

Effects of Culturally Specific Prior Knowledge on Taiwanese EFL Students' English
Reading Comprehension

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ABSTRACT

This research investigates the effects of culturally specific prior knowledge on Taiwanese EFL senior high school students' English reading comprehension, utilizing a retelling technique. Fourteen participants were selected from the volunteer pool of 97 students from a senior high school in Taipei, Taiwan. An informal reading inventory test was used to identify those with English reading ability equivalent to the grade seven instructional level. Each participant's prior knowledge of the focus topics (Chinese and non-Chinese) was determined through an individual, self-report interview. After the initial interview, twelve separate meetings were arranged for each participant to orally report his/her comprehension of the assigned passages, using the retelling technique. Chinese and non-Chinese topics were evenly balanced in the reading passage provided to each participant. Finally, a second interview was conducted to allow each participant to reflect on his/her experience of the retelling process. Every interview and retelling meeting was tape-recorded and transcribed for intensive analysis (a total of 28 interview and 168 retelling transcripts). The analysis confirms the positive influence of the participants' culturally specific prior knowledge on their reading comprehension. The results of the quantitative analysis indicate that the retelling of the Chinese topic passages was significantly different from those with non-Chinese topics. Most Taiwanese students produced more thought units for the passages with Chinese topics than for those with non-Chinese topics. The participants retold almost the same amount of synthesizing information for the passages with Chinese and non-Chinese topics. However, most students retold more analyzing and inferring information for the passages with Chinese topics than for those with non-Chinese topics. The results also make evident that most participants made fewer

errors in retelling the passages with Chinese topics than in retelling those with non-Chinese topics. Qualitative data were analyzed and interpreted to further explore the relationship of culturally specific prior knowledge and EFL students' English reading comprehension. The findings of the exploration confirm and elaborate the results of the quantitative analysis. In this study, culturally specific prior knowledge has been demonstrated to be pivotal in enabling Taiwanese senior high school students to make a more comprehensive understanding of English passages. The instructional implications are discussed. This study contributes to the theoretical foundations of reading comprehension theory in the EFL context and introduces retelling as a research tool in that context.

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CHAPTER ONE

Introduction

Some Taiwanese reading comprehension researchers have the opinion that the commonly used approaches to teaching English as a foreign language (EFL) fail to help students improve their reading comprehension in English. Chi and Chern (1988) report that in most Taiwanese English reading classes, instructors rarely provide students with training in reading skills, such as skimming, guessing the meanings of words, or predicting the conclusion. Effective methods of teaching students how to comprehend an English passage are also neglected (Tsao, 1992). By discussing the current problems of teaching English reading in Taiwan, Tsao (1992) also indicates that English reading instruction is rarely paid attention to in the general English class. As well, ten years later, Taiwanese researchers propose the same problems. Chen's thesis (2002) shows that teaching reading is the most important but long neglected component in Taiwanese English teaching and most English instructors do not pay attention to students' English reading comprehension. Although historically entrenched audiolingually-based teaching methods are slowly changing to a more communicative approach, improvements are still needed in the area of Taiwanese EFL reading instruction. In this study, the researcher would like to call more attention to the need for English reading instruction in Taiwan.

Historically, most EFL classroom techniques are directly derived from western ESL theories (Warden & Lin, 2000). The approach to teaching English as a second language (ESL) in native English speaking countries has a powerful impact on Taiwanese foreign language education. For example, when the audiolingual method was in widespread use in the 1960s in the United States, it was introduced into the context of

teaching English as a foreign language (EFL) in Taiwan and strongly advocated at that time.

The audiolingual method emphasizes the importance of listening over reading and of speaking over writing. Audiolingualists view reading as a decoding process of reconstructing the author's intended meaning by first recognizing the printed letters and words. Meaning for a text is constructed by processing the smallest textual units (letters and words) to larger and larger units (phrases, clauses, and sentences). Dialogues and drills form the basis of audiolingual classroom practice. Dialogues are used for repetition and memorization. Correct pronunciation, stress, rhythm, and intonation are emphasized. After a dialogue has been presented and memorized, students are asked to read a list of vocabulary items aloud and then recite it, and specific grammatical patterns in the dialogue are chosen and become the focus of various kinds of drill and pattern-practice exercises. Within the audiolingual paradigm, decoding sound-symbol relationships and reciting oral dialogues are considered to be the primary steps in the development of reading proficiency.

In the 1960s and 1970s, a typical reading lesson in Taiwan consisted of the teacher, with limited prior discussion or any other kind of presentation, telling the students to read aloud from an article in a textbook. Variations exist: the teacher might read the text aloud, the students repeat in chorus after the teacher, or they might be asked to repeat sentences played to them on an audiotape. After this beginning stage, the teacher would ask students to memorize dialogues and vocabulary items. Then, the teacher would ask students to do substitution drills to practice sentence patterns. Meanings of the vocabulary items and the text would be exactly translated into Mandarin. There was no

unrehearsed conversation (free talk). Teacher feedback to the student was limited.

While comparing the different contexts between North America, Britain, and Australia (NABA) and non-NABA, Warden and Lin (2000) point out that English language education in Asia has traditionally taken it for granted that teaching reading means to ask students to memorize vocabulary, to teach students grammar and sentence patterns, and to do translation. “Many ESL/EFL teachers still view the text as a collection of words or grammatical and syntactical constructions”(Chi, 1995, p. 639). This audiolingual approach to English teaching and learning is still prevalent in many parts of Taiwan (Chang, 1992; Huang, H.-L., 1999; Huang, T.-L., 1997; Wang, 2002). With reading instruction focusing on drills and pattern practice, most Taiwanese learners are still faced with the challenging task of constructing meaning and acquiring information from English texts on their own. They cannot help relying on word-by-word and sentence-by-sentence translations to make sense of the text. The margins of the students’ textbooks are filled with Chinese translation. Most students do not choose to do the readings in English but prefer to read texts in Mandarin if there are any translations available. Teachers find that the practical results of this sort of instruction fall short of their teaching expectations. Students can not comprehend the meaning of the English passages by themselves and as a result, students will not actively read an English text (Chao, 1993). Moreover, students are unable to transfer the four basic aspects of language (listening, speaking, reading, and writing) learned in the audiolingual method to real communication outside of classroom. Both teachers and students find the experience of studying through an audiolingual curriculum to be boring and unsatisfying. The Taiwanese Ministry of Education has acknowledged this predicament and initiated reforms to improve language education in Taiwan.

When the Communicative Language Teaching (CLT) method for ESL teaching gained popularity in the native English speaking world in the 1980s, CLT was soon recommended by some Taiwanese language educators and introduced into Taiwanese EFL instruction. Wang's (2002) report noted that a new curriculum for junior and senior high schools was advised:

[C]ommunication-oriented teaching is a principle for high school textbook writing and classroom instruction. New textbooks for junior high school students featuring activities for communicative language teaching were compiled and published in 1997 and have been in use in junior high schools across the island. New textbooks for senior high school have been in use since fall 1999 (Wang, 2002, p.135).

This new curriculum focuses on communication-oriented teaching and English instruction teachers have started to teach students with this new method. Under the influence of CLT, Taiwanese language teaching seems to have made great progress during the last two decades. Syllabus design has become a good deal more sophisticated, and teachers give their students a better and more complete picture of how language is used. The traditional grammar translation approach and the audiolingual approach have seemingly disappeared as methodology. The boring and mechanical types of exercises, such as mimicry of vocabulary items and sentence pattern drills, that were so common in the 1960s and the 1970s were replaced by a variety of exciting and engaging practice activities such as role playing, conversation practice, or other oral interaction between the teacher and the students. With new textbooks based on this approach, most students are requested to participate in classroom activities in a more communicative way. All

this seems to be very positive and it is not difficult for most language educators to believe that such progress in course design has resulted in a real improvement in the quality of language teaching.

Wang (2002) states that “the Ministry of Education of Taiwan (MOE) has made changes in English education policy” (p.132); which means that CLT has been theoretically accepted in teaching English in Taiwan. Yet he admits “the current trend is [still] teaching the old way but with new textbooks” (Wang, 2002, p.137). Most Taiwanese EFL teachers still feel doubtful about using CLT. The pedagogical aspects of CLT, which include the ideas of a meaningful syllabus and authenticity in materials and methodology, come into question in EFL contexts in Asia (Ellis, 1996; Ji, 1999; Kitao & Kitao, 1995; Shih, 1999) because of grammar- and vocabulary-based curricula, the teacher-centered classroom instruction activities, and the limitation of the instructor’s English ability.

CLT makes communicative competence the desired goal of teaching a second language. By communicative competence, Richards and Rodgers (1986) mean “the ability to use the linguistic system effectively and appropriately” (p.67); “the target linguistic system will be learned best through the process of struggling to communicate” (p.67). CLT emphasizes teaching speaking and establishes speech communication as the primary goal of a language program (Dlugosz, 2000). Hence, instructors pay more attention to oral English language expression and try to provide students with more chances to practice English conversation. Unfortunately, CLT does not offer much assistance in learning to read in a foreign language. Despite English teachers’ use of the new approach, most students still face the same trouble in reading English that they did

with the audiolingual approach. Students still busily look for meanings of words in the English-Chinese dictionary and rely on teachers' translations to understand the meaning of the English passage. According to Chi's observation of English classes in Taiwan (1995), he concludes that "many Taiwanese EFL readers have been taught and eventually believe that they should read an English text only from the author's or the instructor's point of view" (1995, p.639). Students are usually expected to give a standard answer by adhering to what is mentioned in the text or by the author. Most of the students fail to express ideas from their own perspective. Students never feel that the process of reading is interesting and meaningful. Moreover, reading instruction seems to have only slightly enhanced students' reading comprehension (Tsao, 1992).

The instructor still relies on vocabulary interpretation, and grammar-based and form-based teaching. Most junior high school teachers deeply believe in the audiolingual way of learning English and ask students to do grammar and vocabulary practice in a mechanical way; most senior high school teachers still pay attention to the grammar-translation approach and emphasize the translation of words to words, phrases to phrases, and sentences to sentences (Huang, T.-L., 1997). In general, most Taiwanese reading instructors still assume that grammar and vocabulary need to be specified in order to be able to achieve a reasonable degree of communicative proficiency (Ou, 1997).

Current Reading Research in Taiwan

Having surveyed the history of how western ESL theory has influenced Taiwanese EFL foreign language education and discussed the problems confronting the students and the English language teachers, some English reading research studies done in

Taiwan are now examined to offer a current view of English reading research in Taiwan.

For most Taiwanese students, unfamiliar words are the major obstacle causing reading difficulties (Huang, T.-L., 1997; Huang, S.-F., 2001). Several researchers still focus on vocabulary instruction and vocabulary acquisition to improve students' reading comprehension (Chan, 1998; Hu & Nation, 2000; Huang, S.-F., 2001; Huang, C.-C., 2000). In addition to lexical sources causing Taiwanese learners' reading difficulty, syntactic structures can be another source of problems in that grammar is an important criterion for assessing students' English reading ability in high school and college entrance exams in Taiwan. Grammar instruction still prevails everywhere in Taiwan. For most Taiwanese high school students, if they want to enter senior high schools or receive a postsecondary education, they need to pass the entrance exam. The effects of grammar-based or form-based instruction continue to be examined (Huang S.-F., 2001; Kuo, 2001). In Ou's (1997) study of first year university students' English reading proficiency and learning strategies, he emphasizes that "good grammar facilitates communication, [and] a sound knowledge of grammar is essential for making sense of one's thoughts and intentions as well as those of others" (p. 95). These researchers hold the position that form-based instruction can also provide students with an efficient reading strategy to improve their reading comprehension.

The psycholinguistic model of reading proposed by Goodman, K. S. (1980) has had great influence on Taiwanese reading research. Goodman, K. S. (1980) views reading as a "psycholinguistic game" (p.126). Reading is considered a process in which readers link their previous experience and knowledge with what they have read in the text. Lee (1986) advocates the view that "the product of comprehension is supposed to

give us insights into the process of comprehension” (p.353). From this process-oriented perspective, “reading comprehension is the final product” (He, 2001, p.1). Lee’s (1986) paper calls for more research to probe EFL readers’ comprehension processes rather than to report the product of reading comprehension. Based on the transaction theory, Chi (1995) has investigated how Taiwanese college readers employ intertextuality as a constructive strategy to comprehend and interpret texts. Transactional theories of reading process originated with the early work of Dewey and Bentley (1949) and showed us that the reader, the text, and the social or situational setting are linked during the reading event (Reutzel and Cooter, 2004). Transactional theories of reading process are well represented by Rosenblatt’s work in 1978. The implication of the term *transaction* provided by Rosenblatt (1985) is that “the reader brings to the text a network of past experience in literature and in life” (p.35). This theory emphasizes that the reader, the text, and the social-situational context are inextricably linked and are transformed as a result of the reading event (Reutzel and Cooter, 2004). The same text may give rise to different interpretations of the text from different readers or with the same reader at different times. Chi (1995) defines intertextuality as a natural part of reading that “emerges as a process whenever we as readers connect what we read with what we have previously read, viewed, heard, and told” (p.638). Davis (1989) proposes a reader-response approach which encourages readers to produce their own individualized meaning from the text. Liaw (2001) utilizes Davis’ reader-response approach to examine Taiwanese university students’ responses to five American short stories. Liaw (2001) finds that the reader can make use of his/her knowledge of the text structure to comprehend the text. Taking Halliday and Hasan’s (1976) model of text analysis as a theoretical framework, several researchers investigated the effects of

text-forming devices on Taiwanese college students' reading comprehension (Hsu & Chu, 1996; Wang, Y.-F., 1998; Yuan & Chen, 1991). The position Halliday and Hasan (1976) hold is that a coherent text contains text-forming devices. Brown and Yule (1983) identify five types of cohesion: reference, substitution, ellipsis, conjunction, and lexical cohesion. Chu, Swaffar, and Charney's (2002) study investigated whether culture-specific rhetorical conventions affect the reading recall of Chinese EFL college students. The results show that a "different rhetorical convention [has] a significant overall effect on Chinese students' reading comprehension in both immediate and delayed recall" (p.511).

With Carrell's (1989, 1991), and Carrell, Pharis and Liberto's (1989) research in the field of metacognitive awareness and second language reading, several Taiwanese researchers shifted their attention from a psycholinguistic view of reading to one of metacognition where readers need to be aware of what is involved in the process of reading and of utilizing effective reading strategies to enhance their reading ability. This strand of research puts the emphasis on metacognitive awareness of the reading process and on metacognitive strategies used for reading comprehension (Chern, 1993; Chern, 1994; Joe & You, 2001). The interaction of the reader and the written text has been investigated from the perspectives of cognition as well as metacognition. Currently, other branches of reading research in Taiwan include computer assistance instruction (Hung, 2000; Lin, 2001), students' reading concepts (Chia & Chia, 2000), students' achievement goals (He, 2001), and students' motivation and attitudes (Lin & Warden, 1998; Warden & Lin, 2000).

Some Considerations for the Current Study

With so many problems facing students and teachers in current Taiwanese EFL reading classes, research into English reading instruction and comprehension doubtless requires more attention. Based on the review of the present research on reading comprehension in Taiwan, there are a limited number of studies focusing on the effects of prior knowledge on reading comprehension. More work on the effects of culturally-specific prior knowledge on EFL reading comprehension are needed. In doing such work it will be important to consider the following:

First, the recognition of EFL readers' cultural prior knowledge is a guiding factor in improving reading comprehension. For years, native English speaking classroom teachers have acknowledged the importance of prior knowledge in comprehension. This is evidenced by their use of prereading activities designed to draw out and expand students' knowledge of a topic prior to reading about it. Consistent with native English speaking reading instruction, EFL reading instruction also needs to focus on the reader's prior knowledge. The reading process is not like block building, during which meaning is constructed on linguistic forms from phonics, words, sentences to the macro-structure of text. Instead, reading comprehension depends, in part, on preassembled prior knowledge chunks.

Some reading comprehension research indicates that readers access personal prior knowledge to interpret text (Anderson, 1977; Brown, Smiley, Day, Townsend, & Lawton, 1977). Readers' past experiences and knowledge of the world affect their reading comprehension (Anderson, Spiro, & Montague, 1977; Afflerbach, 1990; Dochy, 1992; McKeown, Beck, Sinatra, & Loxterman, 1992). The amount and type of information

extracted from text is directly related to the knowledge readers bring to the reading task (Pearson, Hansen, & Gordon, 1979). Readers' prior knowledge, in turn, depends on their lived experience in different societies with different cultures. The booklet *Teaching reading* by Pang, Muaka, Bernhardt, & Kamil (2003), about reading development and instruction, provides a synthesis of research on educational topics of international importance. The following, a suggestion from this booklet related to the important role of cultural factors in reading comprehension, offers support for the focus of my study:

Because having more prior knowledge generally facilitates comprehension, having cultural knowledge has the same effect. Having rich but different types of cultural knowledge will also affect our understanding and appreciation of written text (p.19).

To date, readers' prior knowledge has been the most neglected element in EFL reading instruction. Owing to the evidence of the impact of prior knowledge on reading comprehension, this study focuses on EFL readers' prior knowledge and further questions if culturally specific prior knowledge plays an essential role in EFL reading comprehension. The intent is to determine whether greater understanding of the cultural prior knowledge that EFL readers have and use can provide new insights aimed toward enhancing EFL reading instruction.

Second, the importance of reading topics must be considered when discussing reading comprehension. It is necessary for EFL instructors to utilize culturally-familiar topics in EFL textbooks. Based on previous studies on cultural prior knowledge (i.e., culture schemata), some investigators confirm the positive effects of culture schemata on ESL L2 reading comprehension (Carrell, 1981, 1987; Carrell & Eisterhold, 1983;

Johnson, 1981). Johnson (1981) suggests that providing ESL students with culturally relevant information may minimize students' reading difficulties and maximize their comprehension. Current Taiwanese EFL reading textbooks which are designed to fit CLT authentic situations in English speaking countries collect topics with cultural background related to English speaking countries, such as tornadoes and hurricanes in the United States, Easter and Halloween, and the British politician, Winston Churchill. Most students in Taiwan are not familiar with these topics. Consider the situation in which a second language (L2) reader faces a text on an unfamiliar topic. It is a most difficult, context-reduced and cognitively demanding task. Without any related prior knowledge on the topic, most of the readers fail to understand the meaning of the text. This predicament causes serious frustration and creates an obstacle to L2 readers who hope to achieve some comprehension of the text. As an EFL teacher, the researcher sees that reading and learning English from textbooks is one of the most difficult tasks that EFL students face on a daily basis. EFL textbooks need to be changed to access students' prior knowledge. However, not much research has ever been reported as to whether or not using texts with culturally-familiar topics facilitates L2 reading comprehension in EFL contexts. The study of the effects of culture-specific passages may suggest that EFL students benefit from textbooks that contain topics congruent with the student's cultural background.

Third, the research context itself is of great importance in interpreting the effects of culture-specific schemata on L2 reading comprehension. There are abundant cross-cultural studies conducted with the role of culture schemata in the field of reading comprehension. Earlier cross-cultural reading studies in the L2 domain include Carrell (1981, 1987), Carrell and Eisterhold (1983), Hudson (1982), Johnson (1981), and

Steffensen, Joag-dev, and Anderson (1979). These studies were administered in ESL contexts such as in the United States. In the past, most L2 reading comprehension studies assumed that the two terms, ESL and EFL were synonymous and supposed the results received from the ESL context could be used to explain the situation in an EFL context. In fact, the effects of culture-specific prior knowledge on EFL reading comprehension are not yet well understood. ESL learners' exposure to English, and their motivation and purposes for learning English are quite different from those of EFL learners. In the ESL context, English is the major language for daily communication outside the classroom and is the official language, while in the EFL context, English speaking environments and sources are limited, and English is just an instructional subject in the school curriculum rather than the official language. Focusing research on the EFL context may help us better understand the effects of cultural prior knowledge on the EFL reading comprehension situation.

Fourth, from a first language acquisition perspective, most people learn to read at an early age, so most L1 reading theories deal with younger children at the level of preschool or elementary school. Using L2 adolescent students as research subjects and studying how EFL teenagers comprehend English texts may help engender a reading theory directly related to adolescent students and so enhance L2 teenagers' reading comprehension. Without considering the student's age, L2 high school students are viewed as beginning readers and by applying L1 reading theories based on younger readers, they are unsuitably treated as younger children. Taking this concern into account, it is important, in a research study involving teenagers, that care be taken to make sure the English materials they are presented with be related to their prior knowledge and their interest, and that they contain age-appropriate topics, content, and

vocabulary. Most research on the influence of prior knowledge on reading comprehension studies includes adolescent native English speakers (Baldwin, Peleg-Bruckner, & McClintock, 1985; McCormick & Cooper, 1991; Osako & Anders, 1983; Schiefele, 1992; Loyd & Steele, 1986; Walton, 1982). However, there is not much research focusing on adolescent subjects in the field of L2 reading comprehension. Most relevant published L2 reading comprehension research is conducted with L2 adults or post secondary school students. The results of these studies can be applied to explain L2 adults' and university students' reading performance but not that of L2 adolescent learners. Recently some studies have investigated the impact of prior knowledge on EFL teenagers' text comprehension (Bügel & Buunk, 1996; Oh, 2001). More such research using high school students as subjects with the intention of setting up a model of L2 reading comprehension for L2 adolescent learners needs to be pursued.

Research Purpose

The purpose of this study is to investigate the effects of culturally-familiar and culturally-unfamiliar topics on the reading comprehension of Taiwanese EFL senior high school students. EFL learners' cultural backgrounds are not similar to those of native English speakers. The intent of this study is to explore the significance of accessing culturally specific prior knowledge in reading passages to improve EFL learners' reading comprehension.

Research Objectives

The study seeks to investigate the effects of culturally specific prior knowledge on Taiwanese EFL senior high school students' English reading comprehension through the retelling technique. The study is designed to investigate the participants' experience

with the culturally specific topics of the retelling passages and the participants' perceptions about these topics to determine their culturally specific prior knowledge. The study aims to examine the content of the participants' retellings to determine effects of culturally specific prior knowledge on their English reading comprehension.

Research Questions

A general inquiry is as follows: Do culturally specific topics play a role in improving the EFL reader's reading comprehension? That is, is there a difference for Taiwanese students between reading material with topics that they feel more familiar with and are more knowledgeable about (i.e., passages with Chinese topics) and reading topics with which they are not familiar (i.e., passages with non-Chinese topics)? Several questions related to this general inquiry are formulated to guide this study:

1. Do Taiwanese students have prior knowledge about Chinese topics and non-Chinese topics?
2. What are Taiwanese students' perceptions of the twelve topics contained in the retelling passages?
3. Are Taiwanese students more familiar with the passages with Chinese topics than those with non-Chinese topics?
4. Do Taiwanese students find it easier to comprehend passages with Chinese topics than those with non-Chinese topics?
5. Is there a difference between Taiwanese students' number of thought units while retelling passages with Chinese versus non-Chinese topics?

6. Is there a difference between Taiwanese students' synthesizing information while retelling passages with Chinese versus non-Chinese topics?
7. Is there a difference between Taiwanese students' analyzing information while retelling passages with Chinese versus non-Chinese topics?
8. Is there a difference between Taiwanese students' inferring information while retelling passages with Chinese versus non-Chinese topics?
9. Is there a difference between Taiwanese students' erroneous information while retelling passages with Chinese versus non-Chinese topics?
10. Is there a difference between Taiwanese students' total number of synthesizing, analyzing, and inferring information in retelling passages with Chinese versus non-Chinese topics?
11. How does culturally familiar and culturally unfamiliar prior knowledge impact on EFL learners' reading comprehension?

Definitions of Terms

The following terms are frequently used throughout this study. For clarity of understanding, these terms are defined as follows:

First Language (L1) vs. Second Language (L2)

First language means a language which a person learns first and from birth in terms of personal language learning history; in this respect, a second language is distinguishable from a first language. Second language is a term used to refer to a language other than one's first language and which can later be used for a special purpose, such as in education or employment. Second language means a language

learned after one's first language. In this study, L1 stands for first language and L2 stands for second language. In general, the scope of L2 research contains EFL and ESL contexts.

English as a Second Language (ESL) vs. English as a Foreign Language (EFL)

While English is the target language in both ESL and EFL environments, some level of difference exists between these two contexts. The major difference is the environment in which the language is learned. Rose (1999/2000) states that when the host community is primarily English-speaking that is an ESL context (e.g. Australia, Canada, England, New Zealand, the United States); while an EFL context occurs in non-English-speaking countries in which English is recognized as an important international language. These EFL countries do not have a history of colonization by English-speaking countries, nor have they given English any special administrative status. For example, China, France, Japan, Korea, Peru, Thailand and Taiwan are EFL contexts.

Culture

Culture can be viewed as “the deposit of knowledge, experience, beliefs, values, attitudes, meanings, social hierarchies, religion, notions of time, roles, spatial relationships, concepts of the universe, and material objects and possessions acquired by a group of people in the course of generations through individual and group striving” (Samovar & Porter, 2000, p.7).

Prior Knowledge

Prior knowledge is the sum of what an individual knows (Alexander, Schallert, &

Hare, 1991). Prior knowledge is a multidimensional construct that includes many types of knowledge, some formally and some informally acquired. In this study, prior knowledge can also be equated with the terms background knowledge, experiential knowledge, world knowledge, pre-existing knowledge, and personal knowledge.

Cross-cultural Knowledge

In this study, from the position of learning English in an EFL setting, cross-cultural knowledge can be defined as a kind of knowledge without cultural bounds that is shared between EFL students' culture and the culture of the target language. For Taiwanese students in this study, their cross-cultural prior knowledge includes knowledge shared between Taiwan, Canada and some European countries.

Schemata

The study of how people's prior knowledge affects comprehension is called schema theory. By schema, Bartlett (1932/1950) means "an active organization of past actions, or of past experience" (p.201). These frameworks of prior experiences are labeled as schemata.

Cultural Schemata

In reading research, cultural schemata include what the reader knows about culture. This study focuses on two types of cultural schemata: heritage cultural schemata and foreign cultural schemata. Heritage cultural schemata are those in which the EFL learner receives knowledge about some events happening in his/her homeland such as the knowledge of Chinese culture of the Taiwanese students in this study. Foreign cultural schemata are those in which the EFL learner receives knowledge about some events

happening outside of his/her own culture and location, such as the knowledge of Canadian and European cultures of the Taiwanese students in this study.

Reading Process

Some reading researchers who hold an information-processing perspective compare reading to a process. The reading process can be viewed as what goes on in the brain while reading. Depending on the reading researchers' interpretations of the reading process, models of reading are developed. Most of the models are classified into three major kinds: top-down, bottom-up, and interactive. This study is based on the concept of an interactive model of reading.

Interactive Reading Process

The interactive model recognizes that bottom-up and top-down processes interact simultaneously throughout the reading process (McCormick, 2003; Rumelhart, 1977). The reader constructs meaning by the selective use of information from all sources of meaning (i.e. graphemic, phonemic, morphemic, syntax, and semantics) without adherence to any one rigid order (Dechant, 1991).

Reading Comprehension

For the purposes of this study, Johnston's (1983) definition is utilized:

Reading comprehension is considered to be a complex behavior which involves conscious and unconscious use of various strategies, including problem-solving strategies, to build a model of the meaning which the writer is assumed to have intended. The model is constructed using schematic knowledge structures and the various cuing systems which the writer has given (e.g., words, syntax,

macrostructures, social information) to generate hypotheses which are tested using various logical and pragmatic strategies. Most of this model must be inferred, since text can never be fully explicit and, in general, very little of it is explicit because even the appropriate intentional and extensional meanings of words must be inferred from their context (p.17).

Retelling

Retelling is “the process of recalling a text after . . . reading it” (Smith & Keister, 1996, p.17). In the process of retelling the text, the reader constructs meaning which fits into his or her own schemata (Tierney, Bridge, & Cera, 1978-1979). In this study, retelling is used with Taiwanese students by asking them to orally restate what they understand after reading an English expository text.

It is important to note that all of the following five items are used as they have been defined by the Diagnostic Reading Program administered by Alberta Education (1986).

Thought Units

The thought unit is the unit of analysis used with the retelling protocols in this study. “A thought unit is a group of words that represents a meaningful unit of information given by the student” (Alberta Education, 1986, p.42)

Synthesizing Information

Synthesizing involves “an integrating or collapsing of material – an awareness of the whole” (Fagan, 1987, p.65). Synthesized information is drawn from the passage, combined and related by the student who does the retelling task. Synthesizing information in the participants’ retellings “comes from more than one part of the

passage” (Alberta Education, 1986, p. 44). The student “reconstructs the author’s words and ideas when retelling” (Alberta Education, 1986, p. 44).

Analyzing Information

In the student’s retelling, this category includes “actual information from the passage with minimal changes” (Alberta Education, 1986, p.45). The student remembers and repeats what the author writes in the text. “Sometimes the student uses the exact wording from the passage” (Alberta Education, 1986, p.45). It is recognized that, as here defined, this primarily involves recall.

Inferring Information

“Inferred information is the information added by the reader to fill gaps left by the author” (Alberta Education, 1986, p.44). The student infers personal experiences to extend beyond the text to incorporate interpretive statements. In the student’s retelling, the student may give information that is not a part of the particular text.

Erroneous Information

While retelling a passage, the student may produce erroneous information which is “contradictory, inconsistent or inaccurate in terms of the passage” (Alberta Education, 1986, p.45).

Theoretical Assumptions

This study is based on the following theoretical assumptions. These assumptions are related to current English reading instruction in Taiwan, the reading process, reading comprehension, the importance of the reader’s prior knowledge of the world, schema theory, the effects of cultural schemata on reading comprehension, L2 learning, reading

materials, analysis of retelling, and the student's prior knowledge background.

These assumptions are:

1. At present, English reading instruction in Taiwan needs improvement. The audiolingual and CLT methods are not useful in helping teachers to improve EFL students' reading comprehension. Whenever students approach an English reading text, they tend to look for new vocabulary and useful idiomatic expressions to recite. They search for sample sentences of grammatical structures to reinforce what they have been taught and maybe even practice pronunciation by reading the text aloud. Reading instruction still emphasizes word-by-word decoding and rote memorization of linguistic structures (i.e. words, phrases, and sentences), and is not designed to improve students' reading comprehension.

2. Consistent with Rumelhart's model (1977), the reading process is interactive and "consists of a set of independent knowledge sources Each knowledge source contains specialized knowledge about some aspect of the reading process" (p.589). The reading process model suggests that all of these knowledge sources are activated simultaneously and that our perceptions are the product of the simultaneous interactions among all of them (Rumelhart, 1977).

3. Reading Comprehension is a complex mental process and "occurs when and if the elements that enter into the process achieve a stable state in which the majority of elements are meaningfully related to one another and other elements that do not fit the pattern of the majority are suppressed" (Kintsch, 1998, p. 4). These elements can be viewed as preassembled concepts or prior knowledge chunks.

4. The reader's prior knowledge is approached in all three reading models in different ways; however, all three reading models integrate the prior knowledge component into the reading process. L2 learners' reading ability is improved with their increase in prior knowledge for the second language and culture.

5. According to schema theory, the correspondence between a reader's prior knowledge structure (schemata) and the textual material determines the extent of comprehension. The relevant schemata may lead the reader to make appropriate inferences; then the textual material makes sense to the reader and is consequently assimilated (Anderson, Reynolds, Schallert, & Goetz, 1977).

6. Learning a second language involves much more than being able to understand the sounds, grammar, and vocabulary of the second language. It also involves the ability to comprehend and use language in real communication situations. Understanding written language involves more than understanding the words and the grammatical structures; understanding also involves making inferences connecting what is said to what is mutually assumed or known, or to what has been said previously.

7. Cultural schemata significantly affect reading comprehension (Anderson, 1994; Carrell, 1987; Kintsch & Greene, 1978; Steffensen, Joag-dev, & Anderson, 1979). "A culturally appropriate schemata may provide the ideational scaffolding that makes it easy to learn information that fits into that schemata" (Anderson, 1994, p.475).

8. EFL reading materials are often designed with topics culturally unfamiliar to the EFL student. When the student reads this kind of text, he/she fails to fully understand the meaning of the text.

9. Culturally familiar topics are more effective in EFL reading than culturally unfamiliar topics. Reading materials with topics with which students feel familiar can be more effective than those which are not familiar to the students.

10. Retelling displays something about a reader's assimilation and reconstruction of text information; therefore, it can reflect comprehension (Gambrell, Pfeiffer, & Wilson, 1985; Morrow, 1988a). Retelling is a straightforward way to assess the reader's ability to understand and reconstruct the meaning of the texts read (Anthony, Johnson, Mickelson, & Preece, 1991; Johnston, 1983).

11. Analysis of retellings needs to consider both the reader's contribution, that is, how the text is recalled, and the contribution of the original text, that is, what is recalled (Kalmbach, 1986a, 1986b). EFL reading materials designed to be congruent with readers' cultural prior knowledge may assist low proficiency readers in English to develop better reading comprehension.

12. EFL students in Taiwan would be able to perform the retelling task as well as native speakers of English or ESL students if they are well-trained in the technique.

13. The selected subjects in this study are of the same age and similar ability, study in the same school, and were born and live in Taipei. Therefore, there might not be much difference in their prior knowledge about Chinese and non-Chinese culture.

Summary

Research of this type is important because it may shed light on what reading topics should be utilized with Taiwanese students to better facilitate their reading in English. The findings of the study may assist language instructors in choosing suitable

reading topics to target this group of students. The information can also supply English as a second or as a foreign language teacher with useful knowledge about their students, their materials, and assist teachers to more effectively meet their students' language learning needs in the classroom. Chapter One includes the purpose of the study, the statement of research purpose and research questions, the definitions of several terms, and theoretical assumptions. Chapter Two presents the review of the literature.

CHAPTER TWO

Literature Review

This research is intended to explore the effects of culturally specific prior knowledge on EFL learners' reading comprehension. Literature presently considered related to this research focus is reviewed to achieve greater insight. The general headings of the literature review include reading comprehension, major reading models, the study of prior knowledge, the role of schema theory in reading comprehension, and retelling as a way to assess comprehension. In the section on reading comprehension, first is a discussion on what reading comprehension is and then on what factors influence reading comprehension. As to the reading models considered, which include cognitive psychological and information-processing perspectives, the cognitive reading theories can be divided into top-down, bottom-up and interactive reading models. In examining the basic features in reading theories, the researcher identifies the role of prior knowledge across these models. In addition to cognitive-processing reading models, a sociocultural view of reading is added in an effort to emphasize the importance of cultural knowledge to reading comprehension, including some studies emphasizing the important role of prior knowledge in reading comprehension. As well, current research in prior knowledge is also reviewed. In this section, mental representation of prior knowledge is examined, and the link between prior knowledge and schema theory is discussed. Since prior knowledge is presented in a schematic like structure, reviews of previous schematic research in L1 and L2 reading comprehension are provided. Owing to several differences existing between ESL and EFL contexts, L2 learners' cultural schemata play an important role in determining the effects of EFL

reading comprehension. The essential role of cultural schemata to L2 reading comprehension is therefore introduced. Retelling is a major instrument used in this study to assess EFL students' English reading comprehension, so some literature related to retelling is reviewed. The next section focuses on retelling as a way to assess comprehension, including distinguishing between recall and retelling, the definition of retelling, the theoretical foundation for retelling, different forms of retelling procedure, the rationale for using retelling as an assessment tool, and the content analysis of retelling and retelling scoring criteria.

Reading Comprehension

Reading comprehension is a psychological process which occurs in the mind. The mental process is invisible. This invisibility makes it difficult for the researcher to provide a concrete and clear definition. Kintsch (1998) describes comprehension as occurring “when and if the elements that enter into the process achieve a stable state in which the majority of elements are meaningfully related to one another and other elements that do not fit the pattern of the majority are suppressed” (p.4). In commonsense terms, the mental elements can be readers' prior knowledge, concepts, images or emotions. With the schematic processing perspective held by Johnston (1983), reading comprehension can be defined as follows:

Reading comprehension is considered to be a complex behavior which involves conscious and unconscious use of various strategies, including problem-solving strategies, to build a model of the meaning which the writer is assumed to have intended. The model is constructed using schematic knowledge structures and the various cue systems which the writer has given (e.g., words, syntax,

macrostructures, social information) to generate hypotheses which are tested using various logical and pragmatic strategies. Most of this model must be inferred, since text can never be fully explicit and, in general, very little of it is explicit because even the appropriate intentional and extensional meanings of words must be inferred from their context (p.17).

