). The mean differences of the items were very small, varying less than one point from the total mean of 2.58 (\(N = 202, SD = .74\)). A closer examination of the items with means higher than the total mean (i.e., items 16, 18, 19, 20) shows that the participants were more anxious when reading a text containing large Chinese-English syntactic differences (i.e., Article B).

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Confusion about reading Article B that contains many English RCs</td>
<td>2.52</td>
<td>.714</td>
<td>202</td>
</tr>
<tr>
<td>2. Unfamiliarity with Chinese-English differences in the passive voice</td>
<td>2.54</td>
<td>.767</td>
<td>202</td>
</tr>
<tr>
<td>3. Syntactic differences between Article A and a typical Chinese article</td>
<td>2.84</td>
<td>.686</td>
<td>202</td>
</tr>
<tr>
<td>4. Syntactical differences and reading comprehension</td>
<td>2.78</td>
<td>.695</td>
<td>202</td>
</tr>
<tr>
<td>5. Familiarity with the English RC</td>
<td>2.61</td>
<td>.753</td>
<td>202</td>
</tr>
<tr>
<td>6. Problem of reading the English RC</td>
<td>2.40</td>
<td>.707</td>
<td>202</td>
</tr>
<tr>
<td>7. Difficulty in analyzing the English RC</td>
<td>2.73</td>
<td>.712</td>
<td>202</td>
</tr>
<tr>
<td>8. General anxiety in reading the English RC</td>
<td>2.34</td>
<td>.716</td>
<td>202</td>
</tr>
<tr>
<td>9. Anxiety in reading Article B that contains many English RCs</td>
<td>2.49</td>
<td>.728</td>
<td>202</td>
</tr>
<tr>
<td>10. Familiarity with English passives</td>
<td>2.39</td>
<td>.727</td>
<td>202</td>
</tr>
<tr>
<td>12. Difficulty in analyzing English passives</td>
<td>2.56</td>
<td>.778</td>
<td>202</td>
</tr>
<tr>
<td>13. General anxiety in reading English passives</td>
<td>2.27</td>
<td>.704</td>
<td>202</td>
</tr>
<tr>
<td>14. Anxiety in reading Article B that contains many English passives</td>
<td>2.37</td>
<td>.722</td>
<td>202</td>
</tr>
<tr>
<td>15. Feeling of depression due to poor comprehension of Article B</td>
<td>2.58</td>
<td>.826</td>
<td>202</td>
</tr>
<tr>
<td>16. Anxiety in having Article B as a reading test</td>
<td>2.81</td>
<td>.717</td>
<td>202</td>
</tr>
<tr>
<td>17. Anxiety in reading Article B at leisure</td>
<td>2.58</td>
<td>.723</td>
<td>202</td>
</tr>
<tr>
<td>18. Chinese-English syntactic differences and English reading anxiety</td>
<td>2.92</td>
<td>.762</td>
<td>202</td>
</tr>
<tr>
<td>19. Discomfort in reading texts with large syntactic differences</td>
<td>2.81</td>
<td>.827</td>
<td>202</td>
</tr>
<tr>
<td>20. Confidence in reading Article B</td>
<td>2.82</td>
<td>.727</td>
<td>202</td>
</tr>
</tbody>
</table>

Note. Total mean = 2.58 (SD = .74); RC = relative clause

Table 4.9 Means and Standard Deviations of Twenty Items on the SARCE
Presented in the following sections are the participants’ responses to the SARCE. A detailed review of the descriptive statistics of the 20 items on the SARCE indicates the participants’ perceptions of English reading anxiety associated with Chinese-English syntactic differences. The SARCE is a four-point Likert-type interval scale, with four response categories ranging from strongly disagree, disagree, agree, to strongly agree, where 1 = strongly disagree, 2 = disagree, 3 = agree, and 4 = strongly agree.

Items 1 through 4 were designed to explore the participants’ awareness of syntactic differences between two assigned articles, in which Article A contains no Chinese-English syntactic differences while Article B contains large Chinese-English syntactic differences. Among the four items, item 3 has the highest mean of 2.84 (SD = .668) (item 3: “Article A is easier to read because, like a typical Chinese article, it is written in the Subject-Verb-Object word order”). A frequency distribution table of the participants’ responses to the four items is provided below:

<table>
<thead>
<tr>
<th>Item</th>
<th>SD</th>
<th>D</th>
<th>A</th>
<th>SA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Because Chinese has no relative clauses, I feel confused when reading Articles B that contains many relative clauses.</td>
<td>13</td>
<td>83</td>
<td>93</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>(6.4%)</td>
<td>(41.1%)</td>
<td>(46.0%)</td>
<td>(6.4%)</td>
</tr>
<tr>
<td>2. Unfamiliar with the differences between Chinese passives and English passives, I am not sure if I interpret Article B correctly.</td>
<td>18</td>
<td>72</td>
<td>96</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>(8.9%)</td>
<td>(35.6%)</td>
<td>(47.5%)</td>
<td>(7.9%)</td>
</tr>
<tr>
<td>3. Article A is easier to read because, like a typical Chinese article, it is written in the Subject-Verb-Object word order.</td>
<td>7</td>
<td>43</td>
<td>128</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>(3.5%)</td>
<td>(21.3%)</td>
<td>(63.4%)</td>
<td>(11.9%)</td>
</tr>
<tr>
<td>4. Compared to Article A, Article B is more difficult to read because it has more Chinese-English syntactic differences.</td>
<td>9</td>
<td>49</td>
<td>122</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>(4.5%)</td>
<td>(24.3%)</td>
<td>(60.4%)</td>
<td>(10.9%)</td>
</tr>
</tbody>
</table>

*Note. SD = strongly disagree; D = disagree; A = agree; SA = strongly agree*

Table 4.10 Frequency Table for Items One to Four on the SARCE (N= 202)
The combined percentages for agree and strongly agree in Table 4.10 show that over half of the participants agreed with the statements on the four items concerning the awareness of syntactic differences between Articles A and B. The high agreement rates for item 3 (75.3%) and item 4 (71.3%) further indicated that most participants were able to identify the structural differences between Article A and Article B.

Items 5 through 9 were designed to investigate the role of the English relative construction in English reading anxiety of the participants. Among the five items, item 7 has the highest mean of 2.73 ($SD = .712$) (item 7: “I sometimes have difficulty in processing sentences containing relative clauses”). A frequency distribution table of the participants’ responses to the five items is provided below:

<table>
<thead>
<tr>
<th>Item</th>
<th>SD</th>
<th>D</th>
<th>A</th>
<th>SA</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. I am not familiar with the English relative construction. [reversely worded item]</td>
<td>9</td>
<td>83</td>
<td>88</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>(4.5%)</td>
<td>(41.1%)</td>
<td>(43.6%)</td>
<td>(10.4%)</td>
</tr>
<tr>
<td>6. I usually get stuck in my reading of English when I encounter a relativized sentence.</td>
<td>10</td>
<td>117</td>
<td>59</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>(5.0%)</td>
<td>(57.9%)</td>
<td>(29.2%)</td>
<td>(7.9%)</td>
</tr>
<tr>
<td>7. I sometimes have difficulty in processing sentences containing relative clauses.</td>
<td>6</td>
<td>68</td>
<td>103</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>(3.0%)</td>
<td>(33.7%)</td>
<td>(51.0%)</td>
<td>(12.4%)</td>
</tr>
<tr>
<td>8. I am anxious whenever I come across English relative clauses in my reading of English.</td>
<td>15</td>
<td>118</td>
<td>55</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>(7.4%)</td>
<td>(58.4%)</td>
<td>(27.2%)</td>
<td>(6.9%)</td>
</tr>
<tr>
<td>9. I feel anxious reading Article B because there are many relative clauses in Article B.</td>
<td>11</td>
<td>99</td>
<td>75</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>(5.4%)</td>
<td>(49.0%)</td>
<td>(37.1%)</td>
<td>(8.4%)</td>
</tr>
</tbody>
</table>

*Note.* SD = strongly disagree; D = disagree; A = agree; SA = strongly agree

Table 4.11 Frequency Table for Items Five to Nine on the SARCE (N= 202)

The combined percentages for agree and strongly agree in Table 4.11 show that over half of the participants agreed with the statements on items 5 and 7. Most of them
were unfamiliar with the English relative construction and had encountered difficulty in processing sentences containing relative clauses. However, the high disagreement rates for item 8 (58.4%) and item 6 (57.9%) indicated the relatively low influences of the English relative construction on many participants’ English reading process and on their feelings of anxiety.

Items 10 through 14 were designed to investigate the role of the English passive construction in English reading anxiety of the participants. Among the five items, item 12 has the highest mean of 2.56 (SD = .778) (item 12: “I sometimes have difficulty in processing English passives”). A frequency distribution table of the participants’ responses to the five items is provided below:

<table>
<thead>
<tr>
<th>Item</th>
<th>SD</th>
<th>D</th>
<th>A</th>
<th>SA</th>
</tr>
</thead>
<tbody>
<tr>
<td>10. I am not familiar with the English passive. (reversely worded item)</td>
<td>16 (7.9%)</td>
<td>104 (51.5%)</td>
<td>69 (34.2%)</td>
<td>13 (6.4%)</td>
</tr>
<tr>
<td>11. I usually get stuck in my reading of English when I encounter English passives.</td>
<td>21 (10.4%)</td>
<td>123 (60.9%)</td>
<td>42 (20.8%)</td>
<td>16 (7.9%)</td>
</tr>
<tr>
<td>12. I sometimes have difficulty in processing English passives.</td>
<td>14 (6.9%)</td>
<td>83 (41.1%)</td>
<td>83 (41.1%)</td>
<td>22 (10.9%)</td>
</tr>
<tr>
<td>13. I am anxious whenever I come across English passive sentences in my reading of English.</td>
<td>21 (10.4%)</td>
<td>115 (56.9%)</td>
<td>57 (28.2%)</td>
<td>9 (4.5%)</td>
</tr>
<tr>
<td>14. I feel anxious reading Article B because there are many English passives in Article B.</td>
<td>16 (7.9%)</td>
<td>109 (54.0%)</td>
<td>64 (31.7%)</td>
<td>13 (6.4%)</td>
</tr>
</tbody>
</table>

*Note. SD = strongly disagree; D = disagree; A = agree; SA = strongly agree
Table 4.12 Frequency Table for Items Ten to Fourteen on the SARCE (N= 202)

As shown in Table 4.12, despite item 12, “I sometimes have difficulty in processing English passives,” over 50% of the participants had a strong tendency to
disagree with the statements on the four items concerning the English passive. Among the items of this category, item 11 has the largest percentages for disagree (60.9%) and strongly disagree (10.4%).

