

THE UNIVERSITY OF CALGARY

AN EXPLORATION OF THE READING
STRATEGIES BY ADVANCED CHINESE ESL READERS

By

Qinghe Ma

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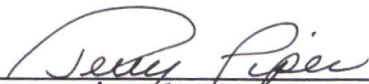
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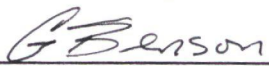
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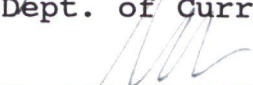
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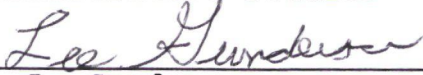
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ABSTRACT

This study employed a think-aloud technique to investigate the reading strategies used by advanced Chinese ESL readers in reading English materials. Chinese ESL readers were chosen for this study because their writing system is quite different from alphabetic languages in general and English in particular. The strategies used by advanced Chinese ESL readers in reading the English passage were described. The strategies in reading English and Chinese were compared. The strategy use was related to comprehension scores and recall scores, and the subjects' difficulties in reading the English passage and in reading English materials in general were investigated and discussed. The results suggested that Chinese advanced ESL readers used significantly more local strategies than general strategies. They paid too much attention to vocabulary at the expense of contextual information. This is believed to be the result of transfer of strategies and training in reading Chinese to reading English. The implications and limitation of the study are also discussed.

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CHAPTER ONE

INTRODUCTION

Because of the Canadian government's immigration policy, each year approximately 200 thousand people, whose native languages may not be English, pour into Canada (see Immigration Canada, 1990). Among the new immigrants are a large number of ethnic Chinese, either from the People's Republic of China, Taiwan, or Hongkong and some other Southeastern Asian countries. Most of the immigrants have a very limited knowledge of English or none at all. How to help these people to learn English in order to cope with life in Canada is an important educational and societal issue.

Canada also plays a significant role in international development by sending Canadian teachers abroad to teach English and to assist in professional development for language teachers. Through organizations such as the Canadian International Development Agency (CIDA), many Canadian educators, working as administrators, curriculum planners, materials developers, teachers and consultants come into contact with non-native learners. Some of these learners are studying English in their own countries while

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others come to Canada to study English or another subject with English as the language of instruction.

A central part of this language learning is learning to read and write. In Canada, as in any other advanced country, literacy is crucial to one's life, education, career and survival. Studies about how second language learners learn to read will provide meaningful insights into the teaching of reading to ESL learners and may have an impact on our understanding of oral-language learning processes as well.

This dissertation reports the results of a study which investigated the reading strategies of advanced Chinese ESL readers in reading English materials, the phenomenon of reading strategy transfer, the relationship of reading strategies and performance, and finally the obstacles in reading English materials facing those readers.

This dissertation is organized in the following manner: Chapter One will introduce and define certain key concepts; Chapter Two will review the major research trends and some major studies in L2 literacy in general; in Chapter Three, theoretical perspectives of L2 learning will be presented; Chapter Four will discuss major studies in L2 literacy in ESL learners whose native language writing systems are not alphabetic; Chapter Five will present the

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design of the study; Chapter Six will be the presentation of the results of the study and discussion; and finally Chapter Seven will present the conclusions and implications of this study and point out directions for further research.

TERMINOLOGY

Those terms in ESL, language acquisition and literacy that are essential to understanding this dissertation are defined below.

LITERACY

Langer (1987) points out the two usual definitions of literacy.

There are two ways to regard literacy. We can regard literacy as the ability to read and write (Kaestle, 1985; Graff, 1979; Resnick and Resnick, 1977). This is the common dictionary definition, and the one that is generally reflected in statistics on literacy rates and in assessments of the success of schooling.

We can also view literacy another way-- as the ability to think and reason like a literate person (Kaestle, 1985; Langer, 1986a, in preparation; Traugott, this volume). Here, the focus is not just on the reading and writing, but also on the thinking that accompanies it. (1987:2)

Both definitions are useful. It is true that in

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education we should help students to develop the ability to think and reason like literate persons. However, reading and writing as low level activities are a prerequisite for such high level activities as thinking and reasoning like literate persons, and since this study concerns itself with the reading comprehension of ESL learners, the definition of literacy in the narrower sense, that is, the ability to read and write, will be assumed.

READING

Trends in second language reading research tend to follow the trends in first (native) language reading research. According to Stubbs (1980), there are two major schools of thought on how to define reading.

The basic debate has been between those who hold that reading means essentially the 'mechanics' of reading, that is, the ability to decode written words into spoken words; and those who maintain that reading essentially involves understanding. (Stubbs, 1980:5)

This dissertation will adopt the latter position since most of the studies to be discussed later demonstrate that the ability to decode written words into spoken words plays only a limited role in reading (both first and second language), especially at the advanced stage.

Reading is a complex activity and in order to

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understand effectively what is written, the reader has to be proficient to a certain extent in the language that he/she is reading, and to be familiar with the topic or content of the passage. There is evidence, too, that readers must use certain strategies to obtain meaning from reading. This is what is called reading comprehension.

PRODUCT OF READING

Product of reading refers to the terminal behavior of reading-- the right answers in the multiple-choice tests of reading comprehension, oral miscues produced by readers during reading, and recall or retelling of the texts being read. Most of the research in ESL reading falls into this category. By analyzing the product of reading, investigators could infer what is going on in the readers' minds while readers are reading.

MISCUE ANALYSIS

A miscue is an actual observed response in oral reading which does not match the expected response (Goodman, 1973:5). By analyzing readers' oral miscues, investigators could infer what strategies readers are using in their reading or how they use the three cueing systems--graphophonic, syntactic, and semantic.

PROCESS OF READING

Process of reading refers to the activities readers engage in while reading-- the strategies readers use in their reading (e.g., what readers do when they encounter new words). In order to construct meaning from the printed passages, readers are generally engaged in a variety of activities. For instance, according to the Bottom-up Model of reading, readers first try to decode the letters and words and then build up meaning from the lower levels of the linguistic system, whereas the Top-down Model stresses the forming of hypotheses and predicting from the top. Both models make theoretical assumptions about the processes of reading. Only recently have empirical studies been carried out which actually investigate the processes of reading. The mentalistic research on reading falls into this category. By asking readers to think aloud as they read, investigators can examine more directly what readers are doing.

STRATEGY

Barnett's definition is useful for defining reading strategies. According to Barnett, "... the term strategy refers to the mental operations involved when readers purposefully approach a text to make sense of what they

read" (1989:66). The strategies used by readers may be⁷ either conscious techniques controlled by the readers or unconscious processes applied automatically. Reading strategies show how readers approach a reading task, what knowledge sources they draw on, how they construct meaning from the printed materials, and what they do when they fail to understand a certain portion of the text. Although the term "strategy" in most cases implies those which are successful in comprehension, here it is used to refer to both effective and ineffective ones.

SCHEMATA

"A schema", according to Rumelhart, "is a data structure for representing the generic concepts stored in memory" (1980:34). In ESL reading research, schema refers to the previous knowledge readers bring to the task of reading, and Carrell (1983a) identified two kinds -- content and formal. Content schemata refer to the background knowledge about the content of a text while formal schemata refer to background knowledge about the formal, rhetorical organizational structures of different kinds of texts.

BOTTOM-UP PROCESSING

Bottom-up processing refers to the way readers reconstruct the author's intended meaning first by matching the sounds to printed symbols, and then building up a meaning for a passage from letters to words (at the bottom) to larger units such as phrases, clauses, and sentences (at the top). Problems of second language reading and reading comprehension are considered as being basically decoding problems, deriving meaning from print (See Rivers, 1964; Yorio, 1971). According to this theory of processing, readers use mainly graphophonic cues in their reading and rely less on syntactic and semantic systems of the language. The teaching of English in China basically corresponds to this model, where new vocabulary and idioms in a given sentence are analyzed, and then the sentence is explained either in the native language (translation) or in English (paraphrase). In North America, the teaching of phonetic and graphic relations also corresponds to this model of reading.

TOP-DOWN PROCESSING

Top-down processing in reading refers to the manner in which readers reconstruct the meaning of a passage first by forming hypotheses about or predicting the author's

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intended meaning based on background knowledge and visual input, and then confirming or correcting the initial hypothesis. Reading is thus considered a "psycholinguistic guessing game" (Goodman, 1967). Top-down processing has been recently characterized as basically a concept-driven pattern in which "higher-level processes interact with, and direct the flow of information through, lower-level processes" (Stanovich, 1980:34). Contrary to bottom-up processing, which mainly uses the graphophonic system, top-down processing uses all the graphophonic, morphologic, syntactic and semantic systems of the language. However, readers use the cues from the three levels of language to predict meaning and confirm the prediction by relating to their experiences and knowledge of the language and the world as well. The introduction of background knowledge and discussion of the main ideas of the reading material before reading are consistent with this model of reading.

ESL (ENGLISH AS A SECOND LANGUAGE)

ESL refers to the learning of a second language generally in a target language environment (e.g., learning English in English-speaking Canada). In a broader sense, ESL also includes EFL (see below), and in this dissertation ESL has this general definition unless otherwise specified.

EFL (ENGLISH AS A FOREIGN LANGUAGE)

EFL refers to the learning of a new language in a foreign language context or in the native language environment (e.g., Learning English in the People's Republic of China). In general, there are few native speakers of English in the community, and the instructor may or may not be a fluent speaker of the language.

WRITING SYSTEMS

According to Fromkin and Rodman (1983:149), there are three types of writing systems used in the world today--word-writing, syllabic-writing, and alphabetic writing. In a word-writing system, each written symbol (character) represents a whole word (Fromkin and Rodman, 1983:149). Chinese which evolved through pictograms and ideograms (making Chinese words more related to meaning than to sounds), belongs to this type. In a syllabic-writing system, each syllable in the language is represented by its own symbol (Fromkin and Rodman, 1983:147). Japanese belongs to this category. In an alphabetic writing system, each symbol represents one phoneme and the symbols (letters) are closely related to their sounds. Most of the world's languages, including English, belong to this type.

CONTRASTIVE ANALYSIS (CA)

Contrastive analysis refers to the scientific and structural contrast of the target language and the native language systems. For example, CA would investigate the differences between English and Chinese in phonology, syntax and so on. Some educators believe that the differences between the two languages will be the principal barrier to second language learning and acquisition.