For Johnston (1983), reading comprehension can mean the reader's comprehension of the text results from using different strategies consciously and unconsciously and is evoked by various knowledge sources. Johnston (1983) discusses using strategies to comprehend the text and he emphasizes examining the process of comprehension. Another view of reading comprehension focusing on the result rather than the process can also be added for this current study. The result of reading comprehension may show what the reader understands from a text, what he/she fails to understand from a text, and how he/she transacts with the text.

Gunderson (1995) differentiates three levels of comprehension including "literal or detail, inferential, and critical and evaluative, sometimes called applicative" (p.27). Gunderson (1995) provides explanations for the three levels of comprehension: literal-level comprehension requires little more than simple memory work and the remembering of details from the text; inferential-level comprehension involves "readers in thinking about what they've read and coming to conclusions that go beyond the information given in the text" (p.31); at critical and evaluative-level comprehension, readers are able to "evaluate whether a text is valid and expresses opinion rather than fact, as well as apply the knowledge gained from the text in other situations" (p.28). This study, following Gunderson's (1995) suggestion, avoids focusing on literal-level

comprehension as the end goal of the study but rather intends to set up an EFL reading program which may “excite students and nurture their ability to use language in creative and meaningful ways” (Gunderson, 1995, p.43)

Factors Influencing Reading Comprehension

A study by Palincsar and Brown (1984) shows that “reading comprehension is the product of three main factors” (p.118). The three factors include first, reader-friendly or reader-considerate texts; second, the interaction of the reader’s prior knowledge and text content; and third, reading strategies which reveal the way readers manage their interaction with written texts and how these strategies are related to text comprehension (Palincsar & Brown, 1984).

Comprehension can be enhanced to the extent that the texts are well written, that is, they follow a structure which is familiar to the reader and their syntax, style, clarity of presentation, and coherence reach an acceptable level in terms of the reader’s mother language. Such texts have been called reader-friendly or reader-considerate (Anderson & Armbruster, 1984). Comprehension can also be influenced by the extent of overlap between the reader’s prior knowledge and the content of the text. Research demonstrates the impact of schematic constructive processes on text comprehension. A number of studies suggest that text comprehension is dependent upon prior knowledge (Anderson & Pitchert, 1978; Anderson, Reynolds, Schallert, & Goetz, 1977, Bransford & Johnson, 1973; Dooling & Lachamn, 1971; Fass & Schumacher, 1981). Voss and his colleges (Chiesi, Spilich, & Voss, 1979) provide a clear example of this in their research that describes how previously acquired knowledge influences college students’ acquisition of new domain-related information. In their research, the performance of individuals with

high baseball (HK) or low baseball (LK) knowledge is compared. Chiesi, Spilich and Voss (1979) indicate HK recognition performance is superior to LK, and that HK individuals need less information to make recognition judgments than LK individuals. Moreover, to enhance comprehension and overcome comprehension failures, some reading researchers focus on reading strategies. In Casanave's (1988) study of comprehension monitoring strategies, Cananave describes how successful readers employ effective strategies while reading; they usually propose a question, and elaborate their own knowledge and the content of the text. Casanave (1988) also makes a distinction between routine and repair (non-routine) monitoring strategies – the task of routine monitoring strategies may include “predicting, checking understanding for consistency, and checking for overall understanding” (p.290) whereas repair (non-routine) strategies may include “evaluating what the problem is, deciding how to resolve it, implementing the strategy as a result of the decision made, and checking the results” (p.290). Other recognized strategies may include these identified in Zvetina's study (1987) for building and activating appropriate background knowledge, and those described by Block (1986) for recognizing text structure. The well-practiced decoding and comprehension skills of expert readers permit those readers to proceed relatively automatically, until a triggering event alerts them to a comprehension failure; but when a comprehension failure is detected, readers must slow down and allot extra processing to the problem area (Spilich, Vesonder, Chiesi, & Voss, 1979). To fully understand how a student learns from texts, the reading instructor cannot ignore any of these three main factors which Palincsar and Brown (1984) propose. However, in this paper, the researcher has chosen to concentrate most extensively on how the reader's prior knowledge may influence EFL students' reading comprehension.

Major Reading Models

Bottom-up Reading Model

Theoretical support. Bottom-up approaches to reading include the assumption that reading begins with print and proceeds systematically from letters to words to phrase to sentence to meaning (Clay, 1972; Downing, 1984; LaBerge & Samuels, 1974). Bottom-up models suggest that “a reader starts with smaller elements of language (such as letters and words) and goes up to larger portions and meaning” (McCormick, S., 2003, p.20). Bottom-up models operate on the principle that the written text is hierarchically organized on the letters, words and word groups, and that the reader first processes the smallest linguistic unit, gradually compiling the smaller units to decipher and comprehend the higher units, such as sentence syntax. A bottom-up reading model emphasizes a single-direction, part-to-whole process of text comprehension.

Meaning driven by text. In a bottom-up model, the written or printed text plays an important role in leading the reader. As McCormick (1988) mentions “the meaning of the text is expected to come naturally as the code is broken based on the reader’s prior knowledge of words, their meanings and the syntactical patterns of his language” (p. 2). Reading is driven by a process that results in meaning. Gove, M. K. (1983) describes the bottom-up strategy clearly:

- (a) readers must recognize each word in a selection to comprehend the selection;
- (b) readers should give primary emphasis to word and sound/ letter cues in identifying unrecognized words;
- (c) reading acquisition requires a mastery of a series of word recognition skills;
- (d) letters, letter/sound relationships, and words should receive primary emphasis in instruction;
- (e) accuracy in recognizing

words is significant; and (f) knowledge of discrete subskills is important (p.263).

Serial and stage-by-stage processes. A bottom-up reading model describes “the processing of text by our brain as occurring in separate, sequential (or ‘serial’) steps one after another, with no immediate interaction among the steps” (McCormick, S., 2003, p.20). It is concentrated on a single-direction of processing a text and it proceeds from part to whole. For LaBerge and Samuels (1974), a reading process starts from visual information which is then transformed through a series of stages inclusive of visual, phonological and episodic memory systems, and ends when it is finally comprehended in the semantic system.

Prior knowledge. The bottom-up model puts much emphasis on the reader’s lower levels of knowledge, such as the meanings of words and the syntactic patterns of the language which are the major components in initial stages of the perceptual process. “The meaning of the text is expected to come naturally as the code is broken based on the reader’s prior knowledge of words, their meaning, and the syntactic patterns of his language” (McCormick, 1988, p. 2).

Top-down Reading Model

Theoretical support. Goodman, K. S. (1980) describes reading as:

a psycholinguistic guessing game. It involves an interaction between thought and language. Efficient reading does not result from precise perception and identification of all elements, but from skill in selecting the fewest, most productive cues necessary to produce guesses which are right the first time (p.127).

Goodman, K. S. (1980) thinks the goal of reading is constructing meaning in response to a text. Top-down models describe “readers moving in the other direction [from bottom-up models], starting first by predicting meaning and then identifying words” (McCormick, S., 2003, p. 20). Top-down approaches assume that reading begins with knowledge and hypotheses in the mind of the reader. From this perspective, readers identify letters and words only to confirm their assumptions about the meaning of the text. Thus, the top-down approach is described as concept-driven. The top-down model emphasizes that reading is not simply a bottom-up process and that meaning is not entirely residing in the text. The knowledge, experience, and concepts that readers bring to the text are a part of the process. Reading in this context is more a matter of bringing meaning to, rather than gaining meaning from, the printed page (Dechant, 1982).

Meaning-driven processes. Kolars (1970) points out that “words are perceived and remembered preferentially in terms of their meanings and not in terms of their appearances or sounds” (p. 111). The skilled reader “operates on the semantic or logical relations of the text he is reading” (Kolars, 1970, p. 109). Readers identify letters and words only to confirm their assumptions about the meaning of the text. Thus, readers deal with the text from the semantic level to construct meaning.

Prior knowledge. Since this model assumes that reading is a matter of bringing meaning to the text, the source of the meaning is the reader’s use of his prior knowledge. “The reader brings to his reading the sum total of his experience and his language and thought development” (Goodman, K. S., 1980, p. 130). The domain of the reader’s prior knowledge may include three kinds of information such as graphic input, syntactic information and semantic information (Goodman, K. S., 1980). During the process of

reading, readers utilize not one, but all three kinds of information simultaneously (Goodman, K. S., 1980, p.131).

Interactive Reading Model

Theoretical support. Rumelhart (1977) develops “a reading model that makes use of a formalism allowing highly interactive parallel processing units” (p. 574). A skilled reader must be able to make use of sensory, syntactic, semantic and pragmatic information to accomplish the reading task (Rumelhart, 1977). Furthermore, Rumelhart emphasizes that a higher level processing (meaning) apparently effects our ability to process at a lower level (the word level). An interactive reading model is proposed to combine the valid insights of bottom-up and top-down models. The interactive model suggests that the reader constructs meaning by the selective use of information from all sources of meaning (i.e. graphemic, phonemic, morphemic, syntax and semantics) without adherence to any one set order. The reader simultaneously uses all levels of processing, that is, the interaction of bottom-up and top-down processes simultaneously throughout the reading process (Dechant, 1991). The reader’s utilizing of information from one source often depends on utilizing information from others.

Highly interactive processes. The interactive model recognizes that bottom-up and top-down processes interact simultaneously throughout the reading process. This model is embedded in a theoretical framework capable of accommodating the flexibility of reading (Just & Carpenter, 1980). Just and Carpenter (1980) claim a theoretical framework for the interactive processes and structures in reading:

Reading can be construed as the coordinated execution of a number of processing stages such as word encoding, lexical access, assigning semantic

roles, and relating the information in a given sentence to previous sentences and previous knowledge (p. 331).

Some stages of reading seem to be partially or entirely skipped; some stages seem to be executed out of sequence; and some stages in higher or later levels seem to be able to influence the earlier or lower stages.

In discussing Rumelhart's interactive model, McCormick, S. (2003) comments that "readers simultaneously begin word identification and predict meaning – with both happening at the same time; the lower level processes (word identification) and higher level processes (meaning) help each other at the same time" (p.20). A skilled reader must be able to make use of sensory, syntactic, semantic and pragmatic information to simultaneously and strategically accomplish the reading task. Furthermore, he emphasizes that higher level processing (meaning) apparently affects our ability to process at a lower level (the word level).

Prior knowledge. The interactive reading model emphasizes readers' prior knowledge. Rumelhart's model (1977) "consists of a set of independent knowledge sources. . . . Each knowledge source contains specialized knowledge about some aspect of the reading process" (p.589). Readers' comprehension of the text is the final product of simultaneous interaction among all our knowledge sources (Rumelhart, 1977). Dechant (1991) describes the process as one where "the reader constructs meaning by the selective use of information from all sources of meaning without adherence to any set order" (p.27). Since the selective use of information from all sources of meaning is a major point in the interactive model, the development of the reader's prior knowledge is quite important in reading instruction. Prior knowledge may be considered as "what the

reader brings to the text, a fund of past linguistic, literary and life experiences” (Rosenblatt, 1985, p. 38). Prior knowledge is needed to provide the reader with sufficient cues for recognizing words and figuring out the meaning of the text.

The three cognitive-oriented reading models propose a model of comprehension that places greater emphasis on the internal mental constructive processes. Social and interpersonal factors are neglected in the previous cognitive reading models. A more recent reading approach places particular emphasis on these social/cultural factors in enhancing reading comprehension.

Sociocultural Reading Model

Theoretical support. Vygotsky (1978) assumes that in the process of intellectual development, there are two “qualitatively different lines of development differing in origin: the elementary processes which are of biological origin, and the higher psychological functions of sociocultural origin. The history of children’s behavior is born from the inter-weaving of these two lines” (p. 46). These two aspects include the interaction between changing social conditions, and the biological substrata of behavior underlying these conditions. For Vygotsky, thought has a social, external origin and language functions as a tool in the development of individual cognition from this external origin (Frawley & Lantolf, 1986). Vygotsky (1978) argues that in a supportive and interactive environment, the child is able to advance to a higher level of knowledge and performance than he or she would be capable of independently and concludes that language develops entirely from social interaction. People internalize language from social interaction.

Social and interpersonal interaction. Fagan (1987) prefaces his book, *The learning and teaching of reading*, with the statement that “[knowledge] does not exist independent of the sociocultural context (with all its complexities) of the knower”(p.iii). Au (1997) claims that “people live in an environment that has been transformed by cultural artifacts, the work of past and present generations” (p. 182); “language and literacy are considered to be cultural artifacts, and . . . serve to mediate people’s interaction with the world” (p.182). A basic premise of sociocultural research on language learning is that “human activity, including literacy learning, can only be understood through the study of its social origins” (Au, 1997, p.183). For example, research on the reading process, a branch of literacy learning, should not just focus on cognition within the individual. Reading research should attempt to explore the links among current social contexts and “interpsychological functioning” (Au, 1997, p.182) which takes place between people.

Reading in a sociocultural context. From the sociocultural point of view, “[r]eading always occurs within a particular socio-cultural context and readers have various strengths and weaknesses of a psychological, neurological, or environmental nature” (Fagan, 1987, p.8). Reading comprehension needs to anchor learning to read in real life experience. Readers draw on the knowledge constructed from their life experience. Different readers coming to the world of reading bring with them different levels of knowledge about language structure and use. That is, they bring different notions about the purpose of language use, different rules of conversational interaction, and different rules of discourse organization. These different levels of knowledge form a base for a reader to comprehend texts. In ESL/EFL contexts, English reading comprehension involves additional different levels of knowledge. ESL/EFL readers may

bring with them various linguistic and cultural backgrounds. When readers come from sociolinguistic backgrounds that are similar to that in the text, then these differences create few problems for reading comprehension. In contrast, when readers come from sociolinguistic backgrounds that are markedly different from that in the text, then additional difficulties in reading comprehension can arise. Tseng (2002) claims that “understanding the culture of the text is essential to successful language learning; without the appropriate cultural schema to aid understanding, what is learnt must necessarily be incomplete” (p. 12). Thus, a sociocultural reading model focuses on cultivating readers’ cultural knowledge in order to support reading comprehension.

The Study of Prior Knowledge

Current Research in Prior Knowledge

The constructive orientation of recent research has highlighted the role of a reader’s background knowledge. These studies have concluded that the impact of prior knowledge on reading comprehension is significant (Afflerbach, 1990; Dochy, 1992; McKeown, Beck, Sinatra, & Loxterman, 1992). The knowledge a person possesses is understood to have a potential influence on what he or she will learn and read. Anderson, Reynolds, Schallert, and Goetz (1977) believe that “every act of comprehension involves one’s knowledge of the world ” (p.369). Beukhof and Simon’s (1986) research adopts a similar perspective, stressing that “comprehension is best represented as an interaction of context in text and the reader’s prior knowledge” (as cited in Dochy, 1992, p. 34).

Results in this area have consistently shown that of having prior knowledge of the topic of a text has a facilitating effect on reading comprehension, in both adults and in

children (Anderson & Pearson, 1984; Weber, 1991). The reading process is an active, complex process in which a reader draws on information from several sources concurrently to construct a representation of a text's message. Moreover, Voss and his colleagues (Chiesi, Spilich & Voss, 1979; Means & Voss, 1985) have shown the advantage for high content knowledge versus low content knowledge for comprehension by individuals. Alexander and his colleagues (1990) found that subjects from the high knowledge group (with high amount of relevant domain-specific knowledge) had several advantages over those with low knowledge.

Kintsch and van Dijk (1978) mention that "a reader's knowledge determines to a large extent the meaning that he derives from a text" (p.371). With Kintsch's primary interest in discourse comprehension, particularly text comprehension, he conducted various research studies on this topic and then developed the construction-integration (CI) model of text comprehension (Kintsch, 1988). This model combines "a construction process in which a textbase is constructed from the linguistic input as well as from the comprehender's knowledge base, with an integration phase, in which this textbase is integrated into a coherent whole" (Kintsch, 1988, p.53). Comprehenders' general knowledge about anything such as words, syntax, or the world, plays an important role in the construction of discourse comprehension at all levels (Kintsch, 1988).

Another branch of research on comprehension strategies also takes the learner's prior knowledge to be an essential factor in determining the successful usage of the learning strategies. One of the leading researchers in this area, Michael Pressley, Professor of Psychology at Michigan State University, and his colleagues conducted a

series of quantitative research projects on one of the learning strategies, the elaborative interrogation, a strategy which involved asking students *why* questions. Pressley and his colleagues examined the effects of elaborative interrogation and found learners' prior knowledge to be a significant variable positively related to the effects of the elaborative interrogation (Woloshyn, Pressley, & Schneider, 1992; Woloshyn, Paivio, & Pressley, 1994; Wood, Pressley, & Einne, 1990; Woloshyn, Willoughby, Wood, & Pressley, 1990). Pressley argues (2000) that in order to effectively teach students to use the processes that good readers use, higher-order comprehension processes are one of the major factors to be aware of. By higher-order comprehension processes, Pressley (2000) means the tasks of "relating text to prior knowledge, making predictions based on prior knowledge, constructing mental images, generating on-line summaries of text understanding, and monitoring when summary construction is challenging" (p.33). After reviewing this preceding research, it can be concluded that prior knowledge is a crucial factor in reading comprehension.

Mental Representation of Prior Knowledge

Some reading researchers assume that the mental representation of knowledge may include logographic knowledge, graphemic knowledge, phonological knowledge, orthographic knowledge, morphemic knowledge, grapheme/phoneme correspondence, lexical knowledge, semantic knowledge, syntactic knowledge, and schematic knowledge (Dechant, 1991, pp.27-28). In addition to the linguistic perspectives of prior knowledge, prior knowledge in Alexander, Schallert, and Hare's article (1991) can also be divided into conceptual knowledge inclusive of content knowledge and discourse knowledge (see Figure 1. Conceptual knowledge), and metacognitive knowledge including

knowledge of plans and goals, task knowledge, and self knowledge (see Figure 2. Metacognitive knowledge).

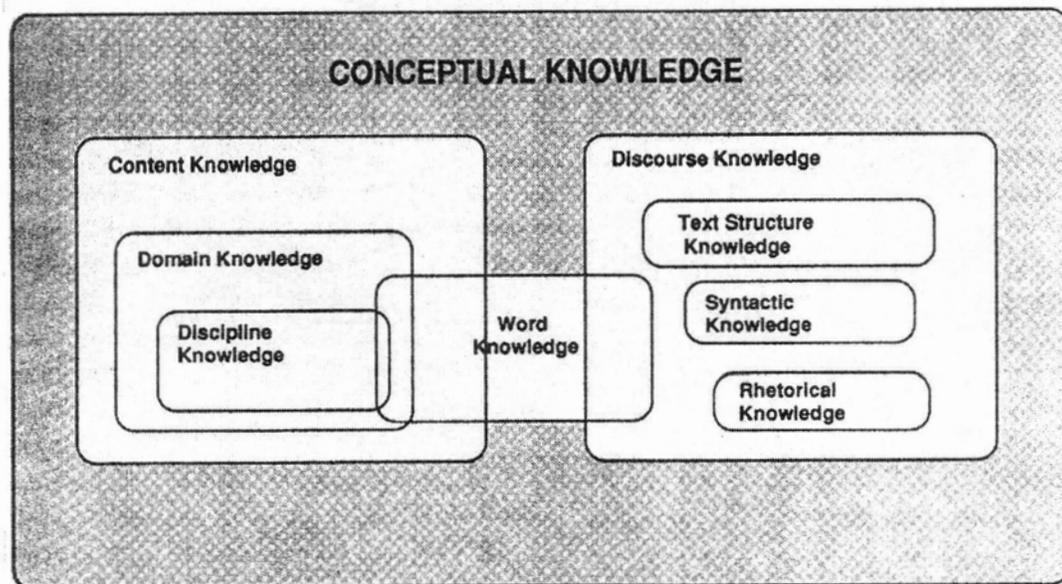


Figure 1. Conceptual knowledge (Alexander, Schallert, & Hare, 1991, p.327)

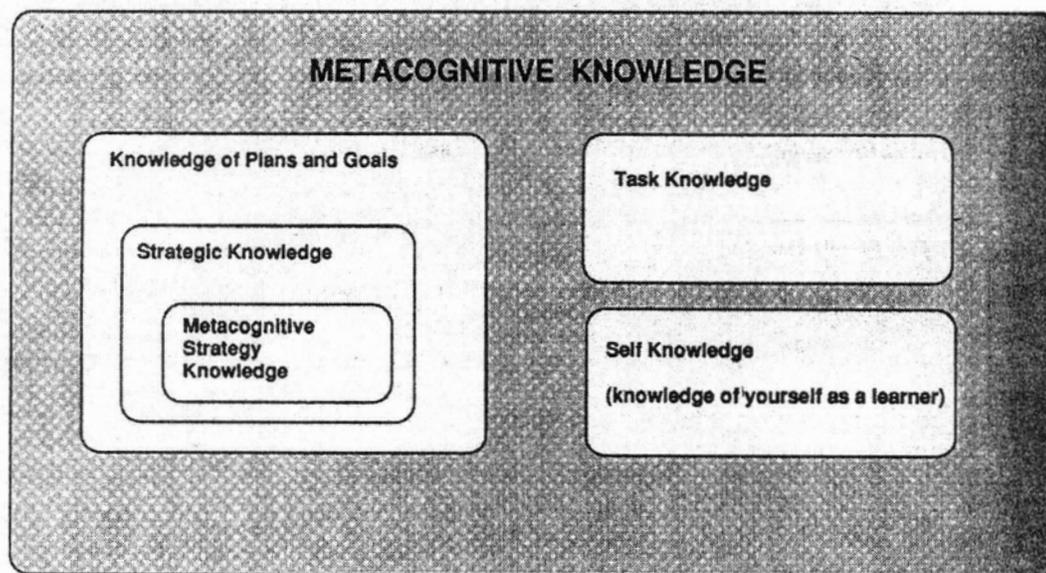


Figure 2. Metacognitive knowledge (Alexander, Schallert, & Hare, 1991, p.328)

The Link between Prior Knowledge and Schemata

Neisser (1976) states that a direct link exists between the notion of schemata and prior knowledge: “[a] schema is that portion of the entire perceptual cycle which is internal to the perceiver, modifiable by experience, and somehow specific to what is being perceived”(p.54). Schemata are data structures for representing the generic concepts stored in memory (Rumelhart & Ortony, 1977; Rumelhart, 1980). Processing and recall of information are strongly related to the activation and use of schemata. The role of prior knowledge in reading comprehension can be formalized as schema theory (Bartlett, 1932/1950; Rumelhart & Ortony, 1977; Rumelhart, 1980).

Owing to the cognitive variables involved, schema theory is used as a means of explaining assimilation and accommodation of information in reading comprehension. During the reading process, the reader brings the knowledge structures, schemata, to the text (Anderson, Reynolds, Schallert, & Goetz, 1977). In terms of the interactive approach to reading, comprehension is seen as the interaction between top-down processing from activated schemata and bottom-up processing from concepts expressed by the sentence (Adams, 1980; Spiro, 1980). Comprehension can be viewed as a combination of both lower-level automatic identification and higher-level comprehension (or interpretation) skills (Grabe, 1991). Comprehension occurs when new information interacts with old knowledge (Anderson, 1994; Smith, 1994). During the reading process, the reader brings his or her concepts about life in the world to the text. As the reading goes on, the reader continuously negotiates the meaning in the text with his or her own schemata. The reader’s prior knowledge is stored in the form of schemata. Schema theory in reading focuses on the reader’s structure of knowledge as it

is in the reader's memory (Stewart, 1985) and also includes information about how this prior knowledge is to be used (Rumelhart, 1980).

Schema Theory

Schema Theory in L1 Reading Research

Several researchers have attempted to extend Bartlett's thinking by describing various semantic properties of schemata (Anderson & Bower, 1973; Collins & Loftus, 1975; Collins & Quillian, 1969; Kintsch & van Dijk, 1978; Rumelhart, 1975), and the underlying organization of specific stories (Mandler & Johnson, 1977; Rumelhart, 1975; Stein & Glenn, 1979; Stein & Trabasso, 1982; Thorndyke, 1977). Finally, researchers have theorized that schemata can also be viewed as larger chunks of information (Minsky, 1975, 1986; Kintsch & van Dijk, 1978; Rumelhart, 1980; Schank & Abelson, 1977; Schank & Burstein, 1985).

The semantic attributes of schemata. Basically this model suggests that stored knowledge can be categorized into a network-like organization according to its semantic properties. Quillian (1967, 1969) presents a hypothetical memory structure in which "each word has stored with it a configuration of pointers to other words in the memory; this configuration represents the word's meaning (see Figure 3 for an illustration of the organization of such a memory structure). Quillian (1969) claims that the structure of knowledge is classificatory and that knowledge is stored in hierarchical networks. Likewise, Collins and Quillian (1969) illustrate the hypothetical memory structure:

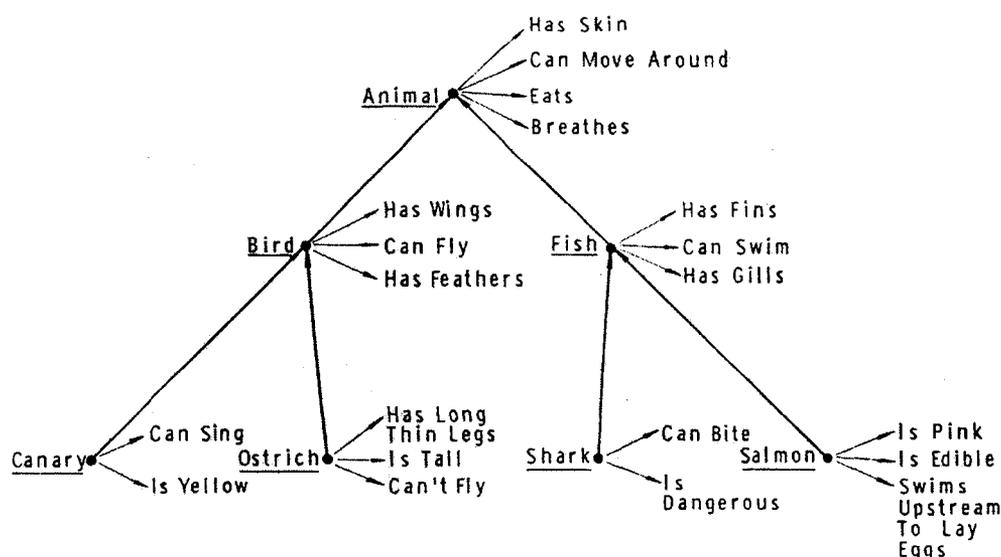


Figure 3. Illustration of the hypothetical memory structure (Collins & Quillian, 1969, p.241)

The underlying organization of specific stories. Schema theories have been applied to entities like stories. Rumelhart (1975) was the first to propose a theory of story structure, followed by Johnson and Mandler (1977, 1980); Stein and Glenn (1979); Stein and Trabasso (1982); and Thorndyke (1977). Rumelhart (1975) says that “just as simple sentences can be said to have an internal structure, so too can stories be said to have an internal structure” (p. 211). Rumelhart (1975) outlines a story grammar which reasonably explains that the simple story structure consists of a set of syntactical rules which generate the constituent structure of stories. Thorndyke (1977) proposes rules to determine what is a legal story and what is not. These rules can be used to create a hierarchical structure linking story statements. Thorndyke (1977) finds that texts following the rules of story grammar are more comprehensible than the same texts with different statement orders. Mandler and Johnson (1977) propose an underlying structure for simple stories. Mandler and Johnson’s (1977) grammar for the underlying structure of a simple story can be defined by the fact that a simple story has “a single protagonist

in each episode. The events in one episode may lead to another episode in which a different character becomes the protagonist, but within a given episode only one protagonist is allowed”(p.114). They argue that “this type of representation of stories is used to form schemata which guide encoding and retrieval”(1977, p. 111). In 1980, they presented two major extensions of their earlier story structure model which they developed in 1977. In the revised version, they emphasize first, “the use of the base rules to characterize stories which consist of more than one episode”, and second, “a set of transformational rules is proposed to account for meaning preserving variations in the surface structure of stories” (Johnson & Mandler, 1980, p. 51).

Larger chunks of information. Other schema researchers consider the mental representation of knowledge from a macrostructural point of view and assume that human beings’ cognitive processes can also handle knowledge of larger chunks, such as stories with coherent plots and information about familiar situations and events. The term “chunk”, in psycholinguistics, is “the breaking up of an utterance into units (chunks) so that it can be more efficiently processed” (Crystal, 1997, p.60). As to schema theory, a sequence of events can be chunked into units to be remembered or retrieved more easily. Several other forms of schemata are discussed in the following section.

Minsky’s (1975) frame-system scheme may help explain a number of phenomena of human intelligence. Minsky (1975) mentions that the term *frame* is in the tradition of the schema of Bartlett (1932/1950). Minsky (1986) explains that “a frame is a sort of skeleton, somewhat like an application form with blanks or slots to be filled. We will call these blanks its terminals; we use them as connection points to which we can catch

other kinds of information“ (p.245). An example provided by Minsky (1986) is that “a frame that represents a chair might have some terminals to represent a seat, a back, and legs” (p.245). Variants of the notion of frames have become known as scripts (Schank & Abelson, 1977). Scripts refer to a stereotypical sequence of actions for frequent events (Schank & Abelson, 1977). For example, scripts for events, such as going to a restaurant, may include actors and objects involved in predictable actions (i.e. offering a menu, serving the food). Rumelhart (1980) also turns to some analogies of schemata in the form of larger chunks and gives us a more concrete notion of the nature of schemata. Rumelhart (1980) assumes that schemata are like “plays” (p.35). A play has features that “can be played by different actors at different times without changing the essential nature of the play, so a schema has variables that can be associated with . . . different aspects of the environment on different instantiations of the schema” (p.35). Furthermore, in the process of comprehension, “the central function of schemata is in the construction of an interpretation of an event, object, or situation”, so Rumelhart (1980) views a schema as a kind of “informal, private, unarticulated theory about the nature of the events, objects, or situations that [readers] face” (p. 37). Furthermore, Rumelhart (1980) compares schemata as “active computational devices” (p.39) with the function to determine whether they can account for the pattern of observations.

Psychologists who study schema theory work hard to find out how concepts are structured in the human mind, how such concepts are developed, and how they are used in understanding. The essential role of schematic structures in discourse comprehension seemingly is unchallenged. “Without them, we could not be able to explain why a language user is able to understand a discourse as a story, or why they are able to judge whether a story or an argument is correct or not” (Kintsch & van Dijk, 1978, p. 366).

Until now, schema theory in L1 research has been investigated intensively. In the following section, schema theory applied in L2 teaching and learning is discussed.

Schema Theory in L2 Reading Research

Under the influence of psycholinguistic models of L1 reading, Coady (1979) elaborates on the basic psycholinguistic model and formulates a “three-component model” (Urquhart & Weir, 1998, p.49) which describes L2 reading composed of three variables: conceptual ability, process strategies and background knowledge. In Coady’s model, ESL readers’ background knowledge interacts with conceptual abilities and process strategies. By conceptual abilities, Coady (1979) means general intellectual capacity. Coady (1979) defines process strategies as both knowledge of the system and the ability to use the knowledge, e.g. “knowledge of the phonology of a language implies the ability to identify phonemes and use this knowledge for practical purposes such as listening” (p.7).

In this area of research, Johnson (1981) investigates the effects of the syntactic and semantic complexity of the English language and the cultural origin of prose on the reading comprehension of Iranian intermediate/advanced ESL students at the university level. Johnson’s study shows that an L2 reader’s background knowledge on the topic of a text activates the reader’s related group of concepts which have been already stored in his or her memories and helps the reader understand what they read.

Work by Carrell offers a typical example of applying L1 reading theory to L2 reading theory. In general, schema theory research in ESL reading by Carrell and her colleagues focuses on the potential interaction between culture-specific content schemata and formal schemata. Carrell (1987) refers to content schema as “knowledge

relative to the content domain of the text” (p.461), and to formal schema as “knowledge relative to the formal, rhetorical organizational structures of different types of texts” (p.461). Carrell (1981) takes up the issue of schema theory in L1 reading research, such as the studies by Bartlett (1932), Kintsch and Greene (1978), and Steffensen, Joag-dev, Anderson (1979) and applies it to ESL contexts. In Carrell’s (1981) study, the results show that ESL readers’ comprehension and recall are affected by the cultural origin of the stories. A series of her cross-cultural research studies has been extremely influential on ESL reading theory and instruction. Carrell and Eisterhold (1983) review Coady’s (1979) model and point out that Coady’s psycholinguistic model provides little discussion about the role of background knowledge and fails to give sufficient emphasis to the role of background knowledge, which has been the topic most neglected in ESL/EFL reading during the 1980s. Thus, schema theory applied to ESL/EFL reading emphasizes that “what the reader brings to the task is more pervasive and more powerful than the general psycholinguistic model” makes evident (Carrell & Eisterhold, 1983, p.556).

Carrell (1983a, 1987) primarily distinguishes between formal and content schemata and in 1987, she concluded that

[the] overall findings . . . seem to be that when both content and rhetorical form are factors in ESL reading comprehension, content is generally more important than form. When both form and content are familiar, the reading is relatively easy; when both form and content are unfamiliar, the reading is relatively difficult. When either form or content is unfamiliar, unfamiliar content poses more difficulties for the reader than unfamiliar form (p.476).

She further suggests that the instructors need to be aware of the important roles of cultural content and formal schemata in the ESL classroom. Some research has focused on the general effects of cultural content schemata on ESL reading comprehension and has demonstrated that the background knowledge that L2 readers bring to a text is in some part culturally specific (Hudson, 1982; Johnson, 1981, 1982). With full discussion of the role of culture-specific schemata in L2 reading comprehension, Carrell and Eisterhold (1983) assume that ESL readers' miscomprehension of the text may result from "the implicit cultural knowledge presupposed by a text" (p. 562) and have designed some ESL classroom activities with the goal "to minimize reading difficulties and to maximize comprehension by providing culturally relevant information" (p.566).

Cross-cultural Reading Research

Numerous cross-cultural research studies demonstrate that comprehension of a culturally unfamiliar text is more difficult than comprehension of a culturally familiar text. Readers' comprehension of a specific text is related to their cultural background.

Steffensen, Joag-dev, and Anderson (1979) conducted a complete two-factor design: subjects were chosen from two different cultural heritages, Americans and Indians. What Steffensen et al. (1979) found is that both the Indian and American groups read the material dealing with their own cultural background faster and recalled more of the content. Furthermore, members of the culture provide appropriate cultural elaborations; nonmembers provide inappropriate cultural distortions. Steffensen et al. (1979) claim that readers from distinctly different national cultures give different interpretations to culturally sensitive materials.

Using the same complete two-factor design as Steffensen et al. (1979), Johnson (1981) requested both Iranian and American subjects read adapted (i.e. syntactically and semantically simplified) and unadapted stories in English, one each from Iranian and American folklore. Her findings indicate that the level of syntactic and semantic complexity of a story has a lesser effect on reading comprehension than does the cultural origin of the story. Another study by Carrell (1981) points out that there is a significant effect of the cultural origin of the story on both the judgement of the ease or difficulty in reading comprehensibility and the recall by ESL readers. Pritchard (1990) examined the role of cultural schemata on the reading comprehension process of proficient 11th-grade readers with an American and a Palauan background, and concluded that cultural schemata influence the processing strategies as well as the level of comprehension.

Another branch of L2 reading research on cultural schema theory only includes non-English-speaking-background (NESB) subjects who are asked to read English passages with topics about native and foreign cultures. For example, Carrell (1987) investigates the simultaneous effects on ESL reading comprehension of both culture-specific content schemata and formal schemata, as well as any potential interaction between the two types of schemata. Subjects in the study by Carrell (1987) are monolingual of Spanish background but different in their belief systems. The research design is a two-group design: the Muslim background group and the Roman Catholic background group. Each group was asked to read, recall and answer questions about the Muslim and Catholic texts, originally authentic historical biographies of little-known religious personages. For each group, one text is culturally familiar content and rhetorical format; the other culturally unfamiliar content and rhetorical format. The texts are written in English. The general findings indicate that “when both content and

rhetorical form are factors in ESL reading comprehension, content is more important than form” (p.476). There is a similar result in Malik’s (1990) psycholinguistic analysis of the reading behavior of Iranian readers. Cultural schemata significantly affect the reading comprehension and strategies of Iranian proficient readers reading expository texts. However, the results concluded from Carrell and Wise’s research (1998) show that the effect of prior knowledge on the reading comprehension of 104 ESL students with multicultural backgrounds does not reach statistic significance.