Items 15 through 20 were designed to explore the participants’ overall feelings of anxiety in reading Article A and Article B. Among the six items, item 18 has the highest mean of 2.92 (SD = .762) (item 12: “I agree that Chinese-English syntactic differences are one important factor that causes English reading anxiety”). A frequency distribution table of the participants’ responses to the six items is provided below:

<table>
<thead>
<tr>
<th>Item</th>
<th>SD</th>
<th>D</th>
<th>A</th>
<th>SA</th>
</tr>
</thead>
<tbody>
<tr>
<td>15. I am frustrated because I cannot comprehend Article B very well.</td>
<td>19</td>
<td>71</td>
<td>87</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>(9.4%)</td>
<td>(35.1%)</td>
<td>(43.1%)</td>
<td>(12.4%)</td>
</tr>
<tr>
<td>16. I would be more anxious if I were given Article B, rather than Article A, to read in an exam.</td>
<td>8</td>
<td>51</td>
<td>115</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>(4.0%)</td>
<td>(25.2%)</td>
<td>(56.9%)</td>
<td>(13.9%)</td>
</tr>
<tr>
<td>17. I would be more anxious if I were given Article B, rather than Article A, to read in my free time.</td>
<td>9</td>
<td>85</td>
<td>89</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>(4.5%)</td>
<td>(42.1%)</td>
<td>(44.1%)</td>
<td>(9.4%)</td>
</tr>
<tr>
<td>18. I agree that Chinese-English syntactic differences are one important factor that causes English reading anxiety.</td>
<td>9</td>
<td>40</td>
<td>111</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>(4.5%)</td>
<td>(19.8%)</td>
<td>(55.0%)</td>
<td>(20.8%)</td>
</tr>
<tr>
<td>19. I am uncomfortable whenever I read a text containing large Chinese-English syntactic differences.</td>
<td>11</td>
<td>59</td>
<td>90</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>(5.4%)</td>
<td>(29.2%)</td>
<td>(44.6%)</td>
<td>(20.8%)</td>
</tr>
<tr>
<td>20. I feel less confident when reading Article B.</td>
<td>7</td>
<td>54</td>
<td>110</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td>(3.5%)</td>
<td>(26.7%)</td>
<td>(54.5%)</td>
<td>(15.3%)</td>
</tr>
</tbody>
</table>

*Note. SD = strongly disagree; D = disagree; A = agree; SA = strongly agree*

Table 4.13 Frequency Table for Items Fifteen to Twenty on the SARCE (N= 202)

As shown in Table 4.13, the majority of the participants had a strong tendency to agree with the six items of this category, indicating that the text with large Chinese-
English syntactic differences (i.e., Article B) had elicited more anxiety and difficulty for the participants as they read English. For instance, the high combined percentage of agree and strongly agree (75.8%) for item 18 shows the comparatively important role of Chinese-English syntactic differences in English reading anxiety. However, the influences of Chinese-English syntactic differences on English reading anxiety seemed to differ by context. As observed, the percentages of agree and strongly agree for item 16 are comparatively higher than those for item 17 (item 16: agree (56.9%)/ strongly agree (13.9%); item 17: agree (44.1%)/ strongly agree (9.4%)). This shows that most of the participants were more anxious reading Article B in an exam context than in a non-exam context.

4.2.3 Levels of Reading Anxiety in English: Analysis for Research Question One

Measured by the FLRAS scores, the participants’ levels of English reading anxiety were compared using the principles suggested by Sellers (2000) and Gonen (2007). Accordingly, the high-anxiety group included individuals whose mean scores were one or more standard deviations above the total mean; the low-anxiety group contained those whose mean scores were one or more standard deviations below the total mean; and the remainder of the participants were placed into the mid-anxiety group. The table below shows frequency distribution of the three groups:
<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>%</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-anxiety*</td>
<td>28</td>
<td>13.9</td>
<td>82.14</td>
<td>4.39</td>
</tr>
<tr>
<td>Mid-anxiety</td>
<td>142</td>
<td>70.3</td>
<td>67.60</td>
<td>5.13</td>
</tr>
<tr>
<td>Low-anxiety</td>
<td>32</td>
<td>15.8</td>
<td>50.50</td>
<td>4.88</td>
</tr>
<tr>
<td>Total</td>
<td>202</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4.14 Distribution of the High-, Mid-, and Low-Anxiety Groups on the FLRAS

As shown in Table 4.14, the high-anxiety group has the highest mean score of 82.14 ($SD = 4.39$) on the FLRAS among the groups. The mid-anxiety group consisted of the largest number of participants ($n = 142, 70.3\%$), followed by the low-anxiety group ($n = 32, 15.8\%$). Table 4.14 also shows that the numbers of the participants in the high- and low-anxiety groups were nearly equal, with 1.9 percentage difference between the two groups. Despite the low-anxiety group, the majority of participants (84.2\%) reported that they had experienced anxiety while reading English.
4.2.4 Factors that Predict English Reading Anxiety: Analysis for Research Question Two

A Pearson product-moment correlation coefficient analysis and a stepwise multiple linear regression analysis were performed to investigate what demographic variables best predicted the dependent variable, English reading anxiety, as measured by the FLRAS scores. The tested demographic variables included (a) years of time learning English, (b) length of time staying in an English-speaking country, (c) frequency of reading English per week, (d) length of time reading English per day, and (e) informal English learning experience. The results of the analyses are presented in the following table:

<table>
<thead>
<tr>
<th></th>
<th>1.0</th>
<th>-0.234**</th>
<th>-0.288**</th>
<th>-0.400**</th>
<th>-0.352**</th>
<th>-0.373**</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. FLRAS score (dependent variable)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Years of time learning English</td>
<td>1.0</td>
<td>0.209**</td>
<td>0.316**</td>
<td>0.209**</td>
<td>0.160*</td>
<td></td>
</tr>
<tr>
<td>3. Length of time staying in an English-speaking country</td>
<td>1.0</td>
<td>0.250**</td>
<td>0.263**</td>
<td>0.235**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Frequency of reading English per week</td>
<td></td>
<td>0.738**</td>
<td>0.380**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Length of time reading English per day</td>
<td></td>
<td></td>
<td>0.354**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Informal English learning experience</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.0</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>66.91</th>
<th>1.15</th>
<th>.44</th>
<th>1.32</th>
<th>1.12</th>
<th>2.33</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>10.01</td>
<td>.580</td>
<td>1.060</td>
<td>1.097</td>
<td>.757</td>
<td>1.45</td>
</tr>
</tbody>
</table>

Note. **. Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

Table 4.15 Correlation Matrix and Descriptive Statistics for the Dependent Variable and Five Demographic Variables

Table 4.15 displays the correlation matrix and descriptive statistics for the dependent variable (i.e., English reading anxiety, as measured by the FLRAS scores) and five demographic variables. Note that all of the five demographic variables were negatively correlated with the dependent variable. This shows that the participants’ FLRAS scores tended to decrease if they had rich informal English learning experience.
and had spent more time learning English, reading English, and living in an English-speaking country. The dependent variable had the highest correlation with frequency of reading English per week ($r = -.40, r^2 = .16$), followed by informal English learning experience ($r = -.373, r^2 = .139$) and length of time reading in English per day ($r = -.352, r^2 = .124$). Frequency of reading English per week and length of time reading in English per day had the highest correlation among other demographic variables ($r = .738$).

A stepwise multiple linear regression analysis was also performed to examine the degree of relations between the demographic variables and the dependent variable. The analysis produced a three-variable model that best predicted the FLRAS scores. The model contained a combination of three variables, frequency of reading English per week, informal English learning experience, and length of time staying in an English-speaking country. Tables 4.16 and 4.17 summarize the results of the analysis.

<table>
<thead>
<tr>
<th>Model</th>
<th>$R$</th>
<th>$R^2$</th>
<th>$R^2_{change}$</th>
<th>$F$</th>
<th>df1</th>
<th>df2</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Constant) Frequency of reading per week</td>
<td>.400</td>
<td>.160</td>
<td>.160</td>
<td>38.026</td>
<td>1</td>
<td>200</td>
<td>.00</td>
</tr>
<tr>
<td>2 (Constant) Frequency of reading per week Informal English learning experience</td>
<td>.466</td>
<td>.217</td>
<td>.057</td>
<td>27.537</td>
<td>1</td>
<td>199</td>
<td>.00</td>
</tr>
<tr>
<td>3 (Constant) Frequency of reading per week Informal English learning experience Length of time staying in an English-speaking country</td>
<td>.492</td>
<td>.242</td>
<td>.025</td>
<td>21.065</td>
<td>1</td>
<td>198</td>
<td>.01</td>
</tr>
</tbody>
</table>

*Note: Dependent variable: FLRAS scores*

Table 4.16 Model Summary Table for the Multiple Linear Regression Analysis
Table 4.16 shows that three models were tested in the multiple regression analysis: Model 1: (predictor) frequency of reading English per week, Model 2: (predictors) frequency of reading English per week and informal English learning experience, and Model 3: (predictors) frequency of reading English per week, informal English learning experience, and length of time staying in an English-speaking country. The three models were all statistically significant to predict the dependent variable (Model 1: $F_{(1,200)} = 38.026, p = .00$; Model 2: $F_{(2, 199)} = 25.537, p = .00$; Model 3: $F_{(3, 198)} = 21.065, p = .01$). Among the models, however, Model 3 was the best to predict the FLRAS scores due to the largest variance (24.2%) it explained in the FLRAS scores ($R^2 = .242$).

Following is a further investigation of the three variables in Model 3, and the results are summarized below.

<table>
<thead>
<tr>
<th>Model Three</th>
<th>B</th>
<th>Beta</th>
<th>$t$</th>
<th>Partial</th>
<th>Part</th>
<th>Tolerance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency of reading English per week</td>
<td>-2.469</td>
<td>-.271</td>
<td>-3.981</td>
<td>-.272</td>
<td>-.246</td>
<td>.829</td>
</tr>
<tr>
<td>Informal English learning experience</td>
<td>-1.595</td>
<td>-.231</td>
<td>-3.411</td>
<td>-.236</td>
<td>-.211</td>
<td>.835</td>
</tr>
<tr>
<td>Length of time staying in an English-speaking country</td>
<td>-1.568</td>
<td>-.166</td>
<td>-2.565</td>
<td>-.179</td>
<td>-.159</td>
<td>.915</td>
</tr>
</tbody>
</table>

Table 4.17 Coefficients for Model Three

As shown in Table 4.17, the high tolerance values for the three variables indicated no multicollinearity existed among the variables. Among the three variables, frequency of reading English per week was the best variable to predict the FLRAS scores. It explained
the largest proportion of remaining variance ($R^2 = (-.272)^2 = .073$) and the largest unique explained variance ($R^2 = (-.246)^2 = 0.061$) in the FLRAS scores.

In summary, these results show that, among other background variables, *frequency of reading English per week, informal English learning experience, and length of time staying in an English-speaking country* best predicted the participants’ English reading anxiety.

4.2.5 The Underlying Structure of the SARCE: Analysis for Research Question Three

To examine the underlying structure of the SARCE, an exploratory factor analysis using principal components analysis with varimax rotation was performed on 20 items on the SARCE for the 202 participants. The KMO value of .88 and the Barlett’s test of sphericity ($p = .00$) showed appropriateness of using the factor analysis on the data.

An examination of a scree plot shows that three components with eigenvalues greater than one were extracted: (1) *the English passive*, (2) *anxiety in reading a text containing large syntactic differences*, and (3) *the English relative clause*. Together the three components explained 51.1% of the total variance of the participants’ English reading anxiety associated with Chinese-English syntactic differences. The results of the analysis are summarized in Table 4.18 below (please see Appendix G for detailed results).
### Table 4.1 Results of the Exploratory Factor Analysis for the SARCE

As shown in Table 4.18, the first rotated component, with 22.9% of the variance explained, consisted of six items (2, 10-14): 

- #2, *Unfamiliar with the differences between Chinese passives and English passives, I am not sure if I interpret Article B correctly*;
- #10, *I am familiar with the English passive*;
- #11, *I usually get stuck in my reading of English when I encounter English passives*;
- #12, *I sometimes have difficulty in processing English passives*;
- #13, *I am anxious whenever I come across passive sentences in my*...
reading of English; and #14, I feel anxious reading Article B because there are many passive sentences in Article B. Since the items concerned the participants’ feelings of anxiety and learning difficulties with the English passive, the first component was named “the English passive.”

The second rotated component, with approximately 15.17% of the variance explained, contained four items, including #15, I am frustrated because I cannot comprehend Article B very well; #16, I would be more anxious if I were given Article B, rather than Article A, to read in an exam; #17, I would be more anxious if I were given Article B, rather than Article A, to read in my free time; and #20, I feel less confident when reading Article B. Given that the above items described the participants’ overall reaction after reading a text containing large Chinese-syntactic differences (i.e., Article B), the second component was named “anxiety in reading a text containing large syntactic differences.”

The third rotated component, with 12.98% of the variance explained, comprised four items, such as #1, Because Chinese has no relative clauses, I feel confused when reading Article B that contains many relative clauses; #5, I am familiar with the English relative construction; #7, I sometimes have difficulty in processing sentences containing relative clauses; and #9, I feel anxious reading Article B because there are many relative clauses in Article B. The third component was labeled “the English relative clause” in that the items loaded on the third component were relevant to the participants’ feelings of anxiety and learning difficulties with the English relative clause.
In summary, based on the results of the exploratory factor analysis of the SARCE, *the English passive, anxiety in reading a text containing large syntactic differences*, and *the English relative clause* were the three underlying components behind the participants’ English reading anxiety associated with Chinese-English syntactic difference.