LANGUAGE TRANSFER

According to Brown (1980), "Transfer is a general term describing the carryover of previous performance or knowledge to subsequent learning" (p,84).

Language transfer occurs when a second language learner tries to employ his/her knowledge of structure or communication strategies in his/her native language to the learning of the target language. Transfer is of two kinds- positive transfer and negative transfer. Positive transfer in second language learning occurs when there is no difference between the target language and the native language form and meaning, and the learners' previous knowledge about their native language will facilitate the learning of the target language. Negative transfer occurs when there are differences between the two language systems

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and the learners' previous knowledge will interfere with the learning of the target language. For example, there is no wh-movement in Chinese. When Chinese speakers first learn English, they often incorrectly transfer the structure in their native language to English, thus producing sentences like

*You ask me. Me ask who?

INTERFERENCE

Interference is the incorrect transfer of the learners' native language phenomena in the learning of the target language. According to the Contrastive Analysis Hypothesis (For detail see Chapter Three), the differences between the target language and the native language will cause difficulties that learners encounter. Put more generally, the previous knowledge of the native language will interfere with the learning of the target language. Native language interference is the major problem in second language acquisition.

INTERLANGUAGE

The term and notion of "interlanguage" was first introduced by Selinker (1969). It is used to describe the linguistic system of the second language learners speaking

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the target language. According to Selinker (1972), the utterances produced by second language learners attempting to express something in the target language are not identical to the corresponding set of utterances which would have been produced by native speakers of the target language, who have attempted to express the same ideas as the learners. Therefore, Selinker (1972) argued for a separate linguistic system which he called "Interlanguage".

PINYIN

In order to facilitate learning and to standardize pronunciation of Chinese, a phonetic system (Pinyin) was introduced by the Chinese government in 1957 (Xinhua Chinese Dictionary, 1980). Pinyin consists of five parts: (1) Letters: the 26 English letters; (2) Initials: the first consonant in the syllable, (However, not all syllables have initials); (3) Finals: vowels, glides and two nasals (n, ŋ); (4) Tones: four tones- High-level, Rising, Falling-rising, and Falling; and finally (5) the Separation Mark: the indicator of separate syllables which might be mistaken for one. For example, the Chinese word for "fur coat" has two characters and is spelt as "Piao", without the separation mark ('). It is exactly the same as the spelling for "floating" (Piao), which has only one

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character. Therefore it is easy to get these two confused. However, when the separation mark is put between "Pi" and "ao" as "Pi'ao", people are sure to know that this is "Pi'ao" the "fur coat" not "Piao" "floating".

READING IN ESL TEACHING AND LEARNING

For the majority of ESL learners, reading is the most important of the four skills (listening, speaking, reading, and writing). It is true that the number of ESL learners in English speaking countries is very large, and for them reading is equally important as listening and speaking because in the modern world, people's lives depend on literacy (reading and writing) to a greater or lesser degree. However, the number of ESL learners in non-English speaking countries (where they learn English as a foreign language in the native language environment) is much greater. For most of them and most of the time, being able to read with a certain speed and a certain degree of comprehension may be the only purpose of learning English. For example, in the People's Republic of China, English is a compulsory subject both in middle (high) schools and universities and it is one of the three main subjects in middle schools as well. Literally millions of people are

learning English. The chance for most of them to converse with native speakers or use their oral English is very limited. The purpose of teaching English both in secondary and higher institutions is to enable the learners to read modern scientific materials (most of which are published in English). Even for those of us, who are lucky to have the chance to pursue graduate studies and research in an English speaking country (though the number is very small compared with those who will never have the chance to talk with native speakers of English), reading is also very important because without a solid reading proficiency in English, it is difficult for non-native speakers of English to keep up with their study (e.g., the massive reading assignments in English) and compete with their native speaker counterparts. It is, therefore, extremely important that educators understand as much as possible about the process of learning to read a second language. Many issues arise: How much of the reading ability transfers from the native language to the target language? How does the reader of an ideographic language approach an alphabetic language? What impact on the reading process do reading selections or materials have?

In the next chapter major research which addressed these and related questions is reviewed and discussed.

CHAPTER TWO

MAJOR RESEARCH TRENDS IN L2 LITERACY

This chapter discusses models of reading relevant to the current study, and reviews some important studies that are associated with these models. This chapter consists of four sections: The Early Period; Psycholinguistic Model of Reading; Interactive Models of Reading; and Mentalistic Research on Reading.

2.1. The Early Period

The learning of reading in ESL has a long history. When English was first taught in Europe as a second language, the Grammar-translation Method was the dominant method of teaching (Larsen-Freeman, 1986:4-15), and this method dominated ESL teaching between 1840 and 1940 (Richard and Rodgers, 1986:4). At that time reading was the major objective in studying a foreign language. However, in the 1940s and 1950s, American structural linguists proposed a set of new principles in ESL teaching (Diller, 1971:9). Moulton (1961), an American linguist, summarized the linguistic principles on which structural linguists based their language teaching as follows:

1. Language is speech, not writing;
2. A language is a set of habits;
3. Teach the language, not about the language;
4. A language is what its native speakers say, not what someone thinks they ought to say;
5. Languages are different. (1961:86-90)

Because this structuralist approach promoted the primacy of speech, reading was neglected.

The Audio-lingual Method of ESL teaching is the result of the influence on language teaching of structural linguistics and behaviorist psychology. Some good Audio-lingual programs have produced fluent speakers of English. However, the skill of reading was neglected or even ignored by practitioners of this method. Oller and Tullius quote Andrew's observation that the Audio-lingual method stressed speaking and listening "on the grounds that oral language is primary anyway and that reading will come naturally if the students are able to speak the language" (Andrew, 1970:1, cited in Oller and Tullius, 1973:68).

Mackay, Barkman, and Jordan make a similar comment: "It has been expected, or sometimes merely assumed, that skilled reading and writing would more or less automatically follow upon fluent oral production and understanding" (1979:V). There are differences between the

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written and oral forms of language. The fact that one can speak a language does not necessarily mean that he/she can read that language. As Oller and Tullius (1973:69) observed, "Native speakers apparently require a great deal of practice and no mean amount of careful training in order to develop skill in reading, Why should we expect the case of non-native speakers to be any different?"

In line with the theories of both theoretical and applied linguistics, the early works on reading in teaching English as a second language assumed a rather passive, bottom-up view of second language reading. Reading was viewed primarily as a decoding process in which readers were believed to reconstruct the author's intended meaning by first matching the sounds to printed symbols (phonic skills), then building up a meaning for a passage from letters and words (at the bottom) to larger units such as phrases, clauses, and sentences (at the top) (see Bell and Burnaby, 1984; Gough, 1972; Rivers, 1964, 1968; Rumelhart, 1977).

The decoding and bottom-up view of reading (both first and second language) was the theoretical model that formed the base for ESL teaching for several decades. The phonic skill approach is mainly about initially learning to read (both in first and second languages). However, to the best

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of the author's knowledge, there have been no empirical studies to investigate whether these models are the best or even effective ones for teaching ESL reading.

Early studies asked other questions. One of the earliest investigated adult ESL learners' skills in reading. In their study, Oller and Tullius (1973) addressed the following questions:

1. How does degree of reading proficiency of non-native speakers compare with similar measurements for native speakers?
2. Do foreign students whose native language is an Indo-European language perform better than those whose native language is non-Indo-European?
3. Do foreign students who have studied English in an environment where it is used as a second language perform better than those who have studied it as a foreign language?
4. To what extent do EMP (Eye Movement Photography) measurements correlate with scores on an ESL proficiency examination? (1973:71)

Their tools for the investigation were Eye Movement Photography (EMP) and a version of the UCLA ESL Placement Examination, Form 1. The former could reveal the following information: (1) number of eye fixations; (2) duration of these fixations; (3) number of regressions, e.g., times the reader glances back across a line in order to reread; (4) average word span, e.g., mean number of words recognized

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during a fixation; (5) average number of words read per minute. Based on the above five indices, Oller and Tullius added a sixth one, relative efficiency, by computing the number of fixations, regressions and words per minute. This measure indicated the approximate reading grade-level of a given subject when compared against national norms. The results of the UCLA ESL Placement Examination Form 1 were used together with the results of the six measurements from the EMP to calculate the correlation of the two. The subjects were 50 foreign students from 21 language groups. They were divided into different subgroups according to the research format.

Oller and Tullius's results indicated that the average number of regressions for the non-native subjects who read college level material was insignificantly different from the college level native speaker norms, and the average duration of fixation for all non-native groups and subgroups was consistently low, which meant that non-native speakers took far more time to read and comprehend a passage than did native speakers.

Their results also showed a negative correlation between the scores on the ESL test and the number of fixations, duration of fixations, and number of regressions (which means as scores on the ESL test increase, the number

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of fixations, the duration of the fixations and the number of regression decrease). A positive correlation was found between the ESL test scores and the average span, words per minute and RE (relative efficiency). In other words, if the score on the ESL test was higher, the average span word per minute and RE were greater.

2.2. Psycholinguistic Model of Reading

In 1975, Goodman (1975) proposed what is called the psycholinguistic model of reading, which has a very strong impact both on first (or native) language reading and second language reading. According to Goodman (1975), there were three kinds of information used in language, "The symbol system": sounds in oral language and graphic shape in written language; "The language structure": a set of syntactic relationship, and "The semantic system": the set of meanings. Goodman regarded reading as a series of cycles of optical, perceptual, syntactic and meaning. He further pointed out that, "As readers move through the cycles of reading they employ five processes." The five processes are:

1. Recognition-Initiation.
2. Prediction.
3. Confirmation.

4. Correction.

5. Termination.

The source of Goodman's Model is oral miscue analysis which reveals several basic insights about the reading process of both first and second languages:

1. Language, reading included, must be seen in its social context.
2. Competence, what readers are capable of doing, must be separated from performance, what we observe them to do.
3. Language must be studied in process.
4. Language must be studied in its human context. (Goodman, 1982:7-8)

Many reading experts (e.g., Anderson, 1978; Cziko, 1978) characterized Goodman's Model as basically a concept-driven, top-down one, in which "higher level processes interact with and direct the flow of information through lower level processes" (Stanovich, 1980:34). However, Goodman did not interpret the model as Stanovich suggested and resisted the characterization himself (Goodman, 1981).