NESB subjects may learn English in different contexts, such as ESL and EFL. In general, the ESL contexts can be those where NESB subjects learn English as a second language (ESL) in the English speaking country, and the EFL context those where NESB subjects learn English as a foreign language (EFL) in a non-English speaking region. However, some level of difference exists between the two contexts. Previous reviews of the effects of cultural schemata on reading comprehension are studies in the ESL context. For example, both Carrell and Malik’s studies are conducted in ESL contexts such as in the United States. Whether the results concluded from the research in the ESL context can be applied to the English education in the EFL context is questionable. Moreover, from the reviewed literature, with regard to the EFL context, there is a gap found in the reading comprehension research on culturally specific prior knowledge. Thus, additional research focused on the effects of culturally specific prior knowledge on EFL students’ English reading comprehension is needed.

A Reading Model for EFL Learners

Interactive Perspective of Reading Process

Regardless of whether reading models portray the reading performance of

beginners or experts, the key is that “[reading models] are neither top-down nor bottom-up in nature” (Adams, 1997, p.59). Instead, all of the processes involved are simultaneously active and interactive. With all sources of knowledge, the key to the interactive model is not the dominance of one form of knowledge over others, but the coordination and cooperation of all with each other. If, in reading and learning to read, the mind works interactively, then the purpose of instruction should be to help students assimilate the relevant cues in proper relation to each other. In keeping with the spirit of the meaning-first curricula, then, it must be emphatically reasserted that EFL reading comprehension instruction depends at every level on the student’s interest in and understanding of what is to be learned.

Prior Knowledge and Experiences Critical to the Reading Process

The work of Anderson and Pearson (1984) and Rumelhart (1980) has demonstrated the importance of prior knowledge in reading. According to this view, readers understand what they read only as it relates to what they already know. Because text is not fully explicit, readers have to draw from their existing knowledge in order to understand the text. The most important factor in determining “how much readers will comprehend . . . is their level of knowledge about that topic” (Allington & Cunningham, 2002, p. 44). Bernhardt (2001) emphasizes that the L1 and L2 knowledge base may give rise to an EFL student’s comprehensive reading of an English text. For an EFL student, when he/she reads an English text, his/her “current knowledge base – meaning the first language knowledge base – is a major contributing factor to the reconstruction of a second language text” (Bernhardt, 2001, p. 197). An EFL student’s English reading can be in a context where the student’s first language base interacts with his/her second

language base; the interaction may occur “at the conceptual level” (Bernhardt, 2001, p.198). The student may thus read from their first language conceptual base and understand what makes sense to them (Bernhardt, 2001).

It is important for teachers to come to understand the range of prior knowledge students bring to school – first language knowledge base and second language knowledge base. Opportunities to expand overall prior knowledge are provided in classrooms via a variety of experiences and discussions. The activities may include teacher read-alouds, student independent reading times, written response to what has been read and access to many books and other reading materials and media. The more students read and write, the more their prior knowledge grows, which in turn strengthens their ability to construct meaning out of what they read (Allington & Cunningham, 2002; Sweet, 1993).

Cultural Knowledge in EFL Reading Comprehension

Carrell (1983b) concludes that the schema-theoretical model can still yield new insights into the investigation of discourse comprehension in the ESL domain. Carrell (1983b) points out that L2 readers’ failure to make sense of the text may be due to deficiencies in schematic knowledge, including a deficit in linguistic and cultural knowledge. Droop and Verhoeven (1996) synthesize the discussion of the differences between L1 and L2 learning in the writings of Koda (1994), Verhoeven (1990, 1994) and Weber (1991) and assume that processes of learning to read in a first and second language can be different in many ways. Droop and Verhoeven (1996) state that the differences between L1 and L2 readers can primarily be divided into linguistic and cultural factors. From a linguistic point of view, Droop and Verhoeven (1996) suggest

that there may be differences in (1) phonic mediation to pronounce orthographically regular unfamiliar words; (2) the L1 and L2 readers' different abilities to make use of orthographic constraints in word recognition; (3) L1 and L2 readers' efficiency of direct lexical access; (4) L1 and L2 readers' higher order of comprehension, such as sentence processing, and textual knowledge; and (5) L1 and L2 readers' subprocesses of word recognition and reading comprehension. By discussing cultural differences, Droop and Verhoeven (1996) assume that L1 and L2 readers are different in their background knowledge and that reading a culturally familiar text enables the reader to activate the relevant schemata to facilitate comprehension.

From the above discussion of the importance of cultural knowledge, L2 reading comprehension can not only be viewed as an interaction between the linguistic knowledge in the text and L2 readers, but must also be seen as an interaction between the cultural knowledge in the text and the readers. Cultural knowledge can be predicted to play a role in EFL students' English reading comprehension. Thus, in this study, the research focuses on the effect of cultural knowledge on L2 readers' English reading comprehension.

The importance of cultural schema theory to reading comprehension cannot be ignored. "A culturally appropriate schemata may provide the ideational scaffolding that makes it easy to learn information that fits into that schema"(Anderson, 1994, p.475). Anderson (1994) proposes that culture has strong effects on reading comprehension and may lead learners to meaningfully integrate what they already know with what is presented on the printed page. The cultural perspective on schema theory may offer guidance for those seeking an effective way to improve EFL readers' discourse

comprehension.

Socio-cultural Factors in EFL Reading Comprehension

After reviewing L1 and L2 schema theories in reading comprehension, it is apparent that schema theory has offered much to our understanding of the many intricacies and subtleties of language comprehension, especially of L1 and L2 reading comprehension. Howard Gardner in his 1983 book, *Frames of mind: The theory of multiple intelligences*, provides a definition of intelligence and in his 1999 book, *Intelligence reframed*, redefines the term “as a biopsychological potential to process information that can be activated in a cultural setting to solve problems or create products that are of value in culture” (p.34). Gardner (1999) assumes human intelligences are neutral and potential and “will or will not be activated, depending upon the values of a particular culture, the opportunities available in that culture, and the personal decisions made by individuals and/or their families, schoolteachers, and others” (p.34). Gardner’s view of intelligences is not the traditional psychometric view, which focuses on individuals, but incorporates a socio-cultural perspective whose central position repeatedly emphasizes that “intelligences arise from the combination of a person’s genetic heritage and life conditions in a given culture” (Gardner, 1999, p.45). Incorporating Vygotsky’s (1978) and Gardner’s (1999) ideas, it can be noted that social contexts may turn out to play essential roles in enriching human intelligence. Thus, in this study, students in EFL contexts are tested by using culturally varied texts. The sociocultural perspective provides useful insights to be applied to the improvement of ESL/EFL reading ability.

Amalgamation of Reading Models to Fit EFL Students' Needs

Bottom-up and top-down are two extreme views in a literacy continuum. Rumelhart's interactive model has had wide acceptance in the literacy profession (McCormick, 2003). Reading instruction based on the sociocultural perspective has been carried out in ESL/EFL classrooms (Tseng, 2002). To be efficient reading instructors, EFL teachers cannot stick to only one reading model throughout the reading instruction curriculum. Each approach designed according to one of these reading models is effective for teaching only one aspect of reading. For example, an alphabetic or phonic approach may be best for learning decoding skills; a spelling or vocabulary approach may be good for promoting word recognition; and a reader-response approach may be helpful in improving learners' reading comprehension because it personalizes the reading experience. As well, different learners and different contexts may lead to different perspectives on reading instruction. For example, emergent-literacy models are often used to guide kindergarteners' literacy development; response-oriented reading approaches are seen more often in secondary English classes, and sociocultural models have a strong impact on schools with multicultural populations or ESL/EFL classrooms. The task for teachers of reading is to determine which aspects of reading should be focused on, and incorporate useful insights from the various models into their instruction in order to meet EFL students' changing needs.

Retelling as a Tool to Assess Reading Comprehension

For a very basic and simple explanation of retelling, Smith and Keister (1996) state that "retelling or free recall is the process of recalling a text after hearing or reading it" (p. 17). This statement seems to view retelling and free recall as synonymous. The

retelling and recall techniques have often been used to gather data in language based inquiries since Piaget's use of retellings in 1926 to examine children's conceptions of time (Kalmbach, 1986a). It is also true that many language researchers use the two terms interchangeably. In some cases, both retelling and free recall are viewed as verbal rehearsal techniques. Boundaries between the two techniques are quite fuzzy. However, by reviewing some earlier experiments, it is clear that the recall task is quite different from that of retelling, especially in the instructional words and the content analysis. The usage of the terms, retelling or recall, cannot just be viewed as a matter of linguistic variation. The two terms, retelling and recall, need to be explained more precisely to develop a more reliable procedure for the assessment of reading comprehension. Clarifying the differences and similarities between retelling and recall helps indicate directions for analyzing the retelling protocols in this study.

The Distinction between Retelling and Recall

Recall. From an older dictionary definition, to recall is "to remember, or recollect" (Stein, 1969, p.1198). Others define it as follows: "In Psychol., the act of recalling is to mind something previously learned or experienced, esp" (Simpson & Weiner, 1989, p.308). If a person recalls something, he or she "remember[s] it and tell[s] others about it" (Sinclair, 1995, p.1374). To recall requires one "to call or bring back the thought or memory" (Gove, 2002, p.1893). The major task of passage recall requires the subject to remember.

When applied to memory and comprehension research, the recall task could be explained this way: after the researcher presents the subjects with a text, and asks them to read, the researcher asks them to restate exactly the content in the text. The recalling

technique can be a task of verbal repetition so subjects are requested to tell or write down the stories again as exactly as they can (Mandler & Johnson, 1977). For example, when Johnson (1970) investigates the relationship between the perceived importance of ideas in a passage and their recall, he instructs his subjects to do verbatim recall in his experiments. Johnson's instructions are worded as follows: "write the story as accurately as you possibly can. Recall the exact words and ideas if you can" (p. 13). Thorndyke (1977) instructs his subjects "to write the passage as close to verbatim as possible, exactly as it appears in wording and sentence order" (p.87). This kind of recall can be seen in the research by Kinstch and Keenan (1973), Meyer and McConkie (1973), and Meyer and Freedle (1984). In general, the instruction wording in their experiments is: "tell everything you can remember from the passage", or "recall the content of the text as much as possible". In these experiments, an analysis of recall data may focus on the amount recalled, the sequence of recall, the level of recalled information, and the accuracy of recall (Clark, 1982; King, D. J., 1960; Meyer & McConkie, 1973). The recall technique does not focus on comprehension and reflection. Most of the memory researchers examine whether the subjects use exactly the same words as were used in the text, or investigate what has been remembered, omitted, distorted, and changed in long-term or short-term memory over time.

Retelling. An older dictionary definition explains that to retell is "to relate or tell again" (Stein, 1966, p.11247). To retell can also mean, "to relate anew; also, to count again" (Simpson & Weiner, 1989, p.774). If a person retells a story, he or she "write[s] it, tell[s] it, or present[s] it again, often in a different way from its original form" (Sinclair, 1995, p.1420). The act of retelling refers here to "a new version of an old story" (Gove, 2002, p.1938). The major task of retelling may require the subject to reconstruct what is

written in the text or reflect what has occurred in the reading.

Compared to the recall technique, the retelling technique is used more in recent research assessing comprehension (Gambrell, Koskinen, & Kapinus, 1991; Morrow, 1986; Moss, 1997; Smith & Jackson, 1985). The retelling task may contain some degree of verbatim content which has been used in the recalling. In Morrow's (1985, 1986) studies of story structure and comprehension, the children are prompted to tell as much of the story as they could remember. In Morrow's (1985, 1986) studies, there is no difference between retelling and recall.

However, retelling can reveal more than recall. Retelling may also request more explicit criteria as when a subject is asked to tell the passage again and to try to include all the important ideas in the passage (Koskinen, Gambrell, Kapinus, & Heathington, 1988). For a whole range of considerations, retelling may include both verbatim and reflective perspectives. As well, the retelling technique encourages a participant to retell the story in his or her words. Thus, researchers would ask a subject to retell the story as if you were telling it to a friend who has never heard it before (Morrow, 1986; Berliner & Casanova, 1987; Moss, 1997). Retellings with these directions allow for a more open response, and allow the reader to provide more information about and beyond the text they read. With such instructions, participants may be encouraged to restate the essential part of the original text, relate what they already knew about the content of the text, and reconstruct the information they have just read without looking at the passage again (MacCormick & Cooper, 1991).

Theoretical Foundation for Retelling

Telfer (1987) points out that the retelling strategy is based on the generative

learning model introduced by Wittrock (1974). The generative learning model is a cognitive model of human learning that emphasizes learning with understanding. Learning with understanding as defined by Wittrock (1974) is “a process of generating semantic and distinctive idiosyncratic associations between stimuli and stored information [in long-term memory]” (p.89). The fundamental premise of the generative learning model is that “people tend to generate perceptions and meanings that are consistent with their prior learning” (Wittrock, 1974, p.88). In order for reading comprehension to occur, Wittrock (1974, 1981) assumes that the reader must engage in constructing a relationship with text information. One instructional implication derived from the generative learning model is that instructors may facilitate the reader’s comprehending new information in the text by providing learning experiences that induce the reader to relate parts of the text to one another and to his or her background of experience (Wittrock, 1974, 1981). Retelling can be viewed as “a generative task that requires the reader to construct a personal rendition of the text by making inferences based on the original text and prior knowledge” (Gambrell, Koskinen, & Kapinus, 1991). During the retelling process, the reader is confronted with a series of reflections on the contents described in the text. When retelling a text, the receiver tells it, writes it, or presents it again in a different way from its original form.

Different Forms of Retelling Procedure

In most reading research involving using retelling as an assessment strategy or an instructional strategy, the participants can be asked to retell the passage orally or in written form. The presentation of the passage can be through reading or listening activities. Four general forms of retelling are introduced by Brown and Cambourne

(1987): First, the oral-to-oral retelling in which a student listens to a teacher tell or read aloud a text and then retells it orally; second, the oral-to-written retelling in which a student listens to a teacher tell or read aloud a text and then retells it in writing; third, the written-to-oral retelling in which a student orally or silently reads a text and then retells it orally; and fourth, the written-to-written retelling in which a student reads a text and then retells it in writing.

Building on Brown and Cambourne's (1987) outline, Benson and Cummins (2000) add a story map or graphic organizer between the teacher's presentation and the student's performance. For example, after the teacher presents the text to the student, the teacher or the student develops a story map or graphic organizer and then the student performs an oral or written retelling from the story map. In this study, the written-to-oral form of retelling procedure is used as introduced by Brown and Cambourne (1987) to assess EFL students' reading comprehension.

Rationale for Using Retelling as an Assessment Tool

Johnston (1983) reports that:

Assessment of reading comprehension requires interpretation of an individual's performance of some task which is based on information from a given text within a given context. Thus, performance on the test will depend on characteristics of the text, the nature of the task, and the context, as well as the person's reading abilities and prior knowledge (p.20).

In order to evaluate what the reader understands in the text, what he/she fails to understand in the text, and how he/she transacts with the text, retelling is one of the best ways to check on comprehension. Retelling is a kind of retrospective verbal report

protocol. Some educators feel that more complete data on comprehension can be gained from eliciting retellings of the selections than from merely asking comprehension questions (Burns & Roe, 1993). Johnston (1983) views retelling as “the most straightforward assessment . . . of the result of text-reader interaction” (p.54).

Several reading researchers have used retelling data to assess readers’ comprehension. For example, Pickert and Chase (1978) use the oral retelling technique to elicit an adequate sample of 36 five- or six-year-old children’s language performance. From examples of children’s story retellings, Pickert and Chase (1978) examine children’s understanding of grammatical forms and vocabulary words; children’s ability to integrate visual and auditory information and to recall sequence of events, and children’s ability to express a story in fluent, connected sentences, and to use correct grammatical forms. Thus, Pickert and Chase (1978) contend that “this technique [retelling] assesses a student’s ability to comprehend, organize, and express connected speech” (p.528). French (1988) had used story retelling as “an assessment tool” and “an instructional procedure” (p. 20) in the language arts program at Kendall Demonstration Elementary School (KDES) for about eight years; story retelling was introduced to KDES by Carolyn Ewoldt. Discussing the benefits of using story retelling as an assessment tool, French (1988) refers to Moore (1983), who believes that story retelling can measure a broader range and a higher level of personal reading comprehension skills than most methods used to test comprehension, such as multiple choice tests, or testing through a series of questions. By reading comprehension skills, Moore (1983) means the ability “to make value judgments, set one’s own reasons for reading, and adjust reading strategies to conform to the purposes of the reading assignment” (as cited in French, 1988, p.20). As a result, French (1988) supports the contention that story retelling can be

used as an assessment tool to measure “individual students’ comprehension of stories” (p.20). Moreover, McCormick, S. (1995) notes several advantages to using retellings. They can assist the teacher in “determining whether students have noted important information, whether they can reproduce it in a manner that makes sense, and whether their background knowledge has an effect on the way they interpret the substance of the text” (p.174).

In a variety of experimental settings, several reading researchers have employed the retelling technique to evaluate the reading comprehension of students of different ages. For example, the research using kindergarten children as subjects includes Morrow’s studies (1985, 1986, 1988b); others have focused on elementary students (Cullinan, Harwood, & Galad, 1983; French, 1988; Gambrell & Jawitz, 1993), and some research has involved secondary students (McCormick & Cooper, 1991). Cullinan et al. (1983) conducted a study with elementary students in grades four, six and eight to explore developmental factors in response to realistic and fantasy novels and found that the form and the content of the reader’s retelling changes progressively with age.

In this study, the retelling technique is used to evaluate what the student understands, what the student fails to understand, and how the student transacts with the text. An assumption behind this study is that comprehension involves what the reader brings to the text to interpret the meaning of the text; accordingly, the retelling technique requires the participants to recount the information in their own words. Comprehension should be assessed in a reflective way rather than asking the students to answer specific questions and do multiple-choice tasks. Unlike these passive, examiner-centered measures, “a retelling requires a production task” (Smith & Keister, 1996, p.17). When

the participants are asked to do retelling, the situation can be quite different: “A more complex picture emerges” (Kalmbach, 1986a, p.331). They can state more related ideas about or beyond the reading material rather than a brief, formalized response. They may sometimes provide personal opinions or reflections as well.

Each reader’s retelling is unique. It may follow the original of the text but will still represent a unique expression involving his or her personal experiences and world knowledge. Retelling allows the participants to freely state their comprehension of the text. This kind of retelling can be viewed as a personal interpretation of the text, which interweaves the reader’s personal prior knowledge with the content of the original text. The analysis of the reader’s retelling mirrors the process of reading comprehension, that is, how the student conceptualizes the reading materials. In addition, within Botel and Lytle’s (1988) definition of reading as “transaction with texts” (p.22, as cited in Smith & Keister, 1996), reading is a process in which the reader brings his/her own prior knowledge to reconstruct the meaning from the text. The task of retelling requires the reader’s prior knowledge to construct a personal rendition of the text (Koskinen, Gambrell, Kapinus, & Heathington, 1988). Thus, retelling should be an effective method for examining the effect of prior knowledge on reading comprehension.

Content Analysis of Retelling

Kalmbach (1986a) points out that “recall is only part of the retelling” (p.327) and recall primarily focuses on “the amount of the original text that is recalled in retelling” (p.327). The analysis of retelling protocols can be done in a more holistic way which may, for example, be assessed on Irwin and Mitchell’s (1983) continuum of richness which includes the original amount of the original text recalled, generalizations beyond

the text, summary statements, supplementations and coherence. In a more condensed framework, a retelling protocol can be examined with Smith and Jackson's (1985) three variables which are "major generalizations, correct and relevant details, and the coherence of the expression" (p. 625). More recently, Moss (1997) conducted a qualitative analysis to explore first graders' retelling response by using the following framework adapted from Irwin and Mitchell's (1983) holistic scoring technique: summaries, most important thing learned, opinions about the text, inferring beyond the text and additional information.

Retelling Scoring Criteria

Several researchers employ retelling as an assessment tool. Their scoring procedure reflects different perspectives of comprehension. King (1977) suggests using retelling to evaluate readiness, comprehension and language growth by recording the amount of the story retold, its logic and the quantity and complexity of the language employed. Clark's (1982) process is to break the text into "pausal units by placing a slash wherever a good reader would normally pause during reading" (p.437). The retelling score is based on the total number of units retold, the sequence and the mean importance level of the units restated. Irwin and Mitchell (1983) developed a 5-point scale for judging the richness of retelling. These criteria are used to identify characteristics of five distinct levels of richness. For example, the highest level of retelling, assigned with a rating of 5, may include generalizations beyond text, a summarizing statement, major points, supporting details, supplementations, coherence, completeness and comprehensibility. Smith and Jackson (1985) developed a written retelling activity for assessment of comprehension during silent reading. The assumption

of the scoring procedure is that “materials remembered and expressed in a coherent fashion can be considered comprehended” (Smith & Jackson, 1985, p.625). The retelling score represents “the overall organization and completeness of the retelling and is a holistic rating of how information is sequenced and related so that there is a logical progression and coherence of ideas” (Smith & Jackson, 1985, p.623). Morrow (1988b) defines a coding system focused on story structure, meaning, print and illustrations. After transcribing tapes of student retellings, responses are categorized and quantified.

In addition to assessment of the retelling of narrative text, assessment of the retelling of expository text may also be included. By using six graders as subjects to measure their comprehension of expository text, Askew (1984) reports that the retelling method appears to be particularly suitable for literal comprehension of expository text. Anthony, Johnson, Mickelson, and Preece (1991) define specific criteria to be applied to the retelling of expository text. They consider clearness and completeness of ideas, effectiveness of supporting detail, accurateness of the sequence of procedures, and the logic of arguments.

The Diagnostic Reading Program, based on Fagan’s reading-process model (Fagan, 1987), by Alberta Education Student Evaluation (1986) was designed to provide teachers with a systematic approach to observing and interpreting students’ strengths and weaknesses in reading. The Diagnostic Reading Program contains six evaluation strategies of which retelling is one. The retelling strategy is administered to one student at one time. In this program, the task of retelling is described as follows:

[T]he student is asked to read a passage orally or silently. After reading, the student retells the passage in the student’s own words. The retelling is analyzed

for patterns that show how the student is synthesizing, inferring, and analysing to reconstruct meaning. The patterns are interpreted to determine if the student is using both background knowledge and passage information to summarize the ideas in a passage (Alberta Education, 1986, p.39)

In this program, students' errors are also examined to further an understanding of students' reading processes.

Retelling is not just one measure, but instead encompasses a variety of measures intended to provide mentalistic data regarding the cognitive process of integrating personal prior knowledge. Many insights about the process of reading comprehension can be observed from the participants' retellings. In this study, the researcher analyzes retelling protocols from a broader perspective of language performance instead of just measuring how much the participants can remember after reading the text. The current study further examines what they understand about or beyond the text and what they do not understand, and what is right or wrong according to the text. As a result, analysis of retelling can include synthesizing, analyzing, inferring and erroneous information (Fagan, 1987; Alberta Education, 1986). Synthesizing and analyzing information can cover the scope of what the readers understand about the text. Inferring information is the representation of what they understand beyond the text. Erroneous information means what the readers do not understand about the reading material.

Limitations of the Retelling Technique

Some researchers raise questions, such as "Does the retelling technique measure the product of comprehension but not the process?" Block (1986) depicts two types of verbal reports to measure comprehension. One is the retrospective report through which

the data are collected after the reading task; the other is the introspective report through which the data are collected during the process of reading. The task of retelling is to ask readers to restate their ideas after reading a passage. Thus, retelling can be referred to as a kind of retrospective report. Block (1986) points out retrospective reports can not reveal why readers fail to understand the text and can not show how they are processing the text. Using introspective reports, that is, think-aloud protocols to diagnose college students' reading problem, Randall, Fairbanks and Kennedy (1986) state that the traditional diagnostic technique of analyzing readers' recall focuses only on the end-product of comprehension and fails to provide useful insights into readers' thinking processes when they comprehend text. To avoid this weakness of failing to analyze the process of how readers comprehend text, Smith and Keister (1996) suggest that the assessor may require that the student "provide and explain his/her process in determining a theme, a connection to another text or experiences" (p.26); they contend that elaboration of this sort can demonstrate some evidence about the processes involved.

Another concern about the retelling technique is related to the validity of using retelling as an assessment tool. Gambrell, Koskinen, and Kapinus (1991) review the previous research administered by Gambrell, Pfeiffer, and Wilson (1985) and raise some concerns about the use of retelling as an assessment tool in reading research. In the two studies, their students do not typically have classroom experience with the strategy of retelling; thus, performance on retelling as an assessment task, therefore, is likely to reflect novice behavior. To answer this concern, this study taught the participants to retell before the research retellings were collected.

Summary

This chapter is divided into six main parts. The first section deals primarily with the theory, the three levels of reading comprehension, and some factors influencing reading comprehension. The second section focuses primarily on introducing the theoretical backgrounds of some major reading models, including bottom-up, top-down, interactive, and sociocultural. The third section presents the study of prior knowledge by discussing current research in prior knowledge, mental representation of prior knowledge, and the link between prior knowledge and schema theory. The fourth section reviews a general framework of schema theory in L1, L2 and cross-cultural reading research. The fifth section specifically refers back to the earlier reviewed literature and presents a reading model for EFL learners which places emphasis on an interactive perspective of the reading process, the EFL reader's prior knowledge in English reading comprehension, socio-cultural factors in EFL reading comprehension, and the amalgamation of reading models to fit EFL students' needs. The sixth section proposes a reading model for EFL learners with the emphasis on an interactive perspective of the reading process, prior knowledge critical to the reading process, the important role of cultural knowledge in EFL reading comprehension, and socio-cultural factors in EFL reading comprehension. The final section primarily presents: (a) the retelling strategy as a tool to measure EFL students' reading comprehension, and makes a distinction between retelling and recall, (b) the theoretical foundation for retelling, (c) different forms of retelling procedure, (d) the rationale for using retelling as an assessment tool, (e) the retelling scoring criteria, and (f) the limitations of the retelling technique.

CHAPTER THREE

Methodology

Research Design

This study examines EFL reading materials in the Taiwanese context and attempts to ascertain how culturally specific prior knowledge impacts on EFL learners' English reading comprehension. Descriptive research which includes the procedures for collecting, classifying, summarizing, and presenting data is used. Descriptive research is important in education and is concerned primarily with "the description of natural or man-made phenomena" (Gall, Borg, & Gall, 1996, p. 374). It includes both quantitative and qualitative types of data and provides a firm basis for explaining educational phenomena that have persisted for long periods of time. In some cases, an accurate description can provide the rationale to initiate reform of the educational system.

From the quantitative point of view, the investigation measures each participant's experience with the topics of the retelling passages, the extent of the participant's prior knowledge, the completeness of the participant's retellings, and the participant's attitude towards the passage (familiarity and difficulty). This study tries to determine whether there is a significant difference between the retellings of Chinese topic passages and those with non-Chinese topics. In this study, the participants were selected from several classes in a school, and as the original whole population which fits the requirements for this study is unknown, a dependent *t*-test design is used to "estimate the unknown population means" (Peers, 1996, p.295). The *t*-test is used to identify whether there is a difference between the total thought units in the retellings of Chinese topic passages and those with non-Chinese topics; whether there is a difference between the participants'

retelling of synthesizing information in Chinese topic passages and those with non-Chinese topics; whether there is a difference between the retelling of inferring information in Chinese topic passages and those with non-Chinese topics; whether there is a difference between the retelling of analyzing information in Chinese topic passages and those with non-Chinese topics; whether there is a difference between the retelling of erroneous information in Chinese topic passages and those with non-Chinese topics, and whether there is a difference between the retelling of synthesizing, analyzing, and inferring information in Chinese topic passages and those with non-Chinese topics.

The quantitative results come from the interviews and the passage retelling data that can be calculated as quantitative data and expressed in numerical scores to indicate the impact of culture-specific prior knowledge. Quantitative data for fourteen participants via twelve retelling passages include: (a) 168 percentage scores of thought units, (b) 168 totaled synthesizing retelling information scores, (c) 168 totaled inferring retelling information scores, (d) 168 totaled analyzing retelling information scores, (e) 168 totaled erroneous retelling information scores, (f) 168 totaled scores of synthesizing, analyzing, and inferring information scores, (g) the ranking of passage familiarity, and (h) the ranking of passage difficulty.

From the qualitative point of view, the investigation involves providing a detailed portrayal of how EFL students draw upon their culturally specific prior knowledge in interpreting reading materials with culturally specific topics. More precisely, the study provides insight into addressing the nature of Taiwanese EFL students' reading processing while retelling, regarding total thought units, synthesizing, analyzing, inferring, and erroneous information. The reading processing analysis procedures are

based on the Diagnostic Reading Program (1986) which “provides teachers with a systematic approach to observing and interpreting students’ strengths and weaknesses in reading”(p. 1).

Interviews and observations were used to collect the qualitative data. The two interviews were semi-structured. The first was designed to explore the extent, nature, and quality of the participants’ prior knowledge about Chinese and non-Chinese topics and the second their reading comprehension via their perceptions about the retelling experience. The interview process was guided by “close-ended questions” (Creswell, 2002, p.205) that “net useful information to support theories and concepts in the literature” (Creswell, 2002, p. 205), and open-ended questions that “allow the participants to provide personal experience that may be outside or beyond those identified in the close-ended options” (Creswell, 2002, p.205). In each one-to-one interview, a close-ended question was asked followed by an open-ended question. For example in the first interview:

1. Have you ever had any experience with, have read any articles or have seen any TV programs about any of these topics? If “Yes,” please list them.
2. Please describe your ideas, that is, whatever you know, about each of these topics.

And in the second interview:

1. Which passage are you most familiar with? Why?
2. Which passage are you least familiar with? Why?

Observation is “the process of gathering first-hand information by observing people and places at a research site” (Creswell, 2002, p.199). In this study, the participants’ verbal and nonverbal responses were observed and recorded during the interviews and the retelling meetings. Advantages of observation include “the opportunity to record information as it occurs in a setting, to study actual behavior, and to study individuals who have difficulty verbalizing their ideas” (p.199). Some students may not be good at, nor want to, voice their opinions so observation can be a useful tool to collect more detailed information about the participants’ behavior.

Rationale for the Combination of Quantitative and Qualitative Inquiries

The methodology in this study combines quantitative and qualitative methods to examine EFL students’ English reading comprehension. The major reasons for the combination are addressed in the following sections.

To Investigate Individual Differences

[T]he contemporary situation in inquiry and research is one that is conducive to an integration of personal and philosophical self-reflection and also requires it (Bentz & Shapiro, 1998, p. 34).

Interviews and observations were selected for data collection because they allow the researcher to examine a problem or an issue in depth. Individual interviews of 30-40 minutes were conducted with each student. The first interview was conducted prior to the retelling meetings and the second interview was conducted after the retelling meetings. In general, the interviews were designed to access information about individuals and their perceptions concerning the impact of culturally specific prior knowledge on EFL students’ English reading comprehension. The data collected in the

first interview provide information about each participant's prior knowledge background. The data collected in the second interview provided the participants' substantive reflections on their reading comprehension through using the retelling technique. This individual interview design develops the viewpoints of the participants and detects findings for specific individuals. Observations involved the close examination of individual EFL students as they were interviewed and engaged in retelling the passages in the study.

To Investigate Dynamic Individual Development

This research was designed to identify how prior knowledge impacts on EFL learners' reading comprehension. "Forms of knowledge are fluid and dynamic" (Alexander, Schallert, & Hare, 1991, p. 322). These forms of knowledge can vary within individuals across time. In this study, each student participated in twelve retelling meetings over the period of five or six months. The sampling of the participants' reading comprehension was not completed in one test at one time. The data exhibit personal dynamic development for each student in his/her English reading comprehension of expository texts.

To Objectively Determine the Effects of the Reading Passages

Qualitative description is presented to explore what happens to EFL learners when reading the passages with culturally familiar and unfamiliar topics. The culture-specific passage can be studied in detail to determine its effects on EFL students' reading comprehension. The use of descriptive statistics assists in understanding whether responses elicited from the Chinese passages differ significantly from those elicited from the non-Chinese passages. These numerical data may provide the researcher with

the means to judge the relationships of prior knowledge and comprehension objectively and allow the researcher to systematically determine whether or not a culture-specific passage is more effective for EFL students.

Procedure

Pilot Study

To ensure the actual study would be workable, a pilot study was carried out. Two Grade 11 students, a male and a female, voluntarily joined this pilot study. They were not asked to participate in the following formal study. As this study is the first research on EFL reading comprehension undertaken in Taiwan using the retelling technique as an assessment tool, a pilot study was necessary. It provided the researcher an opportunity to pre-test the first interview questions and also develop a suitable procedure and instructions for the retelling practice session.

Pilot study for the first interview questions. The two students were individually asked to answer the original questions in the first interview. Their responses assisted the researcher in reworking the questions and narrowing the focus of the interviews. Several questions were withdrawn; some were honed and some other new questions were then added. For example, when the interviewees were asked what they thought of Chinese culture, both of them kept silent for a while and stated they had no idea how to answer this question. One interviewee explained that Chinese history is pretty long and the Chinese territory is huge, so it is difficult for her to talk about Chinese culture. The other interviewee also stated that the range of Chinese culture is quite broad. So the questions, “Speaking of Chinese culture, what will you think of?” and “Speaking of Canadian culture, what will you think of?” were withdrawn. The interview questions were

subsequently edited for grammar, style, and sequence. After re-editing, the researcher held a second meeting with each interviewee. In the second meeting, the interviewees could easily choose the topics and clearly stated their ideas about each topic. The new questions did much to enhance the interviewees' ability to provide more valuable information. A copy of the revised interview questions is included as Appendix A.

Pilot study for the retelling practice session. The same two Taiwanese students were also asked to join the pilot study for the retelling practice session. Three expository texts were selected which were to be used in the main study for the retelling practice session. In order to familiarize the students with the retelling procedures, the researcher explained all the procedures in Mandarin first and in English later. Prior to the student's practice retelling, the researcher modeled reading the passage and told them what to pay attention to during the reading:

I am going to read you a passage about lions and tigers in your house, and then I am going to retell the passage to you. When I retell it, I am going to try to organize all the important ideas and to retell them in a logical manner. Now I am going to read the passage.

Each student has a section of the passage, titled *Lions and Tigers in Your House*.

After finishing reading the passage, the researcher explained:

Now I am going to use my own words to retell the passage to you without looking at my sheet. I am going to retell the article in Mandarin and in English. You may retell the article in Mandarin.

After the researcher's modeling of retelling, she provided another article, entitled *The Desert*, for students to practice. The students were asked to read the passage silently.

Then, the researcher guided them in a paired group retelling by asking them to retell the passage to his/her partner. The researcher sat beside them and listened to their retelling. On the whole, the first training session was researcher-centered. The researcher showed the students how to do retelling. The second one was participant-centered. The participant completed the retelling independently, but the researcher still provided assistance if needed.

In their retelling practice, the researcher noticed that students did not use their own words to retell the passage. They just translated the article. So the researcher told them to think about the meaning of the text and to use their own words to describe the ideas in the text, instead of translating the words and reciting it. As well, the researcher emphasized that the content of the retelling was not going to be judged right or wrong and further encouraged them to retell as much as possible. Then, the researcher provided the students with the third article, entitled *The Beaver*, to practice retelling. By doing this, students had an opportunity for repeated practice with a partner. With paired practice, students gradually got the idea of how to retell and produced much more information in their own words than those for the first and second articles.

The results of the pilot study rendered valuable ideas of how to conduct the main study and adaptations were made to avoid any misunderstandings which might take place in the main study. These adaptations included some modifications of questions in the first interview, some criteria for the retelling, and some changes to the instructions for the retelling practice sessions.

Procedure for Participant Selection

Criteria for participant selection. Criteria for inclusion of potential participants include: Students' whose first language is Mandarin; students who have learned English at Taiwanese public school for four years and no longer, and have never stayed in any English speaking countries; students who are currently in Grade 2 in a senior high school and whose age is 16 or 17. The Grade 2 academic year in Taiwanese senior high schools is equivalent to Grade 11 in Canadian secondary schools. From here on, Grade 11 is used to represent Grade 2 Taiwanese senior high school students; according to informal reading inventory passages, these are students whose English reading level is at the grade seven instructional level (see Appendix B for Procedure of Participant Selection).

In Taipei, most junior high school students need to take an entrance exam and are allowed to enter a specific senior high school based on their results on the exam. Students take the exam on subjects such as Chinese, Math, English, Science, and Social Studies. Senior high schools are different from each other based on the students' academic ability. As well, some schools are boys' schools, some girls' schools, and some coeducational. The sample in this study is from a boy and girl's senior high school. The researcher went to the research site to undertake the data collection in July, 2002. After consulting with the teachers in that school about the participant selection, the researcher decided to use Grade 11 students as the participants. The reasons are: First, in September, the Grade 10 students would be new comers to that school; consequently, their attention would be focused on adjusting to the new environment. Second, Grade 12 students were preparing for the university entrance exam scheduled for the following year, and would perhaps have regarded participation in the study as an intrusion on their study time.