4.2.6 The Role of Chinese-English Syntactic Differences in English Reading Anxiety: Analysis for Research Question Four

Descriptive results of the SARCE and results of a Pearson product-moment correlation coefficient analysis were used to address the role of Chinese-English syntactic differences in English reading anxiety perceived by the participants. First, the descriptive results of the SARCE showed that the majority of participants (75.8%) agreed that Chinese-English syntactic differences are an important factor that causes English reading anxiety. In addition, over half the participants indicated their anxiety in reading Article B (i.e., the text that contained large Chinese-English syntactic differences) in the exam and non-exam contexts.

The results of the correlation analysis between general English reading reality (as measured by the FLRAS) and reading anxiety associated with Chinese-English syntactic differences (as measured by the SARCE) are presented in the table below:
Table 4.19 presents a correlation matrix of the FLRAS and the SARCE. As indicated, the Pearson correlation coefficient of .65 showed that there was a moderate, positive relationship between the FLRAS and the SARCE ($r = .65, p = .00$). The proportion of variability shared by the FLRAS and the SARCE was 42.3%. The correlation analysis showed that the participants who received high scores on the FLRAS tended to score high on the SARCE, and vice versa.

In summary, most of the participants agreed that Chinese-English syntactic differences could act as an important factor that leads to English reading anxiety. In addition, the participants’ English reading anxiety was found to be moderately, positively correlated with their anxiety associated with reading a text containing large Chinese-English syntactic differences.

<table>
<thead>
<tr>
<th></th>
<th>FLRAS</th>
<th>SARCE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pearson Correlation</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
</tr>
<tr>
<td>Sum of Squares and Cross-products</td>
<td>20155.213</td>
<td>11663.911</td>
</tr>
<tr>
<td>Covariance</td>
<td>100.275</td>
<td>58.029</td>
</tr>
<tr>
<td>N</td>
<td>202</td>
<td>202</td>
</tr>
</tbody>
</table>

Note: **. Correlation is significant at the 0.01 level (2-tailed).
4.2.7 Anxiety in Reading the English Relative Clause and Anxiety in Reading the English Passive: Analysis for Research Question Five

To explore whether the participants’ anxiety in reading the English relative clause differed from their anxiety in reading the English passive, a paired samples t-test on two variables—*the English relative clause* and *the English passive*—in the SARCE was performed. The indicator scores for the two variables were calculated by “summing up the scores of the items belonging to the variables and then dividing the summed scores by the number of items” (Chou, 2009, p. 121). Thus, the indicator score for *the English passive* was the mean of the grouped items 2 and 10 through 14, and the indicator score for the English relative clause was the mean for the grouped items 1, 5, 7, and 9. Table 4.21 presents the descriptive statistics and the results of the paired samples t-test for the two indicator scores:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Skewness</th>
<th>Kurtosis</th>
<th>Reliability</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>The English Relative Clause (Items 2, 10-14)</td>
<td>2.588</td>
<td>.530</td>
<td>0.51</td>
<td>1.22</td>
<td>.89</td>
<td>202</td>
</tr>
<tr>
<td>The English Passive (Items 1, 5, 7 &amp; 9)</td>
<td>2.399</td>
<td>.596</td>
<td>1.11</td>
<td>1.34</td>
<td>.706</td>
<td>202</td>
</tr>
</tbody>
</table>

**Paired Samples T-test**

<table>
<thead>
<tr>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.759</td>
<td>201</td>
<td>.00</td>
</tr>
</tbody>
</table>

Table 4.20 Descriptive Statistics and Paired Samples T-Test for the Indicator Scores on the English Relative Clause and the English Passive

As shown in Table 4.20, the 202 participants had a mean of 2.588 (SD = .53) for the indicator scores on the English relative clause and a mean of 2.399 (SD = .596) for
the indicator scores on the English passive. The results of the paired samples \( t \)-test showed that the means of the two indicator scores were significantly different \( (t = 5.76, df = 201, p = .00) \). In summary, the participants’ anxiety in reading the English relative clause differed from their anxiety in reading the English passive, with the former mean slightly higher than the latter mean.

4.3 Results of the Qualitative Written Recall Protocol Data

The written recall protocol data were collected from 30 participants who had completed the survey (15% of the selected sample). Of the 30 participants, 10 were selected from the low-anxiety group, 10 were selected from the mid-anxiety group, and 10 were selected from the high-anxiety group. There were nine English majors and one non-English major in the low-anxiety group, five English majors and five non-English majors in the mid-anxiety group, and two English majors and eight non-English majors in the high-anxiety group. The group composition of the participants showed that non-English majors’ levels of English reading anxiety were higher than those of English majors. Given that 56% of the English majors belonged to the low-anxiety group, it seemed that the majority of English majors were not very anxious when reading English. Apart from the level of reading anxiety, English majors and non-English majors also differed in their English proficiency. Through several interviews, the participants’ instructors revealed that English majors had a higher level of overall English proficiency than did non-English majors.
4.3.1 Analysis for Research Question Six

The written recall protocol data were qualitatively analyzed using Bernhardt’s constructivist model of L2 text comprehension (1986). The model was used not only as a method to assess participants’ reading comprehension ability, but also as a tool to diagnose their reading problems affected by textual or non-textual factors. In the following section, important findings obtained from recalls of the 30 participants in three different anxiety groups (i.e., the high-anxiety, mid-anxiety, and low-anxiety groups) are presented. The original recall data were written in Chinese, but translated later in English for data analysis. A review of the findings showed that text-based factors and extratext-based factors can interact together to impact participants’ comprehension of the two texts (i.e., Article A and Article B).

4.3.1.1 Text-Based Features

The three text-based features of Bernhardt’s constructivist model of L2 text comprehension (1986) are word recognition, phonemic/graphemic decoding, and syntactic feature recognition.

4.3.1.1.1 Word Recognition

The written recall protocol data showed that misrecognition of words was one serious problem which accounts for poor reading comprehension of some participants. Direct translation and conjecture of words could result in the participants’ misreading of
the texts. The following examples illustrate the above-mentioned problems found among
the three anxiety groups (OT: original text; CR: content recalled).

(Example 1) **Low-anxiety group:**

Participant #77:

[OT]: She wrote that she did not write poetry for money or fame.
[CR]: “Later on, she said that she didn’t write money, etc.”

(Example 2) **Mid-anxiety group:**

Participant #56:

[OT]: From her general reading came quotations that she found striking and insightful.
[CR]: “When she found a question xx in her reading, she could find xx and xx.”

Participant #115:

[CR of Article A]: “I guess this article describes…a process, a process of moving… Alice Walker moved from one place to another”

(Example 3) **High-anxiety group:**

Participant #112:

[CR of Article A]: “This article is about families and their habits because [of] the word “daughter”

Participant #59:

[CR of Article A]: “The author was disappointed at her job. Alice Walker didn’t blame him; instead, she gave him her book, which made the author very confident.”
The displayed examples show that the participants tended to recall the texts based on the words that they recognized (e.g., Participants #56, #115, #112, #59). Specifically, in the example of Participant #56, it seems that misinterpretation of the texts was due to the participant’s random guess on a string of recognizable words combined by “her,” “read,” “quotation” (misrecognized as “question”), and “found.” Similarly, judging from many names of places shown in the article (e.g., Eatonton, New York, Mississippi, etc.), Participant #115 misinterpreted Article A as a work introducing how Alice Walker moved from one place to another. The problem of word recognition was also evident for Participant #59, who mixed up the pronouns representing Alice Walker and Langston Hughes. Participant #59 misrecognized “he” as Alice Walker and “she” as Langston Hughes, thus giving a wrong summary of Article A. It seems that Participant #59 lacked prior knowledge that Alice is a typical American name for females; therefore, he or she had problems with pronoun references and thus misinterpreted characters in Article A. The above examples suggest that word recognition could influence the way the texts were interpreted. When full comprehension was difficult to achieve, the participants had a tendency to choose not to read between the lines but to read between the recognizable words. Consequently, misreading as a result of direct translation or conjecture surfaced as a critical reading problem for the participants.

4.3.1.1.2 Phonemic/Graphemic Features

Words with similar forms or sounds can create a potential problem for reading comprehension. For instance:
(Example 4) **Mid-anxiety group**

[OT for Participants #7 and #56]: Why the many quotation marks?

Participant #7:

[CR]: “Why are there so many questions that are marked?”

Participant #56:

[CR]: “Why not mark the question?”

(Example 5) **High-anxiety group:**

Participant #9:

[OT]: Her subjects were varied.
[CR]: “Her subjects were valued.”

As shown in Example 4, the participants failed to identify “quotation mark” as a noun phrase and misjudged it as two single words, “quotation” and “mark.” Moreover, due to form similarity, “quotation” was also mistaken for “question” as the object of a mistaken verb “mark.” Example 5 also illustrates word confusion resulting from similar phonemic/graphemic features. Participant #9 recalled the content incorrectly because he or she misidentified “varied” as “valued.” Such examples suggest that words that look or pronounce similarly can impair reading comprehension, especially when the reader is not attentive to subtle nuances between words.

4.3.1.1.3 **Syntactic Feature Recognition**

Unlike word recognition and phonemic/graphemic features that examine reading comprehension at word level, syntactic feature recognition discusses reading
comprehension at the syntactic level, focusing on the relations between and among words (Berkemeyer, 1989). A comparison of the participants’ recalls of Article A and Article B is needed to explore the impact of syntactic features on reading comprehension.

(Example 6) Low-anxiety group:

Participant #77:

[OT]: Her subjects were varied, animals, laborers, artists, and the craft of poetry….Her first book was published in London in 1921 by a group of friends associated with the Imagist movement.

[CR]: “She wrote many things. She published her first book in London.”

Participant #80:

[CR of Article A]: “Article A is about Alice’s story. She is a writer and has a daughter and a lawyer husband.”

(Example 7) Mid-anxiety group:

Participant #11:

[CR of Article A]: “Alice Walker makes her living by writing, and her poems, short stories… born in Eatonton… anyway, this article seems to introduce Alice’s life.”

Participant #76:

[CR of Article A]: “The first article is about Alice Walker’s story. She graduated in 19?? and lived with her lawyer husband and her daughter. Then the rest of the story is about poems [written] by a poet.”

[OT of Article B]: Her subjects were varied, animals, laborers, artists, and the craft of poetry….Her first book was published in London in 1921 by a group of friends associated with the Imagist movement.
[CR of Article B]: “The second article is about a poet Marianne Moore. She published her book in 19???. That book was created according to images and imaginations of a group of her friends.”

(Example 8) High-anxiety group:

Participant #57:

[CR]: “I remember nothing from the two articles. I really want to learn English well, but I just don’t like to memorize vocabulary words, and it bothers me a lot.”

Participant #117:

[CR]: “I guess difficult structures in Article B made me confuse, and I didn’t understand even a bit of Article B.”

Examples 6 and 7 show that the participants tended to recall ideas from sentences that do not contain relative clauses. When relative clauses were recalled, information conveyed by relative clauses would usually be misinterpreted (e.g., Participants #77, #80, #11, and #76). The content recalled by the high-anxiety group differed significantly from that recalled by the mid- and low-anxiety groups. Unlike the mid- and low-anxiety groups, the high-anxiety group tended to recall ideas not related to the assigned texts. For instance, of the 10 participants of the high-anxiety group, 8 indicated having difficulty completing the recall task. Their recalls were very similar to those provided by Participant #57 and Participant #117 in Example 8. Instead of paying attention to the syntactic features of the texts, most of the highly anxious participants tended to make additional comments on what they had just read, including why they struggled with English reading and why they had difficulty in completing the recall task.
4.3.1.2 Extratext-Based Features

The extratext-based features of Bernhardt’s constructivist model of L2 text comprehension (1986) are *intratextual perception, prior knowledge, and metacognition*.

4.3.1.2.1 Intratextual Perception

Intratextual perception refers to the concept of “how each part of the text is reconciled with the preceding and succeeding context” (Berkemeyer, 1989, p. 132). What follows are some important findings related to intratextual perception.