In criticizing the top-down hypothesis-testing model, Stanovich (1980) argued that

... the generation of hypotheses about a subsequent word, or words, must take less time than is necessary to recognize the words on the basis of purely visual information, otherwise the hypothesis generation is unnecessary. However, it seems unlikely that a hypothesis based complex syntactic and semantic analysis

can be formed in less than the few hundred millisecond that is required for a fluent reader to recognize most words. (1980:34)

Goodman (1981) felt that Stanovich misrepresented his model and claimed that

My model is a reading model. It assumes that the goal of reading is constructing meaning in response to text. That does not require "recognizing" words, letters, or anything else. It requires interactive use of grapho-phonetic, syntactic, and semantic cues to construct meaning. My model is thus an interactive model. (1981:477)

In spite of Goodman's rejection of the characterization, the evidence seems to favor most of the scholars in this field, who label the psycholinguistic model as a "top-down" one. The key issue in this model is "guessing" or "predicting" the author's intended meaning, based on partial use of available minimal language cues selected from perceptual input, and then confirming, rejecting or refining the guesses as reading progresses (Goodman, 1982:33).

2.2.1. Miscue Analysis

As stated earlier, the source of Goodman's (1975) Psycholinguistic Model of reading was Miscue Analysis. According to Goodman, "A miscue, which we define as an actual observed response in oral reading which does not

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match the expected response, is like a window on the reading process" (1973:5). By studying the miscues produced by oral readers, we can probe the processes and strategies the readers used in order to understand the passages.

When he first used miscue analysis as a research tool in 1963, Goodman (1973:5) was working with people reading in their first language. Later, miscue analysis was introduced in the study of reading by second or foreign language learners. A number of major studies have employed this method in investigating second language reading processes.

In her experiment, Romatowski (1981) studied the oral reading in Polish and English by Polish-American children. Some of the questions addressed by Romatowski (1981) were as follows:

1. How much similarity/dissimilarity is there between the two languages?
2. Does this influence the reading of the stories?
3. How do the students use their language cueing systems (graphophonic, syntactic, semantic) in the reading of the stories?
4. Is there a relationship between the use of the cueing system and comprehension?
5. What influence does one language have on another in reading stories? (1981:22)

Examination of the two languages revealed that they

had a similar, but not identical, orthography. However, there were in some cases differences in the phonetic realization of certain letters. For example, in English the letter "i" can be realized in the phonetic forms: [ay] as in "bite", [i] as in "bit", or [ər] as in "bird" according to its environment, while its phonetic realization in Polish is identical in sound to the English long [iy] as in "beat".

Syntactically, Polish differs from English in word order. Being an inflectional language, word order is not so crucial in Polish as in English. For example, the following sentence is perfectly acceptable both semantically and syntactically in Polish.

chleb upiekła mama.
bread baked mother
"Mother baked bread."

If we organized the English translation in this order--bread baked mother, it would not be acceptable either semantically or syntactically.

Romatoski's results revealed that a large percent of the miscues (39.8% generated in the English story and 55.9% in the Polish story) were of high graphic similarity. According to Romatoski (1981:23), one of the reasons for this finding was that the high sound-symbol relationship in Polish and the subjects' apparent awareness of this

linguistic feature were evident and influenced the reading. Though the author did not present the percentage of syntactic and semantic miscues, I would assume that they would not be as high as the graphic miscues. Romatowski (1981:26) concluded that her findings confirmed the view that the reading process was complex. Individuals utilized all three systems of language as well as their life and language experiences in each reading act.

In her study, Hodes (1981) attempted to test the statement by Goodman that, "The essential characteristics of the reading process are universal" (1970:104). She asked her six subjects (bilingual speakers of Yiddish and English) to read a passage of Yiddish and English orally and then retell the stories in their own words. Aside from providing support for Goodman's (1970) statement, her findings also showed that for all miscues, the reliance on graphophonic similarities far outweighed the use of any other strategy. According to Hodes (1981:30), this might be the reflection of the phonic "overkill" of early training on exact decoding. Her results also supported the previous miscue research findings that a high score in reading accuracy was not a prerequisite to efficient reading.

In his study to investigate, through miscue analysis, the reading strategies of first language illiterate

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speakers reading in second language, Haddad (1981) found differences in the strategies by first language literate and illiterate readers. For first language illiterate readers there was a total absence of non-words, while production of non-words is common in most second language learners and first language readers. For example, one of the first language literate readers' main strategies was the substitution of non-words: 47% of the total miscues. Many of her non-words maintained English syntax as in:

\$slaked
The cook sliced it.

Instead of "sliced", one of Haddad's first language literate readers produced "slaked", and the dollar sign showed that the substitution is a non-word.

Haddad's (1981:35) explanation was the differences in familiarity with the English words. While the first language illiterate readers had been in the U.S.A. for about four years, the first language literate reader had been there for about a year.

In her study of the miscue analysis of native German speakers reading in German and English, Mott (1981) found that the most obvious strategies employed by the individual subjects in their attempt to extract meaning from the English text were:

Reading primarily for grammatical structure that are complete and that can bear meaning by (a) replacing substituted or miscued lexical items with others of the same function and (b) correcting ungrammatical miscues where they interfered with semantics.

Attempting to gain semantic control of the reading by (a) creating a semantic "buildup" from one half of the story to the other and (b) increasing the quality of the semantic miscues during the course of reading.

Keeping close to the graphic representation of the text by (a) attempting to maintain a close graphic/sound relationship to the lexical items while reading aloud and (b) observing the syntactic structures used by the author and adhering to them in a effort to get to the deep structure. (1981:62-63)

Mott's study showed that readers were able to use all the three major language systems, syntax, semantics, and graphophonics, thus providing evidence for Goodman's "Psycholinguistic Model of Reading". She further pointed out, based on the results of her study, that degree of proficiency in reading English is related, to a considerable extent, to the degree of proficiency by the subjects in processing written materials in their first language. However, she was not explicit about whether this was the result of reading strategy transfer or the universality of reading behaviors. But Mott failed to recognize the fact that German and English are cognate languages. One could argue that this makes a difference.

Clarke (1981) addressed the following questions in his

study:

1. Can the psycholinguistic perspective of reading explain the reading performance of proficient, adult Spanish-speaking speakers, reading in Spanish and in English?
2. Do these individuals transfer their reading skills to the second languages? (1981:69)

Through miscue analysis of the oral reading of both English and Spanish passages, Clarke found an affirmative answer to his first research question. Readers produced miscues that demonstrated their attempts to utilize graphophonic, syntactic and semantic cues to extract the author's message. However, their miscues were generally of high graphic and phonemic proximity to the text.

As for the second research question, Clarke points out, "It is clear that Andrade (the good reader) is a better reader than Baca (the poor reader) in both Spanish and English, in all the significant analysis categories, Andrade's performance is superior to Baca's" (1981:77). This indicated that the skills of reading were transferred from the reading in the first language to that of second language.

In his study, Miramontes (1987) investigated the types of text-meaning accurate miscues, by Reading Miscue Inventory category, made by selected Hispanic good readers

and readers with learning disabilities. His subjects were 40 upper elementary (fourth, fifth, and sixth grade) students of Hispanic origin, ten in each of the following groups: (A) good readers whose primary reading language was Spanish (GS); (B) good readers whose primary reading language was English (GE); (C) learning disabled students whose primary reading language was Spanish (LDS); and (D) learning disabled students whose primary reading language was English (LDE). Miscue analysis was the tool for this study.

The oral miscues of the subjects were analyzed in terms of five categories: (1) graphic similarity; (2) sound similarity; (3) grammatical function; (4) comprehension; and (5) grammatical relationship. The first three categories were designated as "decoding" while the last two were designated as "semantic". He found in the primary reading language, GS readers' miscues preserved the text more often than those of the GE readers and the three "decoding" categories showed a greater difference than the two "semantic" ones. The differences between G and LD groups within each language were not significant. Miramontes' data showed that Spanish readers used decoding strategies significantly more often than English readers in both Spanish and English reading. However, the Spanish

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readers also used more strategies for reading than just decoding. His explanation was that this might be the result of (A) reading instruction (Spanish reading is often taught using a highly phonetic approach) or (B) their effectiveness given the high sound-symbol correspondence of Spanish. His data also showed that successful Spanish readers bring a variety of skills to the task of reading English. Miramontes argued that 50% of the learning disabled students might be misclassified because his study indicated that the miscues by these students were similar to those of good readers. Care should be taken when classifying the students, Miramontes suggested.

Coady (1979) elaborated on Goodman's psycholinguistic model for reading and proposed a model in which the ESL reader's background knowledge interacts with conceptual abilities and process strategies to produce comprehension. In the top-down or psycholinguistic model of ESL reading, the reader's linguistic knowledge or proficiency in the second language and his/her background knowledge in the content area of the text as well as the rhetorical structure of the text are important. This brings us to the next important area of investigation, Schema Theory.

2.2.2. Schema Theory

Bartlett (1932) first introduced the term schema into psychology, and Rumelhart defined schemata as the "building blocks of cognition". According to Rumelhart, schemata "...are the fundamental elements upon which all information processing depends" (1980:33). He pointed out that

Schema theory is about how knowledge is organized or represented in one's mind and how that organization or representation facilitates the use of the knowledge in a particular way. (1980:33)

Carrell (1983a) classified recent empirical research on schemata in language reading comprehension into three major categories: content schemata; formal schemata; and formal/content schemata confounded. Major studies in each of the categories will be considered in turn.

CONTENT SCHEMATA

Content schematic knowledge, according to Carrell (1983a), is background knowledge about the content area of a text --e.g., texts about washing clothes, celebrating New Year's Eve in China, and so on. Those who are investigating the effects of background knowledge (Content Schemata) on ESL reading comprehension might assume that there are differences among various cultures as well as among lives and experiences of individuals within the same culture.