Third, currently there is no research on this topic with this age group in Taiwan.

Setting. Participants in the study were senior high school students in Taiwan from the same senior high school in Taipei. Taipei is the capital of Taiwan and has a population of about two million. The senior high school includes Grade 10 to Grade 12. There were 20 classes in Grade 11 and 845 Grade 11 students in this school in 2002. In Taiwan, Mandarin is the official language though other dialects are also spoken; the most commonly used foreign language is English. The study was conducted outside regular classroom hours.

Participants. After each student was given the IRI, fourteen participants were selected from the volunteer pool of 97 to join the study. They were Grade 11 senior high school students (7 males and 7 females). All were 16 years old. Their English reading proficiency level was at the grade seven instructional level. They had taken English in public school for four years.

Anonymity. Each participant was assured that all the information collected would be kept confidential and his/her identity would not be revealed in any way. Each participant is identified by a pseudonym and their real names are never used in the study. The 14 participants' pseudonyms are Victoria, Andy, Lucy, Kathy, Jane, Sylvia, and Miffy for girls; Jim, George, Jeff, Brian, Dick, Tom, and William for boys.

Language in instructional explanations and the student response. Most of these Taiwanese students have taken English for three years in the public junior high school and one year in the first grade in the current senior high school. Most of them cannot express their ideas fluently in English. The instructional explanations and interview questions were provided in English and then in Mandarin to make sure the

participants had a clearer understanding of the explanations and questions. During the reading comprehension test, the interviews and the retellings, the participants used Mandarin to express their own ideas to eliminate any problems they might have related to their English speaking skills.

Instruments

In this study, the researcher was responsible for contacting each participant, collecting the data, and analyzing the data. Instruments include the field notes, the informal reading inventory test passages, the reading passages for the retellings, and the two interview questions. The field notes were used as a reflective memo during the data collection to describe the schedule of the retelling meetings and the interviews with each participant, the meeting environment, and other physical and emotional responses produced by the participants. The informal reading inventory test passages were used to select the suitable participants for this study. The retelling passages were used to assess the participants' reading comprehension ability. The two interview questions were designed to understand the participants' prior knowledge backgrounds and their comments on the retelling meetings.

Retelling Passages

In this study, twelve passages were used as reading materials for the retellings. Owing to the subjects being at a seventh-grade reading level, the readability of the passages selected and paraphrased were at a seventh-grade difficulty level, as determined with the assistance of the Flesch-Kincaid Grade Level Index, which is used to determine the difficulty of books or reading material. There are many ways to gauge readability, but the Flesch Readability Index and the Flesch-Kincaid Grade Index are

two of the more commonly used in the corporate world (WATS.ca Resource Library). Microsoft Word, a word-processing software, can analyze documents using both Flesch methods. According to Fry (2002), “most readability formula are so objective that they can be done by computers” (p.287). The computerized score has “the strength of objectivity, and consistency” (Fry, 2002, p.291). Losa (1983) conducted a study to determine the readability grade level of materials used in the U.S. Navy’s technical training schools and used the Flesch-Kincaid readability formula to obtain the readability analyses.

The Flesch-Kincaid Grade Level Score indicates at what grade level the readers’ comprehension must be for them to understand the text (WATS.ca Resource Library). For example, a score of 7.0 would mean a seventh grader should be able to understand the text. However, there are several problems with the computerized readability formulas that prevent valid predictions of text comprehension. The article from Microsoft’s web site shows that the Flesch-Kincaid readability score is based on the surface characteristics of the text, that is, the average number of syllables per word and the average number of words per sentence (Microsoft). An internet document entitled *Readability formulas* points out that readability formulas do not adequately capture reading comprehension and learning which requires consideration of the reader’s knowledge, language skills and other cognitive aptitudes; readability formulas also cannot capture the cohesion and coherence of a text (Readability formulas). Although these readability formulas do not consider all variables leading to text difficulty, to provide an approximation of reading levels, the researcher adopted Word’s Flesch-Kincaid Grade Index to determine the intended grade level of retelling materials that conform to the participants’ reading abilities in this study.

Topics. A total of twelve passages were available for the retellings. Six passages have topics on familiar Chinese culture; they describe some ancient Chinese historical events, figures, and customs, such as *Chinese Farming*, *Chinese New Year*, *Dr. Sun Yat-Sen*, *The Great Wall*, *The History of Tea*, and *Cooking and Eating*. The researcher made an extensive examination of basal readers, literature books, science and social studies textbooks, and children's magazines in the libraries, in order to select appropriate texts for the study. The Chinese assessment passages were selected from the following sources such as Evans and Yu (1992), *China: Our Pacific neighbour*, Talan and Sherwood (1988), *Children of the world: China*, and Sabin (1985), *Ancient China*. The other six passages have topics on unfamiliar non-Chinese culture and include Canadian and European historical events, peoples, and customs, such as *River of Salmon*, *Railway across Canada*, *First Peoples in Canada*, *Easter*, *Fishing in Canada*, and *Ways of Sending a Message*. The four Canadian passages are selected from Francis (2000), *Connections Canada*. The passages, *Easter* and *Ways of Sending a Message*, are from *Young Students Encyclopedia* (Blashfield, 1973).

Some students may only feel interested in reading material with different topics from different areas. A variety of topics from each culture are included in an effort to avoid any participant preference bias. The six selected Chinese topics are parallel to the six non-Chinese topics. For example: holidays (*Chinese New Year* and *Easter*), industry (*Chinese Farming* and *Fishing in Canada*), food (*The History of Tea* and *River of Salmon*), construction (*the Great Wall* and *Railway across Canada*), people (*Dr. Sun Yat-Sen* and *First Peoples in Canada*), and activities (*Cooking and Eating*, and *Ways of Sending a Message*). See Appendices D and E for samples of retelling passages.

Genres. The selected passages are expository texts. There are some differences between narrative and expository prose. With the differences in the text structure, the reader may activate different strategies to read them. Compared to expository prose, narrative is read faster (Graesser, 1981), is more absorbing (Britton, Graesser, Glynn, Hamilton, & Penland, 1983), is easier to comprehend (Graesser, Haut-Smith, Cohen, & Pyles, 1980), and is easier to recall (Graesser, Haut-Smith, Cohen, & Pyles, 1980; Swearingen & Allen, 2000). In order to avoid the privileged status of narrative prose in the information-processing system, the researcher chose only one type of discourse in the reading comprehension test. For this study, expository passages were chosen to minimize the possible effects of text structure schema on the reading task.

Drawing upon linguistics (Grimes, 1975) and rhetoric (Aristotle, 1960), Meyer (1975, 1982, 1984) gathers evidence for five basic ways to organize discourse: collection, description, causation, problem/solution, and comparison. Most discourse contains more than one of these basic organizations. In this study, the selected expository texts primarily consist of description organizations.

Length. In order to avoid the student retelling the content by memorizing rather than understanding the content, the passages range in length from 160 to 220 words. By considering the time needed for each participant to complete the assessment in each meeting, the assessment passages are short enough to ensure that the entire task can be completed in 30 minutes or less per participant per meeting.

Arrangement of the Twelve Retelling Passages

In order to tabulate the data effectively, the twelve retelling passages were

initialized with capital letters and coded with the numbers to show the sequence applied in the retelling section. Thus, the twelve passages were coded as follows: *Chinese Farming* (CF1), *River of Salmon* (RS2), *Chinese New Year* (CNY3), *Railway across Canada* (RC4), *Dr. Sun Yat-Sen* (DSYS5), *First Peoples in Canada* (FPC6), *The Great Wall* (GW7), *Easter* (EAS8), *The History of Tea* (HT9), *Fishing in Canada* (FCA10), *Cooking and Eating* (CE11), and *Ways of Sending a Message* (WSM12). The sequence was arranged according to length, readability, and passage type. Students may feel more comfortable starting with a more familiar, shorter, and easier passage. Thus, *Chinese Farming* was selected as the first passage for retelling. Besides, there is a balance in the sequence regarding the passage topic. For all twelve passages, each participant was asked to read first a passage with a Chinese topic and then a passage with a non-Chinese topic. All the information about length, passage titles, passage codes, readability and total number of thought units for each retelling passage is presented in a table form in Appendix F.

Sequence of the Study

The current study began with each volunteer student taking an informal reading inventory test, so the results could be used to select the sample of suitable participants for this study. Once the sample was determined, a first individual interview was held with each participant, followed by oral retellings of the twelve reading passages and finally, a second individual interview. Please see Appendix G for a timeline of the data collection and analysis.

Informal Reading Inventory Test Passages

After the volunteer pool was formed, these students were administered an IRI to

identify those students with English reading ability at a grade seven reading level. After examining several IRIs, the researcher found that the currently available IRIs were designed for native English speaking learners. Thus, the researcher decided to develop another IRI assessment instrument to fit Taiwanese EFL students' needs. The new IRI was constructed by following Flippo's IRI assembling instructions (2003) with the consideration of the discourse type, the topic, the length, and the student's age and interests. A series of graded passages were selected from several IRIs (see Table 1 for the source of IRIs). These selected passages in the original IRI had been piloted tested with a group of readers and checked for difficulty with some credible readability formulas. These selected passages are materials for which readability levels have been determined. For example, the passages in the Reading Inventory for the Classroom by Flynt and Cooter (2001) were determined using a combination of widely respected procedures, including the Fry Readability Graph (1968) and the Harris-Jacobson Readability Formula (1975).

The discourse types used in these informal reading inventories contain both narrative and expository texts. Each of them has its own rhetorical features. Expository text is more representative of material to be encountered in most EFL classroom reading and in some nation-wide exams. Thus, the researcher chose expository passages as the materials to evaluate the student's reading proficiency level. Expository prose often has a hierarchical pyramid development (Graesser & Goodman, 1985). The passage first provides the overall elements of a topic and these elements are embellished in further paragraphs (Collins & Gentner, 1980). Within paragraphs, the first sentence often sets up the theme or the topic of the paragraphs and subsequent sentences embellish the theme or topic (Brown, 1966).

General topics, such as the octopus, radios, and volcanoes, were selected to test the students' general reading comprehension ability. Besides, these topics are quite familiar to Taiwanese students. For example, Taiwan is an island and surrounded by the ocean so it is rich with seafood. Taiwanese students are acquainted with the octopus. The researcher also considered the participants' age and interest. For example, these participants are teenagers. The computer is a popular topic among teenagers in Taiwan at present, so the researcher chose a passage about computer. The length of the passages ranges from 198 to 250 words. They are not so long that students are easily bored; on the other hand, they are not so short that students can rely on their reciting ability rather than their comprehension ability to recall the passage. With such a length, the test can be finished within half an hour or less per participant. The study focuses on participants whose reading ability is at the grade seven instructional level. Thus, the readability of the selected passages for testing ranges from Level 5 to Level 8 (see Appendix H for the sample of the IRI test passage). Information about the IRI test passages is outlined in Table 1.

Table 1. *Information for the IRI Test Passages*

	Topics	Length	IRI
Level 5	The octopus	254 words	QRI-3 (Leslie & Caldwell, 2001)
	Getting rid of trash	261 words	QRI-3
Level 6	Computers	254 words	QRI-3
	Early tools	198 words	Bader (Bader, 1998)
Level 7	Volcanoes	213 words	Bader
	Radios	222 words	Bader
Level 8	The future is here	270 words	Flynt & Cooter (2001)
	The cancer	272 words	Woods & Moe (2003)

First Interview

There were two interviews. The researcher used questions prepared in advance and the participants provided oral responses. The procedure for the first interview was as follows: First, the researcher provided the interviewee with a sheet of First Interview Questions as shown in Appendix A. Second, the researcher told the participant to read the questions and orally express their responses to each question. The instructions were provided in Mandarin and in English. Their oral responses were transcribed, translated, and tape-recorded. The questions in the first interview are designed to pursue the details of each participant's prior knowledge about each topic. For example: Have you ever had experience with, read any articles, or seen any TV programs about any of these Chinese topics, such as *Chinese Farming*, *Chinese New Year*, *Dr. Sun Yat-Sen*, *The Great Wall*, *The History of Tea*, and *Cooking and Eating*? If "Yes," please tell me about your experience. And: Have you ever had experience with, read any articles, or seen any TV programs about any of these non-Chinese topics, such as *River of Salmon*, *Railway across Canada*, *First Peoples in Canada*, *Easter*, *Fishing in Canada*, and *Ways of Sending a Message*? If "Yes," please tell me about your experience. These two questions determine whether or not the participant has had any exposure to any of these topics prior to this study. Next the researcher further asks the participants to provide the details they know about each topic by saying: "Please describe your ideas, that is, whatever you know, about each of these topics." From the participant's statement, each participant's prior knowledge about each topic can be understood (see Appendix A for First Interview Questions).

Retelling Practice Session

In order to ensure that all participants would have the necessary abilities to retell the passage in Mandarin, a practice session was offered prior to eliciting the protocols used for analysis. The primary data collection procedures were not undertaken until the performances of all participants in the retelling practice session were estimated to be satisfactory and until all participants felt comfortable and confident with the procedure. Thus, there was a two hour retelling practice session in which fourteen students were gathered together to practice the retelling technique. Three shorter passages different from the IRI passages were used: one for the researcher to model retelling, and the others for students to practice in pairs. The three articles, entitled, *Lions and Tigers in Your House*, *The Desert*, and *The Beaver*, were the same as those used in the pilot study. In this session, the researcher asked students to retell the passage in their own words. In addition, the researcher informed students of the following criteria for a good retelling: inclusive of generalization beyond text (synthesizing and inferring), completeness (major points and appropriate supporting details), and coherence (adequate sequence, and logical arguments). No corrections were made in the student's retelling and all students' descriptions were accepted. Finally, the researcher reemphasized that the result of the retelling is not going to be used by their instructors as an evaluation for their academic achievement at school. The retelling practice was conducted by following the same procedure as that in the pilot study.

Passage Retelling

The general procedure for administering the reading passage retelling is that the student starts the silent reading of the passage and then finishes the

retelling section. The detailed procedure for administering the reading comprehension test includes: First, set the stage for the assessment with each participant (choose appropriate location, establish rapport, inform the student what will be expected during the experiment and offer instruction in how to do retelling). Second, individually, present the student's copy of the reading passage to the student and ask the student to read the passage silently and inform the student that after reading the passage, he or she will be asked to retell the content of the passage. Third, ask the student to look up at the researcher or raise his/her hand when he or she is finished. Fourth, ask the student to turn over the passage and ask him/her to use his/her own words to retell the passage as if he or she is telling the passage to someone who hasn't read it.

During the process of the student's retelling, the researcher records the student's response and writes down notes about all unexpected responses. In some cases, the student gives information that is not a part of the original passage. The researcher encourages the participant's additional information which is essential in determining the accuracy of the student's information and the student's ability to activate prior knowledge.

Written-to-Oral Retelling Procedure

The literature points out that there are different forms of retelling. Brown and Cambourne (1987) propose four general forms of retelling (the oral-to-oral retelling, the oral-to-written retelling, the written-to-oral retelling and the written-to-written). In this study, the student is a non-English speaking background learner who is inexperienced in English writing. Generally, in the written response, "scores can be raised by writing skill

and bluffing and lowered by poor handwriting, misspelling and grammatical errors” (Gronlund, 1998, p.103). In order to avoid mistakes in the student’s written response, the researcher allows the student to restate the passage and express his or her ideas orally. With a comfortable conversational atmosphere, the student may feel free to express his or her ideas. At the same time, the researcher may observe the student’s non-verbal expressions, such as eye-contact, body gestures, hand movements, and vocal cues (i.e. the intonation, the intensity or pitch height in his or her statement). Another advantage of the oral response is that when the student stops talking, the researcher can ask him or her, “Anything else?” to confirm whether the student wants to continue retelling. In most cases, the student chose to try adding additional retelling information. Thus, the written-to-oral retelling procedure was selected to be used in this study. Since oral retelling was used, the procedure of retelling was tape-recorded in order to ensure accuracy and validity of data and later transcribed verbatim from Chinese to English.

Instructions and Prompts for Retelling

Instructions play a crucial role in participants’ performance, since their performance depends, to a great extent, on how well they understand the conditions under which the retelling is done, the procedures to be followed, and the nature of the tasks they are to complete. Unclear or inaccurate instructions and inadequate time allocation are sources of anxiety, and hence, influence retelling performance. In this study, retelling instructions were provided in English and Mandarin. First, the researcher told the participants, “Please read this passage silently. After your reading, you will retell the passage.” Then, when the participant finished reading, the researcher said, “Now you are going to retell the passage. Please retell the passage as if to a friend who

has no idea about this passage.” During the student’s retelling, no prompts were given. When the participant stopped retelling for a while, the researcher probed with the questions, “Anything else?” During the process of retelling, the researcher sometimes nodded her head to encourage the participant to give more oral response. No correction was made and all students’ descriptions were accepted.

Second Interview

The second interview focused on the participants’ reflections on the task of retelling the passages. Oral responses were probed, followed up, and elaborated to clarify specific responses. The interview can result in a much higher response rate than a questionnaire alone, especially for topics that concern the student’s personal positive or negative feelings about reading. In the beginning, two sets of questions about the passage familiarity and the passage difficulty were asked. The first set of questions about passage familiarity includes: Which passage are you most familiar with? Why?; Which passage are you least familiar with? Why?; and Can you rank these passages from the most familiar to the least familiar? The second set of questions about passage difficulty is: Which passage do you think is the most difficult to comprehend? Why?; Which passage do you think is the easiest to comprehend? Why?; and Can you rank these passages from the easiest to the most difficult? After this, the participants were asked to explain how prior knowledge about Chinese topics helped them to comprehend the passages with Chinese topics. Finally, the researcher provided five factors, said to be useful in comprehension, and asked the participants to choose one that was helpful to them and explain the reason. At the end of the second interview, the researcher provided the opportunity for the participants to express their ideas about the retelling of the passages with Chinese and non-Chinese topics (see Appendix I for Second Interview

Questions).

Data Analysis

Data in the interviews and the passage retelling were first tape-recorded. Each piece of collected data was then transcribed in Mandarin and afterwards, translated into English. The researcher prepared a transcript and developed an outline which described what was on each tape and what was collected for each participant. The reliability for the retelling transcriptions and translations was checked by an inter-rater comparison. To obtain a holistic analysis, it was necessary to analyze a student's reading behaviors from a quantitative as well as a qualitative viewpoint. The data collected from the first interview, the retelling meetings, and the second interview were respectively computer analyzed for any obvious patterns and coding was checked by an inter-rater comparison. The *t*-test was used for the quantitative analysis. The descriptive data were added and provided insight into the quantitative data.

Coding Quantitative Data

First, the researcher quantitatively coded the information in the retelling. The coded information was tabulated and calculated using the spreadsheet *Microsoft Excel*. The numerical results included the percentage scores for retold thought units, the totaled numbers of synthesizing, analyzing, inferring, and erroneous information, and ranking of passage familiarity and passage difficulty. Second, the researcher used a *t*-test to determine the effectiveness of culturally specific topics on thought units, synthesizing, analyzing, inferring, and erroneous information. Third, quantitative data were presented in tables and graphs to show the results. The scoring procedure for quantitative data and inter-rater reliability, and the ways used to determine the totaled numbers of thought

units, synthesizing, analyzing, inferring, and erroneous information are presented in the following sections.

Inter-rater Reliabilities

To ensure the credibility of the analysis, inter-rater reliabilities were established for the number of thought units in the original retelling passages, the thought units in the student retelling protocols, the four patterns of information in the student retelling protocols, and the retelling transcriptions and translations. The reliability is determined by “comparing the results of two or more scorers, raters, or judges” (Hittleman & Simon, 2002, p.114). In this study, the reliability was presented as a percentage of agreement. Two independent experts were invited to join the inter-rater reliability section. One was a professor of language arts and the other was a first language English-speaking doctoral student. The first rater was asked to score the four randomly selected original retelling passages, and the ten randomly selected student retelling protocols. The second rater evaluated the transcription and translation of ten randomly selected student retelling protocols.

There is a high level of agreement between the researcher and the second rater for the four passages out of the total of twelve (91% for the *Chinese New Year*; 95% for *Railway across Canada*; 90% for *Fishing in Canada*; and 90% for *Cooking and Eating*). The inter-rater reliability was 94% for the thought units in the students retelling protocols. The inter-rater reliability was 87% for synthesizing information, 89% for analyzing information, 85% for inferring information, and 90% for erroneous information. The inter-rater reliability was 91 % for the transcription and 93% for the translation. Throughout the procedure, the researcher specifically trained the raters about

the rules to parse thought units in the original passage and the student retelling protocols, and the ways of transcribing and translating the student retelling protocols. Any disagreements were resolved and any unclear utterances on the tape recording omitted.

Scoring

Quantitative data in the first interview. After conducting the first interview with each participant, the data were collected and the scoring process was as follows: for questions 1 and 3 if the participant made a positive response to one of the topics, the researcher marked one asterisk for that topic. A positive response means the participant has experience with the topic. One point was given for each asterisk. Then, the total score was calculated under each topic.

Questions 2 and 4 are designed to measure the quantity of the participant's "topic knowledge" (Alexander, Kulikowich, & Schulze, 1994, p.313). The purpose of the two questions, with open-ended responses, is to provide the participants with a greater opportunity to share what they know about that particular topic. The participants were encouraged to relate what they know about the topic and their verbal response was recorded, transcribed and translated. The scoring procedure is to compare the number of ideas for Chinese topics to that for the non-Chinese topics.

Quantitative data in the passage retelling. Two types of scoring are included in this section. First, the scoring for thought unit response assumes that the degree of comprehension is reflected in the number of responses. This aspect allows the examination of thought units within each retelling. The percentage of the participant's comprehension of thought units represents the overall completeness of the participant's retelling.

The participants' retelling protocols were scored by comparing them to the number of thought units represented in the original passage. The scoring is an adapted version of the Diagnostic Reading Program's (1986) procedure for judging students' retelling. The program was developed by Alberta teachers in Canada under the direction of Alberta Education. The researcher divided the original passage to be read into thought units. A thought unit is "a group of words that represents a meaningful unit of information" represented in a text or retold by the participants (Alberta Education, 1986, p.42). For the purpose of analysis, an independent clause can be viewed as one thought unit. Each simple sentence and each complex sentence contain one thought unit; a compound sentence or a compound-complex sentence contains two thought units (Alberta Education, 1986, p. 42). One simple sentence is regarded as one thought unit for it conveys a piece of meaningful information independently. One compound sentence is made up of two independent clauses which are joined by coordinating conjunctions, *and*, *or*, *but*, so it contains two thought units. A complex sentence consists of one independent clause and one dependent clause. The dependent clause cannot express the meaning completely by itself so it cannot be counted as a thought unit. Accordingly, a complex sentence contains one thought unit. Several sentences are extracted from the original retelling passages for illumination:

Simple sentences (one thought unit):

The Adams River is a short, rushing river in the interior of British Columbia.

Easter is a day of great joy for Christians. (*Easter*)

Dragon dance is an important celebration. (*The Chinese New Year*)

More than three-quarters of all the people in China live in the countryside.

(*Chinese Farming*)

Complex sentences (one thought unit):

Other people say the ocean is getting warmer. (*Fishing in Canada*)

Their skin has turned bright red so that the river runs like blood. (*River of Salmon*)

Pigs are very easy to look after because they eat almost anything. (*Chinese Farming*)

People in the province are trying to agree on what to do about it. (*Fishing in Canada*)

Compound sentences (two thought units):

People dress up in new spring clothes/ and go to church. (*Easter*)

In Mongolia people breed horses/ and in Tibet, they keep yaks. (*Chinese Farming*)

Many men died at this hard labor, / but the finished wall is one of the greatest constructions ever built. (*The Great Wall*)

Compound-complex sentences (two thought units):

The Chinese feared the warlike Mongols in the north / and built towers where guards could watch for invaders from the north. (*The Great Wall*)

It begins with Palm Sunday which celebrates the day Jesus rode into Jerusalem/ and the people scattered palm leaves before him. (*Easter*)

A total of thought units contained in each of the twelve retelling passages was calculated and presented in Appendix F. The researcher developed a thought unit marking sheet for each retelling passage. Thought units in the original passage are listed in sequence and each unit is assigned a number from 1 (see Sample of Thought Unit Marking Sheet in Appendix J).

After the participant finished retelling, the researcher transcribed the participant's retelling in Mandarin and further translated it into English. To set up an objective way to segment the original retelling materials and student retellings into smaller meaningful

independent units, the researcher divided the text according to the syntactic complexity that most EFL learners feel familiar with when processing an English text which was the same thought unit as used in the Diagnostic Reading Program (Alberta Education, 1986). In this study, the syntactic complexity includes simple sentences, complex sentences, compound sentences, and compound-complex sentences. When analyzing the participant's retelling protocol, diagonal slashes were used to divide the participant's retelling protocol into thought units; parentheses were used around mazes. A maze consists of "irrelevant information", such as noises (*er, um, or uh*), self-corrections (*then she asked her tech, teacher*), repetitions of words (*when, when . . . and he, and then he*), and personal comments about the passage (*That's all, I don't remember any more, or I like that story*) (Alberta Education, 1986, p.42). Take Andy's retelling as an example. After retelling the passage *The Chinese New Year*, her retelling is transcribed, translated and then parsed into several thought units as follows:

During the Chinese New Year, people make a lot of noise such as the beating of drums, then some noise from metals and the noise of firecrackers. /These noise may scare away the demons. / [Then] dragon is an important symbol in Chinese culture. / [Then] it has twenty pairs of legs./ Those are human being's/ and they are hidden under the dragon./ During the Chinese Year, people play the dragon dance./ It is an important symbol of Chinese culture./ In the ancient age, the emperors liked to use dragons to represent themselves./ [This is because] [they think] dragons are powerful/ and it control the rain and the grain/ [something like this]. So the dragon holds a high position in China./ The dragon in dragon dance has big eyes, and a large head./ [Then] it can scare away the monster./ It may control the rain/ because the society of China is based on agriculture, the

amount of rain is related to the harvest of rice./ Chinese people worship it very much/ [and] it connects with the clouds.

Next, Andy's parsed retelling protocol was compared to the original passage by using a thought unit marking sheet. A mark was placed in the Thought Unit column on the protocol sheet for each thought unit noted and a blank was left for those units the participant does not retell (see Appendix J for an example).

Limitations in this classification of thought units. After viewing some oral retelling samples from previous research (Kalmbach, 1986a; Moss, 1997; Pickert & Chase, 1978), the researcher found that most descriptions in students' oral retellings are non-sentence expressions, such as nouns and verbs, and some complete sentences. These complete sentences are simple sentences rather than complex and compound sentences. In spite of these limitations, this present sentence-structure classification still promises to be quite useful to analyze EFL students' retellings.

Secondly, in order to analyze the nature of the participants' retelling and how prior knowledge is activated, another scoring procedure was used to calculate the following four types of retelling information: synthesizing, analyzing, inferring and erroneous. The four categories are based on an adapted version of the Diagnostic Reading Program's (1986) and Fagan's (1987) labels for reading processes. Each parsed thought unit in the participant's retelling protocol was assigned to one of the four categories. Thought units in each category were summed and the totals for each of the four categories were recorded. Please see the sample in Appendix K.

Quantitative data in the second interview. The participants were asked to assign ranks to the entire set of retelling passages in terms of familiarity and difficulty.

The most familiar passage of the twelve is assigned a rank of 1, and the least familiar passage is assigned a rank of 12. In the same way, the easiest passage of the twelve is assigned a rank of 1, and the most difficult passage is assigned a rank of 12. The responses to Questions 8 are accumulated to show the total of the participants who agree that prior knowledge about Chinese specific topics are helpful to their reading comprehension. Then, Question is designed to ask the participants to choose one out of five factors, which can be helpful to their reading comprehension of the Chinese and non-Chinese passages. The participants' responses to each factor are accumulated to show which factor influence the participants' reading comprehension of the passages with Chinese and non-Chinese topics.

Coding Qualitative Data

Qualitative information in this study comes from the following sources: the first and second interviews, the student's reading passage retelling, the field notes on the appearance and actions of participants in each data collecting situation, and the participants' comments and reflections. A qualitative perspective provides rich description of what constitutes students' English reading comprehension in EFL contexts. The study is framed within the theory of Rumelhart's (1977) interactive reading model in which the reader's comprehension of the text is the final product of simultaneous interaction among all the knowledge sources. By following Rumelhart's interactive reading model, the current study assumes that EFL students' English reading comprehension can be viewed as an interactive process which integrates various independent knowledge sources. Furthermore, EFL students' prior knowledge is an instrumental source. The following analysis summarizes the reading theory in relation to

the participants' prior knowledge, the participants' culturally specific prior knowledge, and the nature of EFL students' retelling.

Participants' Prior Knowledge

Reading researchers have established that prior knowledge is an important contributor to readers' comprehension. Thus, one important way of investigating EFL students' reading comprehension is to analyze their prior knowledge background. From the interview data, the researcher may determine whether the student owns the prior knowledge related to the retelling passages with Chinese and non-Chinese topics, and whether the student can make inferences based on his/ her prior knowledge to produce a logical retelling.

Participants' Culturally Specific Prior Knowledge

EFL students' developing understanding of an English text with culturally specific topics is partially enabled by their sufficiency of culturally specific prior knowledge. Thus, it is important to explore the role of culturally specific prior knowledge in the student's retelling.

Nature of EFL Students' Retelling

The researcher started with predetermined categories which are drawn from other reading research studies applying retelling as an assessment tool. Goodman (1982) assumes that comprehending is the "process of trying to make sense of text", while comprehension is "what readers understood" in the text (p.302). Gambrell, Pfeiffer and Wilson (1985) report that retelling demonstrates something about a reader's assimilation and reconstruction of text information; therefore, retelling can reflect comprehension

(Morrow, 1988a). In this respect, the researcher supposes that retelling is comprehension; the study of the nature of retelling is the study of the nature of comprehension.

Kalmbach (1981) argues that the analysis of retellings needs to take into consideration “both the reader’s contribution and the contribution of the original text” (p.22). Thus, the researcher would like to focus on what students understand and what they do not understand through examining the completeness of the student’s retold thought units. To examine the student’s ability to generalize the main idea in the text, the researcher analyzes the student’s synthesizing information. To examine the reader’s prior knowledge, the researcher analyzes the student’s inferring expression; to understand the contribution of the text, the researcher investigates the student’s completeness of analyzing information. The student’s construction of information read may be correct or logical; however, the student may recall some irrelevant or illogical information according to the passage and the culture so erroneous information is also included.

Five major themes resulted from the student’s retelling: (a) completeness of correct responses, (b) generalization, (c) activation of prior knowledge, (d) repetition of what is in the text, and (e) erroneous information. The researcher also identified other sub-categorizes which relate to these major themes. The diagram that the researcher constructed to represent the relationship between all the themes is reproduced in Figure 4.

Completeness of correct responses. Completeness refers to the amount recalled. Recalling more related thought units according to the passage may indicate a better comprehension performance. With the impact of prior knowledge, the student

with sufficient Chinese cultural knowledge may recall more related responses with Chinese relevant passages, whereas the student may recall less of other passages due to a lack of Canadian and European cultural knowledge. Completeness may be illustrated by clearness of main ideas and supporting ideas. Some students' retellings include related main ideas and supporting ideas. In this study, the researcher's task was to explain all these responses.

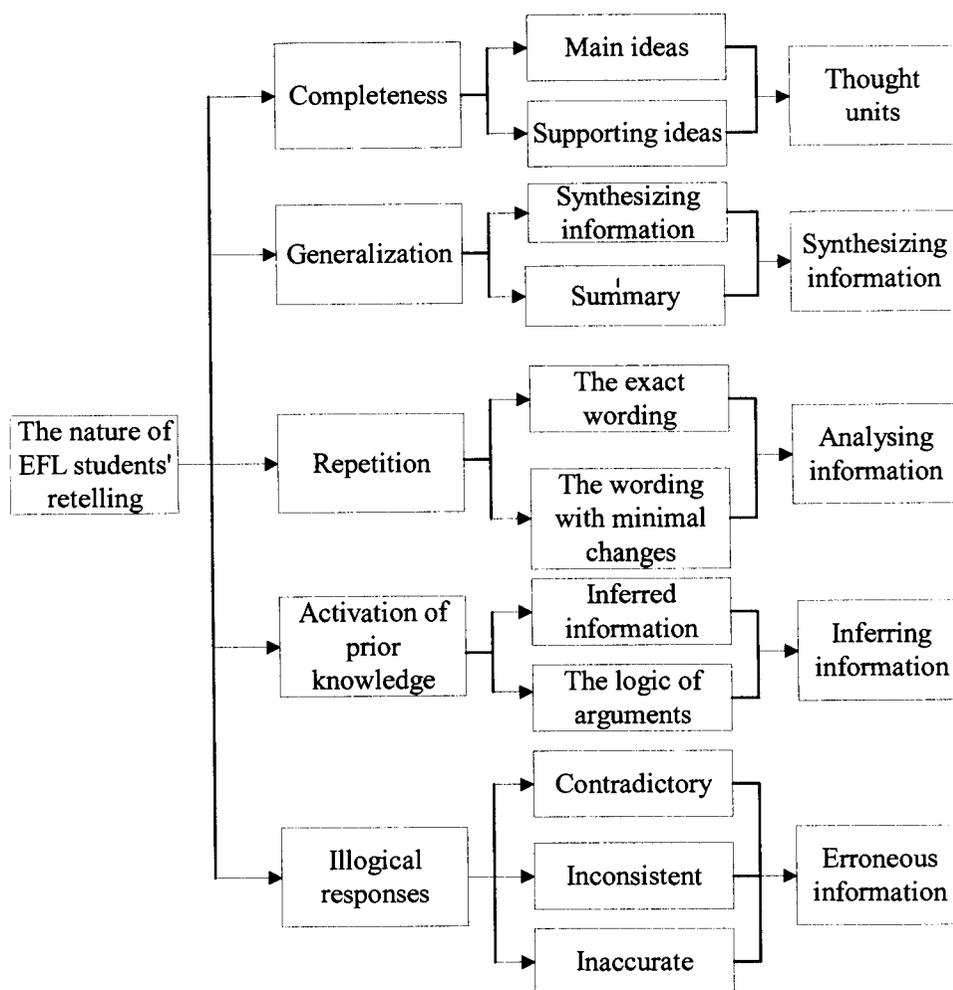


Figure 4. Micro-aspects of the nature of EFL students' retelling

Generalization. Generalization indicates how the reader reconstructs a text for his/her own understanding of a text (Irwin & Mitchell, 1983). Generalized information

is stamped with the student's reaction and understanding and also indicates the student's ability to summarize the text content. In this study, generalization can be viewed from the student's synthesizing information. Synthesized information "comes from more than one part of the passage" (Alberta Education, 1986, p. 44). The student "reconstructs the author's words and ideas when retelling" (Alberta Education, 1986, p. 44). The following is a synthesizing example from Fagan (1987):

Text A: Mr. Smith owns a German Shepherd. It is black. One day it broke its leash. It ran down the street. It attacked a small boy.

Synthesis: One day Mr. Smith's black German Shepherd broke its leash, ran down the street and attacked a small boy (p.66).

In this study, synthesized information is drawn from the passage, then combined and related by the student who does the retelling task.

Repetition of the author's words in the passage. Students may repeat what the author writes by using exact wording or some changes in the wording. This is because students pay attention to the printed material and "[separate] out and [look] through the data in order to determine the nature of its composition" (Fagan, 1987, p. 56). Besides, repetition of the passage can appear due to the student's minimal changes such as the exchange of the order of words with the same property, and the replacement of synonyms. This is because the student is aware of details in the meaning of the printed material and breaks down information presented by the author into manageable parts. This process is called "analysing" (Alberta Education, 1986, p. 82; Fagan, 1987, p. 56). The task of the researcher is to find out if the student retells more analyzing information for the passages with Chinese topics and the reasons why this would be so.

Activation of prior knowledge. Inferred information is based on the student's own prior knowledge and makes a connection with the information in the passage. The student infers personal experiences to extend beyond the text to incorporate interpretive statements and "adds to the author's words and ideas when retelling" (Alberta Education, 1986, p. 44). In this study, the participants may give information that is not a part of the particular text. This additional information can be judged correct or incorrect according to the passage and the culture. If the additional information is correct according to the passage and to the culture as well, it falls into the category of inferring information. On the other hand, if it is wrong with respect to the passage and to the culture, it is categorized as erroneous information. The inferring information is of great importance because Swearingen and Allen (2000) point out that it may indicate "the accuracy of the child's information and the child's ability to activate prior knowledge" (p.19).