(Example 9) *Low-anxiety group:*

Participant #71:

[CR of Article A]: “The first part of Article A describes Alice Walker’s life and education she received. The next part is about an American poet and his first book for children. Last, this Langston Hughes died. He was happy when Langston Hughes said he also liked oranges.”

[CR of Article B]: “Marianne Moore expressed her thoughts on poetry. The second part is about his [should be “her”] first book. It was published in London. Finally, he [should be “she”] received [awards] in 1952.”

Participant #188:

[CR of Article A]: “The whole story of Article A begins with the life of Alice Walker and ends with a description of how she turned into a writer.”

Participant #79:

[CR of Article B]: “In summary, Article B is to do with a writer called Marianne Moore. A passage about poetry and her writing.”
(Example 10) Mid-anxiety group:

Participant #75:

[CR of Article A]: “Alice made her living by writing. She received many awards from her writing. She had a husband and a daughter.”

[CR of Article B]: “The kinds of poems the author writes and why she writes”

Participant #58:

[CR of Article A]: “This story describes a girl with a recall of her own story and her life experience, and it also describes the person she wanted to show gratitude to.”

[CR of Article B]: “This story describes what Marianne wanted to express through her writing.”

In Example 9, Participants #71, #188, and #79 were aware of how different parts of the texts are connected with each other. They used advance organizers in their recalls to record what they had read from the two articles. Unlike Participants #188 and #79, who recalled two articles correctly, Participant #71 misinterpreted Article A and Article B due to a confusion in pronoun references. Participant #71 did not realize that the pronoun he actually refers to Langston Hughes, while the pronoun she represents Alice Walker, the main character of Article A. In the recall of Article B, Participant #71 also failed to distinguish between he and she and misused both pronouns to represent Marianne Moore. Similar to the participants in Example 9, Participants #75 and #58 in Example 10 also attended to the relationships among different paragraphs. Their recalls of the two texts were based primarily on the main ideas, rather than the supporting details.
Generally, the recalls provided by the participants of the mid- and low-anxiety groups were very similar to those displayed in Examples 9 and 10. For example, paying attention to intratextual features of the texts, 6 out of the 10 participants of the mid-anxiety groups and 8 out of the 10 participants of the low-anxiety group summarized what they had read in their recalls. Noteworthy however is that the recalls provided by the participants of the high-anxiety group did not contain any information regarding intratextual features of the texts. The ideas recalled by the high-anxiety group were very limited in terms of quantity and relevancy.

4.3.1.2.2 Prior Knowledge

Application of linguistic knowledge in Chinese to English reading is common and frequent for most participants in the three anxiety groups. However, the participants were inconsistent in their views of the effectiveness of using Chinese to process texts written in English.

(Example 11) Low-anxiety group:

Participant #190: “Chinese is of little help to my understanding of the two articles. I find it difficult to use Chinese linguistic knowledge to understand the English passive.”

Participant #71: “When reading English, I may rely on Chinese to understand the content written in English, but I think this strategy is not very effective. That’s because Chinese and English are totally different. From the perspective of translation, there was no perfect match between the two languages.”
(Example 12) Mid-anxiety group:

Participant #201: “I automatically use Chinese to process English as I read the two articles. Word-for-word translation helped me to understand better about the articles, but it’s awkward if you do so every time. Not all English sentences can be understood via direct translation.”

Participant #70: “It’s impossible to ask low English proficiency learners to use English to understand English.”

Participant #189: “Chinese of course helps because it is my mother tongue.”

(Example 13) High anxiety group:

(1) Participants with lower English proficiency

Participants #62: “Whenever I read English, I rely heavily on Chinese. Chinese is the only tool available for me, and it helps me to get a sense of what an English article says.”

Participant #67: “Chinese is especially helpful when I take a reading test in English.”

(2) Participants with higher English proficiency

Participant #72: “I tried to understand the two articles without using Chinese. I guess that’s because I usually use English to understand English. I won’t use direct translation as a strategy to comprehend English texts.”

Participant #82: “I didn’t rely on Chinese when reading English. But, sometimes I don’t deny that Chinese, to some degree, helps to enhance my English reading comprehension although Chinese grammar and English grammar are extremely different.”
The examples above show that the participants tended to use their prior linguistic knowledge in Chinese as they processed Article A and Article B. The participants in the low- and mid-anxiety groups overall were more sensitive to syntactic differences between Chinese and English and agreed that direct translation could be used as a strategy for improving reading comprehension in English. However, similar to the participants in Examples 11 and 12, many participants (10 out of 20 participants in the mid- and low-anxiety groups) also questioned the effectiveness of direct translation, commenting that over-reliance on Chinese might not enhance their English reading comprehension ability in the long run.

Noteworthy in Example 13 is that English proficiency had a determining role in shaping the high-anxiety group’s perceptions of the use of Chinese linguistic knowledge in English reading. Similar to Participant #62 and Participant #67, the other six highly anxious low-proficiency participants also indicated that Chinese played a predominant role in their English reading, whereas the two highly anxious high-proficiency participants (i.e., Participant #72 and Participant #82) tended to downplay the role of Chinese in their English reading, asserting that they rarely applied their Chinese linguistic knowledge to their reading of English texts.

4.3.1.2.3 Metacognition

In Bernhardt’s constructivist model of L2 text comprehension (1986), metacognition entails the reader’s thoughts or reflections on what he or she is reading. Findings of the recall protocol data showed that the participants’ reading difficulties
originated from unfamiliarity with the English passive and the English relative clause, from anxiety in reading unknown words, and from minor factors such as insufficient reading time, loss of patience, and unfamiliar topics. These factors explained why the participants varied in their reading experience with Article A and Article B.

Regarding unfamiliarity with the English passive and the English relative clause, many participants revealed that even though they had spent much time on learning the two constructions, they were still puzzled by their uses. Many participants, regardless of their levels of anxiety, felt lost because they did not know when or why the two constructions should be used. For them, learning and processing English relative clauses and passives was rather difficult because the two constructions were rarely seen and used in the Chinese language. For example, since Chinese does not have relative pronouns, many participants, regardless of their levels of anxiety, reported that they were unable to distinguish *who* from *whom*. In discussing their learning of the English passive voice, some participants complained that they were bothered by learning English verbs in their past participle forms.

Regarding anxiety in unknown words, many participants revealed that it was vocabulary rather than structure that made them anxious while reading Article A and Article B. The issue of vocabulary especially concerns some participants from the mid- and high-anxiety groups. According to them, Article B was much more difficult than Article A because the former contained a large number of unknown words. Many of the participants indicated that limited lexicons would lead directly to poor reading comprehension and that they would not notice the influence of structural differences if
unknown words had caused severe reading comprehension problems for them at the beginning of the reading process.

As for minor factors, several participants revealed that insufficient reading time, loss of patience, and unfamiliar topics were potential factors that resulted in their anxiety when reading Article B. For instance, Participants #74 and #5 reported that they could have understood Article B better if they had been given more reading time. In addition, Participants #189 and #74 revealed that they had lost patience after reading Article A, so they gave up on reading Article B. Finally, Participants #59, #73, and #75 perceived unfamiliar topics as one of the reasons that accounted for their poor reading comprehension for both articles.
CHAPTER 5
FINDINGS, DISCUSSION, AND CONCLUSION

Reading in a foreign language is complex in that it can not be explained merely by cognitive or language variables. Other social and affective variables (such as anxiety) should be taken into account in describing why learners struggle with FL reading. Although previous research has demonstrated the negative effect of anxiety on FL reading (e.g., Brantmeier, 2005; Matsuda & Gobel, 2004; Oh, 1992; Saito et. al, 1999; Sellers, 2000; Zhou, 2008), previous research is rather limited in the selection of participants, research paradigms, and variables studied. In view of that limitation, this study was designed to investigate whether a less-examined population, i.e., Taiwanese university students, experience reading anxiety in English as a foreign language and to explore whether syntactic differences between Chinese and English may evoke anxiety about English reading. Specifically, this study employed a survey and an immediate written recall protocol to examine how 202 Taiwanese university students perceived their English reading anxiety associated with Chinese-English syntactic differences. The results of the survey and the recall protocol data were presented in Chapter Four.

This chapter presents a closer examination of the results presented in the previous chapter. This chapter consists of five major sections. The first section contains an
overview and a discussion of the findings. The second and third sections present implications and limitations of this study, respectively. The fourth section makes recommendations for future research. The last section presents conclusions of this study.

5.1 Findings and Discussion

Discussed below are important findings obtained from the survey and the immediate written recall protocol data. The findings are summarized and discussed according to their corresponding research questions. Since this study employed a dominant-less dominant mixed method design with the quantitative component being the dominant method (Creswell, 1994), the discussion is based primarily on the survey results. The results of the recall protocol data are selectively discussed depending on their relevance to the survey results.

Research Question 1:

To what extent do Taiwanese university students experience anxiety in reading English?

The quantitative results of the FLRAS were used to address this question. The overall results of the analyses showed that the participants experienced mid-to-high levels of anxiety related to reading English ($M = 66.91, SD = 10.01$).

A closer look at the participants’ FLRAS scores shows that the total means and standard deviations of the FLRAS scores of the current study are much higher than those reported by Gonen (2007), Huang (2001), and Saito et al. (1999). This finding indicates that the participants in this study experienced higher levels of reading anxiety than did
participants recruited in previous research. The fact that the participants had higher reading anxiety also corresponds to the observed group composition, in which 13.9% of the participants were placed in the high-anxiety group, 70.3% in the mid-anxiety group, and 15.8% in the low-anxiety group. In other words, approximately 84.2% of the participants experienced mid- to high levels of reading anxiety. The aforementioned findings confirm the existing anxiety research, demonstrating that FL reading is anxiety-provoking for language learners (e.g., Gonen, 2007; Saito, Horwitz, & Garza, 1999; Sellers, 2000; Zhou, 2008). Furthermore, the findings also support recent studies conducted by Hou (2008), Hsiao (2002), Hsu (2004), and Huang (2001) by showing that English reading anxiety is an overarching problem facing most Taiwanese students.

Consistent with Matsuda and Gobel’s (2001) and Miyanaga’s (2005) findings, a detailed analysis of the participants’ responses to the FLRAS showed that reading fears, incomprehensible texts, unfamiliar topics, and unknown grammar would elicit higher English reading anxiety among the participants. The participants’ reading anxiety should be further considered in light of their level of satisfaction with their English reading ability and their preferences for reading English. The highest mean of 3.87 (on a scale of 1-5 where 5 is the highest level of dissatisfaction) for item 18, “I am dissatisfied with the level of reading ability in English that I have achieved,” suggests that the participants were rather unsatisfied with their English reading abilities. In addition to the low level of satisfaction with their own English abilities, the participants also displayed low interest in reading English when responding to questions 12 and 14 in the background questionnaire and to items 15 and 16 on the FLRAS. The participants’ answers to questions 12 and 14
in the background questionnaire showed that 60% of the participants liked learning English, whereas only 45% indicated a preference for reading English. The difference of 15% suggests that the participants preferred English learning to English reading. This finding also corresponds to the descriptive results of items 15 and 16, in which most of the participants identified reading as the most difficult skill to acquire, and that they would rather learn English speaking than English reading. These findings suggest that the participants who had experienced English reading anxiety tended to feel unsatisfied with their English reading proficiency and lacked interest in reading English.

Research Question 2:
What background variables best predict English reading anxiety in Taiwanese university students?

To address this question, the quantitative and qualitative results obtained from this study are compared. Regarding the quantitative results, the Pearson product-moment correlation coefficient results showed that among the assorted background variables, frequency of reading English per week has the highest negative correlation with the participants’ English reading anxiety. Furthermore, the results of the multiple linear regression analysis showed that 24.2% of the variance in the participants’ English reading anxiety could be explained by reference to frequency of reading English per week, informal English learning experience, and length of time staying in an English-speaking country. In other words, the participants’ English reading anxiety would decrease if they
increased the frequency of reading English per week, accumulated more informal English learning experience, and spent more time in an English-speaking country.

The results of the correlation analysis and the multiple linear regression analysis are consistent with Casado and Dereshiwsky’s (2001) and Gottardo et al.’s (2006) findings of a negative relationship between anxiety and experience with L2 and between reading anxiety and exposure to written L2, respectively. Unlike previous research, the current study further shows that length of time staying in an English-speaking country can become a predicting variable to explain anxiety in reading English as a second or foreign language.