Benjamin Whorf, a noted anthropologist and linguist, argued that

We dissect nature along lines laid down by our native languages. The categories and types that we isolate from the world by phenomena we do not find there because they stare every observer in the face; on the contrary, the world is presented in a kaleidoscopic flux of impressions which has to be organized by our minds-- and this means largely by the linguistic systems in our minds. We cut nature up, organize it into concepts, and ascribe significances as we do, largely because we are parties to an agreement to organize it in this way-- an agreement that holds through our speech community and is codified in the patterns of our language. (Whorf, 1965, quoted in Brown, 1980:33-34)

The Whorfian Hypothesis (otherwise known as the Sapir-Whorf Hypothesis) actually contains two propositions according to Cole and Scribner (1974). The first one is known as "Linguistic relativity", which maintains that the world is differently experienced and conceived in different language communities. The second is "Linguistic determinism", which claims that language actually causes the differences in cognition (1974:24). Linguistic relativity is also called cultural relativity (Piper, 1986:24).

Piper claimed that

Following Whorf (1965), the idea that each culture is unique, in the sense that culture-bound thought is predetermined by (or relative to) a particular natural language, has become a commonplace in

discussions about ethnicity and education.
(1986:24)

Cole and Scribner (1974) and Piper (1986) pointed out the limitations and problems of the extreme form or the strong version of the Whorfian Hypothesis. They argued that the strong version of the Whorfian Hypothesis could lead to the conclusion that full interethnic communication and exchange of knowledge would be very limited, if not impossible. Cole and Scribner (1974) also claimed that

Extreme forms of linguistic relativity and determinism could have serious implications, not only for mankind's study of himself, but for his study of nature as well, because it would close the door to objective knowledge once and for all. (1974:41)

In discussing one alternative to the extreme forms of Whorf's work, Piper did not dismiss Whorf's contribution, but agreed with Fishman

It was Whorf's strong faith in the value and richness of linguistic and multiethnic diversity, a faith Whorf was unable to articulate fully before his untimely death, that Fishman argues to be the most forceful part of Whorf's legacy. (1986:25)

It is quite possible that Whorf has been misunderstood. Anyway, even if we denounce the extreme nature of his argument, we must accept at the very least Whorf's contribution in recognizing the potential impact of linguistic and cultural differences among different people.

Aside from anthropologists and linguists such as Whorf and educators such as Carrell and Piper, others have identified the existence and effects of cultural differences as an important topic. For example, in their discussions about cross-cultural interaction, culture and perception, Argile (1983), Brislin (1981), Cole and Scribner (1974) and Jahoda (1978) also recognized the cultural differences among different people--that is, something is unique to a particular culture. This cultural uniqueness contributes to the background knowledge which the reader brings to the task of reading.

A large number of studies have been done to investigate the effect of background knowledge (content) on reading comprehension in both first and second language. In one such study, Steffensen, Joag-Dev, and Anderson (1979) hypothesized that (1) people would spend less time on a passage written in terms of familiar cultural framework; (2) people could learn and remember more of the information in a passage about a wedding in their own culture; (3) people would recall more of the important text elements about a wedding in their own culture; and (4) people might modify their recall according to their previous knowledge about the topic either by means of "elaboration" or "distortion".

Steffensen, Joag-Dev, and Anderson (1979) were trying to investigate the effect of cultural differences on the recall of the story. They asked 19 Indian and 20 American students to read two stories, one about an American wedding and the other about an Indian wedding. Their results showed that the influence of cultural schemata in reading both stories was great. Their findings supported their four hypotheses mentioned above: The Americans read the American passage faster than they read the Indian passage whereas the Indians read the Indian passage faster than the American passage; the Americans recalled more idea units from the American passage than from the Indian passage while the reverse was true of the Indians; subjects recalled 34 percent of what for them were important idea units but only 29 percent of the unimportant units; the Americans' recall consisted of more "elaborations" and fewer "distortions" than the Indians when reading the American passage while the opposite was true of the Indians. These results suggest that cultural background plays an important role in reading comprehension.

In her study, Johnson (1981) investigated the effects of familiarity with the topic and text complexity on reading comprehension by means of recall procedures. Her subjects were 46 Iranian intermediate/advanced ESL students

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and 19 American subjects at the university level. The subjects were asked to read two versions of the two texts. One of the texts was a story from Iranian folklore and the other was a Buffalo Bill story from American folklore. The two stories were adapted and simplified. However, both the adapted and unadapted texts contained the same number of propositions. The subjects were asked to read both the adapted and unadapted stories from both American and Iranian sources. Her results indicated that the familiarity with the topic (cultural background) had a greater effect than the syntactic and semantic complexity of the text.

In another study, Johnson (1982) addressed the following two questions: (1) Would previous experience in the American culture affect ESL students' comprehension of a passage on the topic of an American custom, Halloween? (2) Would the exposure to meanings of difficult vocabulary words in the passage affect ESL readers' comprehension? Johnson asked her subjects (72 advanced ESL students) to read a passage about the celebration of Halloween, which had two sections. The first section contained information familiar to the subjects and the second section contained information believed to be unfamiliar even to native speakers. Johnson randomly assigned her subjects to one of

the four testing conditions:

- (1) Reading the passage without a vocabulary list;
- (2) Studying the definitions of the target words before reading but not being able to refer to this list while reading;
- (3) Reading the passage with the target words glossed in the passage;
- (4) Studying the target vocabulary words before reading with the definitions of the target words glossed in the passage.

After they read the passages, the subjects were asked to recall the stories in written form without referring to the text and to recognize sentences containing true information from the passages. Her findings showed that the subjects did better in their recalls of the familiar information in the passage than the recalls of the unfamiliar information. The differences between the four groups were not significant, which meant that the exposure to vocabulary did not help subjects in their reading.

In her study, Aron (1986) asked 31 native speakers of English and 31 ESL learners to read and recall two passages, one considered universal in theme and the other bound to U.S. culture. Aron found significant differences in the subjects' recall of the culture-bound theme. The

native speakers of English performed significantly better than the ESL learners. However, there was no difference in the recall of the universal theme.

In her study, Carrell (1983b) attempted to investigate the individual and interactive effects of three separate components of background knowledge-- context, transparency, and familiarity-- on the reading comprehension of both native English and non-native ESL readers at advanced and high intermediate levels. There were three groups of subjects-- native speakers of English, advanced ESL learners, and high-intermediate ESL learners.

The reading passages were treated in the following manner:

(1) The passage either had a title and picture or had no context (context vs. no context);

(2) The passage either contained or did not contain lexical items critical to comprehending the text (transparent vs. opaque);

(3) The content of the passage was either familiar or unfamiliar to the reader (familiar vs. novel).

The two passages for the study were "Washing Clothes" (the familiar text) and "Balloon Serenade" (the unfamiliar text). Each of the two texts occurred in a transparent and an opaque version, and in a context and no-context version.

Her subjects were classified into three groups: Group One consisted of 48 native speakers of English; Group Two included 66 advanced ESL learners from different linguistic backgrounds (e.g., Spanish, Arabic, Chinese); Group Three consisted of 42 high-intermediate ESL learners from different language backgrounds.

The result of this study indicated that all three components-- context, text transparency, and familiarity-- played a role in the way native speakers read, understood, and recalled passages. They used both top-down and bottom-up processing modes in comprehension. As for the nonnative speakers, they did not read like native speakers. They were not good top-down processors, nor were they good bottom-up processors. Only advanced ESL readers were affected by familiarity.

According to Carrell

What the results of this study suggest is that high-intermediate and even advanced ESL readers tend to be linguistically bound to a text. They may be processing the literal language of the text, but they are not making the necessary connections between the text and the appropriate background information. (1983b:200)

In other words, Carrell's findings cast doubt on the "role" background knowledge plays in readers who are not at an advanced level of second language proficiency.

Lee (1986) replicated Carrell's (1983b) study using 32

undergraduate students from two third-year Spanish grammar classes, who were all native speakers of English. Lee also asked the subjects to recall in English. The results of his study showed that all three components of background knowledge played some role in the way learners of Spanish read, comprehended, and recalled passages. However, the three components of background knowledge did not affect the recall uniformly across each of the other components. His results also showed that the only significant main effect was for context. The effect of the transparency only reached the .10 level of significance, but the double interaction of context and familiarity reached the .05 level of significance. The triple interaction of the three components was also significant. The interaction of three components of background knowledge was extremely complex. Lee attributed the differences between his study and Carrell's (1983b) study to the languages used in the recall. By using the native language of the subjects in the recall, the contents of the recall changed significantly. Lee's findings add further evidence on the role of background knowledge in reading comprehension. His findings also support the distinction of receptive skills and productive skills. In other words, L2 learners' ability to comprehend is greater than their ability to produce. By

asking the subjects to recall in their native language, a better picture of their reading comprehension could be obtained because it contributes to the amount of recall.

Hudson (1982) investigated the effect of prior knowledge and prior exposure to key vocabulary on the reading comprehension of beginning, intermediate, and advanced ESL learners. Each of the three groups of subjects was asked to read three passages at their appropriate levels. The three passages for each group were all treated in the following manners:

(1). Pre-reading activities (PRE). A set of pictures was provided and the subjects were asked to ask questions about the pictures and make predictions about the text based on the pictures.

(2). Vocabulary definition (VOC). A list of vocabulary items which would appear in the reading passage was given together with their definitions and the subjects were asked to make predictions about the text based on the vocabulary items given.

(3). Read test-read test (RT). The subjects were asked to read the passage for 15 minutes and then write the ten-question multiple choice test.

Hudson's results showed that Pre-reading was most effective for beginning to intermediate level ESL learners.

He argued that good reading skills or background knowledge may compensate for linguistic limitations. Hudson's findings seem to contradict Carrell's findings discussed earlier. While Carrell (1983b) concluded, based on the results of her study, that the subjects "are not making the necessary connections between the text and the appropriate background information" (Carrell, 1983b:200), Hudson's results indicated that pre-reading activities did make a difference. However, considering their different treatment (Carrell's passage with a title and picture and Hudson's passage with a set of pictures and questions and predictions about the pictures), the differences are not difficult to understand. The significance of Hudson's study is that background knowledge could be more important than linguistic competence in reading comprehension.

In a more recent study, Nelson (1987) asked 27 adult Egyptians to read four pairs of reading passages. The passages were matched such that one in each of the four pairs was about a topic in Egypt and the other one was about America. Nelson (1987) found that students' performance was significantly higher on the Egyptian passages both by looking at all passages and students combined and at each pair individually. Therefore, her results supported the notion that cultural background

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knowledge did play an important role in ESL reading comprehension.