Besides, based on the perspective of schematic structure for prior knowledge, several related concepts may be connected in a network like structure. In this study, through the analysis of the logic of arguments, the study may demonstrate that some students utilizing their prior knowledge about Chinese culture may logically express more other related supporting details for the passages with Chinese topics. In contrast, some may just express separate comments for the passages with non-Chinese topics.

Illogical responses. In this study, EFL students' illogical responses include contradictory, inconsistent, and inaccurate statements. What EFL students retell may be in contradiction to the general belief in the passages they read. Under this condition, EFL students may retell an aspect of a situation which is completely inconsistent with or different from the aspects in the passages and so make the situation confused or difficult

to understand. In this study, these illogical responses are categorized as erroneous information. Through the analysis of erroneous information, the effects of EFL students' culturally specific prior knowledge on their English reading comprehension can be explored elaborately.

Summary

The current descriptive study incorporates quantitative and qualitative points of view to explore the effects of culturally specific prior knowledge on Taiwanese students' English reading comprehension. The pilot study was carried out to clarify the questions in the first interview and solidify the procedure for the retelling practice. The sampling includes criteria for selecting the participants and the detailed procedure for screening the desired participants. The instruments for data collection include the field notes, the informal reading inventory test passages, the reading passages for the retellings, and the two interview questions. In this study, data were collected from each student's participating in two interviews and twelve separate retelling meetings. The procedure of how to score the data in the interviews and the retelling protocols is explained. The inter-rater reliability is then reported. The data are also coded in a qualitative way. The major themes included in the qualitative analysis are the participants' prior knowledge, the participants' culturally specific prior knowledge, and the nature of EFL students' retelling.

CHAPTER FOUR

Results

This study investigates whether and how culturally specific prior knowledge affects EFL students' English reading comprehension of expository passages. In particular, this study examines the effects of culturally familiar and culturally unfamiliar topics on the reading comprehension of Taiwanese EFL high school students.

Research Questions

A general inquiry into the study is: Do culturally specific topics play a role in improving the EFL reader's reading comprehension? That is, is there a difference for Taiwanese students between reading expository material with topics that they feel more familiar with and are more knowledgeable about (i.e., passages with Chinese topics) and reading topics which they are not familiar with (i.e., passages with non-Chinese topics)? Several questions related to this general inquiry are formulated to guide this study.

The results presented in this chapter are arranged into five parts: (a) the participants' prior experience with the twelve topics of the retelling passages, (b) the participants' perceptions about the topics of the retelling passages, (c) the completeness of the participants' retellings, (d) the role of prior knowledge in the four categories of retelling (synthesizing, analyzing, inferring, and erroneous) information, and (e) the role of participants' culturally specific prior knowledge in EFL students' reading of English texts with Chinese and non-Chinese topics. Quantitative data related to the research questions are presented first. Qualitative data that are supported by statistical analysis or are offered as a supplement for some exceptional cases outside the normal distribution

are then discussed to further address the research questions. An overview is provided after each part to outline and interpret the findings.

The Participants' Prior Experience with the Twelve Topics of the Retelling Passages

Research Question 1. Do Taiwanese students have prior knowledge about Chinese topics and non-Chinese topics?

This question is most likely to generate a positive response as we know that in English teaching students have cultural prior knowledge, but it is included in order to have a direct confirmation by my participants of their prior knowledge about Chinese and non-Chinese topics rather than rely on an assumption made by the researcher. To gather information related to this research question prior to the retelling session, the researcher asked each of the 14 participants Questions 1 and 3 in the first interview:

1. Have you ever had any experience with, read any articles, or seen any TV programs about any of these Chinese topics, such as *Chinese Farming, Chinese New Year, Dr. Sun Yat-Sen, The Great Wall, The History of Tea, and Cooking and Eating*? If “Yes,” please tell me about your experience. 3. Have you ever had any experience with, read any articles, or seen any TV programs about any of these non-Chinese topics, such as *River of Salmon, Railway across Canada, First Peoples in Canada, Easter, Fishing for a Living in Canada, and Ways of Sending a Message*? If “Yes,” please tell me about your experience. Without seeing the text, the participants were simply requested to respond whether they have any experience with the topics, so they told the topics they have had experience with in their lives. A table was used to quantify the participants' responses to Questions 1 and 3. How these were recorded is illustrated, using Victoria's responses as an example. Victoria expressed that she only knows about the topics,

Chinese Farming, Dr. Sun Yat-Sen, and the Great Wall. An asterisk was separately marked in the cells of Victoria vs. CF1, Victoria vs. DSYS5, and Victoria vs. GW7. The other 13 participants' responses were also quantified in this way. The results pertaining to the participants' experience with the topics were reported in Table 2. The rationale for asking these questions is that if the participants know about the topics, it means they have prior knowledge about the topics. After each participant finished described their experience with the topics, the researcher asked them to describe where or how they acquired the experience with the topic.

The data reveal that most of the participants have some experience with, have read an article about, or have seen a TV program on each of the six Chinese topics. All of the 14 participants show that they are quite knowledgeable about these four topics: *Chinese Farming, Chinese New Year, Dr. Sun Yat-Sen, and The Great Wall*. Nine students have knowledge about the topic *The History of Tea* and eight students have knowledge about *Cooking and Eating*.

Some participants' responses need to be explained. Two participants, Victoria and Amy, initially supposed prior knowledge to be received only through reading books, newspapers or magazines, so they reported that they had never read anything related to Chinese New Year. After viewing their response, the researcher explained that prior knowledge may include any kind of experience in your life, and asked again whether they had any idea about *Chinese New Year*. Without hesitation, the two participants said that they did have experience with *Chinese New Year*. In another instance, the researcher also asked George why he did not have prior knowledge about the topic *The Great Wall*. He explained that he learned about the topic in history class, but he can not remember

much about it. In comparison with other Chinese topics, he did not think he had as much prior knowledge about *the Great Wall* as about other Chinese topics, so he did not list it. The researcher questioned him further about his ideas about the Great Wall. He was aware of some features of the Great Wall, such as “It is in Mainland China,” “It was built long ago by Ch’in Shih Huang,” and “It is very long and can be visible from the moon.” Although he may not have as much knowledge about this topic as the others, George still can be considered as one who has experience with the topic *The Great Wall*.

Table 2

The Participants' Experience with the Twelve Topics of the Retelling Passages

	Chinese						Non-Chinese					
	CF1	CNY3	DSYS5	GW7	HT9	CE11	RS2	RC4	FPC6	EAS8	FCA10	WSM12
Victoria	*		*	*								
Amy	*	*	*	*	*	*						
Lucy	*	*	*	*								
Kathy	*	*	*	*			*			*		
Jane	*	*	*	*	*	*	*				*	
Sylvia	*	*	*	*		*	*					
Miffy	*	*	*	*	*	*						
Jim	*	*	*	*	*		*					
George	*		*		*	*						
Jeff	*	*	*	*								
Brian	*	*	*	*	*	*	*			*	*	
Dick	*	*	*	*	*	*	*					
Tom	*	*	*	*	*		*					
Kevin	*	*	*	*	*	*	*			*		*
Total	14	12	14	13	9	8	8	0	0	3	2	2

In contrast to their knowledge about Chinese topics, the participants demonstrated that they have had less knowledge about non-Chinese topics. All of the 14 participants reported that they had never read anything about *Railway across Canada* and *First Peoples in Canada*. Only one participant knew about the topic *Ways of Sending a Message*. Two participants knew about the topic *Fishing for a Living in Canada*. Three

participants had experience with *Easter* and eight participants knew about the topic *River of Salmon*. Generally, the results in Table 2 reveal that the Taiwanese students in this study possess considerable more prior knowledge about the six Chinese topics than the other six non-Chinese topics in the passage chosen.

Though most participants revealed they had experience with the six Chinese topics, some participants reported not having experience with some Chinese Topics. The data from the first interview explains this situation. For example, Victoria stated that her family does not drink tea very often and she does not like tea. She has some ideas about tea and knows what it looks like and how to make but she has little specific knowledge about tea. Three of the male students, Jim, Jeff, and Tom, stated that their mothers usually do the cooking at home; they seldom cook and have no interest in cooking at all.

In general, these results show that most participants have much more experience with Chinese topics than non-Chinese topics most likely because the 14 participants were born and grew up in Taipei, Taiwan. They are naturally involved in daily activities in Taiwan and may receive various pieces of information from the mass media (TV, radios, newspapers, and magazines), school education or daily interaction with their family or other Chinese people in their communities. They are submerged in a Chinese cultural environment so all this local knowledge is rooted in their daily lives and forms their individual knowledge frames. This individual knowledge frame consequently is culturally specific. When the participants were asked whether they have experience with the six Chinese topics, most of their responses were positive.

Most participants did not have much experience with non-Chinese topics, but some of them still expressed their ideas about some of the topics. The explanation for why the

participants had experience with some non-Chinese topics *River of Salmon*, *Easter*, *Fishing in Canada*, and *Ways of Sending a Message* can be seen from the first interview data. Jane and Brian reported they learned about salmon and fishing in Canada from TV programs, *Discovery* and *National Geography*. Jim stated, “It seems that I learned about salmon when I studied in the elementary school but I forgot what the course was and who the teacher was”. Victoria explained that when she went shopping with her mom in the supermarket, she saw salmon steak. For the topic *Ways of Sending a Message*, Kevin described that he knows about the way Europeans send messages from some western style movies, such as *Harry Potter*. The film was quite popular in Taiwan at the time of the first interview. So the participant used the film to do a comparison. As to the topic *Easter*, Kathy, Sylvia, and Brian pointed out that they had the experience of going to church to join the activities on Easter so they know some information about Easter. Comparing the participants’ responses about Chinese or non-Chinese topics, they are involved with Chinese topics more deeply than with non-Chinese ones.

The Participants’ Perceptions about the Topics of the Retelling Passages

Research Question 2. What are Taiwanese students’ perceptions of the twelve topics contained in the retelling passages?

To provide further information related to the research question, the participants were asked to focus on their perceptions of what they know about each of these topics. Questions 2 and 4 in the first interview are designed to gather a detailed description of their ideas about each topic. The collected data show how much information the participant reported knowing about each topic. Among the 14 participants who described their ideas about each of the twelve topics, the transcribed data indicate that most

participants express more topic knowledge about the six Chinese topics than the six non-Chinese topics.

Besides the quantitative data indicating the differing amounts of prior knowledge between the two types of topics, there is also a qualitative difference in the knowledge stated by each participant. Interestingly, the prior knowledge that the participants describe can be categorized as “out-of-school” information and “school” information (Alexander, Kulikowich, & Schulze, 1994, p.327). The source of out-of-school information is from the participant’s life experience. For example, every Chinese person has been familiar with the Chinese food since his/her childhood. So, each participant naturally accumulates knowledge from his/her experiences about Chinese style of cooking and thus can provide a rather rich description about the topic *Chinese Cooking and Eating*. Several examples illustrate this richness. Some students reported that “Every Chinese eats rice,” and “The famous Chinese cuisine is the complete Manchu and Chinese banquet, featuring numerous courses and delicacies.” Sylvia said that “The Szechwan cuisine features liberal use of hot pepper and strong seasonings.” Furthermore, some participants provided more sophisticated descriptions such as, “Chinese food is very famous in the world,” “The northern people like to eat water dumpling,” and “We Chinese eat some special food on some special holidays, such as ricecakes on the Chinese New Year, rice dumplings on the Dragon-Boat Festival.”

In addition to the topic prior knowledge resulting from their life experience, the participants also reported information learned from their school experience. For example, Dr. Sun Yat-Sen is a great politician in Chinese history. Ever since the participants have been in elementary school, their instructors formally taught about Dr. Sun Yat-Sen’s life

and his contribution to China. After they entered junior high school, they also learned repeatedly about his great achievements. Some examples of retelling responses learned from school are:

He is a great revolutionary, a Founding Father of the Republic of China.

He caused eleven revolutions and succeeded in the last one.

He overthrew the Manchu Dynasty.

He proposed a very important political research, the Three Principles of the People.

In summary, it is likely that the participants have had more opportunities to become familiar with these Chinese topics in their daily life or in school, so they may express knowledge from both situations. Some topics lead them to express knowledge from their life experience and some from their school experience.

River of Salmon is classified as a non-Chinese topic. However, in comparison with the other five non-Chinese topics, the participants possessed much more topic knowledge about this subject. It is possible this knowledge came from the several TV programs in Taiwan introducing the amazing life of salmon. Some participants had seen the programs and were familiar with the idea of the salmon's life cycle. As a result, they expressed more topic knowledge for *River of Salmon*. This knowledge about salmon can fall into the category of schooled information that the participant learns from TV programs.

For the other five non-Chinese topics, the participants reported very limited topic knowledge about them. For the religious passage *Easter*, only two concepts, rabbits and colorful eggs, were generally reported by three participants. For example, Kevin lives in a community with several residents from North American countries. He had received colorful eggs as a gift from his neighbors on Easter. Brian comes from a Christian

family and he has attended some church activities. Kathy is personally interested in Christianity and has the intention of studying Christian history.

Very little Western culture is taught in Taiwanese schools and even in most EFL settings, sources through which EFL students may become familiar with non-Chinese topics are restricted. In this study, when students were asked to express their opinions about non-Chinese topics, they revealed a rather limited knowledge base for non-Chinese topics possibly owing to the lack of experience with European and Canadian culture either in their life or school experience.

Research Question 3. Are Taiwanese students more familiar with the passages with Chinese topics than those with non-Chinese topics?

Following completion of the retelling session, the second interview was then conducted with each participant individually. The participants were asked to answer questions in order to obtain information about their familiarity with the topics and the contents after having read the passages. These questions are as follows:

1. Which passage are you most familiar with?
2. Which passages are you least familiar with?
3. Can you rank these passages from the most familiar to the least familiar?

Each participant was asked to assign ranks to each passage. The most familiar one is assigned a rank of one; the least familiar is assigned a rank of 12. The researcher did not instruct the participants to separate the passages into two groups: the passages with Chinese topics and those with non-Chinese topics. An interesting finding is that the six Chinese topics tended to be ranked as most familiar while the remaining six non-Chinese topics tended to be ranked least familiar. The data in Table 3 show the raw data of familiarity ranking. The numerical information in Table 3 is also presented

graphically in Figure 5 to form a more visual idea about the participants' familiarity with the passages.

Table 3

The Ranking of Passage Familiarity

	Chinese						Non-Chinese					
	CF1	CNY3	DSYS5	GW7	HT9	CE11	RS2	RC4	FPC6	EAS8	FCA10	WSM12
Victoria	8	3	1	2	7	4	6	10	12	11	9	5
Amy	6	4	2	1	5	3	7	9	10	11	8	12
Lucy	9	1	2	6	3	7	11	12	4	5	10	8
Kathy	5	2	3	7	1	6	8	9	11	4	12	10
Jane	6	1	2	4	3	5	7	12	11	10	8	9
Sylvia	3	5	4	8	1	2	6	7	11	12	10	9
Miffy	1	2	3	4	6	5	9	10	11	12	8	7
Jim	6	5	4	3	1	2	7	10	11	12	9	8
George	2	1	3	5	4	6	10	12	7	11	9	8
Jeff	5	3	4	2	1	6	7	8	11	12	10	9
Brian	7	1	3	2	5	6	10	12	11	4	8	9
Dick	4	1	2	3	6	5	7	8	10	12	9	11
Tom	10	1	3	2	6	7	5	11	8	12	9	4
Kevin	5	3	2	1	4	6	7	11	12	10	8	9
MF	1	6	1	2	4	0	0	0	0	0	0	0
LF	0	0	0	0	0	0	0	4	2	6	1	1

Note. The numbers in the row of MF indicate the summation of the number, 1, in one column which means the ranking of the most familiar. For example, in the column, CNY3, there are six 1s, so the number, 6, is shown in the cell of MF via CNY3. The numbers in the row of LF indicates the summation of the number, 12, in one column which means the ranking of the least familiar. For example, in the column, RC4, there are four 12s, so the number, 4, is shown in the cell of LF via RC4.

Table 3 and Figure 5 reveal that six out of 14 participants were most familiar with the passage *Chinese New Year*. Four participants were most familiar with the passage *The History of Tea* and two participants with *The Great Wall*. One participant was most familiar with the passages *Chinese Farming* and *Dr. Sun Yat-Sen*. None of the participants were most familiar with, the passage *Cooking and Eating*. Among the six

passages with Chinese topics, most participants felt most familiar with the passage *Chinese New Year* and least familiar with the passage *Cooking and Eating*.

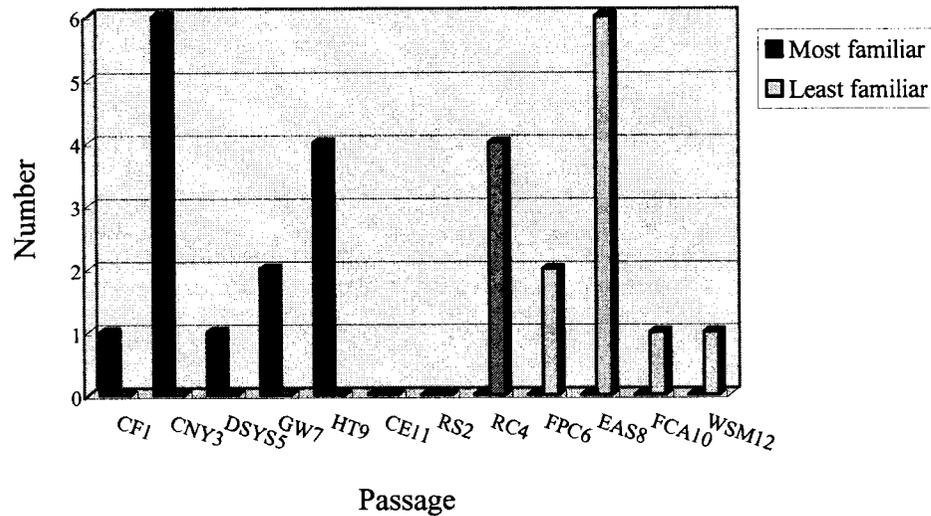


Figure 5. The passage familiarity ranking.

In contrast, the least familiar passage ranked by the 14 participants is the passage *Easter* with six participants' responding negatively for this topic. Four participants ranked the passage *Railway across Canada* as the least familiar one; two participants ranked the passage *First Peoples in Canada* as least familiar while one participant selected the passage *Fishing in Canada* and one participant indicated the passage *Ways of Sending a Message*. No participant felt the passage *River of Salmon* was the least familiar passage to be comprehended. Among the six passages with non-Chinese topics, most participants felt least familiar with the passage *Easter* and most familiar with the passage *River of Salmon*.

The explanation as to why the participants felt more or less familiar with the passages can be presented in two sections: factors in familiarity and factors in lack of

familiarity.

Factors in Familiarity

The qualitative analysis in Research Question 2 indicates that the participants possess two kinds of prior knowledge: out-of-school information and schooled information. The data from Tables 3 and Figure 5 show that the participants feel familiar with the passages. The participants' familiarity with these passages can be attributed to several factors which can also be categorized as (a) the participants' school-learned information and (b) daily life experience. These factors play a key role in familiarizing the participants with the passages.

School-learned information. Most participants explain that the reason why they felt most familiar with some passages is that they learned about these topics when they were in elementary or junior high school. For instance, the concepts that Dr. Sun Yat-Sen is a well known revolutionary and a famous politician are familiar to every Chinese and are taught over several grades in school. His brief biographical sketch is included in many social studies or history courses. His birthday had been legally proclaimed a commemorative day. A national meeting was held in memory of Dr. Sun Yat-Sen. Consequently, students are quite familiar with the passage about Dr. Sun Yat-Sen.

All of the 14 participants have lived in a big city, Taipei, since they were born. It is hard for them to see the sight of farmers working in the field or imagine the scene of fields and farms. The content of the passage *Chinese Farming* is mainly related to farming in Mainland China. It is quite unlikely that they would have much authentic experience about farming in their life. However, they are taught about Chinese farming in Geography class so what is mentioned in the passage is not unfamiliar to them

because of school experiences. *The Great Wall* is a similar example. Students receive knowledge about this topic from textbooks and teachers. The Great Wall is one of the most famous constructions in the world and also plays an important role in Chinese history, so students have had many opportunities to learn about the Great Wall in History classes even though they may not yet have had a chance to visit there.

Daily life experience. If the content of the passage is closely related to the participant's life experience, the participant may feel a great deal of familiarity with this passage. The passage about Chinese New Year is an example of participants drawing from their daily life experience to comprehend the passage. Chinese New Year is an unforgettable holiday in every Chinese person's memory if he/she grows up in a Chinese society. All of the participants were born in Taiwan and grew up in this Chinese society. They have experienced this holiday every year since their childhood. When speaking of Chinese New Year, a holiday scene somewhat suddenly appears in every participant's mind where as they stated:

On New Year's Eve, the whole family eats a meal together.

Before having dinner, every member in the family must worship the ancestors.

It is lucky for elders to give younger family members red envelopes with lucky money.

To usher in the new year, no one can go to sleep before midnight on New Year's Eve.

On New Year's Day, people put on new clothes and paste couplets.

Every family prepares a candy tray for their New Year guests.

On the second day of Chinese New Year, married women return to their parents' houses.

All these customs have been passed down generation by generation. This holiday is rooted in each Chinese mind and is a part of every Chinese person's life. So undoubtedly each participant feels very familiar with this passage.

As to the passage *The History of Tea*, tea drinking is a part of popular culture in Taiwan. Many Taiwanese like to drink tea and know how to brew tea. It is the custom for some families to drink tea every day. Jim and George recalled that when they were quite young, their parents took them to buy tea leaves and taught them some general tips for choosing tea leaves. After reading this passage, they could easily list four major types of tea and restate what the differences are between them.

Factors in Lack of Familiarity

For some passages with non-Chinese topics, some participants report that they did not learn anything about these topics at school and they have no idea what these topics are about. In Taiwan, people do not have many opportunities to learn about Canada. Hence, what they know about Canada is limited to general knowledge that Canada is north of the United States and that Canada is a huge country with beautiful scenery and natural resources. Some Taiwanese students go to Canada to tour and learn English. When reading the passage *Railway across Canada*, the participants said that they had no idea about the place names in Canada. For example, they questioned where Vancouver and Halifax were located, in the eastern, western, southern, or northern part of Canada? Thus, they could not form any concrete image of the direction of the transportation line in the passage. This unfamiliarity is not the same as the unfamiliarity of reading the passage *Chinese Farming*. They know the place names in China, such as Mongolia and Tibet. When these place names appear, they have an image of this place on the Chinese map in their mind. For example, Mongolia is in the north of China; Tibet

lies in the southwestern corner of the Chinese territory.

Some activities mentioned in the passages with non-Chinese topics seldom take place in Taiwan. For example, most religious activities in Taiwan are related to Buddhism and Taoism. The Christian holiday of Easter is not very popular in Taiwan, so most participants have no concept of what it entails. What's more, some participants expressed negative feelings toward the religion and thus had no interest in it. As a result, most participants ranked the passage *Easter* as the least familiar one. There is one exception for this passage based on personal interest. A female participant, Kathy, ranked this passage as the easiest one to comprehend. She showed a great interest in the Christian religion and even wants to be a Christian. She attended church quite often and joined the activities at a church in Taiwan, so she is knowledgeable about the customs and origin of Easter. She could make a personal connection to Easter.

Research Question 4. Do Taiwanese students find it easier to comprehend passages with Chinese topics than those with non-Chinese topics?

All 14 participants were required to assign ranks for passage difficulty to each passage. The easiest one was assigned a rank of one; the most difficult one was assigned a rank of 12. Table 4 and Figure 6 show that most participants consider the passages with Chinese topics to be easier to comprehend than those with non-Chinese topics. Of the Chinese passages, four participants considered the passage *The Great Wall* as the easiest one; three participants selected the passage *The History of Tea*; two picked the passage *Chinese Farming*, and one chose the passage *Chinese New Year*. No participant selected Chinese topic passages as the most difficult of all to comprehend. As to the passages with non-Chinese topics, eight participants felt the passage *Easter* was the

most difficult; three participants chose the passage *First Peoples in Canada*; two participants chose the passage *Railway across Canada*; one participant selected the passage *Fishing in Canada*. For the most part, notably with one exception for one passage, the participants found non-Chinese passages more difficult than Chinese passages. That one exception was one female participant who thought the easiest passage for her to comprehend was the passage with the non-Chinese topic *Easter*.

Table 4

The Ranking of Passage Difficulty

	Chinese						Non-Chinese					
	CF1	CNY3	DSYS5	GW7	HT9	CE11	RS2	RC4	FPC6	EAS8	FCA10	WSM12
Victoria	6	5	2	1	10	8	4	3	12	11	9	7
Amy	9	5	3	1	10	7	6	8	11	12	4	2
Lucy	2	1	9	8	3	4	10	12	11	6	6	5
Kathy	3	2	11	6	4	8	9	7	12	1	5	10
Jane	11	2	9	1	4	7	7	4	6	12	10	3
Sylvia	3	7	8	4	1	6	9	10	11	12	5	2
Miffy	1	3	5	3	5	8	9	9	11	12	5	2
Jim	6	5	4	3	1	2	9	9	9	12	9	8
George	2	7	5	5	5	9	7	12	2	11	10	1
Jeff	1	5	3	2	7	10	4	11	6	12	8	9
Brian	3	4	5	6	8	9	2	10	11	7	12	1
Dick	6	3	11	3	8	10	2	6	8	12	3	1
Tom	5	2	7	11	1	3	8	6	10	12	9	3
Kevin	5	9	4	1	2	7	6	11	12	10	8	3
EA	2	1	0	4	3	0	0	0	0	1	0	3
MD	0	0	0	0	0	0	0	2	3	8	1	0

Note. The numbers in the row of EA indicate the summation of the number, 1, in one column which means the ranking of the easiest. For example, in the column, GW7, there are four 1s, so the number, 4, is shown in the cell of MF via GW7. The numbers in the row of MD indicates the summation of the number, 12, in one column which means the ranking of the most difficult. For example, in the column, EAS8, there are eight 12s, so the number, 8, is shown in the cell of LF via EAS8.

Factors in Ranking the Most Difficult and the Easiest Passage

Personal Interests. Most participants regarded the passage *Easter* as the most difficult passage to be comprehended except for Kathy, who regarded it as the easiest. From her comments in the second interview, it is easy to see that she was personally interested in the Christian religion, had read some articles in Mandarin about Christianity, and sometimes attended church and joined in their activities. When reading this passage *Easter*, Kathy with her personal interest did not think it was difficult to understand. This result is consistent with the finding in the first interview that Kathy had experience with this topic. Her experience and her personal interest led her to select this passage as the easiest one to comprehend. Two other of 14 participants are from Christian families, but neither are they enthusiastic about religious events, nor did they express any extreme feelings of ease about this passage. Eight out of 14 participants who chose the passage *Easter* as the most difficult one for them to understand, showed no interest in this religion from the west. Two of the male participants, Dick and Tom, even held a negative attitude towards the Christian religion. They stated they did not like to read the passage. Dick added that he felt no interest in religion, so he seldom read anything about it. Without reading anything in that area, he felt he did not have much knowledge about the topic. Consequently, when he read the passage, he had a desire to finish reading this passage quickly, so he said he skipped some parts without reading it at all. He explained that even if he spent the time reading it, he still could not make sense of it so, "Why bother to read it?"

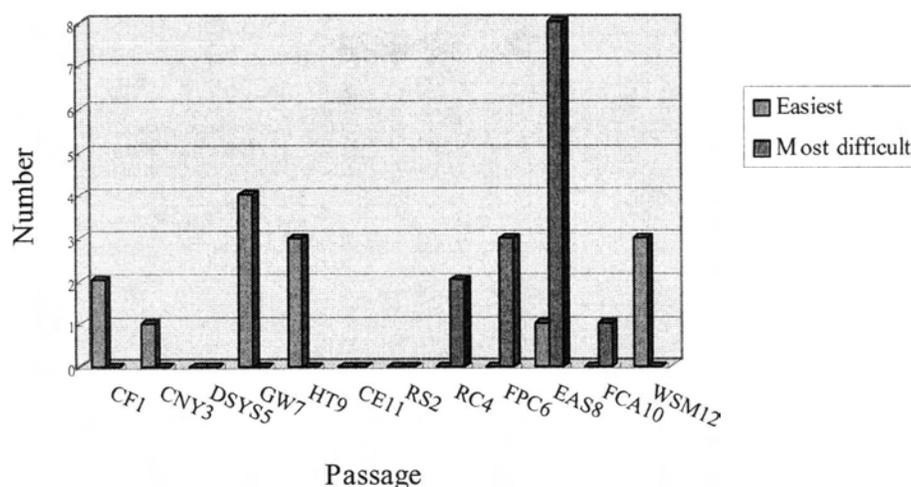


Figure 6. The passage difficulty ranking.

Vocabulary. Three participants indicated that the passage *First Peoples in Canada* was the most difficult passage for them to comprehend. Kathy commented that vocabulary was the major obstacle to her comprehension of the passage. She retold almost nothing about the last paragraph:

This article introduces a place called Canada. In North America then in that place, no city, no highway and no automobiles and no factory and mines. Then there was much fish in the lake; then in the forest there were many wild animals. Then they used woods to build the house, and that, the animal skin to build the house. Then they obtained the food by hunting, then went fishing by the river or the lake. Then, and, that is, they grew some crops. Then the article also mentions some other different ways of living, that is, in different places, people used different ways to make a living. And the article also mentions planting something, or hunting something, or collecting. I can not quite understand the very last part in this article.

The last paragraph in the original text she omitted is as follows:

In the Arctic, the Copper Inuit hunted seals. On the Pacific Coast, the Nuu-cha-nulth harpooned whales. In Eastern Canada, the Haudenosaunee raised crops of corn. Each part of the country provides its own way of making a living.

In the second interview, the researcher asked her to look at the passage again and point out the vocabulary she did not know. There are several new words for her including some place names (the Arctic, the Pacific Coast), tribe names (the Nuu-cha-nulth and the Haudenosaunee), a noun (seal) and a verb (harpooned). She could tell that the word with “-ed” is a verb but she could not figure out its meaning. She explained that her knowledge of whales only involved sightseeing in the zoo, so she could not guess what the word “harpoon” might mean. She also explained that she thought that the two terms, the Arctic and the Pacific Coast, could refer to place names, but she was not sure where they were. As to the words “Nuu-cha-nulth” and “Haudenosaunee”, she would not even make a guess saying, “They look weird.”

Victoria and Kevin also encountered vocabulary problems. When they read a passage with an unfamiliar topic, they stopped and focused on individual words. If they could not guess the meaning of the words from morphological and phonological clues, such as the prefix, the suffix or the capital letter, they gave up retrieving anything from the text. Without knowing the vocabulary meaning, they had no idea about the sentence meaning and they turned in guessing the meaning of the text and thus formed a general statement about the passage.

To sum up, the participants’ rankings of passage difficulty shows that Taiwanese students have some difficulty in comprehending the passages with non-Chinese topics. Their difficulty may result from the participant’s lack of interest in the topic, lack of

experience, or from unknown vocabulary.

Combined Analysis of the Passage Familiarity and the Passage Difficulty

The combined analysis of the passage familiarity and difficulty shows that the passages considered the least familiar were also considered the most difficult. For example, the passage *Easter* was considered the most difficult passage to comprehend by eight participants and was considered the least familiar passage by six participants. Two participants felt least familiar with the passage *First Peoples in Canada* and three participants regarded this passage the most difficult one to comprehend.

In parallel, the passages considered the most familiar can also be considered the easiest passages to comprehend. For example, four participants felt most familiar with the passage *The History of Tea* and three participants felt this passage easiest to comprehend. Two participants felt most familiar with the passage *The Great Wall* and four participants regarded this passage to be the easiest one to comprehend.

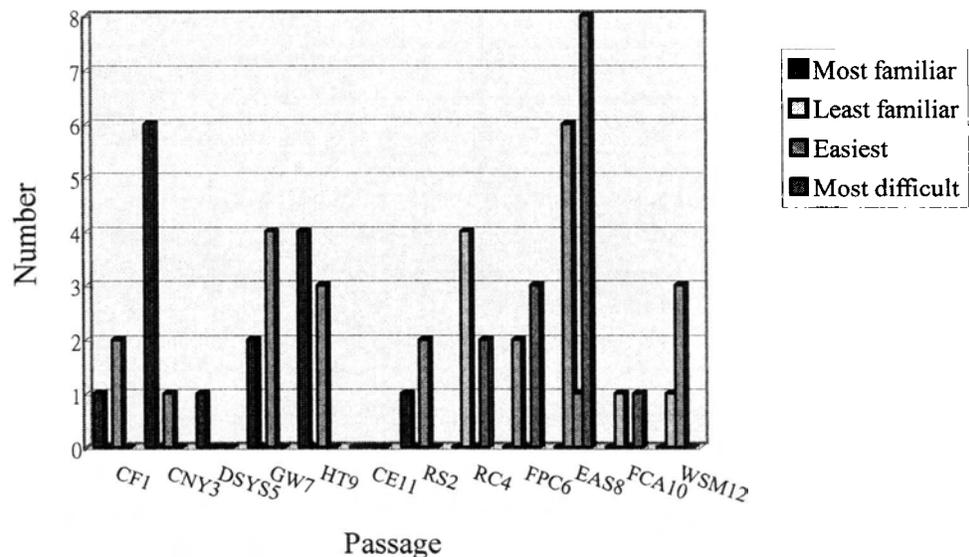


Figure 7. The passage familiarity and difficulty ranking.

In contrast, some inconsistent results are also demonstrated in Figure 7. For example, eight participants felt least familiar with the passage *Easter*, but one participant regarded it as the easiest one to comprehend. Also, while six participants felt most familiar with the passage *Chinese New Year*, only one participant regarded it as the easiest one to comprehend. Possible reasons for familiarity have already been discussed; however, the content of the passage does not exactly fit the Taiwanese participants' perception of Chinese New Year. One participant, Sylvia, commented that the content is not exactly related to the activities for Chinese New Year she experienced and another participant, Kathy, pointed out that the activity described in the passage does not take place in Taiwan.

Through the two participants' comments, it can be noted that the specificity of differences within similar cultural contexts reflected in the content of the passage can be yet another factor influencing the participants' comprehension. When speaking of Chinese New Year, Taiwanese people may link their experience to wearing new clothes, families getting together, and children receiving lucky money from elders. Some other Chinese people in other Chinese societies may connect their experience with eating special food, such as water dumplings on the eve of Chinese New Year, waving red strips for good luck, or performing the dragon dance. Had the author been from Taiwan, the content of the passage *Chinese New Year* would be more comprehensible to Taiwanese students. The author of the passage is from Mainland China, not from Taiwan. With the different life experience in the two areas, the author's perception of Chinese New Year is a little different from that of Taiwanese students and helps explain the inconsistent results in this second example.

In summary, the combined analysis of the passage familiarity and the passage difficulty discloses four patterns. First, the passage considered the most familiar is also considered the easiest to comprehend. Second, the passage considered the least familiar is also considered the most difficult. Third, the passage *Easter* is considered the least familiar by eight participants but is considered the easiest by only one participant. Finally, the passage *Chinese New Year* is considered the most familiar by six participants but is considered the easiest by only one participant. The first two patterns can be supported by the results from the participants' point of view, namely that the variable "familiarity" may have a positive relationship with another variable "difficulty". The factors influencing the third pattern may result from the participant's personal interest and the fourth pattern may result from the unfamiliar concepts due to the small differences between Mainland China and Taiwanese culture

Completeness of the Participants' Retellings

Research Question 5. Is there a difference between Taiwanese students' number of thought units while retelling passages with Chinese versus non-Chinese topics?

Since the purpose of this research is to judge if there is a difference in the ratio of thought units retold by the 14 participants in terms of passages with Chinese and non-Chinese topics, a two-tailed test was used. This test is conducted at the .05 level of significance. As shown in Table 5, this group of 14 participants has a mean score (S_1) of 0.656 for the six passages with Chinese topics with a variance of 0.005; a mean score (S_2) of 0.498 for the passages with non-Chinese topics with a variance of 0.004. With $S_1 = 0.656$, $n_1 = 14$, $S_2 = .498$, $n_2 = 14$ and $df = 13$, the result of the calculated t value is 9.831 and the $t_{.025}$ critical value with 13 degrees of freedom is 2.160, and does not fall into the

rejection region. Thus, it can be concluded that there is a significant difference in the retelling scores of the two groups: the passages with Chinese and non-Chinese topics. Most Taiwanese students retell more thought units for the passages with Chinese topics than for those with non-Chinese topics. One exception is the passage, *Ways of Sending a Message*. The mean score of this passage (60.5%) is slightly higher than the Chinese topic passage *Chinese New Year* (60%) and higher than the other two Chinese topic passages *Chinese Farming* (59.2%) and *Dr. Sun Yat-Sen* (59%). Among the six Chinese topic passages, the passage *The Great Wall* (72.5%) is retold with the most thought units; the passage *Dr. Sun Yat-Sen* (59%) is retold with the least thought units. Among the six non-Chinese topic passages, the passage, *Ways of Sending a Message* (60.5%) is retold with the most thought units; the passage *Railway across Canada* (36.2%) is retold with the least thought units. Thus, among the twelve passages, the Chinese topic passage *The Great Wall* (72.5%) is retold with the most thought units and the non-Chinese topic passage *Railway across Canada* (36.2%) is retold with the least thought units.