The written recall protocol data also confirm what was found in the survey data. Just as the survey data indicated, the recall protocol data showed that constant exposure to written English and frequent contact with English are two crucial factors in reducing English reading anxiety. For instance, the recall protocol data showed that participants with English as their major tended to experience less English reading anxiety than their counterparts who majored in subjects other than English. Many English majors revealed that they had anxiety in reading English at the outset, but their anxiety diminished gradually as they accumulated more English reading experience. Some English majors also mentioned that reading and learning English was a part of their daily routine; therefore, they did not suffer much from English reading anxiety. Unlike English majors, non-English majors tended to express higher stress and anxiety whenever they were asked to read in English. These non-English majors revealed that they rarely read English at their leisure due to a lack of interest in the English language. For them, developing
English reading skills was not important because they seldom read English for academic or non-academic purposes. Although they understood that English is a global language, they were not motivated to learn English, let alone to read it. The non-English majors’ lack of motivation and interest in reading English and limited exposure to written English seemed to explain why they performed poorly in the recall task. In most cases, recalls from non-English majors were inaccurate and irrelevant to the content of the assigned texts. Commonly found in their recalls were irrelevant comments such as “I do not like reading English, so I cannot recall anything from my reading,” or “I get nervous and uncomfortable when reading a page full of English words. My understanding of the assigned texts is very limited.” To summarize, the recall data suggest that the participants’ reading anxiety was influenced by their experience with English and by their exposure to written English, and this finding is supported by the quantitative results.

Research Question 3:

What are the underlying common factors behind Taiwanese university students’ English reading anxiety that is associated with Chinese-English syntactic differences?

The results of the exploratory factor analysis of the SARCE were used to address this question. The analysis yielded a three-component solution model which explained 51.1% of the total variance in the participants’ English reading anxiety associated with Chinese-English syntactic differences. The three extracted components were the English passive, anxiety in reading a text containing large syntactic differences, and the English relative clause.
The first component, *the English passive*, involves items describing unfamiliarity with differences between the English passive and the Chinese passive, poor comprehension ability resulting from reading the English passive, difficulty in processing the English passive, and anxiety in reading a text that contains a large number of English passive sentences. The second component, *anxiety in reading a text containing large syntactic differences*, contains items describing the participants’ anxiety when reading an authentic text with large Chinese-English syntactic differences (i.e., Article B), their fear in reading Article B in exam and non-exam contexts, and feelings of frustration and uncertainty while reading Article B. Lastly, the third component, *the English relative clause*, includes items describing confusion resulting from reading English relative clauses, unfamiliarity with English relative clauses, difficulty in processing English relative clauses, and anxiety in reading a text that contains many English relative clauses.

The extracted components *the English passive* and *the English relative clause* echo previous research findings that syntactic differences between Chinese and English, particularly the relative and the passive constructions, can interfere with Chinese students’ English as a second or foreign language reading (Chan, 2004a, 2004b; Cheng, 1993; Odlin, 1989). Chinese-English syntactic differences associated with the relative and passive constructions should thus be considered a potential factor in explaining Chinese students’ reading of English. The findings of this study also add insight to the existing research by showing that Chinese-English syntactic differences may not only lead to English reading problems but also shape the way Chinese students perceive
English reading anxiety, as identified by the second extracted component (i.e., \textit{anxiety in reading a text containing large syntactic differences}).

Specific attention should also be paid to the proportions of the total variance explained by the three components. The finding that the three components could explain 51.1\% of the total variance in the participants’ English reading anxiety associated with Chinese-English syntactic differences implies that the remaining 49.9\% of the total variance was accounted for by other factors not discovered in the factor analysis. In fact, these unexplored factors were found from the written recall protocol data. The findings of these unexplored factors are discussed in the sixth research question below.

\textbf{Research Question 4:}

\textit{What role do Chinese-English syntactic differences play in Taiwanese university students’ English reading anxiety?}

The answer to this question was addressed by the descriptive results of the SARCE and the results of a Pearson product-moment correlation coefficient analysis between the FLRAS scores and the SARCE scores. First, the descriptive results of the SARCE showed that the majority of participants (75.8\%) agreed that Chinese-English syntactic differences are an important factor that causes English reading anxiety. This finding also reflects the way the participants’ perceived their anxiety when reading Article B, which contained large Chinese-English syntactic differences. The participants tended to agree that Article B elicited higher levels of reading anxiety than did Article A (i.e., a text containing no syntactic differences). In addition, the results of the correlation analysis
also identified a potential link between anxiety in reading Chinese-English syntactic differences and English reading anxiety: The correlation coefficient of .65 suggests there was a moderate, positive relationship between the participants’ English reading anxiety (as assessed by the FLRAS) and their anxiety in reading a text containing large Chinese-English syntactic differences (as assessed by the SARCE). This suggests that the participants with higher levels of English reading anxiety tended to have higher levels of anxiety in reading a text that contained large Chinese-English syntactic differences and vice versa. The FLRAS and the SARCE shared approximately 42.3% of the variance, with 57.7% of the variance not shared by the two measures. In other words, English reading anxiety is related to, but distinct from, reading anxiety arising from Chinese-English syntactic differences.

A noteworthy finding from the descriptive results of the SARCE is that the participants’ levels of anxiety in reading a text containing large Chinese-English syntactic differences also varied according to context. In an exam context, the participants tended to experience higher levels of anxiety related to reading a text containing large Chinese-English syntactic differences. However, in a non-exam context, the participants tended to experience comparatively lower anxiety in reading the same text. This finding confirms Matsumura’s (2001) finding that reading anxiety can differ according to the conditions where anxiety is assessed. In this study, the extent to which syntactic differences can affect reading anxiety was found to be determined by the context where reading takes place.
The written recall protocol data also confirm the survey result that reading a text that contains large Chinese-English syntactic differences is more anxiety-provoking than reading a text that contains no Chinese-English syntactic differences. The participants in the recall protocol task, regardless of their levels of English proficiency and English reading anxiety, indicated that they felt less anxiety while reading Article A (i.e., Chinese-English syntactic differences not included). Thus, they considered Article A much easier to comprehend and recall than Article B.

The written recall protocol data also confirm the survey result that a moderate, positive relationship existed between the participants’ English reading anxiety and their anxiety in reading a text containing large Chinese-English syntactic differences. This moderate, positive relationship suggests that, apart from syntactic differences, other factors should also be taken into account to explain the participants’ reading anxiety. These unexplored factors were revealed from the recalls of the participants. For example, insufficient lexical knowledge was observed in the participants’ recalls as a major reading problem that causes reading anxiety. Many participants, especially the highly anxious low-proficiency participants, pointed out that unknown and difficult words were the major source of their reading anxiety as they read and recalled Article A and Article B. Due to their limited lexicons, many of them gave up on reading and recalling the assigned articles. The recall protocol data lend additional support to previous L2 reading research findings that lexical knowledge is highly correlated with reading comprehension (Aebersold & Field, 1997; Koda, 2007). Insufficient L2 lexical knowledge usually leads
to poor reading comprehension and may further provoke reading anxiety, as was demonstrated by the highly anxious low-proficiency participants in this study.

Research Question 5:

*Which English structure may evoke a higher level of English reading anxiety in Taiwanese university students?*

The answer to this question was derived from the quantitative results. The results of a paired samples *t*-test on two variables—the English relative clause and the English passive—in the SARCE showed that a significant difference existed between the participants’ anxiety in reading the English relative clause and their anxiety in reading the English passive (*t* = 5.76, *df* = 201, *p* < .01). A comparison between the mean of the English relative clause (*M* = 2.588, *SD* = .53) and the mean of the English passive (*M* = 2.399, *SD* = .596) shows that the English relative clause evoked higher levels of reading anxiety than did the English passive.

The finding that the English relative clause was more anxiety-provoking than the English passive also echoes the results of items 5-7 and 10-12 on the SARCE. To be specific, the results of these items showed that 54% of the participants were unfamiliar with the English relative clause, while 40.6% were unfamiliar with the English passive. In addition, 36.8% of the participants usually encountered difficulty when reading relative clauses, while only 28.7% of them indicated likewise when reading English passive sentences. More than that, 63.4% of the participants had processing difficulties with the English relative clause, while 52% of them had processing difficulties with the
English passive. These percentages lead to the observation that a greater number of the participants indicated their unfamiliarity and processing difficulties with the English relative clause.

The findings above may be explained by Saito et al.’s (1999) finding that FL reading anxiety levels tend to increase with learners’ perceptions of reading difficulty in their FL. Since the participants perceived learning the English relative clause to be more difficult than learning the English passive, they would therefore have higher anxiety when reading the English relative clause. The finding that the English relative clause provoked higher reading anxiety than did the English passive may be explained further by the fact that Chinese passives, the bei-passive in particular, share certain similarities with the English passives with respect to form and function, thus making the English passive easier to acquire and to process than the English relative clause (Chu, 1973; Li & Thompson, 1989). In other words, despite the concern for negative transfer, the participants might have been more able to transfer their linguistic knowledge in Chinese to their reading of the English passive. Thus, the capability of using Chinese syntactic knowledge to process the English passive might have lowered the participants’ levels of anxiety in reading the English passive.
Research Question 6:

How do textual and non-textual factors influence Taiwanese university students’ reading of the two texts written in different structures?

This question was addressed by the qualitative data. A review of the written recall protocol data showed that the participants’ recalls of the two texts (i.e., Article A and Article B) were influenced by reading anxiety along with other textual and non-textual factors.

First, consistent with Sellers’ (2000) findings, reading anxiety was found to have a determining impact on the quantity and quality of the participants’ recalls. For instance, the recalls showed that highly anxious participants tended to recall less page content and fewer main ideas of the reading than their less-anxious counterparts. Moreover, compared with the high-anxiety group, the participants in the mid- and low-anxiety groups tended to recall ideas with more accuracy and relevancy.

The content recalled by the participants was also influenced by text-based and extratext-based factors, as suggested by Bernhardt (1986). With respect to text-based factors, the findings showed that (a) misrecognition of words, (b) misinterpreting words with similar forms and pronunciations, and (c) neglect of syntactic features would lead to poor reading comprehension. Misreading as a result of direct translation or conjecture of words and a limited lexicon were two of the most serious problems arising from the participants’ reading of English. Besides, the participants also varied in their degrees of attention paid to syntactic features of the texts. Unlike the high-anxiety group, the low-
and mid-anxiety groups were able to observe syntactic clues and features of the texts, thus performing better in the recall task.

A noteworthy finding related to syntactic feature recognition is that the ideas recalled by the participants, regardless of their levels of anxiety, rarely contained information conveyed by the English relative clause. When such information was mentioned, misinterpretation and misreading invariably occurred. There are two possible explanations for the participants’ avoidance or underproduction of English relative clauses in their recalls. First, as suggested by the avoidance theory proposed by Schachter (1974), the participants might have avoided reading or recalling sentences containing English relative clauses due to gross syntactic differences between Chinese and English relative clauses. In other words, the participants might have consciously chosen not to read or recall English relative clauses when they were not clear about the construction of the clause. Second, in contrast to the first explanation, the participants’ underproduction of English relative clauses may simply reflect “the pragmatic differences” in the ways Chinese native speakers and English native speakers process relativization in their languages (Li, 1996, p. 181). That is, Chinese learners of English may subconsciously underproduce English relative clauses because they prefer to use alternative structures (such as adverbial clauses, compound clauses, or independent sentences) to convey the notion of relativization in Chinese (Chen, 2005; Li, 1996). With Li’s pragmatic differences in mind, it is highly possible that the participants subconsciously recalled fewer ideas conveyed by relative clauses simply because they rarely thought in the relative construction.
With regard to extratext-based factors, the recall protocol data showed various findings regarding the effects of intratextual perception, prior knowledge, and metacognition on the participants’ reading comprehension of the two texts. First, in terms of intratextual perception, it was found that the participants differed in their sensitivity for intratextual features. Generally, the participants in the low- and mid-anxiety groups were more aware of intratextual features in the texts: They were inclined to search for connections between or among paragraphs beyond the word level and to summarize what they had read without paying attention to details irrelevant to the main ideas. In contrast to the low- and mid-anxiety groups, the high-anxiety group tended to produce incorrect recalls based on random guesses and direct translation of one or two recognizable words. The distinction between less-anxious participants and more-anxious participants should be further discussed in association with the participants’ FL reading proficiency.