In another study, Nelson and Schmid (1989) addressed the following questions: "Will the improved reading comprehension skills acquired by using reading passages on native culture transfer to improved performance on reading passages on standardized reading tests" (1989:539)? In their experiment, the experimental groups (two classes with 12 students in each) were to read passages about Egyptian or Arabic culture, and the control groups (20 students in three classes) were to read passages on American culture. The subjects (both in experimental classes and control classes) took a pretest and a posttest. Since TOEFL and the Michigan Test of English Proficiency were too difficult for the subjects, the test instrument was the Stanford Diagnostic Reading Test (SDRT) (Karlsen, Madden, and Gardner, 1976). The study demonstrated a significant increase in reading comprehension from pre- to posttest, with an average increase of 10 points in the experimental classes, and only two points in the control classes.

Nelson and Schmid (1989) claimed that

These results provide further evidence of the importance of background knowledge in reading comprehension and thus support previous research (Aron, 1986; Carrell, 1987; Carrell and Eisterhold, 1983; Johnson, 1981, 1982; Nelson, 1987) indicating the salience of content schemata. (1989:541)

The importance of this research, Nelson and Schmid argued, was that by reading passages about the students' native culture, the students not only comprehended more but also learned effective reading skills that transferred to reading passages on cultures other than their own.

In their study to investigate the effect of passage content on the cloze scores of English learners in the People's Republic of China, Piper and McEachern (1988) found some interesting results. Of the two reading passages one culturally loaded and the other culturally neutral, the former was easier for the Chinese students, which was contrary to their hypothesis. The explanation that the authors offered was not that background knowledge was not a factor in reading comprehension but that the differences between the passages in other aspects made a difference. The so-called "culturally neutral" passage was about science (the beginning of life) and thus more "factual" than the other passage; the subjects were very reluctant to guess. As a result the subjects scored low on this passage. Based on their study, Piper and McEachern cast doubt on Fry readability formula as either context sensitive or not appropriate for ESL materials. They also questioned the validity of cloze as an overall evaluation of ESL proficiency.

FORMAL SCHEMATA

While content schemata is background knowledge about the content area of a text, formal schemata is background knowledge about the formal, rhetorical organizational structures of different kinds of texts. At the beginning of the previous section, Whorf's Hypothesis about cultural relativity was briefly reviewed. A particular kind of relativity which is of great significance to second language reading relates to differences in rhetorical organizational patterns among different cultures as well as the same culture.

Kaplan (1966) summarized the characteristics of paragraph development in English and some other languages or families of languages (including the Oriental languages) based on the analysis of the writings of his foreign students. Kaplan (1966) pointed out that

An English expository paragraph usually begins with a topic statement, and then, by a series of subdivisions of that topic statement, each supported by examples and illustrations, proceeds to develop that central idea and relate that idea to all the other ideas in the whole essay, and to employ that idea in its proper relationship with other ideas, to prove something, or perhaps to argue something. (1966:402)

Thus he claimed that the English paragraph is dominantly linear in its development.

Kaplan argued that, "Some Oriental writing, on the

other hand, is marked by what may be called an approach by indirection. In this kind of writing, the development of the paragraph may be said to be 'turning and turning in a widening gyre'" (1966:406).

Kaplan (1966) represented the movement of the English and Oriental paragraph graphically in the following manner:

English Oriental



Chen's study also concluded that: "Aside from a number of very short transition paragraphs, the Chinese paragraphs tended to have the highest level of generality (often a topic sentence) near the middle or end" (Quoted in Coe, 1988:56).

Young (1982:75) also pointed out that, "In most cases, the Chinese discourse patterns seem to be the reverse of English discourse convention (See Kaplan, 1966) in that definitive summary statements of main arguments are delayed till the end"

Eggington (1987) found empirical evidence to support Kaplan's claim. In his study of written academic discourse in Korean, he found that there were clearly two kinds of discourse structures: (A) the traditional Oriental one, as

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described by Kaplan (1966), and (B) a Western one or the typical English discourse structure. The former was found in the writing of those who were educated in Korea and the latter was found in the writing of those who were educated in an English-speaking country. These studies together offer compelling evidence that there are differences in the discourse patterns used by speakers of different languages.

Just as there are differences in rhetorical patterns among various cultures, there are also different ways of organizing discourse within a culture. Meyer and Freedle (1984) identify five basic types of discourses:

1. Collection: Collection is a list of elements associated in some manner;
2. Description: Description gives more information about a topic by presenting an attribute, specific or setting.
3. Causation: Causation elements are: (A) grouped, (B) before or after in time, (C) causally or quasi-causally related;
4. Problem/Solution: Problem/solution presents a problem and then provides a solution;
5. Comparison: Comparison discusses similarities and differences among things.

Some of the studies to be reviewed below investigated the effects of different discourse structures within a culture as well as the effects of formal schemata between cultures on ESL readers' reading comprehension.

Carrell's (1984a) research was carried out to investigate the effects of various English text structures on the reading recall of adult ESL students. Her 80 subjects were native speakers of Spanish, Arabic, and Oriental languages. An English text was constructed in accordance with the four types of text -- causation, problem/solution, comparison, and collection of descriptions as identified by Meyer and Freedle (1984). Her results showed that subjects recalled more idea units in certain discourse patterns such as comparison, problem/solution than in others such as collection. Subjects from specific language groups recalled more idea units of certain textual patterns. For instance, the collection pattern was more difficult for the Spanish and Oriental readers than for the Arabic readers. Therefore, it could be concluded that different text structures influenced the reading comprehension of ESL learners.

In another study, Carrell (1984b) compared the recall of two types of stories by 40 intermediate ESL learners. The first type was structured according to the

sequence of events, and the second type was structured to violate the sequence of events with the ideas interleaved. To interleave means to mix sentences from one section with sentences from another section. For example, in Carrell's (1984b) study, the story consisted of two sections. Section One was about a certain event while Section Two was about another event. In the normal version, Section One is presented before Section Two while in the interleaved version the first sentence from Section One is followed by the first sentence from Section Two, which is further followed by the second sentence from Section One and so on. Carrell found that the subjects were better at the recall of the standard sequence (the first type) than the violated sequence (the second type) and that ESL readers tended to normalize the sequence of events of the violated stories according to the ideal story-schemata order.

In their two experiments, Kintsch and Greene (1978) investigated the effect of story grammar on the sequential recall by the subjects. Their results indicated clearly that story structures were culturally specific and affected the recall patterns. Brewer (1984) argued that though oral and written stories share important universal properties, cultural variations may exist in such aspects as opening, setting, characters, events, and closing.

In their study of story sequencing of third- sixth- and ninth grade Black, Hispanic and Anglo children in Chicago, McClure, Mason, and Williams (1981) found some evidence to substantiate the claim that different ethnic groups used different discourse strategies. For example, Hispanic children tended to use more questions at the beginning of a story than the Blacks, who frequently started stories with summary statements.

FORMAL/CONTENT SCHEMATA CONFOUNDED

The studies reviewed in the previous two sections, on the effects of content and formal schemata, treated the two variables as independent of one another, i.e., one variable was assumed to be held constant while the effect of the other was examined. It is highly unlikely, however, that the two variables have no effect upon each other. The next section of the dissertation reviews studies which investigate the simultaneous, joint or interactive effects of these two types of schemata on ESL reading comprehension. Carrell (1983b) claimed:

Since texts occur simultaneously with both a form and a content, and since the research just reviewed shows that human beings approach the comprehension task with both formal and content schemata, it would seem important to determine how much each of these types of schemata contributes toward comprehension. (1983b:86-87)

The research in this category is very limited, but, as Carrell points out, "is sorely needed," even though it "would be difficult to design and execute experimentally" (1983b:88). Two studies conducted since Carrell made the observation have attempted to overcome the methodological obstacles.

In his study, Piper (1985) addressed the following two questions:

1. Do ESL students benefit more from English reading materials which are chosen or designed to accord with first culture content, or from those in accord with first-culture formal (or rhetorical) expectations?
2. Do the students make more distortions in memory on the basis of rhetorically or semantically distinct materials?
(1985:88)

Subjects for his study were 47 adult Vietnamese immigrant students who had attained either intermediate or advanced levels of proficiency in English. The subjects were asked to read four stories and recall the stories at two different times. The language of presentation in all cases was English. The four stories were constructed in the following manner:

- (A) Both structure and content were Vietnamese;
- (B) Both structure and content were English;
- (C) Content was Vietnamese and structure was English;

(D) Content was English whereas structure was Vietnamese.

The order that the subjects could accurately remember the propositions in the stories were; A>C>D>B. The basic assumption of Piper's (1985) study was that there were differences in the structure of stories in English and Vietnamese and the differences have an effect on the comprehension and recall by the subjects.

In her more recent study, Carrell (1987) investigated 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. Her subjects were two groups of high intermediate level ESL students. Group One consisted of 25 students of Muslim background and Group Two included 24 students of Roman Catholic background, thus she had two cultural groups of subjects in term of religions.

The reading passages for the study were two originally authentic historical biographies of little-known religious personages. Each passage began with a historical setting followed by a two-episode narrative. Episode One was about events in the life of the character as a young person; Episode Two was about events in his later life. In order to control for formal schemata, aside from the unaltered

version, the altered versions for each of the two passages were created by interleaving the events from Episode 1 with events from Episode 2.

Both groups of subjects were asked to read, recall and answer 14-item multiple-choice questions about each text. Within each group, one half of the subjects read the familiar rhetorically well-organized version (the unaltered one) and the other half read the unfamiliar, rhetorically-altered version. The recall protocols were analyzed both according to the number of idea units and the quality of the idea units recalled, and they were also scored for elaborations and distortions as well as other errors of recall.

Carrell (1987) concluded that although both content and rhetorical form were factors in ESL reading comprehension, content was generally more important than form. When both content and form were familiar, the reading was relatively easy; when both content and form were unfamiliar, the reading was relatively difficult. When either form or content was unfamiliar, unfamiliar content posed more difficulties for the reader than unfamiliar form. Thus her original hypothesis was confirmed. She also pointed out that each component-- content and form-- played a significant but different role in the comprehension of

the text. It also revealed that content was a stronger source of elaborations and distortions than form.