Though the general result shows that there is a significant difference between the participants' thought units in the passages with Chinese topics and those with non-Chinese topics, some particular cases and exceptions need to be elaborated. In the following section four situations are discussed: first, some participants have particularly high scores for the Chinese topic passages; second, some have exceptionally low scores for the Chinese topic passages; third, some students have particularly low score for non-Chinese topic passages, and fourth, some have exceptionally high score for the non-Chinese topic passages.

Table 5
Means and Standard Deviations for the Twelve Passages

	Chinese						Non-Chinese					
	GW7	HT9	CE11	CNY3	CF1	DSYS5	WSM12	FCA10	RS2	EAS8	FPC6	RC4
Victoria	0.78	0.75	0.75	0.57	0.56	0.70	0.56	0.32	0.48	0.35	0.44	0.32
Amy	0.61	0.55	0.55	0.52	0.56	0.52	0.72	0.42	0.57	0.45	0.39	0.37
Lucy	0.67	0.70	0.70	0.62	0.78	0.70	0.61	0.68	0.7	0.35	0.67	0.37
Kathy	0.78	0.60	0.60	0.48	0.67	0.43	0.39	0.63	0.39	0.4	0.39	0.32
Jane	0.61	0.80	0.80	0.62	0.39	0.52	0.56	0.58	0.57	0.45	0.44	0.37
Sylvia	0.72	0.60	0.60	0.43	0.50	0.57	0.5	0.53	0.48	0.50	0.39	0.32
Miffy	0.78	0.70	0.95	0.71	0.67	0.74	0.78	0.53	0.48	0.60	0.44	0.47
Jim	0.78	0.95	0.70	0.76	0.56	0.57	0.61	0.68	0.74	0.60	0.50	0.32
George	0.72	0.75	0.75	0.71	0.61	0.65	0.56	0.58	0.52	0.40	0.50	0.37
Jeff	0.72	0.65	0.65	0.67	0.56	0.52	0.67	0.37	0.57	0.50	0.50	0.32
Brian	0.83	0.80	0.80	0.67	0.61	0.61	0.56	0.68	0.44	0.65	0.33	0.37
Dick	0.72	0.75	0.75	0.63	0.72	0.57	0.61	0.68	0.74	0.50	0.67	0.42
Tom	0.61	0.60	0.60	0.52	0.44	0.52	0.56	0.68	0.35	0.30	0.28	0.32
Kevin	0.83	0.85	0.85	0.62	0.67	0.65	0.78	0.58	0.52	0.50	0.33	0.42
Means	0.726	0.718	0.718	0.60	0.593	0.591	0.605	0.567	0.539	0.468	0.448	0.363
SDs	0.074	0.108	0.108	0.092	0.102	0.085	0.102	0.117	0.116	0.099	0.111	0.047
Total Means						0.656						0.498
Total SDs						0.112						0.130

Note. The number in each cell represents a percentage score. For example, 0.48 = 48%. To make it easier to be read, the passages in each section (Chinese Topics and Non-Chinese Topics) were ordered from the greatest to the least mean.

Particularly High Scores for Some Chinese Topic Passages

Two participants, Kevin and Jim, achieved particularly high scores in some passages with Chinese topics. The data from Table 5 demonstrate that Kevin's percentage on *The Great Wall* (83 %), *The History of Tea* (85 %) and *Cooking and Eating* (89 %) are respectively much higher than the total mean score for the total passages with Chinese topics (66 %). It is possible that he has much more prior knowledge and experience with the topics of these three passages. For example, after his

retelling of the passage *The History of Tea*, he mentioned that his aunt owns a tea farm and a tea factory and he visits there quite often. He has been knowledgeable about tea since he was a little child.

From the data in the second interview, his comments indicated that he was quite interested in studying the Ch'in Dynasty when he was in junior high school. A few years ago there was an exhibition about a clay army of life-size soldiers and horses in the Ch'in dynasty in the Palace Museum in Taipei. He visited there and gathered information about the Ch'in Dynasty and the clay army. Kevin's retelling of the passage *The Great Wall* is elaborate and definitely expressed considerable extra historical background knowledge about the Ch'in Dynasty which is not stated in the text:

Before China was united by Ch'in Shiuh Huang in 221 B.C., China was in a collapsed situation. It was the period of Warring States and there were seven kingdoms contended for hegemony (Kevin).

Furthermore, after reading this passage, he did not think the statement about the construction of the Great Wall was clear, specifying that:

Most of the construction of the Great Wall was not only completed by Ch'in Shiuh Huang. He connected several towers and built some parts. The construction of the Great Wall is still undergoing in other dynasties in the Chinese history.

When he finished reading the passage *Cooking and Eating*, in accordance with his knowledge of the essence of Chinese traditional culture, he commented that Chinese cuisine is famous throughout the world. His family is fond of tasting Chinese cuisine and they often go out on the weekend to a Chinese restaurant to have dinner.

Another participant, Jim, retold a rather high percentage of thought units for the passage *The History of Tea*. Ninety-five percent of the content of the passage is retold. A comparison of the text with his retelling clearly reveals that he was able to retell and recount all of the main ideas and most of the supporting details found in the text. He also correctly sequenced the ideas contained therein and exhibited his understanding of the sequential nature of the text through his use of signal words such as “and then” and “and now.” Likewise, he not only accurately summarized and identified what he read and expressed a clear opinion about the passage, but he related the text to his own life. In the second interview, he reported that he was constantly gaining knowledge about tea when his father took him to buy tea leaves. He commented that the structure of the passage was very organized, such as the history of tea first and the introduction of four types of tea later. Owing to his personal knowledge about tea, it was easy for him to retell the features of each type of tea. When retelling this passage, he expressed many feelings of satisfaction as well as offered clear and concise statements that he wanted to share with the researcher.

Exceptionally Low Scores for Some Chinese Topic Passages

Some participants' lower percentage scores for retelling the passage *Dr. Sun Yat-Sen* can be explained with the following examples. Kathy only responded with 43 % of the passage. After her retelling of the passage *Dr. Sun Yat-Sen*, the researcher noted that she looked very tired and asked what the trouble was. She said that she had a PE class right before the retelling meeting and she felt exhausted. She could not pay attention to most of the passage. Accordingly, she got a low percentage score for this passage. In addition, another four participants, Andy, Jane, Jeff and Tom retold 52 % of

the content of the same passage. Their percentage scores are slightly lower than the general mean score of the passage *Dr. Sun Yat-Sen* at 59%. By examining Amy and Jane's retelling protocols, it was found that a majority of their retelling responses consisted of generated ideas about how Dr. Sun succeeded in setting up a new government. Some detailed descriptions for some events are not included, such as "He was a doctor", "He was forced to spend much of his time between 1895 and 1911 away from China", "Dr. Sun was a rebel against the emperor's government," and "This new China would be more like Western countries." The following lines are from Amy's retelling of the passage *Dr. Sun Yat-Sen*:

Dr. Sun Yat-Sen was very cared about the ancient China. He lived in China and left China to another country and raised money to save China. He had go to Canada three times to raise money. In 1911 he has a chance to succeed and set up a new government. He didn't make a, didn't found a country quite successfully because warlords have a private army. In China, other countries, they invaded China and people suffered a lot. He wanted to set up an ideal country but he did not have a chance. Warlords occupied the farmer's land and farmers couldn't do farming. He had visited other countries several times and raised money from Chinese people overseas.

In the second interview, Jeff and Tom commented that they do not like to study history. When reading this passage *Dr. Sun Yat-Sen*, they stated they already knew what a great person he was and felt it to be boring. They just quickly glanced at some important ideas without checking the details of the passage and when they came upon some parts they could not make sense of, they just left them and kept on reading.

Further examination of the data from Table 5 shows that some other participants produced fewer thought units than expected in their retelling of the passages with other Chinese topics. For example, Kathy's and Sylvia's scores with the passage *Chinese New Year* are 48% and 43% respectively. Notably, the scores show that half of the passage is not retold. Looking at Kathy's retelling protocol as a whole, what she missed includes the whole third paragraph about the dragon dance and the beginning part of the fourth paragraph which describes dragons as being the imaginary rulers of the clouds and explains how dragons can be divided into kind and cruel ones related to the crop harvest.

Also as she read, she questioned the statement, "they are waving paper streamers colored red for good luck." During her retelling, she mentioned that people waved something but she was uncertain what it was. She gave up trying to retell that part. This custom may be a custom in other Chinese communities but from the researcher's experience, in Taiwan, people do not actually wave paper streamers colored red for good luck during the Chinese New Year. After reading this passage, Kathy also asked the researcher who the author was. She mentioned that some New Year's activities depicted in the passage do not exactly take place in the Chinese New Year in Taiwan. For instance, she said that for Chinese New Year they usually do a lion dance rather than a dragon dance. The dragon dance is usually performed on a special holiday such as the Double Tenth Day in October.

In Sylvia's comments in the second interview, she stated that her family is a Christian family but they do not go to church often. Her family does not prepare many activities for Chinese New Year; they sometimes just stay at home and watch TV. After her retelling of this passage, she added her opinions that dragons are discussed a lot in

the passage even though the topic of the passage is Chinese New Year. She could not relate the dragon to the topic *Chinese New Year*, so she could not retell much about the dragon.

Particularly Low Scores for Some Non-Chinese Topic Passages

Most participants retold fewer thought units for the non-Chinese passages. Six out of 14 participants' lowest score for the passages is the one *Railway across Canada*. The average mean score of this passage is the lowest. In the second interview, Victoria, Kathy, and Jeff stated that they seldom took the train in Taiwan. Due to a deficiency of life experience about the railway, they retold fewer thought units for the passage *Railway across Canada*.

Even though Kevin and Jim received particularly high scores for some Chinese topic passages, the amount of their retelling for some non-Chinese topic passages was quite limited. For example, Kevin received the lowest score for the passage *First Peoples in Canada* compared with his particularly high scores for the passages *The Great Wall*, *The History of Tea*, and *Cooking and Eating*. Kevin stated that he does not know much about Canada. In the same way, Jim received the highest scores among the twelve for the passage *The History of Tea*, but received the lowest score among the twelve for the passage *Railway across Canada*. Jim said he did not like Geography as a subject and seldom studied it.

Exceptionally High Scores for Some Non-Chinese Topic Passages

The participants generally retold more thought units for the passage *Ways of Sending a Message* than the passages *Chinese Farming* and *Dr. Sun Yat-Sen*. Though these two passages, *Chinese Farming* and *Dr. Sun Yat-Sen*, fall into the category of

Chinese topics, they contain more specific and complex concepts that describe how Chinese people make a living in each region in China and what contribution Dr. Sun made to the Chinese political system. In opposition, concepts described in the passage *Ways of Sending a Message* are more general in nature. For example, in the first paragraph, the concept of the Greek soldier's delivering a message connects to global scientific knowledge about light reflection, but does not particularly focus on Greek culture.

Greek soldiers sent messages by turning their shield toward the sun. The flashes reflected from sun light could be seen several miles away. The enemy did not know what flashes meant, but other Greek soldiers could understand the messages. (*Ways of Sending a Message*)

The second paragraph is about the message shouted by Roman soldiers on signal towers:

Roman soldiers in some places built long rows of signal towers. When they had a message to send, the soldiers shouted it from tower to tower. If there were enough towers and enough soldiers with loud voices, important news could be sent quickly over a long distance. (*Ways of Sending a Message*)

Eleven out of 14 participants could connect this concept in the text with that about Chinese soldiers' way of delivering a message on the Great Wall between towers. Moreover, Dick pointed out a slight difference between Chinese and Roman soldiers, and further commented that Chinese soldiers use smoke as a signal while the Romans shouted to each other and that the Roman way was not as effective. Most Taiwanese students are taught about sunlight reflection used as message delivery between signal

towers so they can comprehend this paragraph without much trouble and thus, their retelling of this passage is more complete.

Another explanation can be offered for the lower mean scores of the passages in Table 5, *Chinese Farming* (59%) and *Dr. Sun Yat-Sen* (59%) which are lower than the total mean score (66%) for the total passages with Chinese topics. The passage *Chinese Farming* is the first passage of the twelve that the participants were asked to retell. It is possible that the participants' unfamiliarity with the retelling technique and their nervousness may have caused fewer thought units to be retold.

First, owing to extensive prior knowledge about certain Chinese topics, the percentage scores of Kevin's and Jim's retellings for some passages with Chinese topics are particularly high.

Second, the mean scores of the two passages with Chinese topics *Chinese Farming* and *Dr. Sun Yat-Sen* are much lower than the total mean score of the six passages with Chinese topics. One possible explanation is that the concepts incorporated in the two passages are more specific and complex. As they did not have much time to study them in depth, the participants could not retell them well.

Also, some participants' individual scores of thought units for the passages with Chinese topics are much lower than the passage scores. Possible explanations for this could be: personal problems on that day; generic but not specific ideas from the passage; not liking to study history, and the activities mentioned in the passage are different from those in Taiwan.

Third, the mean score of the passage *Ways of Sending a Message* is higher than *Chinese Farming* and *Dr. Sun-Yat-Sen*. A possible explanation is the concepts included

in the first passage are more generic and not as culturally specific as the others.

Fourth, owing to the lack of life experience, six participants retold the lowest score for the passage *Railway across Canada*. Besides, a deficiency of prior knowledge about the country Canada and the railway, the percentage scores of Kevin's and Jim's retellings for the passage *Railway across Canada* is particularly low though their retellings for the Chinese topic passages are particularly high.

The Role of Prior Knowledge in the Four Categories of Retelling Information

In the following section, the relationship between the participants' retellings and their English reading comprehension is discussed. Each participant's retelling protocol is summarized in terms of synthesizing, analyzing, inferring and erroneous processing categories. *T*-tests are used to test for any significant difference between the passages with Chinese and non-Chinese topics, regarding synthesizing, analyzing, inferring, and erroneous processing information. A two-tailed test is used and the .05 level of significance is specified. These data are presented in Tables 6-15 respectively.

Research Question 6. Is there a difference between Taiwanese students' synthesizing information while retelling passages with Chinese versus non-Chinese topics?

As shown in Tables 6 and 7, there is no significant difference in the participants' synthesizing information when retelling the passages with Chinese ($M = 2.88$, $SD = 1.79$) and those with non-Chinese topics ($M = 2.70$, $SD = 1.39$), $t(13) = 0.83$. The amount of the participant's synthesizing information in the retelling of the passages with Chinese topics is not much different from that in the retelling of the passages with non-Chinese topics.

Table 6
Means and Standard Deviations for Synthesizing Information

	Chinese					
	CF1	CNY3	DSYS5	GW7	HT9	CE11
Victoria	1	5	6	1	2	2
Amy	3	7	6	3	2	3
Lucy	2	1	3	2	3	4
Kathy	1	7	4	1	2	2
Jane	2	6	7	3	0	4
Sylvia	2	6	4	3	2	2
Miffy	1	4	2	2	1	3
Jim	1	2	4	3	1	1
George	3	3	4	1	0	1
Jeff	2	6	3	3	0	2
Brian	1	5	4	5	4	5
Dick	1	2	6	3	5	3
Tom	0	6	4	2	1	4
Kevin	1	5	3	2	2	1
Means						2.881
SDs						1.789

* $p < .05$.

Synthesizing Information

Synthesizing involves “an integrating or collapsing of material – an awareness of the whole” (Fagan, 1987, p.65). In synthesizing, Fagan (1987) explains that “the reader is actually searching for a unity or integration within the information presented” (p.65). Synthesized information is drawn from the passage, combined and related by the student who does the retelling task (Alberta Education, 1986). The student reconstructs the author’s words and ideas when retelling (Alberta Education, 1986). From the syntactic point of view, Fagan (1987) proposes another level of synthesizing task which “involves the embedding of information from different syntactic units” (p.65). Synthesized information may come from more than one part of the passage.

Table 7

Means and Standard Deviations for Synthesizing Information

	Non-Chinese					
	RS2	RC4	FPC6	EAS8	FCA10	WSM12
Victoria	6	3	4	4	1	4
Amy	3	4	3	2	2	3
Lucy	3	1	1	2	1	3
Kathy	2	2	4	2	1	2
Jane	5	3	4	4	1	5
Sylvia	3	2	2	1	2	3
Miffy	6	1	1	3	2	4
Jim	3	2	1	3	1	0
George	4	2	5	3	2	2
Jeff	4	2	1	3	1	2
Brian	3	0	3	4	5	4
Dick	4	4	3	5	3	3
Tom	4	4	4	3	4	4
Kevin	2	2	0	1	0	2
Means						2.702
SDs						1.387

* $p < .05$.

In the current study, the actual synthesizing information identified from the participants' retelling protocols is mostly main ideas based on several supporting details. Most participants generalize several sentences, clauses or phrases into a larger gist, that is, one statement interweaving the meanings from two or three sentences. Some synthesizing information from the participants' retelling for the passage *Easter* is used to illustrate how synthesized messages are produced:

Easter probably comes in spring from March to April. (Victoria)

The first Sunday in spring each year. (Jane)

It comes on a different date each year, probably from March 22 to April 25.

(Miffy)

Easter comes on different dates every year because it is the first Sunday after the first full moon. (Jeff)

It probably comes after March 21, the first full moon, then probably between at the end of March and at the end of April, one Sunday is Easter. (Brian)

Then Easter usually comes on a different each year because it takes place on the first Sunday after the first full moon after March 21. (Dick)

Most participants can summarize a segment of the text about when Easter comes every year. While reading this passage, the facts are there and not much prior knowledge is required to assist participants in understanding this passage. However, they need significant vocabulary knowledge. As a result, they skip retelling the segments that they have no prior knowledge about and the statements with some unknown vocabulary in them. There is not much new vocabulary in the second paragraph description about when Easter takes place:

Easter is always celebrated on a Sunday in early spring. But it comes on a different date each year. This is because it always takes place on the first Sunday after the first full moon after the spring equinox (March 21). So Easter can come anytime from March 22 to April 25. (*Easter*)

Thus, most participants can make sense of this paragraph and make a generalized statement for it. Most of their synthesizing information is connected to this part of the passage.

In the second interview, most participants indicated that the third paragraph was the most difficult part for them to understand. They spoke frequently of their insecurity and misunderstanding regarding this paragraph. Signal words, such as “seem”, “probably”, “can be” appear in their retellings quite often. In comparison with other passage retelling

protocols, the total length of their retelling for this passage *Easter* is relatively short.

When participants had no idea what to retell, they usually prefaced their retelling with a short over-generalization such as:

This article talks about Easter. (Brian)

This article is about Jesus and his death. (Kevin)

Such over-generalizations seem to be a strategy they use to fill up the blank in their understanding or also when they have trouble understanding the content. For example, in the third paragraph in the text:

The week before Easter is called Holy Week. It begins with Palm Sunday, which celebrates the day Jesus rode into Jerusalem and the people scattered palm leaves before him. Christ's Last Supper is celebrated on Holy Thursday. His death on the cross is remembered on Good Friday. (*Easter*)

Some participants would honestly respond, "I cannot make sense of this paragraph." or "I do not remember." So they give up retelling any details about the passage. However, some participants with high motivation would try to make some response by summing up in very vague generalizations, such as "The whole week, people do these things (Tom)," and "There are colorful eggs and rabbits (Victoria)." These broad over-generalizations are still categorized as synthesizing information in the study although they are a much different synthesis that summarized main ideas.

The task of synthesizing information may include the ability to give summary statements which adequately reflect the essence of the passage's content. Virtually all of the participants were able to identify the important message they learned from most passages. The statistical data from Tables 6 and 7 show no significant differences in the

synthesizing information in the retelling responses of the passages with Chinese and non-Chinese topics. After examining all synthesizing information in the retelling protocols, it appears that the participant's synthesizing information draws upon both the participant's culturally specific prior knowledge and non-culturally specific prior knowledge (i.e. cross-cultural prior knowledge). For Taiwanese students in this study, their cross-cultural prior knowledge includes knowledge shared between Taiwan, Canada and some European countries. For example, the following three pieces of the participants' retelling protocols indicate Taiwanese students' cross-cultural prior knowledge about the passage *First Peoples in Canada*:

The aboriginal people make a living by hunting in the wood, and fishing in the lake.

The aboriginal people use the wood to build a house.

The aboriginal people make clothes from animal skins or fur.

Some concepts included in the passage *First Peoples in Canada* are related to Taiwanese students' cross-cultural prior knowledge about the aboriginal peoples. As a result, Taiwanese students may make use of their cross-cultural prior knowledge in this area to embed an over-generalized, synthesized statement from this passage rather than truly understanding the specific passage meaning and then synthesizing that meaning correctly.

The occurrence of synthesizing information may primarily depend on the participant's prior knowledge. If the participant has culturally specific knowledge about the text, he/she can synthesize the passage with a higher degree of sophistication. If the participant lacks culturally specific knowledge about the text, he/she may further rely on his/her cross-cultural prior knowledge, synthesizing information in a more generalized

way. If the participant possesses neither culturally specific knowledge nor cross-cultural prior knowledge, this piece of the passage message in the text is not retold at all.

The passages with non-Chinese topics may include several messages related to culturally specific prior knowledge and also, in some part, to cross-cultural prior knowledge. When retelling the passages with non-Chinese topics, the presence of synthesizing information occurs as often as in passages with Chinese topics. Therefore, there is no difference in type of synthesizing information found between the two types of passages.

Research Question 7. Is there a difference between Taiwanese students' analyzing information while retelling passages with Chinese versus non-Chinese topics?

The data from Tables 8 and 9 show that analyzing information is significantly better for the passages with Chinese topics ($M = 8.93$, $SD = 2.7$) than for the passages with non-Chinese topics ($M = 6.61$, $SD = 2.74$), $t(13) = 6.96$. That is, the participants retell more analyzing information for the passages with Chinese topics than for the passages with non-Chinese topics.

Table 8

Means and Standard Deviations for Analyzing Information

	Chinese					
	CF1	CNY3	DSYS5	GW7	HT9	CE11
Victoria	8	7	8	9	13	7
Amy	5	5	2	5	10	9
Lucy	11	9	12	8	8	8
Kathy	9	5	4	11	9	8
Jane	8	11	7	6	15	6
Sylvia	7	3	6	8	9	8
Miffy	10	8	10	9	15	11
Jim	9	15	9	10	10	10
George	4	11	8	11	15	9
Jeff	8	7	10	8	13	13
Brian	8	10	8	9	13	11
Dick	10	12	8	8	7	12
Tom	6	9	6	8	8	6
Kevin	9	7	12	11	11	14
Means						8.929
SDs						2.703

* $p < .05$.

Table 9

Means and Standard Deviations for Analyzing Information

	Non-Chinese					
	RS2	RC4	FPC6	EAS8	FCA10	WSM12
Victoria	2	4	5	3	4	8
Amy	5	4	4	6	7	6
Lucy	5	4	11	3	11	8
Kathy	3	6	5	6	10	8
Jane	4	5	4	6	12	4
Sylvia	7	4	6	9	11	6
Miffy	6	5	8	8	9	8
Jim	7	3	10	8	1	10
George	5	3	8	8	10	10
Jeff	8	4	8	5	11	10
Brian	6	7	4	9	8	8
Dick	6	3	11	5	11	8
Tom	5	2	3	2	7	6
Kevin	7	6	7	10	13	12
Means						6.607
SDs						2.743

* $p < .05$.*Analyzing Information*

This category includes “actual information from the passage with minimal changes. The student remembers and retells the author’s words. Sometimes the student uses the exact wording from the passage” (Alberta Education, 1986, p.45). The task of analyzing focuses on the ability to rephrase one chunk of meaning in the student’s own words or the author’s words without intermingling the meaning from several sentences. In this study, analyzing information is verbatim in nature.

Following is an analysis of analyzing information in a sample of the participant’s retelling of the passage *Fishing in Canada*. Recently, the Taiwanese government has

placed emphasis on the issue of environmental protection. The students are instructed to notice pollution problems, practice recycling, and keep water resources from being polluted. Since Taiwan is surrounded by water, food supply and daily activities largely rely on the ocean. Taiwanese students are instructed to be concerned with the problem of ocean pollution and to try to find solutions to this problem. So when reading the passage *Fishing in Canada*, most of the participants could retell verbatim the three statements related to discussing the reasons why salmon no longer return to the coast:

Some people blame the fishers for catching too many. Other people say the rivers are polluted, so the fish are dying off. Still others say the ocean is getting warmer, causing the salmon to change their habits. (*Fishing in Canada*)

One participant's (George) developing understanding of the text quoted above is evident:

Some people think the fishers catch too much. The ocean and the river are polluted. Some other say the ocean is getting warmer and warmer, so salmons change their habits.

Though the topic is a culturally specific one concerning fishing in Canada, the content of this piece of the text can be indicative of cross-cultural prior knowledge, not specifically related to Canada. Thus, the analyzing information for this text is associated with the participants' cross-cultural prior knowledge in the field of environmental protection and is quite complete.

In contrast, the participants provide a rather limited amount of analyzing responses for the remainder of the passage *Fishing in Canada* which explains the dwindling situation of the stock in eastern coast fishing communities, especially in Newfoundland.

The Taiwanese participants lack culturally specific prior knowledge about life in Newfoundland. They just omit reference to this section from their retelling and do not contribute any analyzing information about the extinction of cod fish on the east coast or the dwindling communities in Newfoundland. Instead, they generalize that people are trying to find ways to solve their problems.

Another example of using cross-cultural prior knowledge is evident when looking at the participant's retelling protocols for the passage *First Peoples in Canada*. All of the 14 participants' retelling protocols depict such descriptions: "They use wood to build the house and use animal skins to make clothes," "They go hunting and fishing for food," and "They go fishing in the lake". One possible reason for this is that there are several groups of aboriginal people residing in Taiwan. With the government's advocacy of protecting the culture of Taiwanese aborigines, students are educated about aboriginal cultures and learn general knowledge of how aboriginal peoples make a living but again lack the culturally specific knowledge for much of the passage.

The data from Tables 8 and 9 demonstrate that prior knowledge obviously has a significant effect on analyzing information between the passages with Chinese topics and those with non-Chinese topic. With culturally specific prior knowledge on Chinese topics, the participant strengthens his/her comprehension and makes an attempt to respond with more analyzing information in the Chinese passages; with cross-cultural prior knowledge, the participant provides comparison statements and retells fewer analyzing responses for the non-Chinese passages; in contrast, without prior knowledge of a topic, the participant tends to be uncertain and agitated about his/her comprehension and therefore, almost can not give any analyzing information for the passages.

Research Question 8. Is there a difference between Taiwanese students' inferring information while retelling passages with Chinese versus non-Chinese topics?

The data from Tables 10 and 11 also indicate that inferring information is also significantly better for the passages with Chinese topics ($M = 1.82$, $SD = 1.88$) than for the passages with non-Chinese topics ($M = 0.33$, $SD = 0.64$), $t(13) = 4.99$. The participants make more inferences when retelling the passages with Chinese topics than when retelling the passages with non-Chinese topics.

Table 10

Means and Standard Deviations for Inferring Information

	Chinese					
	CF1	CNY3	DSYS5	GW7	HT9	CE11
Victoria	0	3	4	1	1	4
Amy	0	4	1	0	2	0
Lucy	0	5	3	2	0	0
Kathy	0	2	0	2	0	1
Jane	2	2	0	3	1	0
Sylvia	1	1	2	2	1	1
Miffy	0	4	0	2	2	1
Jim	0	1	1	0	1	0
George	4	9	4	7	0	2
Jeff	0	1	0	1	1	3
Brian	1	4	2	1	2	3
Dick	1	1	2	1	1	0
Tom	1	4	1	2	1	4
Kevin	9	6	2	3	3	3
Means						1.821
SDs						1.885

* $p < .05$.

Table11

Means and Standard Deviations for Inferring Information

	Non-Chinese					
	RS2	RC4	FPC6	EAS8	FCA10	WSM12
Victoria	0	0	2	0	0	2
Amy	0	0	0	0	0	0
Lucy	0	0	0	0	0	0
Kathy	2	0	0	0	0	2
Jane	0	0	0	0	1	1
Sylvia	0	1	2	0	1	0
Miffy	0	1	1	0	0	0
Jim	0	0	1	0	0	0
George	0	1	0	0	2	0
Jeff	0	0	0	0	0	0
Brian	0	0	0	1	2	0
Dick	0	0	0	0	1	0
Tom	0	1	0	0	0	0
Kevin	0	0	2	1	0	0
Means						0.333
SDs						0.642

* $p < .05$.*Inferring Information*

Inferred information is the information added by the reader to fill gaps left by the author (Alberta Education, 1986). Inferred information is based on “the student’s prior knowledge and the information in the passage” (Alberta Education, 1986, p. 44). Thus, further evidence of the impact of the participant’s prior knowledge on his/her reading comprehension draws upon the inferences in the retellings. The more inferences the participant makes, the more prior knowledge he/she activates to comprehend the reading material.

The data from the statistical analysis reveal that the participants draw more inferences in retelling the passages with Chinese topics than in retelling the passages with non-Chinese topics. During the passage retelling, the majority of participants actually relate the texts to their prior knowledge in some way. Some participants drew substantive comparisons between the text information and their prior knowledge accumulated from their life experience. For example, Kathy pointed out, “It is almost the Chinese New Year” when she first saw the passage *Chinese New Year*. Her retelling was recorded in December 2002. According to Chinese custom, the Chinese New Year usually comes between January and February. Another example is Miffy’s retelling of the passage *First Peoples in Canada*. Her grandmother is an aboriginal person, so she has some knowledge about what the aboriginal people’s life is like now. Owing to her background, she concluded that “the way how aboriginal people live and the way how they make a living mentioned in the passage are quite different from those today.” Furthermore, while retelling the passage, *Ways of Sending a Message*, Victoria and Kathy, also provided comparison statements such as, “It is like the scout using flags to send the message,” and “It is similar to flag-signals. ” It is possible that they took scout lessons when they were in junior high school.

Using the knowledge learned in school, some participants (Jim, Sylvia, Lucy, Amy, Tom) offered a rather detailed, reasonable description in their inferences. For example, throughout the retellings of the passage *Dr. Sun Yat-Sen*, the amount of inferred information was quite detailed for all four participants. For example, Sylvia stated that “[Dr. Sun] was defeated by warlords.” Some participants provided a detailed description about the warlord and how Dr. Sun was defeated in the following examples:

Dr. Sun surrendered to warlords and the warlord, Yuan Shih-Kai controlled China.

(Jim)

The warlord began to force people to follow the new law. (Lucy)

The warlord occupied the farmer's land. (Amy)

The warlord intended to start a fight and revolted against the new government.

(Tom)

The warlord led China into a chaotic era. (Lucy)

From these examples, prior knowledge contributes to the participant's ability to infer. It seems that the more prior knowledge a participant has, the more inferred information he/she can produce. In this study, students with limited Canadian and European cultural prior knowledge did not make appropriate inferences to better understand or expand on the text, while students' Chinese cultural prior knowledge resulted in a more extensive and expansive retelling of Chinese passages. Reading a passage with a familiar topic activates more readers' prior knowledge and assists them in comprehending the text and each word within the text. Culturally specific prior knowledge creates a meaningful context where readers may process information inferentially rather than only at a literal, verbatim level. In this study, students who have sufficient prior knowledge on Chinese topics can show more integration of print and the reader's prior knowledge than students who employ an analyzing process in which the reader combines "many discrete elements, features, or characteristics" (Fagan, 1987, p.65) to form unity from the text. In addition, students who have a certain amount of cross-cultural prior knowledge on Chinese, Canadian, and European topics may attempt to fill gaps between the statements and make inferences. On the other hand, without the prior knowledge on Chinese, Canadian, and European topics, the participants have no base to draw upon and cannot make any inferring statements.

Research Question 9. Is there a difference between Taiwanese students' erroneous information while retelling passages with Chinese versus non-Chinese topics?

The data from Tables 12 and 13 indicate that the participants produce significantly less erroneous information while retelling the passages with Chinese topics ($M = 0.14$, $SD = 0.38$) than the passages with non-Chinese topics ($M = 0.50$, $SD = 0.68$), $t(13) = -4.37$. According to the content of the passage and the culture, the participants make fewer errors when retelling the passages with Chinese topics while making more mistakes when retelling the passages with non-Chinese topics.

Table 12

Means and Standard Deviations for Erroneous Information

	Chinese					
	CF1	CNY3	DSYS5	GW7	HT9	CE11
Victoria	0	0	0	0	0	0
Amy	1	0	0	0	0	0
Lucy	0	0	0	1	0	0
Kathy	0	0	0	0	0	0
Jane	0	0	0	0	0	0
Sylvia	0	0	0	0	0	0
Miffy	0	0	0	0	0	0
Jim	0	1	0	0	1	0
George	1	0	0	0	0	0
Jeff	2	0	0	0	0	0
Brian	1	1	0	0	0	0
Dick	0	0	1	1	0	0
Tom	0	0	0	0	1	0
Kevin	0	0	0	0	0	0
Means						0.143
SDs						0.021

* $p < .05$.

Table13

Means and Standard Deviations for Erroneous Information

	Non-Chinese					
	RS2	RC4	FPC6	EAS8	FCA10	WSM12
Victoria	0	1	1	1	2	0
Amy	1	0	0	1	1	1
Lucy	0	1	1	0	2	1
Kathy	0	2	0	0	0	0
Jane	1	0	0	0	0	0
Sylvia	0	2	0	2	0	0
Miffy	0	0	1	0	0	0
Jim	0	0	0	1	0	0
George	1	0	2	1	0	0
Jeff	1	0	0	1	0	1
Brian	1	1	0	0	0	0
Dick	1	0	0	1	0	0
Tom	1	0	3	1	0	0
Kevin	1	0	1	1	0	0
Means						0.500
SDs						0.681

* $p < .05$.*Erroneous Information*

Erroneous information is “contradictory, inconsistent or inaccurate in terms of the passage” (Alberta Education, 1986, p.45). Erroneous information means that the student does not make sense of the reading material and makes an error that is basically wrong according to the culture and the passage.

In looking through the participants’ retelling protocols, the following examples of erroneous information are selected. A variety of possible reasons exist for these errors. In the following section, when citing a piece of erroneous information as an example, the entry of the original text is indicated in brackets as a comparison.

First, erroneous information in the passages with Chinese topics indicates that the participant understands the meaning of the sentence but somehow makes mistakes in recalling the number in the sentence. Here are some examples from three participants, (Jim, George, and Brian)

The dragon has 12 pairs of legs. (Jim)

(There is a dragon with twenty pairs of legs. *Chinese New Year*)

Almost there is 1\3 population living in the countryside in China. (George)

(More than three-quarters of all the people in China live in the countryside. *Chinese Farming*)

China probably has 1\3 population engaging in (that kind) farming. (Brian)

(More than three-quarters of all the people in China live in the countryside. *Chinese Farming*)

Most knowledge about numbers in the passage *Chinese New Year* can be categorized as school information. The participant might also learn from a textbook about the population living in the countryside in China rather than gain it through life experience. Thus, doing retelling after reading this kind of passage may require the participant to depend on his short-term memory. In Jim, George and Brian's cases, they may momentarily have recalled the wrong numerical facts even though they could still comprehend the basic meaning of the sentence.

Second, some participants may err in substituting another word for the word in the text. The substitution normally functions as a synonym in the Chinese community. Here is an example from Brian:

Sometimes the lion is pretty long with 20 pairs of legs.

(There is a dragon with twenty pairs of legs. *Chinese New Year*)

Most Chinese people customarily use the phrase, *the dragon and lion dance*, to depict a gorgeous, colorful celebration activity for Chinese New Year or on special holidays, though in some situations people only perform either the dragon dance or the lion dance. In Taiwan people usually perform the lion dance at Chinese New Year so Brian may habitually use the lion as a substitution for the dragon in his retelling.

Third, some mistakes may be due to a wrong interpretation of the vocabulary. During the process of reading, the participant sometimes cannot make sense of the meaning because of the vocabulary. Here is a mistake by Amy.