Considering that high-proficiency students comprised 90% of the low-anxiety group and that low-proficiency students comprised 80% of the high-anxiety group, we can infer that in this study, high-proficiency students were more sensitive to intratextual features than low-proficiency students were. This additional finding corresponds to previous research findings that low-proficiency readers differ from high-proficiency readers with respect to the approach used to process FL reading. Unlike high-proficiency readers who use a mix of top-down and bottom-up approaches, low-proficiency readers tend to employ more word-level or bottom-up processing (Brown, 2001; Koda, 2007; Kong, 2006). As such, it seems that levels of anxiety and foreign language reading proficiency may shape the way participants process intratextual features.
Second, in terms of prior knowledge, the participants, irrespective of their levels of English proficiency and English anxiety, identified their L1 (i.e., Chinese) as prior knowledge needed to comprehend texts written in English. However, the participants held different views about the effectiveness of applying Chinese syntactic knowledge to their reading of English. For instance, in contrast to the high-anxiety group’s positive attitude, the low- and mid-anxiety groups tended to question the use of Chinese in English reading, claiming that gross syntactic differences between the two languages would be a potential problem for positive transfer to occur. According to them, processing English through the existing Chinese syntactic knowledge would sometimes do more harm than good to reading comprehension. These findings echo Chan’s (2004b) finding that young adult or adult Chinese learners of English are inclined to rely on Chinese while processing texts written in English. Furthermore, due to great L1-L2 distance, negative transfer may exist as a potential problem for Chinese students who attempt to apply Chinese syntactic knowledge to reading English. To summarize, the written recall protocol data confirm that syntactic transfer is rather language-specific especially between a nonalphabetic language like Chinese and an alphabetic language like English (Chen, 2005; Green, 1996; Yip & Matthews, 2000; Xiao, 2002). The extent to which Chinese students can actually apply their L1 syntactic knowledge to reading English remains a question that requires further exploration.

Last, in terms of metacognition, the participants’ recalls showed that Article A (i.e., the text with no syntactic differences) in general was much easier to comprehend than Article B (i.e., the text with large syntactic differences). In addition, reflecting on their
reading of Article A and Article B, many participants described several sources of reading difficulties they encountered during the recall. These include (a) unfamiliarity with the English passive voice and relative clauses, (b) anxiety in reading unknown words, (c) insufficient reading time, (d) loss of patience, and (e) unfamiliar topics. Among them, unfamiliarity with the English passive voice and relative clauses and anxiety in reading unknown words were the two most identified sources of reading difficulties described by the participants. It is worth noting that, among the above-mentioned sources, three out of the five sources are related to or driven by textual factors (i.e., (a), (b), and (e)), while the remaining two are more subject to individual differences (i.e., (c) and (d)). What has been observed confirms the finding of previous research that Chinese students’ English reading problems result mostly from insufficient syntactic or lexical knowledge in English (Chan, 2004a, 2004b; Chen, 2005). However, unlike previous research, this study further points out that such learner-related variables as patience for reading incomprehensible English texts and length of reading time might also be important to consider in explaining the reading comprehension of Chinese students.

To conclude, the written recall protocol data suggest that levels of reading anxiety, textual factors, and non-textual factors have a determining impact on the participants’ English reading comprehension and the ways the participants read and process texts with and without Chinese-English syntactic differences.
5.2 Implications

Several implications for English as a Foreign Language (EFL) reading instruction can be made according to the results of this study. First, in view of the result that the participants experienced overall anxiety in reading English, there is a need for English reading teachers to create an anxiety-free reading environment for EFL learners. Teachers should be aware that the process of L2/FL reading is impacted by cognitive, social, and psychological factors. Diagnosing why students are unable to read well is equally important as teaching them how to read well. Acute reading anxiety can impair students’ long-term development of reading skills in the L2/FL. Therefore, reducing students’ reading anxiety is of great importance in English reading classrooms.

Second, given that the participants’ reading anxiety was best predicted by frequency of reading per week, informal English learning experience, and length of time staying in an English-speaking country, teachers should encourage students to develop a regular habit of reading English and to become more involved in as many English learning activities as possible. To do that, teachers should first enhance students’ motivation for reading English. Teachers may need to select reading materials which suit students’ proficiency levels and interests. Using visual aids or technology and engaging students in interactive reading activities may create more fun and further remove students’ bias about boredom and difficulty resulting from reading English.

Third, considering the important role of Chinese-English syntactic differences in English reading anxiety, reading teachers should bear in mind that gross Chinese-English syntactic differences in the relative clause and passive constructions could be a potential
source of English reading anxiety for Chinese learners of English. Teachers should help
students increase an awareness of how Chinese and English differ in word order.
Specifically, as suggested by Sun and Cong (2005) and Tsao (1986), teachers may
consider doing an error analysis and a contrastive analysis of the Chinese passive/relative
clause and the English passive/relative clause for their students. In so doing, students can
become more familiar with the English passive and the English relative clause and thus
suffer less from reading anxiety and difficulties caused by the two constructions.

Fourth, the finding that highly anxious low-proficiency participants were more
anxious when reading unknown lexical items than unfamiliar structures implies that
reading instruction should be carried out in consideration of learners’ L2 proficiency
level. For low-proficiency learners, teachers should understand that their limited lexicons
might better predict reading anxiety than structure does. Thus, improving the learners’
lexicons should be the primary focus of reading instruction at the initial stage. For high-
proficiency learners, although improving the learners’ lexicons is important, more weight
should be given instead to teaching structural rules and syntactic knowledge in English.
Explicit instruction on Chinese-English comparative syntax is needed and should include
the teaching of differences between the Chinese bei-passive and the English be-passive or
get-passive and the teaching of form and use of relative pronouns in English, as
suggested by the findings of this study and previous research (e.g., Celce-Murcia, 1983;
Cheng, 1993; Chu, 1973). Teaching syntactic knowledge in tandem with lexis can
enhance students’ reading performance and further lower their English reading anxiety.
Finally, with the finding that the highly anxious low-proficiency participants tended to ignore intratextual features and misread important ideas expressed through discourse markers or syntactic clues, reading teachers should not overlook the need to introduce top-down English reading processing strategies to low-proficiency students. The implementation of reading strategy instruction is especially needed in Taiwan, where English reading instruction is focused primarily on lexis and grammar teaching, with limited attention paid to students’ learning of reading strategies. Consequently, it is common that some Taiwanese students are equipped with sufficient word decoding skills, but continue to struggle with reading comprehension. To solve this problem, teachers should systematically introduce reading strategies to students in class, demonstrating how different reading strategies, both top-down and bottom-up, should be used, encouraging students to read beyond the word level, and running frequent workshops to assist students who struggle with English reading. Increasing students’ knowledge and use of reading strategies may improve not only their reading comprehension abilities but also their levels of reading confidence.

5.3 Limitations of the Study

Similar to other studies, the present study has several limitations that need to be addressed and acknowledged. The first limitation concerns the issue of the generalizability of the findings of the study. Due to the convenience sampling and purposive sampling methods, generalization beyond the participants in this study should
be avoided. Equally important to note is that the participants studied were Taiwanese university students; as a result, the findings of this study should not be generalized to students from other cultures and contexts.

The second limitation is that English reading anxiety and reading anxiety associated with Chinese-English syntactic differences assessed in this study were decontextualized. Despite a small number of survey items on the SARCE (i.e., items 16 and 17), most items on the FLRAS and the SARCE seemed to address reading anxiety without consideration of context. The results of this study might have been more informative if more consideration had been given to the influences of reading purposes and reading contexts on the participants’ English reading anxiety.

The third limitation has to do with the practical difficulty of getting accurate information regarding the participants’ actual levels of English reading proficiency. Given the constraints of time and the research site’s policy of protecting students’ privacy, the instructors of the participants did not grant the researcher permission to measure the participants’ English reading proficiency via a reading test. Instead, they only revealed in interviews that English majors’ levels of English proficiency tended to be higher than those of non-English majors. Although such a general classification was further supported by the results of the written recall protocol data, in which English majors were found to perform better than did non-English majors in reading comprehension and in recall, the results of this study might have been interpreted differently if the participants’ actual levels of English reading proficiency had been taken into account to explain the association of English reading anxiety with Chinese-English syntactic differences.

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The fourth limitation is related to the design of response scales in the SARCE. As described in Chapter Three, the SARCE is a four-point Likert-type interval scale, with four response categories: strongly disagree (1), disagree (2), agree (3) and strongly agree (4). Although the even number of choices may be more difficult cognitively, it was designed originally to avoid neutral responses from the survey respondents. Nevertheless, it is very likely that the participants might have had difficulty determining whether they agreed or disagreed, and therefore, they might have skipped items or randomly chosen either agree or disagree. It is possible that the survey results might have been different if more response categories (such as slightly disagree, neutral, and slightly agree) had been included to examine nuances in perception (Matsumura, 2001).

The fifth limitation concerns a potential problem resulting from participants’ self-reports in the surveys (i.e., the FLRAS and the SARCE). Given that reading anxiety is the topic studied in the surveys, it is not clear whether the respondents’ self reports can reflect their actual feelings of reading anxiety in English. It is possible that some of the respondents might have tried to offer socially desirable answers and felt reluctant to express their anxiety in reading English. The survey results could have been affected by this unexpected problem and may require a different interpretation.

The sixth limitation has to do with problems arising from administration of the written recall protocol task. The written recall protocol task was administered to the participants immediately following the surveys. Since it took at least 20 minutes to complete the surveys, many participants appeared tired and less able to concentrate while doing the recall task for the next 30 minutes. Due to the lengthy process of completing
the surveys and recalls, some participants might have become inattentive and impatient, and thus performed poorly in the recall task. More informative results might have been produced if the surveys and the recall task had been administered separately and at different times.

5.4 Recommendations for Future Research

Based upon the results of this study, two recommendations are made for future research. First, future research should investigate more deeply the question of whether syntactic differences between an alphabetic language and a non-alphabetic language or among languages of the same writing system have a long-term impact on the formation of FL reading anxiety. Apart from using surveys and written recall protocol data, interviews or case studies may better investigate the extent to which FL reading anxiety can be explained by syntactic differences. Longitudinal investigation and close observation are required if researchers are to obtain a fuller understanding of this topic.

Second, given that anxiety is a multidimensional construct that needs to be studied in association with multiple factors (Scovel, 1978), future research should consider studying FL reading anxiety associated with syntactic differences from an additional social perspective. More attention should be given to examining whether students’ perceptions of FL reading anxiety differ by context. Specifically, the following research questions should be investigated: Is FL reading anxiety a permanent phenomenon or does it exist merely in response to a certain situation (e.g., a test) for FL learners? What are the
influences of social or reading contexts (e.g., ESL vs. EFL; traditional classroom setting vs. distance learning; or paper-based reading vs. electronic reading) on FL reading anxiety associated with syntactic differences? In addition to using an additional social perspective, future researchers are also encouraged to explore the degrees of influence brought by FL reading proficiency to reading anxiety associated with syntactic differences. Do high-proficiency learners always suffer less from anxiety in reading texts with gross syntactic differences? How do less-proficient learners and more-proficient learners compare in their reading anxiety associated with syntactic differences? Besides syntactic differences, what other factors explain learners’ FL reading anxiety? How do we explain the relationships between and among these unexplored factors? More research is needed if we are to answer these questions.