2.3. Interactive Models of Reading

According to Eskey (1988:93), top-down models have certain limitations. While native speakers or advanced learners use such high-level skills as the prediction of meaning by means of context clues or certain kinds of background knowledge, they do so at the expense of such lower-level skills as rapid and accurate identification of lexical and grammatical forms. However, for ESL learners, especially those at the beginning and intermediate levels, the model does not provide a true picture of the problems such readers must surmount (see Clarke, 1979; 1980).

A different model has been proposed by Rumelhart (1977) who pointed out the deficiencies in linear models, especially the bottom-up models, and argued for what he called the Interactive Model of reading. A detailed discussion of Rumelhart's model would be beyond the scope of this paper. Briefly what he argued was that all kinds of information -- orthographic, lexical, syntactic, and semantic -- interact and form the base for reading processes. Thus, both bottom-up and top-down processing were important and necessary strategies in reading

comprehension.

Some of the studies discussed in Section 2.2.2 (Schema Theory) indicated that reading comprehension in ESL probably involved both top-down and bottom-up processes. In the pages which follow, selected studies that investigated the interactive nature of both top-down and bottom-up processes in ESL reading will be reviewed.

Devine (1988) investigated the role of second language readers' conception of reading and its effects on reading performance. Based on an earlier study (Devine, 1984), she classified the subjects' internalized models of reading as sound-, word-, and meaning-centered. In her study, after the oral interview and close examination, one of her subjects (Stanislav) was identified as a sound-centered reader, while the other (Isabella) was classified as a meaning-centered reader. In order to see the effects of the subjects' internalized models of reading on their reading performance, a detailed analysis of the oral reading samples was performed through miscue analysis, and the retelling and summaries of the oral reading materials were evaluated. The results showed that Stanislav (the sound-centered reader) made relatively few miscues and these miscues matched the graphic features of text words in 55% of the cases and the sound features 65% of the time. He was

a good oral reader without good comprehension. He admitted that he understood very little of what he had read of the selection. His score on retelling was very poor.

Isabella (the meaning-centered reader) produced a very high number of miscues in her oral reading. However, her comprehension was very good. In her oral reading, she focused on the meaning, sometimes made predictions about what was going to happen and imagined what was implied in the story. Her retelling score was very good. The results of this study indicated that effects of internalized models of reading on performance were significant. In discussing the relationship of general language proficiency and reading ability, Devine (1988) argued that readers' theoretical orientations toward reading may determine the extent to which low second language proficiency restricted reading ability in the second language. She further argued that a reader's theoretical orientation might affect reading behavior in regard to that reader's ability to combine "bottom-up" and "top-down" processing effectively, which was required for in successful reading.

In their studies, Alderson and Urquhart (1988) were to test the hypothesis that an English as a foreign language (EFL) student's knowledge of a particular academic field

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would affect his performance on tests of reading comprehension. In Study One, the subjects were four groups of students from the following broad academic disciplines: (1) administration and finance; (2) engineering; (3) science and mathematics; and (4) liberal arts. The English proficiency level of the former three groups was identical while the fourth group was much better, as determined through a placement cloze test. All the subjects were asked to do cloze tests of five texts. Two were considered engineering topics, two were considered economic and finance, and the last one was considered as general. The cloze tests were marked in two manners: (a) exact word replacement; and (b) acceptable replacement. Based on the results, Alderson and Urquhart concluded that on tests based on texts taken from their own subject discipline students from those disciplines performed better than students from other disciplines.

Besides being a replication of Study One, Study Two changed the test format from cloze to short answers. According to Alderson and Urquhart (1988), on the whole, the results supported the hypothesis that students from a particular discipline would perform better on tests based on texts taken from their own subject discipline than would students from other disciplines. However, the engineering

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and science and mathematics groups did not outperform the other groups on engineering tests. Their explanation was that it was due to linguistic proficiency. The two engineering texts were overall the easiest texts. Alderson and Urquhart (1988) claimed that below a certain level of text difficulty, a certain score could be arrived at by means of (a) linguistic proficiency and (b) general knowledge of the world. Only beyond a certain level of linguistic difficulty would more specialized background knowledge become important. This, presumably, shows the interaction of linguistic proficiency and background knowledge.

2.4. Mentalistic Research on Reading

All the studies discussed in the previous sections to a certain extent show that previous knowledge of both content and formal structure plays a certain role in ESL reading, thus providing evidence for the Psycholinguistic Model of reading. Some studies reviewed earlier also show that ESL readers used both bottom-up and top-down strategies in their reading; therefore, the Interactive Models of reading were supported empirically. Research along the line of the psycholinguistic model (by means of miscue analysis) and schema theory (by means of recall)

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revealed the importance of background knowledge (both formal and content) in ESL reading. However, it didn't tell us how readers used the background knowledge in their reading comprehension. In the next section, a somewhat different model of ESL research is presented and discussed together with relevant empirical studies. This model differs from the previously discussed models (e.g., Interactive and Psycholinguistic models) in the methods of investigation. Instead of analyzing the readers' miscues and recalls (from which the investigators can infer the readers' strategies in their reading), the new model looks directly at what the ESL readers are doing or thinking while they are reading the passages.

Cohen and Hosenfeld (1981) proposed a model for researching mental states in second language learning in general, in which there are three dimensions-- "activity", "time", and "content". There are two kinds of activities through which we can study a mental state-- thinking aloud and self-observation. Thinking aloud data reflect present time while self-observational data could either be "introspective"-- when the inspection of a mental state was immediate, or "retrospective"-- when the inspection does not take place immediately. The "content" of the thought may be focused on some topic such as an academic task at

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hand or the reading of a technical passage. Cohen and Hosenfeld also present a framework for researching mental states in L2 learning as well as reviewing their studies using mentalistic techniques. In what follows, their review of the research on mental states of reading in ESL will be summarized.

Hosenfeld's (1977) study attempted to discover what successful and unsuccessful students would do to assign meaning to printed texts. The subjects for this study were 20 students who had scored high and 20 students who had scored low on the MLA (Modern Languages Association) Cooperative Test of Reading Proficiency. All were Americans learning French, Spanish, and German in level two classes in high schools. The tool for the research was thinking aloud. The subjects were all asked to perform a reading task and to think aloud as they were performing it.

The study showed that successful and unsuccessful readers used different strategies to obtain meaning from printed text. Cohen and Hosenfeld (1981) summarized as follows:

Successful readers keep the meaning of the passage in mind, read in broad phrases, skip unessential words, and guess from context the meaning of new words. In contrast, unsuccessful readers lose the meaning of sentences as soon as they decode them, read word-by-word or in short phrases, rarely skip unessential words, and turn to the glossary for the meaning of new words.

(1981:297)

The second study by Hosenfeld (1979) had both a diagnostic phase and an instructional phase. In this study the subject was a fourteen-year-old American girl in a level two French class. The technique was thinking aloud as she read a passage. The data were collected during two one-hour diagnostic sessions and eight 45-minutes remedial sessions (the instructional phase). This study demonstrated that the subject could acquire efficient techniques (through instruction) in reading. For instance, before instruction, the subject translated word-by-word and forgot the meaning of sentences after she decoded them, but after instruction she translated in broad phrases and kept familiar phrases in the second language, remembered the meaning of sentences and so on. The third study (Hosenfeld, 1984) was comparable to the second one in every aspect except that the subject was an American in a level two Spanish Class. The results were similar to the second study.

In their review of relevant literature, Cohen and Hosenfeld (1981) also discussed three other studies that investigated what was difficult for nonnative readers in their reading of English texts. The subjects were students majoring in genetics (one), in political science (one), and

in biology (two). They were asked to underline vocabulary and structure that they did not understand. The subject in political science study was also asked to mark the words that he looked up in a dictionary. Their results showed that what was predicted by the teachers as difficult structures turned out not to be so. For example, the so-called "heavy noun phrases" (i.e., groups of words performing a single grammatical function, such as subject of the main clause, subject of a subordinate clause, or object of a preposition), (P, 299), which the teachers had predicted as problematic for the students, proved not to be so difficult. Their results also showed that contrary to the expectation of the students' subject-matter professors, students did not have particular difficulty with technical vocabulary. However, the subjects did have difficulty with nontechnical vocabulary, and nontechnical vocabulary used technically in a particular field.

A more recent study falling into this category was by Block (1986). In his study, Block wished to investigate the comprehension strategies used by ESL students designated as non-proficient readers, and the product of their reading. He also compared his subjects' strategies with those of native speakers of English who were also designated as non-proficient readers.

Of his nine subjects, six were ESL students (three native speakers of Spanish and three native speakers of Chinese), and three were native speakers of English. The subjects were asked to read two passages from a text book used in an introductory psychology course for freshman students. After reading each sentence from the passage, the subjects were asked to respond (think aloud). After reading and thinking aloud, the subjects retold the passages as much as they could remember. They were not allowed to refer to the passages during the retelling. This was meant to measure their memory. After retelling, the subjects were asked to answer 20 multiple-choice questions to measure comprehension. They were allowed to look at the passages while answering the multiple-choice questions. The strategies as revealed in the subjects' thinking aloud were classified into two major types-general strategies (nine categories) and local strategies (five categories).

The findings indicated no pattern of strategies to distinguish the ESL readers from native speakers of English, or to distinguish the native speakers of Spanish from those of Chinese. The subjects within each group (Native speakers of English, Chinese, and Spanish) differed in their strategies used in reading. According to the

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thinking aloud protocols, Block classified the subjects into two groups-- "Integrators" and "Nonintegrators". According to Block, the "Integrators" were aware of text structure with relative frequency, and monitored their understanding consistently and effectively. When they did not understand, they frequently read on, looking for clues. The "Nonintegrators" seemed to rely much more on their personal experiences to help them develop a version of the text. The "Integrators" seemed to do better in the retelling and the multiple-choice test too.

To follow up the study, the subjects' scores on two forms of the standardized reading test and their grade point averages for their first semester of college were examined. Again, the "Integrators" were better than the "Nonintegrators". The "Integrators" improved significantly between the two administrations of the two forms of the Descriptive Test of Language Skills.

Based on this study, Block argued that the strategies used by native speakers of English and ESL readers from different linguistic backgrounds seemed to be similar. In a sense, the reading behavior was universal. He also argued that the strategies used by the subjects correlated with their ability to learn.