In Tibet people grow a kind of plant.
(In Tibet, they keep yaks. *Chinese Farming*)

The participant is aware that she does not know the meanings of “Tibet” and “yaks” in the sentence. In the previous part of the passage, rice and wheat are mentioned as major crops in the south and in the north. Therefore, she made a guess at the meaning that the word “Tibet” with a Capital T may refer to a place and “yaks” to a kind of plant, like rice and wheat.

Fourth, some erroneous information may also result from the participant’s total lack of awareness of the topic. In the second interview, Dick and Tom both said: “I even have no idea about Taiwanese aboriginal people. How can I suppose to know what the aboriginal people are in Canada?” They are very clear about their weaknesses in knowing nothing about the background of aboriginal people. When reading the passage *First Peoples in Canada*, Victoria, Lucy, and Sylvia said they had trouble following the sentences in reading the text and had to depend on the words for meaning, but that there were too many words that they did not know. They recognized that they could not

remember what the exact messages are in the passage and thus could not elaborate on their ideas when retelling the passage. Therefore for them, erroneous information could not be avoided. Several erroneous details in the passage *First Peoples in Canada* are presented:

Some primitive people live in Canada for a very long time. (Victoria)

The earliest Canadian residents lived in the northern part of America, then immigrate to Canada. (Lucy)

It seems that a tribe disappeared. (Sylvia)

(First Nations and Inuit have been living in North America for as long as anyone can remember. They are the original natives of the land we now call Canada.

First peoples in Canada)

Without comprehending the passage correctly, Lucy shifted her ideas about what was described in the passage and misinterpreted the ending in her retelling:

They went hunting, fishing for the food or collected some plants to eat. (A)/ It seems that in some places in Canada people grew rice and corn. (A)/ Different cities had different ways to make a living.(S)/So each city kept on being developed in this way. (E)

She talked of her confusion when retelling the last three statements in the text because she could not recognize some of the words in the text:

One the Pacific Coast, the Nuu-cha-nulth harpooned whales. In Eastern Canada, the Haudenosaunee raised crops of corn. Each part of the country provides its own way of making a living. (*First peoples in Canada*)

Fifth, lacking prior knowing may cause some erroneous information. Without knowing the habits of First Peoples, George misunderstood what wood was used for and

misidentified the material that First Peoples used to make clothes:

They (aboriginal people) used wood to build ships.

(They built their houses out of wood from the trees and tanned animal hides.

First peoples in Canada)

The clothing they wear is from the animal's fur (A) /or they can make it from the leaves. (E)

(They made clothing from woven bark or from furs and tanned animal hides.

First peoples in Canada)

When retelling, Tom could not even recognize the words *Nuu-cha-nulth* and

Haudenosaunee as tribal names and referred to them as countries:

Every country has their life style. Some countries are near the Pacific Ocean, and they fish. In the eastern countries, they plant crops or rice. (Tom)

In the same way, while retelling the two passages *River of Salmon* and *Fishing in Canada*, most participants have no idea that British Columbia is a province in Canada, located on the west coast. For example, in Jeff's retelling for the sentence in the passage *River of Salmon*, "The Adams River is a short, rushing river in the interior of British Columbia," he confused "British Columbia" with "England" and reported, "There is a river in England." Again when retelling the sentence in the passage *Fishing in Canada*, "Salmon have been plentiful in the ocean off British Columbia," Jeff started his retelling by restating, "In Columbia in England." In the rest of his retelling for the passages *River of Salmon* and *Fishing in Canada* with his wrong assumptions that British Columbia is a country, and that the eastern coast is another country, he continued to make several erroneous statements:

The number of the salmon returning to England is reduced.

(The salmon are no longer returning to the coast in huge numbers. *Fishing in Canada*)

Then a similar situation occurred in Canada.

(In British Columbia, no one wants the same thing to happen to the salmon fishery. *Fishing in Canada*)

Then now in England, people try to prevent this happening to the salmon and try to find some ways to solve the problem.

(In British Columbia, no one wants the same thing to happen to the salmon fishery. People in the province are trying to agree on what to do about it. *Fishing in Canada*)

From these examples it seems that prior knowledge is a critical factor in enhancing EFL students' English reading comprehension. With sufficient prior knowledge, they can yield better comprehension. Moreover, with the participants' culturally specific prior knowledge of Chinese topics, they retell less erroneous information for the Chinese topic passages and their errors in retelling the Chinese topic passages are not totally contradictory to the original passages but are merely numerical mistakes. Owing to the participants' deficiency of prior knowledge on Canadian and European cultures, the participants' retelling responses are illogical. Some of them are even inconsistent with and incorrect to the original passages.

The Total of Synthesizing, Analyzing, and Inferring Information

Research Question 10. Is there a difference between Taiwanese students' total number of synthesizing, analyzing, and inferring information in retelling passages with Chinese and non-Chinese topics?

The purpose of this analysis is to examine the participants' logical and correct responses, so the erroneous responses were not included. The total of synthesizing, analyzing, and inferring information (S + A + I) was also analyzed by running a *t*-test and a two-tailed test for examining the completeness of the correct portions of the retelling. As can be seen in Tables 14 and 15, the result shows that the participants retold significantly more correct, and complete content for the passages with Chinese topics ($M = 13.63$, $SD = 3.24$) than for the passages with non-Chinese topics ($M = 9.64$, $SD = 2.68$), $t(13) = 10.81$.

Table 14

Means and Standard Deviations for the Total of Synthesizing, Analyzing, and Inferring Information

	Chinese					
	CF1	CNY3	DSYS5	GW7	HT9	CE11
Victoria	9	15	18	11	16	13
Amy	8	16	9	8	14	12
Lucy	13	15	18	12	11	12
Kathy	10	14	8	14	11	11
Jane	12	19	14	12	16	10
Sylvia	10	10	12	13	12	11
Miffy	11	16	12	13	18	15
Jim	10	18	14	13	12	11
George	11	23	16	19	15	12
Jeff	10	14	13	12	14	18
Brian	10	19	14	15	19	19
Dick	12	15	16	12	13	15
Tom	7	19	11	12	10	14
Kevin	19	18	17	16	16	18
Means						13.631
SDs						3.243

* $p < .05$.

Table15

Means and Standard Deviations for the Total of Synthesizing, Analyzing, and Inferring Information

	Non-Chinese					
	RS2	RC4	FPC6	EAS8	FCA10	WSM12
Victoria	8	7	11	7	5	14
Amy	8	8	7	8	9	9
Lucy	8	5	12	5	12	11
Kathy	7	8	9	8	11	12
Jane	9	8	8	10	14	10
Sylvia	10	7	10	10	14	9
Miffy	12	7	10	11	11	12
Jim	10	5	12	11	2	10
George	9	6	13	11	14	12
Jeff	12	6	9	8	12	12
Brian	9	7	7	14	15	12
Dick	10	7	14	10	15	11
Tom	9	7	7	5	11	10
Kevin	9	8	9	12	13	14
Means						9.643
SDs						2.675

* $p < .05$.

The Role of Participants' Culturally Specific Prior Knowledge

11. How does culturally familiar and culturally unfamiliar prior knowledge impact on EFL learners' reading comprehension?

In the second interview, the researcher asked the participants to compare their prior knowledge about the passages with Chinese and non-Chinese topics: "Which one do you have more prior knowledge about?" All of the 14 participants provided a consistent answer that they have more prior knowledge about the passages with Chinese topics than those with non-Chinese topics and that they have a rather limited amount of prior

knowledge about non-Chinese topics. The participants were asked to reflect on a second question, “Would you feel prior knowledge about Chinese specific topics is very helpful, somewhat helpful, or not at all helpful to your reading comprehension of the passages with Chinese topics?” Of the 14 participants, ten participants agreed that prior knowledge about Chinese specific topics was very helpful to their comprehension; four participants felt it was somewhat helpful. They commented that prior knowledge about Chinese specific topics positively enhanced their comprehension of the passages with Chinese topics. When reading these passages, they easily made connections with their personal experiences to construct meaning. The participants were asked to describe how prior knowledge about Chinese specific topics helped them to comprehend the passages. A majority of the participants acknowledged that they enjoyed reading the passages with Chinese topics.

Sylvia’s experience and comments are of great benefit to the illumination of the above question. She commented that it was the first time for her to feel that reading an English passage was a normal thing like her daily reading of Chinese newspapers. She was not entirely estranged from the reading task even though it was in the English language. She explained that she reads extensively, inclusive of newspapers, magazines and fiction, but these are written in Chinese. Her comprehension of the English passages with Chinese topics was naturally easier. It was not necessary for her to stray off the reading task to look for the meaning of some vocabulary in the dictionary, which is the worst experience to have when attempting to read English. She related her pain when she received a low score for her English reading comprehension test in class and her awful experiences of reading an English article full of words and sentences she could not make sense of. Vocabulary restrictions in English prevented her from developing a

smooth reading process. She also reports that she was constantly telling herself, “You can’t do that” when she was presented with the reading material. However, after reading the six passages with Chinese topics, something different happened. It became clear in her mind that her prior knowledge about Chinese topics was quite useful and important and she would now like to make use of her prior knowledge about topics to improve her reading comprehension. In the end, she became quite proud of her sufficient prior knowledge background.

The participants were also asked to respond to the question, “Since you lack prior knowledge about non-Chinese topics, how did you comprehend the passages with non-Chinese topics?” Fourteen students worried about their vocabulary, citing it as probably the main obstacle in their ability to read these passages with non-Chinese topics. When they do not have prior knowledge about the content of the text, they tend to be cautious about word meanings. New words interfere with their reading. Under this condition, their knowledge of vocabulary takes precedence over their prior knowledge about non-Chinese topics. They also mentioned vocabulary as an ongoing concern and a skill they are actively working on when reading passages about which they lack prior knowledge.

In the second interview, the participants were also asked to report which factor may be most helpful to their reading comprehension: the textual structure of the passage, the syntactic structure of sentences, vocabulary, prior knowledge about the topic, or the length of the passage. The preferred strategy for English reading comprehension of all 14 participants was to use prior knowledge to help them comprehend the passages with Chinese topics. When reading the passages with non-Chinese topics, three out of 14

participants initially tried to draw on their prior knowledge to comprehend the passages. If they failed to figure out the meaning, they turned to the words and sentence structure. Eleven out of 14 participants stated that when reading the passages with non-Chinese topics, they paid equal attention to all words, did word-by-word translation and tried to understand each word and each sentence in the passage without considering how they are related with each other. Miffy's comparison of getting lost in the woods summarized the other participants' feelings exactly:

[Reading a passage with a non-Chinese topic] seems to be in a situation when a person walks into the woods, he/she loses the whole view of the woods, and what comes into his/her sight are just tangled tree trunks, snarled branches and scattered leaves. The walker loses his/her direction. All he/she can do just follows the path going down without any plan in his/her mind.

At the end of her interview, the researcher added another question and asked her, "Would you like to try to use your prior knowledge to comprehend the English text?" She immediately offered her answer, "Sure, I would like to try another way besides looking up the dictionary all the time or tearing down the sentence into a subject, a verb, or other single words."

In the second interview, Victoria reflected that under most conditions, she did not visualize English words in her mind as she retold some passages with non-Chinese topics, and had no pictures of word meanings either but instead, images of some Chinese words. A kind of solitary feeling arose in her mind. This is because she could not make much sense of these passages. She retold almost nothing, but chatted about the general gist of her ideas which were already formed in her mind a long time ago. In spite

of these negative feelings, some parts of the passages with non-Chinese topics inspired her to retell. For example, when retelling the passage *Ways of Sending a Message*, she made use of her knowledge about reflections to retell how Greek soldiers pass messages by reflecting sunlight. Her knowledge about the Great Wall also assisted her to comprehend how Romans sent a message which is quite similar to the way the ancient Chinese soldiers did it. The last paragraph is about using flags to send out messages. She joined the Scouts when she was a junior high school student, so she could make sense of the description without effort.

However, she felt better when she retold the passages with Chinese topics. She did not struggle to solicit feedback from what was written in the passage word by word. While reading, she just grasped some key words and she could quickly and easily catch the meanings of the passage. Interestingly, she only studied Chinese culture in Chinese before she joined the retelling meeting but when reading about Chinese culture in English, she viewed Chinese culture in a new way. She also commented that she had a desire to compare the writing style in Chinese and in English and also to evaluate the author's intention.

Summary

Repeated confirmations of the participants' prior knowledge background both in the first and second interviews attest to the Taiwanese students' ample amount of prior knowledge about Chinese topics. As evident in the first interview, the participants possess more prior knowledge about Chinese topics than non-Chinese topics. In this study, the prior knowledge that most participants have can be categorized as school and out-of-school information. As to the passage familiarity, most participants felt more

familiar with the Chinese passages than non-Chinese passages. The participants' familiarity with these passages can be attributed to the participants' school-learned information and daily life experience. As well, the participants were asked to assign ranks for passage difficulty. For the most part, notably with one passage for one passage, the participants found non-Chinese passages more difficult than Chinese passages. Personal interests and vocabulary in the passage play a role in the participants' ranking of the passage difficulty. The participants produced more thought units for the passages with Chinese topics than for those with non-Chinese topics. The participants retold almost the same amount of synthesizing information for the passages with Chinese and non-Chinese topics, but the participants retold more analyzing and inferring information for the passages with Chinese topics. The participants produced more erroneous information while retelling the passages with non-Chinese topics. Furthermore, the participants retold more synthesizing, analyzing, and inferring information for the passages with Chinese topics than for those with non-Chinese topics. As a whole, it is noteworthy that Taiwanese students' retelling of the passages with Chinese topics is different from that of their retelling of the passages with non-Chinese topics.

Of all the factors that result in a better comprehension of the passages with Chinese topics, perhaps prior knowledge is most significant because it provides the foundation for the participants to comprehend a reading text. After considering the explanations from some interview examples, the influence of prior knowledge on EFL students' English reading comprehension cannot be ignored. The participants with related prior knowledge about the reading material were able to achieve a higher degree of comprehension.

In this study, two types of passages are used to inquire about the EFL learners' comprehension, passages with Chinese topics and those with non-Chinese topics. The participants' prior knowledge of Chinese topics and non-Chinese topics can enhance the effects of culturally specific prior knowledge on reading comprehension. Sufficient prior knowledge about Chinese topics appears to be a helpful aid to Taiwanese EFL students. Lack of knowledge about non-Chinese topics forms an obstacle to the participant in achieving comprehensive understanding. The participants' global prior knowledge, which is not culturally bound, helped them in comprehending some non-Chinese topic passages. It can be another evidence of how significant the role of prior knowledge is for the totality of EFL students' English reading comprehension.

CHAPTER FIVE

Discussion

This chapter presents an interpretation of the results discussed in the preceding one. First, the results of this study are compared with the results of related research and next, some recommendations for EFL classroom instructors are proposed. Limitations of the study and suggestions for further research are also presented followed by a concluding statement.

Discussion of the Results

The following discussion of results is presented in five parts: the first addresses the role of prior knowledge in reading comprehension; the second provides information on the role of culturally specific prior knowledge in reading comprehension; third, the role of cross-cultural prior knowledge in reading comprehension is examined; fourth, the consequences of deficiencies in prior knowledge are explored, and in the final section the schematic structure of prior knowledge is considered.

The Role of Prior Knowledge

Results consistent with some reading comprehension research. In the current study, the overall finding is that prior knowledge is an essential factor in EFL senior high school students' reading comprehension. Thus, the conclusion of this study is that Taiwanese students' reading comprehension can be improved by utilizing their prior knowledge. This finding corresponds to those of Rumelhart (1980) and Anderson and Pearson (1984); both of their studies demonstrated the importance of prior knowledge in reading. Readers usually comprehend what they read only as it relates to what they

already know. Furthermore, the findings in this study offer additional cross-cultural support for the effect of prior knowledge on reading comprehension previously recognized in the field of L1 reading research by Anderson and Pitchert (1978), Anderson, Reynolds, Schallert and Goetz (1977), Bransford and Johnson (1972), Bransford and Johnson (1973), Dooling and Lachamn (1971), and Fass and Schumacher (1981).

Further evidence for the impact of prior knowledge on L2 reading comprehension may be drawn from the results of the participants' inferring information produced in this current study. The majority of the Taiwanese students can infer beyond the text, thereby drawing connections between their own lives and the text itself. For example, some participants may move from connecting the reference in the Chinese New Year text to the noise of firecrackers to their experience of playing with fireworks. As Fagan (1987) provides a distinction between three interactive reading processes (associating, predicting and inferring), he states that "inferring is filling in information between two ends" of the author's statements (p.63). In this study, several students retold the passage about Chinese farming by providing the reasons why the north is suitable for growing wheat and the south for rice and the hills in southern China for tea. For retelling the passage, *Chinese New Year*, some participants drew parallels between the power of the dragon to control the weather and the power of the emperors to rule the whole of China. They inferred that the emperor's robes are normally decorated with the image of the dragon as a representative of power. In retelling the passage, *Ways of Sending a Message*, some participants drew comparisons between the Roman soldiers and Chinese soldiers. For example, the participant, Dick, noted that the way Roman soldiers send the message on towers is just like what Chinese soldiers do on the Great Wall.

Fagan (1987) points out:

[A pragmatic inferring] necessitates the use of schema or a knowledge framework for interpreting events. Once a framework for meaning has been established, a great many facets not mentioned in the text can be supplied on the basis of the schema (p.64).

In this study, some of the EFL students' retold inferring information is like what Fagan called a pragmatic inferring. During the EFL students' reading of the passages with Chinese topics, at first sight of the topic about Chinese customs, most students' schema about Chinese customs were quickly accessed and evoked. During the process of reading, they did not read the text word by word but rather concept by concept. They also mentioned that they did not read these passages twice and claimed that they immediately retold the content without hesitation. One possible explanation for this is that the concepts about Chinese customs are previously installed in their memory in the Chinese language, so they do not need to expend any effort on translation. The images of these Chinese custom activities are also rooted in their minds, so they can easily form a complete picture in their minds about the Chinese customs featured in the text. Thus, they could retell the content of the passage with Chinese topics immediately. Through the process of retelling, some related information is therefore naturally inferred. Through these examples, the student's schema about Chinese customs drew on his/her prior knowledge from which inferences could easily be made. From the results of the study, it is noted that the more prior knowledge a student possesses, the more schemata he/she constructs; moreover, the more schemata he/she constructs, the more inferring information is produced.

Moreover, in Bernhardt's research (2001) with American graduate students in the Department of Foreign Language at Stanford University, she states that most American students can use their knowledge of American literature to interpret Spanish or French literature. In this study, Taiwanese students used a similar strategy. They used the knowledge they had already acquired in school or in their lives as a basis for interpreting and understanding the non-Chinese topic passages.

Results inconsistent with some reading comprehension research. However, this overall finding is not compatible with the results from Chen and Grave's (1995) research on EFL reading comprehension, nor with Carrell and Wise's (1998) research on ESL reading comprehension.

Chen and Grave (1995) conducted research in Taiwan with 243 university students. However, no English proficiency test was applied to assess the participants' general English ability or their reading abilities. They just report that their English proficiency is "typically equivalent to that indicated by scores of 400 to 500 on the TOEFL" (Chen & Grave, 1995, p.667). Two American short stories were selected as the texts used for their research, which examines the effects of three groups of treatments on Taiwanese students' reading comprehension. The three group treatments involve previewing, background knowledge, and the combination of previewing and background knowledge. In Chen and Grave's (1995) research, the results demonstrate that the provision of some cultural background knowledge for the EFL university students was slightly effective in improving their comprehension of the American stories. Among their comparison of three groups of treatments, the background knowledge treatment produces "only a weak effect" on students' English reading comprehension (p.680). Their result supports the

use of the combined treatment. Some problems can be found in the information provided in their previewing treatment and their background treatment. The information provided in the previewing treatment includes the introduction of the characters, the plot up to the climax, and the directions for reading the story. The information provided in the background knowledge treatment contains the title of the story, the author, and year of publication, the historical background of the story (i.e. when the story takes place), some culturally specific information relevant to the story, such as what “a flat” means in American society. In comparing the two packages of information, it is evident that the information in the preview treatment is more directly related to the content of the story itself. The students may know more about the plot of the story. On the other hand, the information in the background knowledge treatment is somewhat peripheral and indirectly related to the content of the story. Thus, when Chen and Grave (1995) conduct a test about the student’s understanding of the content of the story, the effect of the previewing treatment and the effect of the combined treatment with much more detailed information are undoubtedly more obvious. Moreover, in their study, the readability of the two American stories is not measured and neither is the students’ reading ability. This may have influenced the objectivity of the results.

In Carrell and Wise’s (1998) research, the results show that the effect of prior knowledge on ESL students’ reading comprehension “does not reach statistical significance” (p.299). Their quantitative research was conducted with 104 ESL university students in the USA. Their English proficiency levels were not tested directly but reported with their TOEFL scores. The participants’ prior knowledge background was identified by Carrell and Wise’s self-designed prior knowledge test. The researchers selected ten passages with general topics and designed ten multiple-choice questions for

each passage. They claimed that the ten selected topics used to test the students' prior knowledge represent a wide range of the students' potential interests and prior knowledge. However, there are some problems with their sampling and the prior knowledge test. First, as already noted, the students' English proficiency levels, especially reading ability, are not identified. The readability of the passages might have been far beyond or below the students' reading ability. Second, the cultural backgrounds of these students, coming from 18 countries, are too varied. Their cultural background knowledge can be very different from each other. It is hard to identify general topics for this group of students with multicultural backgrounds though they try to avoid including some topics with obvious cultural biases. Another weak point about the sampling is that the range of their ages (from 18 to 50) is too broad. This implies that the students' life experience and cognitive maturity may have been different as well. Besides, since the research focuses on prior knowledge, the prior knowledge test can not provide a meaningful measure of the students' prior knowledge. In the test, they are asked to read the passages and then answer multiple choice questions. The knowledge measured in this procedure is not the student's true prior knowledge, but the knowledge the student learns in the passage. This kind of test can be categorized as a reading comprehension test. Results based on such varied backgrounds and an imprecise prior knowledge measurement cannot be taken as conclusive evidence.

Appropriate assessment of the participant's prior knowledge and reading comprehension is unlikely to be so simple as to involve only correct answers to multiple-choice questions. In this dissertation study, free association was used to find out what the participants knew and about their experiences. The participants were encouraged to express their ideas about each topic. This can be a good way to measure

the participant's prior knowledge background. Thus, in the current study, the measurement of the Taiwanese participants' prior knowledge can be considered to have been more comprehensive than in Carrell and Wise's research. The retelling technique used analyzes different aspects of EFL students' reading comprehension and reports EFL students' English reading comprehension in a more reflective way.

Further discussion focusing on the subcategories of prior knowledge is presented next. In this study, it can be noted that prior knowledge includes culturally specific prior knowledge and cross-cultural prior knowledge which is not culturally bound. The two types of knowledge also have a great influence on EFL students' English reading comprehension; thus, the two types of knowledge need to be clearly differentiated.

The Role of Culturally Specific Prior Knowledge

Results consistent with some reading comprehension research. That culturally specific prior knowledge is crucial to understanding an English text by EFL students is demonstrated in this study by qualitative and quantitative analyses of the performance of the 14 Taiwanese students who participated in this research. The findings can be illustrated through the number of thought units and the synthesizing, analyzing, inferring, and erroneous information used in the retellings. The results support and extend the conclusions made in cross-cultural reading research by Bartlett (1932), Johnson (1981, 1982), and Steffensen, Jogdeo and Anderson (1979). Steffensen, Jogdeo and Anderson (1979) indicate that the participants' different cultural backgrounds may result in different interpretations of the text. Johnson's findings (1981) indicate that the cultural origin of a story has a great effect on both non-native English and native English speakers' reading comprehension. Johnson (1982) found that "real experience within the

cultural context provide[s] background information for more effective reading comprehension of a passage” (p.511). Anderson (1994) asserts that “culturally appropriate schemata may provide the ideational scaffolding that makes it easy to learn information that fits into that schema” (p.475).

In the present study, Taiwanese students’ prior knowledge about Chinese topics can be characterized as very deep and rich. They drew on their existing Chinese background knowledge to comprehend the passages with Chinese topics and thus retold significantly more thought units for the passages with Chinese topics than for those with non-Chinese topics. Thus, the findings in this study indicate that culturally specific prior knowledge has a significant effect on Taiwanese EFL senior high school students’ English reading comprehension. From the retelling analysis, it can be noted that Taiwanese students clearly understand passages dealing with topics from their own cultural background significantly better than those with topics with a foreign cultural origin. Similarly, these findings are also supported by the work on cultural schemata in ESL/EFL reading comprehension (Carrell, 1981, 1983a, 1983b, 1987; Carrell & Eisterhold, 1983; Malik, 1990) that shows cultural schemata significantly affect EFL learners’ reading comprehension.

Results inconsistent with some reading comprehension research. In this study, the results suggest that Taiwanese students retell significantly more inferring information from the passages with Chinese topics than from the passages with non-Chinese topics. However, this finding conflicts with Hammadou’s (1991) conclusion that “neither study produce[s] a significant relationship between background knowledge and amount of inferences in recall when all inferences [are] studied together”

(p.30). In this study, the participants were asked to rate their experience with the twelve retelling topics. It is apparent that the participants displayed more experience with Chinese topics and expressed more concepts for Chinese topics as well. It may be accepted, therefore, that the participants possess more prior knowledge about Chinese topics than non-Chinese topics. During the process of retelling, the participants may sometimes have provided additional information, drawing on their Chinese prior knowledge, to rationalize some statements in the passage or to fill the gaps between the author's words. In this study, the effect of prior knowledge on Taiwanese students' inferring information is obvious.

For most Taiwanese students, the rules, behavior and value orientation of the target language (English) culture is different from their own. The passages with non-Chinese topics are mostly related to Canadian and European cultures. When reading these passages, the Taiwanese participants seem to experience a situation full of various unknown rules from Canadian and European cultures which cannot entirely fit into their frame of reference and their values and beliefs. While reading such passages with culturally unfamiliar topics, these students encounter a very real problem resulting from not knowing the existence of differences and similarities between the host culture reflected in the text and their own culture, nor can they figure out how to compare differences and similarities between the two. Before this study, they even appear to have no idea about making use of their Chinese prior knowledge to comprehend the text. After the study, from their comments, they became more aware of the existence of their Chinese prior knowledge and may consciously draw on it to make sense of English text. Another finding in this study is that the students have a new perception on reading English texts. For example, Sylvia commented that she now realized that learning to

read in English is not another new technique; it is just a normal task similar to her reading in Chinese. Some knowledge in Chinese can be used to understand the text in English. From this study, it is found that during the process of reading a text about foreign culture, comparisons are likely made between the way things are done in the text and in the reader's hometown. Unfortunately, most researchers and language instructors may attribute this reading problem to a faulty assumption – lack of sufficient vocabulary or deficiency of grammar, and hence focus on the vocabulary or grammar based reading research or instruction. As well, most Taiwanese students tend not to value the contribution made by their own cultural background to their understanding of the text. They always feel guilty about their limited vocabulary and their poor grammar. EFL classroom instructors should be advised to try to build up a reading curriculum which recognizes and incorporates students' cultural knowledge so that in English class, students may make use of their cultural rules and norms learned and absorbed from the day they were born.

The Role of Cross-cultural Prior Knowledge

When the participants retell passages with non-Chinese topics, no significant differences are found between the participants' use of synthesizing information in their retellings for the passages with Chinese topics and the passages with non-Chinese topics. One possible reason for this result is that cross-cultural prior knowledge may assist the participant to some degree to synthesize some general ideas from the passage with non-Chinese topics. In spite of the participants' deficiency of prior knowledge about non-Chinese topics, they still can draw on their own general cross-cultural knowledge. For example, with reference to the topic *Fishing in Canada*, Taiwanese students have

some basic general ideas about fishing, such as that there are different kinds of fish in the ocean, that fishermen catch fish, and ships work in the ocean. For these students, this kind of knowledge is cross-cultural, not culturally bound. On the other hand, if the topic is about fishing in Canada, a more situationally specific knowledge is necessary. For Taiwanese students, they do not have the chance to study about the country of Canada, the sea areas in Canada, and the way Canadian fishermen operate on the sea, so they may have quite limited culturally specific knowledge about Canada and fishing in Canada. When facing the article *Fishing in Canada*, they tend to use their cross-cultural prior knowledge about fishing to make a summarizing statement for some texts where the meaning of detailed ideas cannot be figured out.

Further evidence of the use of cross-cultural prior knowledge may be extracted from the participants' analyzing information for the passages with non-Chinese topics, even though the statistical data show that the participants retold more analyzing information for the passages with Chinese topics. With a general look at the participant's retelling protocols for the passages with non-Chinese topics, the qualitative analysis indicates that some retold analyzing information is not exactly related to the participant's use of culturally specific knowledge. One possible reason for this can be that the use of cross-cultural prior knowledge may mitigate the smaller amount of analyzing information for the passages with non-Chinese topics. With the cross-cultural knowledge, a number of students illustrate a clear understanding of the passage, then recite the author's statement and report the exact words used in the text. If they do not have the cross-cultural prior knowledge to assist them in understanding the meaning of the text and then forming a Chinese meaning in their mind, they may not even grasp any of the words in the text, especially English words, for retelling. The process of

immediate retelling can be very intense: the reteller has to quickly grasp the meaning of the passage and translate it into Chinese and figure out a reasonable way to express it in Chinese. There is not much space in his/her short term memory for him/her to carry something unrelated to his/her cross-cultural prior knowledge. Thus, the reteller's cross-cultural prior knowledge can be activated under such conditions. After consistently comparing his/her knowledge with the words in the text, some related concepts are kept and unrelated ones soon discarded. Without much effort to find another way to organize the remaining related concepts, the reteller may temporarily use the author's words to restate it. Consequently, analyzing information can be stimulated by the use of the reteller's cross-cultural prior knowledge.

In previous ESL cultural or cross-cultural research by Carrell and Eisterhold (1983), Carrell (1987) and Johnson(1981, 1982), the findings only focus on the influence of cultural knowledge of the second language (English). In this study, the result shows that the participant's cross-cultural knowledge may play a role to assist EFL students' English reading comprehension. This finding is consistent with Bernhardt's (2001) emphasis on the contribution of L1 and L2 knowledge bases to FL students' reading comprehension. Based on this finding in this study, the earlier ESL/EFL reading curriculum with the emphasis that successful English learning requires English learners to know about the culture that underlies the language, English, is somewhat incomplete as a strategy to improve EFL learners' English reading comprehension. This traditional curriculum asks ESL/EFL learners to read materials with unfamiliar topics, full of concepts seldom taking place in the EFL host setting. The EFL instructor would be well advised instead to try to find an English text containing some concepts appropriate to EFL students' cross-cultural prior knowledge.

After the interpretation of the results in the current study and the comparison with previous reading research, the effects of culturally specific prior knowledge on EFL students' English reading comprehension are quite obvious. The following discussion on the impact of a lack of culturally specific prior knowledge is provided to further confirm the essential role of culturally specific prior knowledge in EFL students' English reading comprehension.

Deficiencies in Prior Knowledge

The present findings of deficiency in the participant's prior knowledge are similar to some findings in Chiesi, Spilich, and Voss's (1979) experimental study in that the participants' with a low knowledge base about baseball (LK) may retrieve less baseball related content than the participants' with a high knowledge base (HK); the performance of LK individuals is less confident than HK individuals and they display more hesitation.

Lack of prior knowledge about Chinese topics. In general, the 14 Taiwanese participants have sufficient but incomplete prior knowledge of the six Chinese topics. From the results of this study, it can be noted that the incompleteness of the retellings and some erroneous information for the Chinese passages are likely consequences of the participants' lack of appropriate prior knowledge on Chinese topics. When reading the passages with Chinese topics, some participants may be unfamiliar with some customs in the passage. As a result, the participants cannot retell them and neither can they provide more synthesizing, analyzing, and inferring information. In some cases, some participants retold some incorrect numerical information; however, these errors are not contradictory to the original passage.

Lack of prior knowledge about non-Chinese topics. Olk (2003) conducted research on cultural knowledge in EFL learners' translation and points out that authentic materials such as L2 newspaper or magazine articles, often carry culturally specific meanings, and thus cannot be adequately processed without a considerable level of culture knowledge. There is a similar finding in the current study. Overall, due to the participant's deficiency of prior knowledge about non-Chinese topics, the results indicate that the participants are more unfamiliar with the passages with non-Chinese topics and retell less. In this study, the participants' retellings of the passages with non-Chinese topics are filled with more erroneous information than those of the passages with Chinese topics. The finding confirms Johnson's (1981) speculation that errors may result from unfamiliarity with a certain aspect of cultural background knowledge, and similarly confirms Carrell's (1983b) research that L2 readers' failure to make sense of the text may be due to their insufficiency in cultural knowledge.

Some examples in this study further show that while reading a passage with an unfamiliar topic from a foreign culture, the participants lack sufficient prior knowledge about the foreign culture. They turn out to be more dependent on the linguistic information of the text (i.e. words, sentences) for interpretation. If they do not recognize a word or a group of words, they may be unable to confirm the meaning for the text; thus, they may make a wrong interpretation of the text or sometimes choose not to retell this piece of the text. This interaction of linguistic analysis and limited cultural prior knowledge analysis may cause errors in reading a text with a topic from a foreign culture and result in less retelling. All these problems imply that Taiwanese students may have problems reading a text for which they have not proper or sufficient prior knowledge about Canadian and European culture.

Schematic Structure of Prior Knowledge

As to schema theory, a sequence of events can be chunked into units to be remembered or retrieved more easily. In this study, the participants retrieved more concepts on each Chinese topic than on each non-Chinese topic. This finding appears to be supported by Johnson's (1981) study on the reading comprehension of Iranian intermediate/advanced ESL students. Johnson (1981) states that an L2 reader's background knowledge on the topic of a text may activate the reader's related group of concepts which has been already stored in his or her memory and helps the reader understand what they read.

Minsky's (1975, 1986) viewing of a group of related notions as a "frame", Schank and Abelson's (1977) assumption of a package of knowledge as "a script", and Rumelhart's (1980) analogies of schemata as "plays, theories, procedures or parsers" may explain that the concepts in memory can be organized into larger units. In this study, from the participants' perceptions about Chinese and non-Chinese topics and the participants' retelling, it can be noted that when one of the concepts is retrieved, the other related ones are recalled concurrently or in a linear order. These schemata include a stereotypical sequence of actions for frequent events. What the participant retells in the study somewhat implies the existence of a larger chunk of information in the memory. When the participant retells the passage with Chinese topics, the retold concepts are related and flow out fluently. The participant reconstructs the passage in a more coherent way and provides more main ideas and supporting ideas for the passage. It can be found that each Taiwanese student's retelling protocol is like a new rendition of the story. For example, Kevin and Jim can fully develop a more complete story for *The Great Wall*,

The History of Tea, and Cooking and Eating.

In contrast, the situation is quite different in the retelling of the passages with non-Chinese topics. Without many schemata about non-Chinese topics, the Taiwanese participants cannot form a network-like concept in their minds. All they can do is consciously recite the passage message piece by piece. There is no connection between their retelling information, just fragments of facts singly presented. In this situation, there is less inferring information produced by Taiwanese students. They also cannot retell more analyzing information.

Recommendations for EFL Classroom Instructors

A small descriptive study such as this with only 14 participants cannot lead to proscriptive recommendations for pedagogical directions. It is beyond the scope of this study to decide the shortcomings or strong points of EFL English reading instruction. Instead, some suggestions are made for EFL instructors focusing on the cultivation and activation of EFL learners' prior knowledge and cross-cultural awareness through a reader-centered reading program.

Consideration of EFL Students' Prior Knowledge

Students' prior knowledge must be taken into consideration in EFL reading curriculum. The data from this study show that the role of prior knowledge supports and inspires comprehensive reading. The study suggests that instructors should make use of the student's prior knowledge background and EFL students should be encouraged to broaden their prior knowledge about cross-cultural topics in various fields. EFL students can enrich their global prior knowledge through extensive reading on a variety of topics. Reading topics that appear in the textbook or are used in classroom teaching activities

should vary widely.

Unfortunately content area texts are mostly ignored and seldom used as sources for teaching reading in English. Content area textbooks can be widely used to support such curricular areas such as Math, Science, Social Studies, Arts and Music. Traditionally, literature rather than expository materials is viewed as the best material for reading instruction (Cullinan, 1989; Huck, 1977) and this view has become a stereotyped doctrine in many English courses in Taiwan. The use of American and British literature as the main material to teach students how to read in English means that instructors spend an inordinate amount of time teaching their students about American and/or British culture to create a context and background knowledge for these readings.