5.5 Conclusion

This study was conducted in an attempt to explore the link between Chinese-English syntactic differences and Taiwanese university students’ English reading anxiety. The overall results of the study show that Chinese-English syntactic differences played a crucial role in shaping the participants’ perceptions of English reading anxiety. Despite the limitations mentioned earlier, this study contributes to FL anxiety research in the following ways. To begin with, since it appears that no research has been conducted on FL reading anxiety associated with syntactic differences, this study addresses the pressing need to study the influence of syntactic differences across languages of different writing
systems on FL reading anxiety. In addition to pointing out that Taiwanese university students tended to experience English reading anxiety, this study indicates further that English reading anxiety has a positive, moderate, and significant relationship with anxiety arising from reading gross differences in Chinese-English syntax. Second, this study informs the existing anxiety research of the potential factors that explain English reading anxiety associated with Chinese-English syntactic differences. These potential factors are the English relative clause, the English passive, and anxiety in reading a text containing large syntactic differences. Third, unlike previous research, which has been predominantly survey-based, this study employs a mixed methods design, using surveys along with qualitative written recalls to examine FL reading anxiety. The findings of this study add new insights to the literature, revealing that apart from the major influence of syntactic differences, other textual factors (such as word recognition and syntactic features) and non-textual factors (such as intratextual perception, prior linguistic knowledge in L1, L2 reading proficiency, and perceived reading difficulties) could affect reading comprehension and shape reading anxiety.

Foreign language reading anxiety is a complex construct in that it results from the interaction of multiple factors. In view of this complexity, researchers should not be content to study FL reading anxiety from a mere linguistic or cognitive perspective. Investigating FL reading anxiety through the diverse lenses of psychology, linguistics, sociocultural theories, and so forth is necessary if researchers are to better understand what contributes to FL reading anxiety. Using psychological and linguistic perspectives, this study is important because it shows that FL reading anxiety is subject to the influence
of syntactic differences, especially between an alphabetic language such as English and a non-alphabetic language such as Chinese. However, due to the exploratory nature of this study, further research is needed to investigate how and to what extent syntactic differences may actually influence FL reading anxiety. The development of an interdisciplinary perspective on FL reading anxiety may be an important direction to consider.
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APPENDIX A

ITEMS ON THE ORIGINAL FOREIGN LANGUAGE READING ANXIETY SCALE (FLRAS)
Items on the FLRAS (Saito et. al., 1999)

1. I get upset when I’m not sure whether I understand what I am reading in (French, Russian, Japanese).
2. When reading (French, Russian, Japanese), I often understand the words but still can’t quite understand what the author is saying.
3. When I’m reading (French, Russian, Japanese), I get so confused I can’t remember what I’m reading.
4. I feel intimidated whenever I see a whole page of (French, Russian, Japanese) in front of me.
5. I am nervous when I am reading a passage in (French, Russian, Japanese) when I am not familiar with the topic.
6. I get upset whenever I encounter unknown grammar when reading (French, Russian, Japanese).
7. When reading (French, Russian, Japanese), I get nervous and confused when I don’t understand every word.
8. It bothers me to encounter words I can’t pronounce while reading (French, Russian, Japanese).
9. I usually end up translating word by word when I’m reading (French, Russian, Japanese).
10. By the time you get past the funny letters and symbols in (French, Russian, Japanese), it’s hard to remember what you’re reading about.
11. I am worried about all the new symbols you have to learn in order to read (French, Russian, Japanese).
12. I enjoy reading (French, Russian, Japanese).
13. I feel confident when I am reading in (French, Russian, Japanese).
14. Once you get used to it, reading (French, Russian, Japanese) is not so difficult.
15. The hardest part of learning (French, Russian, Japanese) is learning to read.
16. I would be happy just to learn to speak (French, Russian, Japanese) rather than having to learn to read as well.
17. I don’t mind reading to myself, but I feel very uncomfortable when I have to read (French, Russian, Japanese) aloud.
18. I am satisfied with the level of reading ability in (French, Russian, Japanese) that I have achieved so far.
19. (French, Russian, Japanese) culture and ideas seem very foreign to me.
20. You have to know so much about (French, Russian, Japanese) history and culture in order to read (French, Russian, Japanese).
APPENDIX B

ADAPTED VERSION OF THE FLRAS
**Directions:** Statements 1 though 20 may reflect how you feel when you read in English. For each statement, please circle the number that best describes your thinking. (1 = strongly disagree (SD); 2 = disagree (D); 3 = neither agree nor disagree (NA); 4 = agree (A); 5 = strongly agree (SA))

<table>
<thead>
<tr>
<th>Items</th>
<th>SD</th>
<th>D</th>
<th>NA</th>
<th>A</th>
<th>SA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I get upset when I’m not sure whether I understand what I am reading in English.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. When reading English, I often understand the words but still can’t quite understand what the author is saying.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. When I’m reading English, I get so confused that I can’t remember what I’m reading.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. I feel intimidated whenever I see a whole page of English in front of me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. I am nervous when I am reading a passage in English when I am not familiar with the topic.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. I get upset whenever I encounter unknown grammar when reading English.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. When reading English, I get nervous when I don’t understand every word.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. It bothers me to encounter words I can’t pronounce while reading English.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. I usually end up translating word by word when I’m reading English.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. By the time you get past the various letters in English, it’s hard to remember what you’re reading about.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11. I am worried about all the new symbols I have to learn in order to read English.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12. I enjoy reading English.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13. I feel confident when I am reading in English.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14. Once you get used to it, reading English is not so difficult.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>15. The hardest part of learning English is learning to read.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>16. I would be happy just to learn to speak English rather than having to learn to read as well.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Items (Cont.)</td>
<td>SD</td>
<td>D</td>
<td>NA</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>------------------------------------------------------------------------------</td>
<td>----</td>
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<td>----</td>
<td>---</td>
<td>----</td>
</tr>
<tr>
<td>17. I don’t mind reading to myself, but I feel very uncomfortable when I have to read English aloud.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>18. I am satisfied with the level of reading ability in English that I have achieved so far.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>19. American culture and ideas seem very foreign to me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>20. You have to know so much about American history and culture in order to read English.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
APPENDIX C

SURVEY ON ANXIETY IN READING
CHINESE-ENGLISH SYNTACIC DIFFERENCES (SARCE)
**Instructions:** In this part, please show how you feel and think after reading the two articles. For each statement below, please circle the number that best describes your thinking (1 = Strongly Disagree (SD); 2 = Disagree (D); 3 = Agree (A); 4 = Strongly Agree (SA)).

**Items**

<table>
<thead>
<tr>
<th></th>
<th>SD</th>
<th>D</th>
<th>A</th>
<th>SA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Because Chinese has no relative clauses, I feel confused when reading Articles B, which contains many relative clauses…</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>2. Unfamiliar with the differences between Chinese passives and English passives, I am not sure if I interpret Article B correctly…</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>3. Article A is easier to read because, like a typical Chinese article, it is written in the Subject-Verb-Object word order</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>4. Compared to Article A (Alice), Article B (Marianne) is more difficult to read because it has more Chinese-English syntactic differences</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5. I am familiar with the English relative construction. (A relativized sentence is like “This is the place where I spent my childhood”).</td>
<td>2</td>
<td>3</td>
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<td></td>
</tr>
<tr>
<td>Item (Continued)</td>
<td>SD</td>
<td>D</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>------------------</td>
<td>----</td>
<td>---</td>
<td>---</td>
<td>----</td>
</tr>
<tr>
<td>6. I usually get stuck in my reading of English when I encounter a relativized sentence</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>7. I sometimes have difficulty in processing sentences containing relative clauses</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8. I am anxious whenever I come across English relative clauses in my reading of English</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9. I feel anxious reading Article B because there are many relative clauses in Article B</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10. I am familiar with the English passive. (A passive sentence is like “Her money was stolen”.)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11. I usually get stuck in my reading of English when I encounter English passives</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12. I sometimes have difficulty in processing English passives</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Item (Continued)</td>
<td>SD</td>
<td>D</td>
<td>A</td>
<td>SA</td>
</tr>
<tr>
<td>-----------------</td>
<td>----</td>
<td>---</td>
<td>---</td>
<td>----</td>
</tr>
<tr>
<td>13. I am anxious whenever I come across passive sentences in my reading of English</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14. I feel anxious reading Article B because there are many passive sentences in Article B</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15. I am frustrated because I cannot comprehend Article B very well</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16. I would be more anxious if I were given Article B, rather than Article A, to read in an exam</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17. I would be more anxious if I were given Article B, rather than Article A, to read in my free time</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18. I agree that Chinese-English syntactic differences are one important factor that causes English reading anxiety</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19. I am uncomfortable whenever I read a text containing large Chinese-English syntactic differences</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20. I feel less confident when reading Article B</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
APPENDIX D

THE IMMEDIATE WRITTEN RECALL PROTOCOL
INSTRUCTIONS: Please follow the directions and write down your answers to the following questions IN CHINESE.

Direction: Please read Article A first and then answer Question #1.

Article A: Alice

Alice Walker makes her living by writing, and her poems, short stories, and novels have won many awards and fellowships for her. She was born in Eatonton, Georgia. She went to public schools there, and then to Spelman College in Atlanta before coming to New York to attend Sarah Lawrence College. She graduated from Sarah Lawrence College in 1966. For a time she lived in Jackson, Mississippi, with her lawyer husband and small daughter. About Langston Hughes, American Poet, her first book for children, she says, “After my first meeting with Langston Hughes I vowed I would write a book about him for children someday. Why? Because I, at twenty-two, knew next to nothing of his work, and he didn’t scold me; he just gave me a stack of his books. And he was kind to me; I will always be grateful that in his absolute warmth and generosity, he fulfilled my deepest dream (and need) of what a poet should be.”

“To me he is not dead at all. Hardly a day goes by that I don’t think of him or speak of him. Once, just before he died, when he was sick with the flu, I took him a sack full of oranges.” She said she still remembered how happy she was when Langston Hughes said he liked oranges, too.

Question #1: Please write down what you can remember from the article that you have just read. (Do not look back at the passage while writing your answer.)
**Direction:** Now read Article B and then answer question #2.

**Article B: Marianne**

Marianne Moore once said that her writing could be called poetry only because there was no other name for it. Indeed her poems appear to be extremely compressed essays that happen to be printed in jagged lines on the page. Her subjects were varied: animals, laborers, artists, and the craft of poetry. From her general reading came quotations that she found striking or insightful. She included these in her poems, scrupulously enclosed in quotation marks, and sometimes identified in footnotes. Of this practice, she wrote, “‘Why the many quotation marks?’ I am asked…When a thing has been said so well that it cold not be said better, why paraphrase it? Hence my writing is, if not a cabinet of fossils, a kind of collection of flies in amber.”

Her first book of poems was published in London in 1921 by a group of friends associated with the Imagist movement. From that time on her poetry has been read with interest by succeeding generations of poets and readers. In 1952 she was awarded the Pulitzer Prize for her Collected Poems. She wrote that she did not write poetry “for money or fame. To earn a living is needful, but it can be done in routine ways. One writes because one has a burning desire to objectify what it is indispensable to one’s happiness to express…”

**Question #2:** Please write down what you can remember from the article that you have just read. (Do not look back at the passage while writing your answer.)
Question #3: (1) How did English relative clauses affect your understanding of Article B?  
(2) How do you process and interpret the following sentence: “From her general reading came quotations that she found striking or insightful”?

Question #4: (1) How did English passives affect your understanding of Article B?  
(2) How do you process and interpret the following sentence: “‘Why the many quotation marks?’ I am asked…When a thing has been said so well that it could not be said better, why paraphrase it?”

Question #5: Did you apply your linguistic knowledge in Chinese to your reading of the two articles? Was that application helpful? Why or why not?

Question #6: How well did you understand the two articles? Which article do you think is easier to comprehend? Why?

Question #7: In your opinion, what makes it difficult to comprehend Article B?
Instructions: For each question below, please check the answer(s) that best apply to you.

1. Gender: □ Female □ Male

2. Age: □ 18-20 □ 21-23 □ 24 and older

3. Grade level: □ Freshman □ Sophomore □ Junior □ Senior

4. Major: __________________________________________ (Please fill in the blank.)

5. How long have you studied English?
   □ Less than 5 years □ 5-10 years □ more than 10 years

6. Have you ever been to an English-speaking country, such as America, Canada, and so forth?
   □ Yes □ No (If no, skip question 7 and go directly to question 8.)