Sarig (1987) investigated the relationship of the

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reading processes in first language (Hebrew) and second language (English). Her subjects were ten female high school seniors, who had learned English as a second language for about four to five hour per week for eight years. The subjects were considered to be at low, intermediate and high English proficiency levels, as determined by their teachers' evaluations and an English test. Regarding reading as a problem-solving process, Sarig assigned two problem-solving tasks: (a) main idea analysis and (b) synthesis of overall message. The unit of analysis in Sarig's study was the reading move, which referred to each separate action the reader took while processing the text. Sarig identified four types of moves: (a) technical-aid moves, (b) clarification and simplification moves, (c) coherence-detecting moves, and (d) monitoring moves. Sarig found that there was great similarity between first and second/foreign language reading. The move types were almost identical in both languages. There was also a considerable relation between the types of moves in the performances of three stages: (1) content proposition analysis, (2) main idea selection, and (3) overall message synthesis. Thus she concluded that, "Reading processes from the first language do appear to transfer to the foreign language" (p:118).

In their study, actually the study that motivated the

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present research, Langer et al, (1988) addressed the question of meaning-making strategies of a group of 12 bilingual Mexican-American students, who spoke Spanish at home and learned English as a second language at school. The subjects were asked to read four passages (two in English and two in Spanish) in two genres, story and report. Through a series of measures-- interviews, envisionment questions, probing questions, oral and written recall-- the authors concluded that subjects' ability to use good reading strategies made a difference in how well they comprehended in both English and Spanish.

Research consistent with the Mentalistic Model of ESL research looked directly at what the readers were doing through thinking aloud and self-observational data. The studies reviewed above revealed that learners use a variety of strategies in their reading. Successful readers and unsuccessful readers use different strategies in the reading process. As for the transfer of reading strategies in reading the native language to reading in a second language, researchers tended to agree that there was indeed a transfer of reading strategies. Some studies (for example, Hosenfeld, 1979), showed the importance of explicit instruction of reading strategies to reading comprehension.

2.5. Summary

The assumptions that second language reading is a rather passive, bottom-up process, and that it is considered as a decoding process of matching printed letters and words with sounds to get the author's intended meaning and then build up a meaning from the bottom to the top, are no longer popular or held by most scholars and ESL teachers. The studies using miscue analysis as an instrument indicated that all linguistic cueing systems (graphophonic; syntactic; and semantic) were employed by the readers in reading comprehension.

The studies using miscue analysis provide empirical evidence for Goodman's (1975) psycholinguistic model of reading or later Coady's (1979) psycholinguistic model of the ESL reader. However, from the oral miscues produced by the readers we can only have indirect information of, or can only infer, the strategies employed by the readers in their reading. We fail to know what is going on in their minds during reading comprehension.

Some of the studies utilizing miscue analysis indicated that ESL readers from different linguistic backgrounds approached the texts in a similar fashion, and they have provided evidence for Goodman's (1970) hypothesis that there are universal characteristics in the reading

process. It might be true that there are some universal properties in reading; however, because of the differences in various languages (e.g., Chinese and English) in orthography and syntax, there might also be other differences. People might also use different processes in their reading of the first language. For example, phonetic decoding might be used more often by Spanish speakers reading Spanish (which has a predictable phonetic reading system) than Chinese speakers reading Chinese, if the latter use it at all. These skills of reading in the readers' first language will surely have an impact on their reading of the second language. As the Interlanguage theory and earlier work in Contrastive Analysis would both predict, there is likely to be some negative transfer from the native language in the learning of a second language, both in its oral and written domains.

The studies of schema theory in L2 reading have illustrated the strong effects of background knowledge in the content area (content schemata) and of background knowledge about the rhetorical structure (formal schemata) on ESL learners' reading comprehension through recall and retelling. Recall and retelling provide us only with indirect information about the reading process, and has more or less the same problems as the studies using miscue

analysis. That is, we fail to know what is going on in the
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readers' minds or what kinds of strategies they use in
their comprehension of the reading texts.

The mentalistic research model proposed by Cohen and Hosenfeld (1981) seems to provide an alternative. By asking the subjects to think aloud while reading and to provide self-observational data, researchers can gain some idea of what is going on in the readers' minds, and together with other techniques such as recall, retelling and comprehension questions, they are better able to probe the question of what strategies the readers use in their comprehension and whether these strategies have any relationship to their reading performance.

CHAPTER THREE

THEORETICAL PERSPECTIVES ON L2 LEARNING

3.1. Introduction

In the last chapter major research trends in L2 literacy were reviewed. This chapter will discuss second language learning on a broader scope, the theoretical perspectives on second language learning in general, and the role of mother tongue in second language learning in particular. This discussion is related to this study in the sense that this study is partly about the transfer of reading strategies and behaviors from the subjects' native language to English and the role of the mother tongue in second language reading.

The characteristics of ESL learners' language and the role of the mother tongue in second language acquisition are important issues in L2 acquisition research (See Gass and Selinker, 1983). People may wonder whether (and why) it is easier for a native speaker of German to learn English as a second language than a native speaker of Chinese, and why ESL learners of a particular native language make certain errors in the target language that are unique to these learners. This chapter will review

briefly the theories and research literature in this area. The study of learners' languages and the role of mother tongue can be roughly divided into the following stages: Contrastive Analysis, Error Analysis, Interlanguage, and Discourse Analysis.

3.2. Contrastive Analysis

Contrastive Analysis mainly looked at the role of the mother tongue in L2 learning and teaching. However, it made predictions about what kinds of difficulties ESL learners of a particular native language tended to make. Upshur argued that "...in the United States at least in recent times -- trends in second language teaching have tended to follow trends in linguistics." (1973:177). In the 1950s and 1960s when structural linguistics was the dominant theory, it influenced theories and practice of second language teaching and learning. This gave rise to the "Contrastive Analysis" (CA) Hypothesis, which claimed that interference of the native language in learning a second language constitutes the main difficulty in mastering the target language.

According to Lado (1961), one of the prominent advocates of the CA hypothesis, language teaching should focus on the differences between the native and the target

languages. This could be done by a scientific and structural analysis of both the native and the target languages and a comparison and contrast of the two languages. In this way, linguists and language teachers could predict the difficulties learners from a particular linguistic background might encounter. These difficulties were thought to result from the magnitudes and types of differences between the structures of the native and the target languages. Based on these "fundamental assumptions" about the relationship between the two linguistic systems in learning a foreign language, teaching materials in foreign languages were prepared in the 60s and 70s which were based on predicted errors.

Additional to the influence of Structural Linguistics, the Contrastive Analysis Hypothesis also got its support from behavioristic psychology, which claimed that human behavior is the sum of its smallest parts and components. Therefore, language learning and acquisition could be described as the acquisition of all the discrete units in the language. Behavioristic psychology also claimed that language learning simply involved the learning of the target language patterns as habits. In L2 learning, the learners have to change their language habits because there are differences between the target and the native

languages. Whitman (1970) proposed four procedures in
contrastive analysis: description, selection, contrast and
prediction. Prator (1967) suggested a so-called hierarchy
of difficulties. The hierarchy consists of six levels:

Level 0: Transfer

There are no differences between the target and the
native languages. The learners can simply transfer
positively what is there in the native language into the
target language. For example, Chinese learners of English
can transfer the nasal consonants into English since they
are exactly the same in both languages.

Level 1 Coalescence

Two items in the native language become coalesced into
one in the target language. For example, the two sounds
(tʃ and tʃ) in Chinese become (tʃ) in English.

Level 2: Underdifferentiation

An item in the native language is absent in the target
language. Tone in Chinese is a very good example. For
example, "ma" pronounced with a high-level tone means
"mother" while "ma" pronounced with a rising tone means
"horse".

Level 3: Reinterpretation

An item that exists in the native language is given a new shape or distribution. For instance, Chinese speakers learning English must learn how to form questions in English. In Chinese only a question marker "ma" in general questions or a question word plus the question mark are used while in English AUX (auxiliary) and NP (noun phrase) inversion is required in most questions and Wh- movement in virtually all questions. For example, in the English sentence "Where are you from?", "where" is moved to the sentence initial position from sentence final position (Wh-movement) and the words "are" and "You" are inverted (AUX NP inversion). In the Chinese translation, "Ni (shi) chuong nali laide?", the word "ni" (you) is still in sentence initial position and "shi" (be) is optional. "nali" (where) did not move at all.

Level 4: Overdifferentiation

An entirely new item must be learned. "Do" support in English questions and some negative sentences is a new item for Chinese ESL learners. For instance, in the English sentence "Do you speak English?", "do" is placed in the sentence initial position and it is a function word, which does not mean anything. In the Chinese translation of the

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sentence "Ni jiang yingyu ma?", "ni" (you) is still in the sentence initial position and there is no such function word as "do" in Chinese. However, the question marker "ma" is used to indicate that this sentence is a question, not a statement.

Level 5: Split

One item in the native language becomes two or more in the target language. "T" and "V" forms of address terms in French, Spanish and Chinese might be a problem for English speakers learning these languages.

In order to get empirical evidence for the contrastive analysis hypothesis, Whitman and Jackson (1972) administered a test. The predictions of four separate contrastive analyses were applied to a forty-item test of English grammar to see the relative difficulty of the test items for speakers of Japanese. The results of the test were compared with the predictions. No support for the predictions of contrastive analysis was found. They concluded: "Contrastive Analysis, as represented by the four analyses tested in the project, is inadequate, theoretically and practically, to predict the interference problems of a language learner" (Whitman and Jackson, 1972:40).

Dulay, Burt and Krashen (1982:97) claimed that

We know that an examination of the available empirical data that addresses the CA hypothesis has revealed that:

1) In neither child nor adult L2 performance do the majority of the grammatical errors reflect the learners' L1.

2) L2 learners make many errors in areas of grammar that are comparable in both the L1 and L2-- errors that should not be made if "positive transfer" were operating.

3) L2 learners' judgments of the grammatical correctness of L2 sentences are more related to L2 sentence type than to their own L1 structure.

4) Phonological errors exhibit more L1 influence than do grammatical errors, although a substantial number of the L2 phonological errors children make are similar to those made by monolingual first language learners, and only a small proportion of phonological errors in reading are traceable to the learners' L1.
(1982:97-98)

Following the developments in linguistics and psychology, the theoretical constructs of the structural linguistics and behavioristic psychology have been seriously challenged. The assumptions of the CA hypothesis that second language learning is primarily a process of acquiring whatever items are different from the native language have been examined. Since there was little empirical support for the CA hypothesis, people began to look at other ways to explain L2 learners' errors.