For a student, when reading an English literature text, the information load and the vocabulary items in the text are often very dense. To decrease this reading burden, content area reading material full of already learned and familiar information should be introduced into the classroom. This use of expository material would be similar to the situation in this study when students read passages with Chinese topics. The students could comprehend the passages better, recognize more facts, infer more information and make fewer errors for these passages. Thus, through reading expository material about familiar topics, students can enjoy reading and receive a sense of achievement from reading, instead of a sense of frustration. As an added bonus, English instructors need not be just specialists in American or English literature. They can act as connectors between curricular subjects and help to activate students' prior knowledge while reading English texts with a topic from one of the content area subjects.

Emphasis of EFL Students' Cross-cultural Awareness

Cultural awareness should be emphasized in the EFL reading curriculum.

Cross-cultural awareness refers to:

[the language learner's] awareness of diversity of ideas and practices to be found in human societies around the world, of how such ideas and practices compare, and including some limited recognition of how the ideas and ways of one's own society might be viewed from other vantage points (Strasheim, 1981, p.6).

Reading a text in English with a topic from the EFL reader's cultural origin is a process of recognizing and analyzing how his/her native culture is viewed through another language. The positive effects of culturally specific prior knowledge on L2 reading comprehension were observed in this study. Thus, "understanding the culture of the text is essential to successful language learning; without the appropriate cultural schema to aid understanding, what is learnt must necessarily be incomplete" (Tseng, 2002, p.12).

The traditional mandate of most ESL/EFL teachers is to teach the English language by acquainting their students with aspects of the target language culture. It is increasingly recognized that developing an awareness and appreciation of the host culture may improve their chances of achieving a reasonable measure of success in learning English. This concept is incomplete and not enough for an EFL learner to comprehend a text full of various cultural perspectives. The curriculum for EFL reading instruction should include awareness of both the EFL learner's own native culture and the target language culture. The cultural background of high school students is quite different from that of young kindergarten beginners. Most high school students have considerable background knowledge. When they have English courses in the classroom,

they come with a certain amount of valuable prior knowledge about their own culture. Their cultural prior knowledge, filled with rich personal life experience, should be paid attention to. "Classroom environments [should] allow and encourage students to recognize their own culture" (Tseg, 2002, p.15). From the results of this study, the learners' cultural background needs to be paid attention to so that an interaction may take place where the reader brings in his/her cultural background to reinterpret the content of the text of a foreign culture. The reinterpretation of the text may then turn out to be more meaningful to the readers.

Development of a Reader-centered Reading Program

A reader-centered reading program should be advocated. From preceding suggestions, the language teacher should focus on the reader's prior knowledge, the reader's culture awareness, and the reader's personal background which allows teachers to develop a reading curriculum with a sense of self. That is, one that allows readers to decide what to read according to their prior knowledge background. Peterson (1992) points out that a text may be quite appropriate for one reader at a particular level but not for another reader at the same level. In this study, 14 participants are from the same cultural origin but have different levels of prior knowledge about Chinese and non-Chinese topics and also have different interests. For example, Kevin and Jim have sufficient knowledge on The History of Tea but lack prior knowledge about Easter. The instructor should permit or encourage learners to choose reading material which is more appropriate for the reading ability, prior knowledge, and interest levels of the learner. As Gunderson (1995) stresses, in natural learning situations, students seem to learn those things which are interesting and meaningful to them. "Material that students want to

learn automatically becomes meaningful to them” (Gunderson, 1995, p. 49). By encouraging EFL students to choose the reading materials they have more prior knowledge about, teachers can enhance their English reading curriculum.

In traditional EFL classes of English in Taiwan, this process is reversed. The material to be read is decided by the teacher. Habitually students read the same unchanging textbook in every classroom. When they do independent reading outside the classroom, they are still asked to read the same outside reading material or supplement. These materials often do not match students’ interests and their prior knowledge background. Taiwanese students sometimes see little relevance in reading articles with such topics as *Canoe and Kayak*, *Sir Winston Churchill*, or *Thanksgiving Holiday*. Material with familiar topics can be a good beginning for the student to practice English reading. However, selecting materials for an effective English reading instruction is a complex undertaking. It is not a simple matter of providing students with reading materials that only feature familiar topics. The development of individual prior knowledge background in each field is dynamic. The social and political conditions in the EFL context can be different from country to country. Students can be instructed to develop their personal English reading program by choosing some materials with the topics they are interested in, with contents likely to be useful in other content subjects, with vocabulary appropriate for their reading, or in a genre they like.

In many EFL settings in Taiwan, most students cannot choose what they like to read but are arbitrarily instructed to read some English texts. As a result, it is not surprising to find that most EFL students do not view English reading as an interesting task. Even worse, such a reading practice approach has a negative effect on them. Some

students refuse to attempt reading English texts and try to avoid reading anything written in English. With such negative reading experiences, the EFL instructors may be well advised to allow students to make their own plan for English reading which includes what they personally want to read and need to read.

In this study, the results show that most Taiwanese students lack prior knowledge about non-Chinese topics. Yet in most EFL settings, there are limited resources available. The teacher should try to provide a sufficient amount of additional reading material to carry out a reader-centered reading project and to enrich students' prior knowledge. The teacher may set up "a library of graded books" (Shih, 1999, p.22) or some other reading supplements. For instance, some brochures or maps for English speaking tourists issued by the local government, or some local language periodicals can be good sources for local events. The Internet can be a useful source to solve the problem caused by out-of-date textbooks which often contain out-of-date information about English speaking societies. International newspapers and magazines offering students more insight into other countries and their cultures may be collected. In addition, the teacher can encourage students to bring in their English books and exchange them with their classmates. These ideas can make students feel more involved in this reading activity.

Limitations of the Study

Limitations are inherent in any study. This study is restricted to a country (Taiwan) and to an urban area (Taipei). It is restricted to the data collected from a group of senior high school students who have studied English for four years in a public educational system; it is also restricted to the students' mother tongue (Mandarin) and no other language, and to the limitation of these grade 11 students' reading below grade level in

English, at a grade seven instructional level. Thus, their reported opinions may reflect the perceptions and opinions of these senior high schools in Taipei in Taiwan, but not be truly representative of all senior high schools in Taiwan let alone all senior high school EFL students. As the sample of 14 was drawn from one original group of 97 volunteers, there is no way the researcher can be sure whether they are representative of the general Grade 11 population at the school. Caution is therefore recommended with respect to generalization of the findings.

The relatively small size of the group of participants was another potential limitation. The total number of participants included in this study is only 14. This classifies the study as small-scale research. Small-scale research by its nature cannot provide an indication of general trends and patterns which can assist in understanding what is taking place at a provincial, or national level in the area of education. Due to the nature of the individual interviews and the individual retelling meetings, it is not easy for this kind of research to be conducted on a larger scale. In order to gather sufficient data to perform a more complete analysis, in this study, each of the 14 participants did two interviews and twelve retelling meetings of 30 minutes each. The total number of meetings for interviews and retellings in this study was 196 [i.e. $14 \times (2+12)$]. All of the 196 interview and retelling taped data were transcribed and translated by a single researcher. The transcribed and translated data were so extensive so as to allow for an in-depth study for this group of high school students; however, the compilation and analysis of the collected data were very time consuming.

The purpose of the study was to examine the effect of culturally-specific prior knowledge on EFL reading in English. Cultural knowledge was a major factor. The

topics selected for the retelling passages are culturally specific and contain two types of topics, Chinese and non-Chinese. Topics from content area subjects such as Science or Social Studies, or topics such as computers or playing basketball are not included in the study. The study primarily examines EFL students' comprehension of expository texts. It does not focus on the differences between students' retelling of narrative and expository texts and so the results from the study can only be applied to an explanation of EFL students' comprehension of expository texts.

Suggestions for Further Research

Carrell and Wise (1998) suggest that reading ability seems to be an important factor and needs to be taken into consideration in future ESL/EFL research. The participants in my research were given an IRI test to measure their reading ability; the use of the instrument could be a very important contribution to second language reading research. This research used grade 11 senior high school students who were reading below grade level with an English reading ability at the grade seven level. Further research could explore the effects of prior knowledge on L2 reading comprehension with other groups of high school students with levels of reading proficiency at or above grade level. In the literature very little research has been done with EFL high school students or adolescents who have different reading proficiency levels and different years of English study. After the study is replicated with other groups of the teenage population, a more holistic picture of EFL high school students' reading comprehension may emerge to expand our understanding of the effects of prior knowledge in the field of L2 reading comprehension.

The discussion in the previous section focused on the findings that first, in this study the EFL participants who had a certain amount of prior knowledge on the passage topics might understand the English passages more comprehensively and second, in this study the EFL participants who lacked prior knowledge on the passage topics could not understand the English passage comprehensively. Another research question designed to probe the relationship between the degree of prior knowledge on a topic and comprehension of English text on that topic would be worth examining.

In order not to confuse the effects of prior knowledge on reading comprehension, the researcher used only one structure of expository text (fact descriptive). Other types of expository text (cause/effect, problem/solution, etc.) or narrative text could be a focus of further research; and investigating differences between comprehension of narrative and expository texts in EFL contexts offers other opportunities for research. In addition, further research may assess differences in EFL students' abilities to retell various genres of texts.

In most ESL/EFL reading comprehension research, multiple-choice or cloze tests are used to measure the participants' reading comprehension. In the current study, the retelling technique was used to assess the participants' reading comprehension. As a result, an in-depth view of different aspects of the participants' comprehension was displayed. The retelling technique could be utilized to examine other issues related to reading comprehension in the ESL/EFL research area. Retelling, which is considered an introspective technique, could render more in-depth information to researchers about readers' processing of text. As an assessment tool, retelling has been shown to correlate significantly with comprehension by Koskinen et al. (1988). A further study could

examine retelling as an instructional strategy in ESL/EFL contexts and evaluate the effects of retelling instruction on reading comprehension.

By using retelling as an assessment tool to measure L2 reading comprehension and to identify the L2 reader's reading proficiency, the significance and importance of other factors (topic interest, topic familiarity, textural structure and gender) to reading comprehension could further be examined in a unique and in-depth way.

Implications

Given the role of cultural prior knowledge in reading comprehension, this research has obvious implications for the ESL/EFL reader.

First, research of this type helps to illuminate the English language learning background of Taiwanese students. According to Taiwanese curricula, most Taiwanese senior high school students have learned several subjects such as Math, History, Geography, Science and Chinese Language Arts. Most of them may be academically proficient in these subjects and possess abundant content knowledge in their first language, Mandarin, and that expertise should be made use of in their study of English as a language.

Second, the findings of this study may supply ESL/EFL teachers with useful information about their students' reading problems. In the ESL/EFL classroom, instructors must be particularly sensitive to reading problems that result from the implicit cultural knowledge presupposed by a text. In reading a text, some L2 students fail to understand the meaning of the text because the topic is culturally unfamiliar. With the unfamiliar topics, L2 readers cannot access their appropriate existing prior knowledge or they do not possess the appropriate cultural prior knowledge necessary to

understand a text with a culturally different specific topic.

Third, this study may assist ESL/EFL teachers to more effectively meet their students' language learning needs in the classroom. Using its results, instructors can better appreciate the need to develop a collection of English reading materials with which L2 readers feel culturally familiar and materials in which more L2 readers' cross-cultural prior knowledge is assessable.

Concluding Statements

The completion of this study provides a glimpse into the relationship between culturally specific prior knowledge and EFL Taiwanese senior high school students' reading comprehension through the lens of retelling assessments and interviews. This snapshot offers an opportunity to examine issues of prior knowledge and reading comprehension in EFL contexts.

A review of the literature in ESL/EFL reading comprehension research shows that the role of culturally specific prior knowledge as a factor in reading comprehension has been an issue for some time. The prior knowledge that ESL/EFL readers bring to a text is often culture-specific. Hudson (1982) notes that:

The reading problems of the L2 reader are not due to an absence of attempts at fitting and providing specific schemata Rather, the problem lies in projecting appropriate schemata (p. 9).

This study can offer new insights for educators on the English reading problems and abilities of Taiwanese students. From it, educators can then work on creating effective ways to minimize the reading obstacles for this group of students through modifying their methods of reading instruction.

Investigating the differences of EFL students' culturally specific prior knowledge between Chinese and non-Chinese passages may broaden language educators' worldview of various cultural settings. This study may add to the general knowledge about English teaching in Taiwan and also the needs of Mandarin-speaking ESL students in Canada. This research has the potential to improve the effectiveness of ESL instruction received by Mandarin-speakers who come to Canada to learn English or to immigrate. It is hoped that the results of the study may provide clues regarding a more practical reading comprehension curriculum designed to achieve the ultimate goal of reading education – reading in a concrete context, with confidence, and for comprehension.

Prior knowledge is a fundamental component of improving L2 reading comprehension. Prior knowledge may play an essential role in L2 reading comprehension and the effects of culturally specific prior knowledge on EFL students' English reading comprehension is significant. It is not the position of the researcher that prior knowledge should be used as the sole or definitive source for improving EFL students' English reading comprehension but it is the researcher's view that the cultivation and activation of the learner's prior knowledge has a place in the reading curriculum it has not yet been granted. The EFL English reading class is still more like a class used to develop vocabulary and form grammar knowledge. However, some students do not benefit as they should from such conventional curriculum and all require a more comprehensive reading of the English text. Thus, after completing the study, it is readily apparent to the researcher that the curriculum for EFL reading instruction needs to change. Prior knowledge can facilitate EFL students' reading comprehension and therefore reconfirm its role in the field of L2 reading comprehension.

The retellings of Taiwanese students indicate different perceptions of their reading comprehension process. The interview comments demonstrate a diversity of participants' opinions. Some participants commented that reading the passages with Chinese topics could help them have a new perception of their own culture. Some comments revealed that though reading the passages with non-Chinese topics is like walking in a maze, they may nevertheless still learn something new by drawing on their cross-cultural prior knowledge. Additional comments indicate that reading the passages with Chinese and non-Chinese topics is like a diagnostic process through which they can examine what they understand and what they do not understand; what they know and what they do not know. Given these comments, it would be expected that Taiwanese students have numerous approaches to their experiences with English reading to share that can further our understanding of the EFL learner's reading and learning process.

For the researcher, the completion of the study has enabled a greater understanding of the research purpose, the reviewed literature, and the methodological procedures. Moreover, it also has empowered the researcher to explore her personal teaching experiences and to examine current curriculum reading materials and their application to the EFL English reading curriculum with a new awareness and purpose.

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Appendices

*Appendix A**First Interview Questions*

Topics:

- (A) Chinese Farming (B) Chinese New Year (C) Dr. Sun Yat-Sen
(D) The Great Wall (E) The History of tea (F) Cooking and Eating

1. Have you ever had any experience with, have read any articles or have seen any TV programs about any of these Chinese topics? If “Yes,” please tell me about your opinions.
2. Please describe your ideas, that is, whatever you know, about each of these topics.

Topics:

- (G) River of Salmon (H) Railway across Canada (I) First Peoples in Canada
(J) Easter (K) Fishing in Canada (L) Ways of Sending a Message

3. Have you ever had any experience with, have read any articles or have seen any TV programs about any of these non-Chinese topics? If “Yes,” please tell me about your opinions.
4. Please describe your ideas, that is, whatever you know, about each of these topics.
5. Have you ever heard of the country called, Canada?

*Appendix B**Procedure for Participant Selection*

The general procedure for sampling is first to form a volunteer pool. In August in 2002, the researcher had a visit with the principal and the Grade 11 English teachers in a senior high school in Taipei in Taiwan to receive their permission. Some teachers who did not come to the school were contacted by phone. In the meeting, the researcher briefly explained the study to classroom teachers and requested the teachers to encourage their students to join this reading research. After the meeting, the researcher went to the English classes. The English instructors made a brief explanation of the researcher's study and then introduced the researcher to their classes. The researcher first provided a brief explanation of the study, then particularly emphasized the importance of their participation and finally, asked the students whether they would like to join this study. The researcher received the permission to write down the students' names who were interested in this study and had another meeting with them outside of class individually. Then in the individual meeting, the researcher orally elaborated on the nature of the research and the procedures and at the same time required about the volunteer students' English learning backgrounds. The volunteer pool includes 97 students.

Second, the researcher examined the 97 potential participant's English learning background with regard to the previously decided sampling criteria. Five students are excluded. Two female students who stayed English-speaking countries for three years are not qualified to participate in this study. One male students joined summer ESL programs in America in the years of 2000 and 2001; one female students who joined summer ESL programs in British in 1999 and in Canada 2001; one female student who has an uncle living in Canada spent three summer vacations (from 1999-2001) in

Canada. After consulting with their English teachers, their teachers expressed that their English general ability is quite excellent; English academic achievement test in class is at least ranked at the fifth place to the top out of 47 students and they can do English reading independently in their daily life. It was suggested by the students' teachers that they did not need to join the study. The remaining 92 Grade 11 students who fit the English learning criterion are selected to join the word lists oral reading.

Third, the researcher conducted an oral reading of the word lists according to the standard IRI procedure. At this stage, 24 students are not selected. The other 68 students join an informal reading inventory to ascertain their English reading ability.

Fourth, the researcher conducts an informal reading inventory (IRI) with each volunteer to determine his/her reading proficiency level. The 14 students whose reading proficiency level is at the grade seven instructional level are selected. The detailed procedure for the word lists and IRI is described in the following section of IRI. Fifth, the participants are at the age of 16, and it is necessary to gain the consent of their parents or guardians. The researcher provides consent forms to the selected participants as well as their parents or guardians both in English and Mandarin, and goes through the forms with them individually in order to avoid any misunderstanding or confusion about the study (see Appendix C for the participant's and the parent's consent forms).

*Appendix C**Consent Forms***The University of Victoria****Human Research Ethics Committee****Consent Form for Participants in the Study Entitled Effects of Cultural-specific Prior Knowledge on Taiwanese EFL Students' English Reading Comprehension**

You are being invited to participate in a study called " Effects of cultural-specific prior knowledge on Taiwanese EFL students' English reading comprehension" that is being conducted by Lufang Lin. As a graduate student, this research is part of the requirements for a degree of Ph. D. of Education in the Department of Curriculum and Instruction in Education at the University of Victoria. It is being conducted under the supervision of Dr. Mary Dayton-Sakari.

The purpose of this research project is to explore the significance of accessing cultural prior knowledge in reading passages to improve your English reading comprehension. You are being asked to participate in this study because you are a grade 11 high school student in Taiwan, and have experience as a student who is learning English as a foreign language (EFL). Therefore, you have valuable information to contribute to this study.

For this study I am seeking 6 female and 6 male participants. The first to volunteer and to provide the necessary signatures on the Consent Forms – you and your parent/guardian – will be accepted. If you agree to voluntarily participate in this study, you will need to join: (1) a small group instructional session to practice how to do oral retelling, (2) a first individual interview talking about your ideas about Chinese and Canadian cultures, (3) 12 sessions of retelling: reading the English reading passage and orally retelling, and (4) a second individual interview talking about how you feel about Chinese and Canadian passages. The amount of time required of you is two hours per week, approximately eight hours in total. The interview and retelling sessions will be recorded on an audio recorder. Data from this study will be disposed of upon the completion of my dissertation. All the written documents transcribed from your interview and retelling will be shredded. All the audiotapes about you will be erased. The only inconvenience to you is time spent during the instructional session, oral retelling activities and interviews.

This research will take place in your school, outside of class time. Your participation in this research is completely voluntary without any risks. If you decide to participate, you may withdraw at any time without any negative consequences or any explanation.

Before each interview and each retelling section begins, I will remind you that you can quit anytime if you don't feel comfortable in the study. If you do withdraw from the study, your data will be destroyed at once. In terms of protecting your anonymity, your real name will be replaced by numbers in my dissertation and no reader will be able to identify who you are. Your confidentiality and the confidentiality of the data will be protected in a secure location (locked case in a locked room on my premises, to which I have the only key).

The potential benefits of your participation in this research include an increased awareness of your own reading strengths and challenges and adding to general knowledge of English teaching in Taiwan. It is anticipated that the results of this study will be distributed through my dissertation, and possibly published in journal articles. As you may be interested in the results of my research, I will be happy to provide you and your principal a summary of the findings.

You may contact me at 250-721-4392 or my supervisor at 250-721-7847. In addition, you may verify the ethical approval of this study, or raise any concerns you might have, by contacting the Associate Vice President Research at the University of Victoria (250 - 472-4632).

Your signature below indicates that you understand the above conditions of participation in this study and that you have had the opportunity to have your questions answered by the researcher.

Participant's Signature

Date

A copy of this consent will be left with you, and a copy will be taken by the research.

加拿大英屬哥倫比亞省維多利亞大學人類調查道德委員會
「文化先備知識對臺灣高中生英文外語閱讀理解之影響」研究

參與者同意書

您被邀請參加命名為「文化先備知識對臺灣高中生英文外語閱讀理解之影響」研究。此研究是由林綠芳主持，林綠芳目前就讀於加拿大維多利亞大學教育系博士班。此項研究是林綠芳取得英語教學教育博士學位的必備條件之一，並在指導教授 Mary Dayton-Sakari 博士指導下完成。

此學術研究的目地在於進一步了解臺灣高中生學習英文時以中文所具備之文化先備知識對其英文閱讀理解之影響，以協助增進他(她)們的閱讀能力。您目前為台灣的高中生，且學習英語有多年經驗，您能提供寶貴的訊息，故誠摯的邀請您參與此項學術研究計畫。

如您願意參與此項研究，您參與的部份將包含：(1)如何做好重述文章的練習(2)第一次訪談中和您聊聊您對中國及加拿大文化的看法(3) 默唸英文及重述其內容(4)第二次訪談中和您聊聊您對重述中國及加拿大文章的看法。在研究過程中，我將錄下所有訪談及文章重述之內容。此研究結果將會呈現在我的博士論文中。在我論文完成同時，所有錄音及收集資料都將隨之銷毀。對您唯一不便之處在於您必須犧牲一些課餘時間接受訪問並且唸英文文章及重述。

此學術性研究屬於自願參加性質且不會造成您任何的不便或危及個人，請您大可放心。您有決定參加或不參加的權利。若您決定參加卻中途反悔，您隨時可以放棄不做，而您所做之有關資料也會被銷毀。您隨時有退出的權利而且不會造成任何負面之影響。為了保護您的隱私，在我的博士論文中，絕對不會使用您的本名且不會洩露您的身分。所有訪談內容將會被放置在我家上鎖的抽屜裏，沒有研究者的書面允許，任何人都沒有權利接觸這些資料。

您參與此研究之益處為可以幫助您了解自己英文閱讀之優缺點且可以提供臺灣在外語教學法上改進之參考。所有您提供之資訊將會學術性詮釋，待研究結果產生，其成果將做為研究者論文及學術期刊報告並出版公開。

您如果還有任何疑問，可以和我(電話 250-721-4392)及我的指導教授(電話 250-721-7847)聯絡。您可以核對此研究的道德允准書或再有任何問題，您也可以聯絡維多利亞大學副校長研究院，電話 0021-250-4724632。

您的簽字代表您對以上聲明的了解與接受在此研究參與的情形，並且在您有問題時都能得到研究者的解惑。

參與者簽名

日期

The University of Victoria

Human Research Ethics Committee

Consent Form for Parents/Guardians in the Study Entitled Effects of Cultural-specific Prior Knowledge on Taiwanese EFL Students' English Reading Comprehension

Your child is being invited to participate in a study entitled "Effects of cultural-specific prior knowledge on Taiwanese EFL students' English reading comprehension" that is being conducted by Lufang Lin. As a graduate student, this research is part of the requirements for a degree in Ph. D. of Education in the Department of Curriculum and Instruction in Education at the University of Victoria. It is being conducted under the supervision of Dr. Mary Dayton-Sakari.

The purpose of this research project is to explore the significance of accessing cultural prior knowledge in reading passages to improve reading comprehension of Taiwanese students who learn English as foreign language (EFL). Your child is being asked to participate in this study because he/she is currently a high school student in Taiwan, and has experience as an EFL student. Therefore, he/she has valuable information to contribute to this study.

If you agree to allow your child to participate in this research, his/her participation will include: (1) a small group instructional session to practice how to do oral retelling, (2) a first individual interview talking about his/her ideas about Chinese and Canadian cultures, (3) 12 sessions of retelling: reading the English reading passages and orally retelling, and (4) a second individual interview talking about how he/she feels about Chinese and Canadian passages. The interview and retelling sessions will be recorded on an audio recorder. Data from this study will be disposed of upon the completion of my dissertation. All the written documents transcribed from interviews and retellings will be shredded. All the audiotapes will be erased. The only inconvenience to your child is time spent during the instructional session, oral retelling activities and interviews.

This research will take place in your child's school, outside of class time. Your child's participation in this research is completely voluntary without any risks. If you decide to let your child participate, he/she may withdraw at any time without any negative consequences or any explanation. If your child does withdraw from the study, your child's data will be destroyed immediately. In terms of protecting your child's anonymity, his/her real name will be replaced by numbers in my dissertation and no reader will be able to identify who the participants are. Your child's confidentiality

and the confidentiality of the data will be protected in a secure location (locked case in a locked room on the researcher's premises, to which the researcher has the only key).

The potential benefits of your child's participation in this research include helping your child discover his/her reading strengths and challenges and adding to general knowledge of English teaching in Taiwan. It is anticipated that the results of this study will be distributed through my dissertation, and possibly published in journal articles.

You may contact me at 250-721-4392 or my supervisor at 250-721-7847. In addition, you may verify the ethical approval of this study, or raise any concerns you might have, by contacting the Associate Vice President Research at the University of Victoria (250-472-4632).

Your signature below indicates that you understand the above conditions of participation in this study and that you have had the opportunity to have your questions answered by the researcher.

Parents' /Guardians' Signature

Date

A copy of this consent will be left with you, and a copy will be taken by the research.

加拿大英屬哥倫比亞省維多利亞大學人類調查道德委員會
「文化先備知識對臺灣高中生英文外語閱讀理解之影響」研究
家長同意書

貴子弟被邀請參加命名為「文化先備知識對臺灣高中生英文外語閱讀理解之影響」研究。此研究是由林綠芳主持，林綠芳目前就讀於加拿大維多利亞大學教育系博士班。此項研究是林綠芳取得英語教學教育博士學位的必備條件之一，並在指導教授 Mary Dayton-Sakari 博士指導下完成。

此學術研究的目地在於進一步了解臺灣高中生學習英文時以中文所具備之文化先備知識對其英文閱讀理解之影響，以協助增進他(她)們的閱讀能力。貴子弟目前為台灣的高中生，且學習英語有多年經驗，他(她)們能提供寶貴的訊息，故誠摯的邀請貴子弟參與此項學術研究計畫。

如您願意讓貴子弟參與此項研究，貴子弟參與的部份將包含：(1)如何做好重述文章的練習(2)第一次訪談中和您的孩子聊聊他(她)對中國及加拿大文化的看法(3) 默唸英文及重述其內容(4)第二次訪談中和您的孩子聊聊他(她)對重述中國及加拿大文章的看法。在研究過程中，我將錄下所有訪談及文章重述之內容。此研究結果將會呈現在我的博士論文中。在我論文完成同時，所有錄音及收集資料都將隨之銷毀。對貴子弟唯一不便之處在於您的孩子必須犧牲一些課餘時間接受訪問並且唸英文文章及重述。

此學術性研究屬於自願參加性質且不會造成貴子弟任何的不便或危及個人，請您大可放心。貴子弟有決定參加或不參加的權利。若貴子弟決定參加卻中途反悔，他(她)們隨時可以放棄不做，而他(她)們所做之有關資料也會被銷毀。他(她)們隨時有退出的權利而且不會造成任何負面之影響。為了保護貴子弟的隱私，在我的博士論文中，絕對不會使用貴子弟的本名且不會洩露貴子弟的身分。所有訪談內容將會被放置在我家上鎖的抽屜裏，沒有研究者的書面允許，任何人都沒有權利接觸這些資料。

貴子弟參與此研究之益處為可以幫助貴子弟了解自己英文閱讀之優缺點且可以提供臺灣在外語教學法上改進之參考。所有貴子弟提供之資訊將會學術性詮釋，待研究結果產生，其成果將做為研究者論文及學術期刊報告並出版公開。

您如果還有任何疑問，可以和我(電話 250-721-4392)及我的指導教授(電話 250-721-7847)聯絡。您可以核對此研究的道德允准書或再有任何問題，您也可以聯絡維多利亞大學副校長研究院，電話 0021-250-4724632。

您的簽字代表您對以上聲明的了解與接受在此研究參與的情形，並且在您有問題時都能得到研究者的解惑。

家長簽名

日期

*Appendix D**Sample for the Chinese Topic Passage**Chinese New Year*

It's the start of a new planting season in China. Everyone is out to celebrate the new year and to see the parade. People are wearing new clothes and they are waving paper streamers colored red for good luck. The noise of firecrackers, drums, and metal gongs fills the air. According to Chinese legend, the noise will drive away evil spirits and disease.

Dragon dance is an important celebration. There is a dragon with twenty pairs of legs! It has a huge head of many colors, with rolling eyes and sharp ivory fangs. That should scare away the demons.

People cheer and laugh at the dragon. They know it is only a costume. The legs belong to the men and boys of the town, who carry the dragon's head and dance and kick up their heels under the red cloth body.

Dragons are popular in China because they are the imaginary rulers of the clouds. Kind dragons bring rain for good crops. Cruel ones can make the crops fail with storms or dry spells. The dragons are powerful forces. That is why the kings and emperors who once rule China take the dragon as their symbol of strength.

Appendix E

Sample for the Non-Chinese Topic Passage

Easter

Easter is a day of great joy for Christians. They believe that on the first Easter Jesus arose from the dead.

Easter is always celebrated on a Sunday in early spring. But it comes on a different date each year. This is because it always takes place on the first Sunday after the first full moon after the spring equinox (March 21). So Easter can come anytime from March 22 to April 25.

The week before Easter is called Holy Week. It begins with Palm Sunday, which celebrates the day Jesus rode into Jerusalem and the people scattered palm leaves before him. Christ's Last Supper is celebrated on Holy Thursday. His death on the cross is remembered on Good Friday.

On Easter Sunday, people dress up in new spring clothes and go to church. Many churches have special sunrise services. Easter baskets are given on this day. They contain candy and colorful decorated eggs. Eggs are associated with Easter because they are a symbol of new life. Children are often told that Easter eggs are brought and hidden by the Easter Bunny. This legend probably comes from an old German folk tale.

Appendix F

Passage Codes, Length, Readability, Total Number of Thought Units for the Twelve Retelling Passages

Passage Title	Passage code	Length	Readability	Total number of thought units
Chinese Farming	CF1	160	7.0	18
River of Salmon	RS2	201	6.5	23
Chinese New Year	CNY3	202	6.2	21
Railway Across Canada	RC4	195	7.6	19
Dr. Sun Yat-Sen	DSYS5	215	7.4	23
First Peoples in Canada	FPC6	187	7.0	18
The Great Wall	GW7	199	7.0	18
Easter	EAS8	193	7.0	20
The History of Tea	HT9	196	6.7	20
Fishing in Canada	FCA10	220	7.2	19
Cooking and Eating	CE11	195	7.3	19
Ways of Sending a Message	WSM12	192	7.2	18

Appendix H

Sample for the IRI Test Passage to Establish English Reading Level.

IRI Level 7

Volcanoes

Powerful forces within the earth cause volcanoes. Scientists do not fully understand these factors. But they have developed theories on how the forces create volcanoes.

A volcano begins deep in the earth, where it is hot enough to melt rock. The molten rock is mixed with channels through it and explodes onto the surface in a volcanic eruption.

The melted rock is magma when it is still within the earth. But once it reaches the earth's surface, it is lava.

The lava flows out of the central channel and smaller side channels in streams or in sheets that overlap each other like waves on a beach.

The main gas released by a volcano is steam. Because the steam contains volcanic dust, it looks like smoke.

When the magma is sticky, rock fragments of various sizes are also thrown off by the explosion. The largest fragments are bombs.

The material brought to the surface during a volcanic eruption sometimes forms a mountain around the opening of the central channel. A mountain that was formed by a volcano will have a large, bowl-like crater in its center, and it is also called a volcano.

Comprehension Questions

1. Where does a volcano begin? (deep in the earth)
2. What is molten rock? (rock so hot that it has melted)
3. How does the molten rock reach the surface? (channels through weak places in the earth's surface)
4. What is magma? (melted rock below earth's surface)
5. What is magma called when it reaches the earth's surface? (lava)
6. What is the main gas released by a volcano? (steam)
7. Why is this gas released by a volcano? (contains volcanic dust)
8. What happens when the magma is sticky? (rock fragments are thrown off by the explosion)
9. What are these fragments called? (bombs)
10. What is a crater (bowl-like structure in the middle of the volcano)

*Appendix I**Second Interview Questions.*

1. Which passage are you most familiar with? Why?
2. Which passage are you least familiar with? Why?
3. Can you rank these passages from the most familiar to the least familiar?
4. Which passage do you think is the most difficult to comprehend? Why?
5. Which passage do you think is the easiest to comprehend? Why?
6. Can you rank these passages from the easiest to the most difficult?
7. Compare your prior knowledge about Chinese and non-Chinese passages, which one do you have more prior knowledge about? If the participant's answer to this question is that he/she possesses more prior knowledge about Chinese topics than non-Chinese topics, the researcher may add Question 11 and ask the participant to response Q 11.
8. Suppose you have more prior knowledge about Chinese specific topics, would you feel the prior knowledge about Chinese specific topics very helpful, somewhat helpful or not at all helpful to your reading comprehension of the passage with Chinese topics?
9. How does prior knowledge about Chinese specific topics help you to comprehend the Chinese topic passage? Can you give me some examples to explain that process?
10. Suppose you are lack of prior knowledge about non-Chinese topics, how do you comprehend these passages with non-Chinese topics? Can you give me some examples to explain that process?
11. In the following, there are five factors which may be helpful to your reading comprehension: The structure of the passage, the syntactic structure of sentences, vocabulary, prior knowledge about the topic, the length of the passage.
 - A. Tell me which can be helpful to your reading comprehension while you read the six passages with Chinese topics?
 - B. Tell me which can be helpful to your reading comprehension while you read the six passages with non-Chinese?
12. During the process of reading the passages with Chinese and non-Chinese passages, do you feel any differences between them?
13. What else would you like to say about these passages?

Appendix J

Sample of the Thought Unit Marking Sheet.

The Chinese New Year	
Thought Unit	
	1. It's the start of a new planting season in China.
	2. Everyone is out to celebrate the new year
	3. and to see the parade.
	4. People are wearing new clothes
	5. and they are waving red paper streamers for good luck.
✓	6. The noise of firecrackers, drums, and metal gongs fills the air.
✓	7. According to Chinese legend, the noise will drive away evil spirits and disease.
✓	8. Dragon dance in an important celebration.
✓	9. There is a dragon with twenty pairs of legs.
✓	10. It has a huge head of many colors, with rolling eyes and sharp ivory fangs.
✓	11. That should scare away the demons.
	12. People cheer and laugh at the dragon.
	13. They know it is only a custom.
✓	14. The legs belong to the man and boys of the town,
✓	15. who carry the dragon's head and dance under the red cloth body.
✓	16. Dragons are popular in China because they are the imaginary rulers of the clouds.
	17. Kind dragons bring rain for good crops.
	18. Cruel ones can make the crops fail with storms or dry spells.
✓	19. The dragons are powerful forces.
✓	20. That is why the kings and emperors who once rule China
✓	21. take the dragon as their symbol of strength.
Total Number	12
Percentage	12/21 = 0.5714

Appendix K

Sample for Categorizing Synthesizing, Analyzing, Inferring, and Erroneous Information.

During the Chinese New Year, people make a lot of noise such as the beating of drums, [then some noise from metals] and the noise of firecrackers. (S) / These noise may scare away the demons. (A) / [Then] dragon is an important symbol in Chinese culture. (I) / [Then] it has twenty pairs of legs. (A) / Those are human being's / and they are hidden under the dragon. (S) / During the Chinese Year, people play the dragon dance and / it is an important symbol of Chinese culture. (S) / In the ancient age, the emperors liked to use dragons to represent themselves. (I) / [This is because] [they think] dragons are powerful/ and it control the rain and the grain/ [something like this] (S). So the dragon holds a high position in China. (S) / The dragon in dragon dance has big eyes, and a large head. (A) / [Then] it can scare away the monster. (A) / It may control the rain (S) / because the society of China is based on agriculture (I), the amount of rain is related to the harvest of rice. (I) / Chinese people worship it very much (S)/ [and] it connects with the clouds. (A) /

where S = 7

A = 5

I = 4

E = 0