7. How long have you stayed in that country?
   □ Less than a month □ 1-3 months □ 4-6 months □ 7-12 months
   □ more than 12 months

8. How often do you read in English per week?
   □ Never □ 1-2 times □ 3-4 times □ more than 4 times
   □ almost every day
9. How many hours do you read in English per day?
   □ Never  □ Less than 1 hour  □ 1-3 hours  □ more than 3 hours

10. Are you interested in American culture?
    □ Yes  □ No

11. Which of the following informal English learning experiences have you had?
    (Please check all that apply.)
    □ Reading emails  □ Language exchange
    □ Reading English newspapers  □ Making friends with foreigners
    □ Reading English fiction
    □ Browsing websites written in English
    Others (Please specify.) ________________________________

12. Do you like reading in English?
    □ Yes  □ No (If no, skip question 13, and go directly to question 14.)

13. Which genre do you like to read in English? (Please check all that apply.)
    □ Newspapers  □ Textbooks  □ Fiction  □ Novels  □ Magazines
    □ Online blog writing

14. Overall, are you interested in learning English?  □ Yes  □ No
APPENDIX F

SAMPLE OF DATA ANALYSIS USED IN THE IMMEDIATE WRITTEN RECALL PROTOCOL
Anxiety Level: Low/Mid/High

Text: Article A/Article B

<table>
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<th>Participant Code</th>
<th>Text-Based</th>
<th>Extratext-Based</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Word Recognition</td>
<td>Phonemic/Graphemic Features</td>
</tr>
</tbody>
</table>

(adapted from Berkemeyer, 1989)
APPENDIX G

RESULTS OF FACTOR ANALYSIS
### Rotated Component Matrix

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<thead>
<tr>
<th>SARCE item</th>
<th>Component 1</th>
<th>Component 2</th>
<th>Component 3</th>
<th>Component 4</th>
<th>Component 5</th>
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Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 7 iterations.
APPENDIX H

CHINESE VERSIONS OF THE FLRAS & THE SARCE
親愛的同學您好：

此問卷的目的在了解您對英語閱讀的態度和想法。問卷分為四大部分，十分容易作答，不會浪費您太多時間。麻煩您依照題目指示及說明來填寫問卷。您的個人資料及答案將予以保密，絕對不會洩露給第三者。

感謝您的幫忙！敬祝您學業順利！

劉昱秀敬上

說明

此問卷包含 4 大部份。每部份的問題如下:

第一部份：關於您對英語閱讀的態度。

第二部份：請您先閱讀兩篇英文短文，再依序回答相關問題。

第三部份：關於您閱讀完兩篇短文後的感想。

第四部份：詢問的是您個人基本資料以及英語學習經驗。

第一部份

作答方式：此部份包含 20 題選擇題。每道題目以陳述句方式呈現，請您在答案選項中（包括 1=非常不同意，2=不同意，3=沒意見，4=同意，5=非常同意），圈選出 1 個最能代表您想法的選項。

答題示範：

我喜歡喝咖啡 1 ② 3 4

203
1. 閱讀英文時，對文章內容似懂非懂，會讓我懊惱。 1 2 3 4 5
2. 閱讀英文時，我常懂得單字的意思，卻不太了解作者想表達的是什麼。 1 2 3 4 5
3. 閱讀英文時，我會對文章感到困惑，以至於記不清正在讀什麼。 1 2 3 4 5
4. 不論何時，只要看到一整頁滿滿的英文，我就會感到慌張。 1 2 3 4 5
5. 閱讀英文時，碰到自己不知道的文法，會讓我感到懊惱。 1 2 3 4 5
6. 閱讀英文時，碰到自己不知道的文法，會讓我感到懊惱。 1 2 3 4 5
7. 閱讀英文時，碰到自己不知道的文法，會讓我感到懊惱。 1 2 3 4 5
8. 閱讀英文時，碰到自己不知道的文法，會讓我感到懊惱。 1 2 3 4 5
9. 閱讀英文時，碰到自己不知道的文法，會讓我感到懊惱。 1 2 3 4 5
10. 閱讀英文時，碰到自己不知道的文法，會讓我感到懊惱。 1 2 3 4 5
11. 閱讀英文時，碰到自己不知道的文法，會讓我感到懊惱。 1 2 3 4 5
12. 閱讀英文時，碰到自己不知道的文法，會讓我感到懊惱。 1 2 3 4 5
13. 閱讀英文時，碰到自己不知道的文法，會讓我感到懊惱。 1 2 3 4 5
14. 閱讀英文時，碰到自己不知道的文法，會讓我感到懊惱。 1 2 3 4 5
15. 閱讀英文時，碰到自己不知道的文法，會讓我感到懊惱。 1 2 3 4 5
16. 閱讀英文時，碰到自己不知道的文法，會讓我感到懊惱。 1 2 3 4 5
17. 閱讀英文時，碰到自己不知道的文法，會讓我感到懊惱。 1 2 3 4 5
18. 閱讀英文時，碰到自己不知道的文法，會讓我感到懊惱。 1 2 3 4 5
19. 閱讀英文時，碰到自己不知道的文法，會讓我感到懊惱。 1 2 3 4 5
20. 閱讀英文時，碰到自己不知道的文法，會讓我感到懊惱。 1 2 3 4 5
第二部份

說明：本部份的问题询问的是您在讀完A、B兩篇文章後的感想。

文章 A (Alice)

Alice Walker makes her living by writing, and her poems, short stories, and novels have won many awards and fellowships for her. She was born in Eatonton, Georgia. She went to public schools there, and then to Spelman College in Atlanta before coming to New York to attend Sarah Lawrence College. She graduated from Sarah Lawrence College in 1966. For a time she lived in Jackson, Mississippi, with her lawyer husband and small daughter. About Langston Hughes, American Poet, her first book for children, she says, “After my first meeting with Langston Hughes I vowed I would write a book about him for children someday. Why? Because I, at twenty-two, knew next to nothing of his work, and he didn’t scold me; he just gave me a stack of his books. And he was kind to me; I will always be grateful that in his absolute warmth and generosity, he fulfilled my deepest dream (and need) of what a poet should be.”

“To me he is not dead at all. Hardly a day goes by that I don’t think of him or speak of him. Once, just before he died, when he was sick with the flu, I took him a sack full of oranges.” She said she still remembered how happy she was when Langston Hughes said he liked oranges, too.
Marianne Moore once said that her writing could be called poetry only because there was no other name for it. Indeed her poems appear to be extremely compressed essays that happen to be printed in jagged lines on the page. Her subjects were varied: animals, laborers, artists, and the craft of poetry. From her general reading came quotations that she found striking or insightful. She included these in her poems, scrupulously enclosed in quotation marks, and sometimes identified in footnotes. Of this practice, she wrote, “Why the many quotation marks?” I am asked... When a thing has been said so well that it could not be said better, why paraphrase it? Hence my writing is, if not a cabinet of fossils, a kind of collection of flies in amber.”

Her first book of poems was published in London in 1921 by a group of friends associated with the Imagist movement. From that time on her poetry has been read with interest by succeeding generations of poets and readers. In 1952 she was awarded the Pulitzer Prize for her Collected Poems. She wrote that she did not write poetry “for money or fame. To earn a living is needful, but it can be done in routine ways. One writes because one has a burning desire to objectify what it is indispensable to one’s happiness to express...”
题目

1. 因為中文沒有「關係子句」，所以讀到由很多「關係子句」組成的文章 B(Marianne)時，我會感到困惑……………1 2 3 4
   （例如 This is the place where I spent my childhood, 即為一個關係子句）

2. 因為不熟悉中英文在「被動句」用途的差異，
   我不確定自己是否正確地解讀文章 B(Marianne)的內容…………1 2 3 4
   （例如: Her money was stolen. 即為一個被動句）

3. 文章 A(Alice)讀起來比較順，是因為文章 A 和中文文章
   的句子結構很像，都是主詞在前，動詞及受詞在後………………1 2 3 4

4. 和文章 A(Alice)相比，文章 B(Marianne)較難讀懂，
   是因為文章 B 有較多中文所沒有的複雜結構……………………1 2 3 4

5. 我熟悉英語中的「關係子句」……………………………………1 2 3 4

6. 在閱讀英文時，通常我一碰到「關係子句」就會卡住，
   無法繼續念下去…………………………………………………1 2 3 4

7. 有時候，我會覺得分析「關係子句」是困難的…………………1 2 3 4

8. 閱讀英文時，只要一讀到「關係子句」我就會焦慮不安…………1 2 3 4

9. 因為文章 B(Marianne)有很多「關係子句」，
   所以讀文章 B 的時候，我會感到焦慮不安 ……………………1 2 3 4

10. 我熟悉英語中的 「被動句」………………………………………1 2 3 4
   （例如: Her money was stolen. 即為一個被動句）
<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>11. 在閱讀英文時，通常我一碰到「被動句」就會卡住，無法繼續念下去。</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>12. 有時候，我會覺得分析「被動句」是困難的。</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>13. 閱讀英文時，只要讀到「被動句」，我就會焦慮不安。</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>14. 因為文章 B(Marianne)有很多「被動句」，所以我讀文章 B 的時候會感到焦慮不安。</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>15. 因為不能完全理解文章 B(Marianne)，我會感到沮喪。</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>16. AB 兩篇文章中，如果老師挑文章 B(Marianne)來當閱讀測驗的考題，我會比較不安。</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>17. 閒暇時，如果讀到文章 B(Marianne)，而非文章 A，我會比較焦慮。</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>18. 我同意以下觀點：中英句法差異是造成英文閱讀焦慮的重要因素之一。</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>19. 每當讀到中英句法差異很大的英文文章時，我就感到難受。</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>20. 閱讀文章 B(Marianne)時，我會覺得比較沒信心。</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
第三部份

問題1: 根據您的理解，請用中文及完整的句子詳述文章A的內容。

問題2: 根據您的理解和記憶，請用中文及完整的句子詳述文章B的內容。

問題3:
（1）請問「關係子句」的出現，對您理解文章B內容的能力有何影響？
（2）下面句子的中文意思為何？“From her general reading came quotations that she found striking or insightful.”您如何詮釋之？

問題4:
（1）請問「被動句」的出現，對您理解文章B內容的能力有何影響？
（2）下面句子的中文意思為何？“Why the many quotation marks?”
   I am asked...When a thing has been said so well that it could not be said better, why paraphrase it?”您如何詮釋之？

問題5: 請問您是否依靠中文來幫助自己理解AB兩篇文章的內容？
您覺得這種利用中文來理解英文文章的方式有幫助嗎？為什麼？

問題6: 就理解程度而言，請問您對AB兩篇文章的了解有多少？
哪篇文章比較容易理解？為什麼？

問題7: 您認為文章B（Marianne）比較不容易理解的原因有哪些？

第四部份：基本資料

說明: 請在以下各題中，在方框中勾選出最符合您的選項。
1. 性別: □男 □女
2. 年齡: □18-20 □21-23 □大於24
3. 年級: □大一 □大二 □大三 □大四
4. 就讀科系: _______________(請填寫)
5. 請問您英語學了多久？
   □少於5年 □5-10年 □多於10年

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6. 您是否曾經去過以英語為母語的國家（例如美國或加拿大等）？
   □是 □否（如果答案為否，請略過下一題，直接至第8題作答）

7. 您在那個國家待了多久？
   □少於1個月 □1-3個月 □4-6個月 □7-12個月
   □多於12個月

8. 您一個星期閱讀英文的次數有多少？
   □從不 □1-2次 □3-4次 □5-6次 □7-12次 □多於12次
   □幾乎每天

9. 您每天閱讀英文的時間有多長？
   □從不 □少於1小時 □1-3小時 □多於3小時

10. 您對美國文化感到興趣嗎？
    □是 □否

11. 以下哪些是您在學習英語時所接觸過的經驗？（可複選）
    □讀email □語言交換
    □讀英語報紙 □和外國人做朋友
    □讀英語小說 □其他（請舉例_________）
    □瀏覽英語網站

12. 您喜歡閱讀英文嗎？
    □喜歡 □不喜歡（如果您的答案為不喜歡，請跳至第14題作答）

13. 您喜歡哪一類的英文題材？（可複選）
    □報紙 □教科書 □小說 □雜誌
    □網路部落格 □其他（請舉例：__________________________）

14. 您喜歡學英語嗎？
    □喜歡 □不喜歡

===感謝您的參與===

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