3.3. Error Analysis

In the late fifties, Generative Transformational Linguistics (Chomsky, 1957) gained predominance over Structural Linguistics, which was the theoretical foundation for the Contrastive Analysis Hypothesis. According to Generative Transformational linguists, language acquisition was innately determined, and we were born with a built-in device of some kind. Chomsky (1965) called it the Language Acquisition Device (LAD). Chomsky also challenged behaviorist psychology by emphasizing the creative aspect of language. He argued that "... an essential property of language is that it provides the means for expressing indefinitely many thoughts and for reacting appropriately in an indefinite range of new situations" (1965:6).

In line with the development of cognitive psychology and generative linguistics, second language learning began to be examined in much the same way that first language learning had been studied for some time.

Based on their 1974 research on morpheme acquisition by ESL learners, Dulay and Burt (1983) pointed out that there are certain orders of L2 learning and acquisition, and these orders are similar to the orders of L1 learning by children. This provides evidence for the

"Natural Order Hypothesis", which claims that L2 learners' acquisition of the target language follows a certain order in spite of the differences in the native language. Thus, Dulay and Burt (1983) proposed the L1 = L2 Hypothesis. It consists of two parts:

1) Children below the age of puberty will make errors in L2 syntax that are similar to L1 developmental errors.

2) Children below the age of puberty will not make errors that reflect transfer of the structure of their L1 onto L2 they are learning.

While Contrastive Analysis Hypothesis only looked at the differences between the native and the target languages, L1 = L2 Hypothesis denied any relevance of the target language in L2 learning and acquisition. We can not accept either of the two extreme views. There is evidence of both native language interference and developmental errors in L2 learning (see, for example, Gass and Selinker, 1983; Selinker, 1969).

The approach in analyzing the learners' errors is to study their speech, since production data is observable and can reflect L2 learners' production competence. Comprehension is not directly observable and can only be inferred by verbal and non-verbal responses. By studying L2 learners' speech we mainly look at L2 learners' errors.

In order to study learners' errors, it is important to distinguish "mistakes" and "errors". However before touching upon the distinction between "mistakes" and "errors", the distinction between linguistic competence and performance will be discussed.

Chomsky (1965) defined linguistic competence as an idealized speaker and hearer's underlying knowledge of the system of the native language, while performance is the actual production and comprehension of the language. On account of various factors such as memory limitation and distraction, the speaker and hearer may make performance errors. The performance errors are "mistakes", which are not the reflection of deficiency in competence, while an error, according to Brown "... is a noticeable deviation from the adult grammar of a native speaker, reflecting the interlanguage competence of the learner" (1980:165).

Brown (1980) described the procedures of "error analysis" as having two steps: Identifying errors and describing errors. She classified the sources of errors mainly as interlingual transfer, intralingual transfer and context of learning.

INTERLINGUAL TRANSFER

Interlingual transfer refers to the interference of

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the native language in L2 learning and acquisition. At the initial stage of learning, and especially in terms of pronunciation, L2 learners tend to utilize their previous experience about their native language, generally the only language they know. For example, in Chinese "feichang" (very) can modify "xihuan" (like). Most Chinese ESL learners would transfer this into the target language they are learning. I have heard more than once my daughter say:

*I very like to study English.

INTRALINGUAL TRANSFER

This refers to incorrect generalization of the rules within the target language (overgeneralization). For instance, some of my students in China often produced the following sentence:

*This book costed me five dollars.

Clearly they had overgeneralized the past participle formation by adding the regular morpheme "ed" to verbs. Of course what they did not know is that "cost" is an irregular verb.

CONTEXT OF LEARNING

Context refers to the classroom with its teacher and

its materials in formal educational settings or the social situation in informal learning. Students often make errors because of misleading or even incorrect explanation or presentation from the teacher and the teaching materials. For example, in a rote learning classroom, the teacher had the students drill on the sentence pattern:

This is a ...

for quite some time, and the students had internalized the pattern. They would produce something like:

*This is a Jack.

Error Analysis Hypothesis tends to look at the picture of second language learning and acquisition through different lenses. By studying the learners' errors we can have some idea what factors were influencing second language learning. However, from Error Analysis, we could only trace the sources of the errors and some ESL educators (for example, Selinker, 1972) argued that the learners' language had a system of its own.

3.4. Interlanguage

Generative linguistics would argue that L2 learning is also a creative process of trial and error and hypothesis testing. Therefore people began to look directly at the L2

learners' language. There are a number of terms to describe the L2 learners' system of the target language: Interlanguage (Selinker, 1972) which stresses the system that has a structurally intermediate status between the native and the target languages; Approximative system (Nemser, 1971) which stresses the successive approximation in second language learning; Idiosyncratic dialect (Corder, 1971) which connotes the idea that the learner's language is unique to a particular individual, and that the rules of the learner's language are peculiar to the language of that individual alone.

Based on the notion of interlanguage, Selinker (1972) suggested five psycholinguistic processes which establish the knowledge underlying interlanguage behavior: language transfer, transfer of training, strategies of second language learning, strategies of second language communication, overgeneralization of the target language linguistic materials. Selinker's five processes are similar to the sources of errors described by Brown (1980), (see Section 3.3). While both the Error Analysis Hypothesis and Interlanguage theory examined the learners' language, the former was focused more closely on the sources of the learners' errors while the latter considered the learners' language a system by itself. However, another

aspect of the language has been neglected: Language is a means of communication and we cannot leave out discourse in our discussion of theories of L2 learning and acquisition.

3.5. Discourse Analysis

In both Contrastive and Error Analysis, only the acquisition of the linguistic forms of the target language is considered. But language learning does not occur for the sake of learning alone. Language, be it first or second or third, is learned for communication. Therefore, attention has shifted From linguistic competence to communicative competence, and interest is in the analysis of the function of language. Recognizing that communication occurs at levels both higher and lower than the sentence, the Discourse Analysis Hypothesis captures the notion that "Both the production and the comprehension of language are a factor of our ability to perceive and process stretches of discourse, to formulate representations of meaning from not just a single sentence but referents in both previous sentences and following sentences" (Brown, 1980:189-190). In what follows, research on the characteristics of Chinese ESL learners' language at the discourse level will be discussed.

One way is to look at the discourse function of word

order. Take the sentence from Schachter and Rutherford (1979) as an example:

Most of the food which is served in such
restaurants has cooked already.

People might think the error is an active/passive problem and the sentence should be

Most of the food which is served in such
restaurants has been cooked already.

However, native speakers of Chinese would argue that this is not the case. In Chinese, topics are generally at the initial position to show prominence and instead of subject and predicate structure as English, Chinese prefers a topic-comment structure. The following is an example from Li and Thompson (1975:479):

黄 色 的 土 地, 大 粪 最 合 适.

Huang se de tudi dafen zui heshi.

The yellow soil (topic), manure is most suitable.

Thus the sentence stated earlier should be read as:

(As for) most of the food which is served in such
restaurants, they have cooked it already.

This is the negative interference of the native language at discourse level.

Another way is to look at the discourse patterns of Chinese. While the discourse function of word order is mainly concerned with the dominance of the topic-comment structure of Chinese, the discourse pattern is about the

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rhetical organization of Chinese discourse (See Section 2.2.2.).

There are stereotypes about the speech and writing of Chinese ESL learners. People may think that Chinese people are not able to express themselves clearly because they are always hard to follow and cause misunderstanding. According to Young (1982), the reason for the misunderstanding and conversation breakup is the differences in discourse strategies. Below is one of the examples provided by Young.

American: How does the Nutritional Institute decide what topics to study? How do you decide what topic to do research on?

Chinese: Because, now period get changed. It is different from past time. In past time, we emphasize how to solve practical problems. Nutrition must know how to solve some deficiency disease, such as X, Y, Z. But now it is important that we must do some basic research. So we must take into account fundamental problems. We must concentrate our research to study some fundamental research (1982:76).

In this example, the Chinese speaker reserved the proper response -- the summary statement of the main argument -- until the end.

There is no doubt that there are other things involved in the misunderstanding and conversation breakup between Chinese ESL speakers and native speakers of English. However, the difference in discourse strategies is one of

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the most important issues. With the introduction of the notion of discourse analysis and its foundation, communicative competence, second language learning began a new stage. The focus of second language teaching has shifted from linguistic competence to communicative competence and the function of the second language has become the emphasis in second language teaching.

In this chapter the theoretical perspectives on second language learning and the role of mother tongue in second language acquisition have been described. It is obvious that native language plays an important role in the learning of a second language. This covers all aspects of language: lexicon, syntax, semantics, and discourse structure. In the next chapter, a brief introduction to Chinese and some related research on reading that language will be presented and discussed.

CHAPTER FOUR



RESEARCH ON CHINESE READING



The term Chinese can be misleading. For most of the Chinese immigrants here in Canada, Chinese is Cantonese, while for most Chinese speakers in the world and graduate students from the People's Republic of China, Chinese means Mandarin. However, the differences lie mainly in the oral language. Cantonese speakers and Mandarin speakers are mutually unintelligible orally. However, the written language is basically the same. Since this dissertation is about written language, Chinese and Mandarin are used interchangeably. In this Chapter, a brief description of certain essential characteristics of the Chinese language, and some studies related to Chinese speakers learning to read is offered.





Mandarin is the official language in the People's Republic of China. It takes basically the pronunciation of Beijing dialect as its standard pronunciation, the vocabulary of the northern dialect as the base, and the grammar of modern prose as its standard grammar. Mandarin is the native language for the people in north China, and people in the southern part learn Mandarin both in

elementary and middle (high) schools.

Chinese orthography is different from English in many ways. It is not alphabetic as English but logographic and monosyllabic as well. Chinese words are square-shaped characters. Historically Chinese characters were mainly developed in the following five ways:

(1). Pictographic: The pictographic representation of the objects. For example: the word for "sun" was originally written as  and later developed as  (ri).

(2). Ideographic: Diagrammatic presentations indicating an idea or ideas. For example: the Chinese counterpart for the word "up" or "above" in English was written as  and later conventionalized as  (shang).

(3). Compound Ideographs: Two (sometimes three) words (ideographic) joining together to form a new word to express a new idea. For example: the Chinese word for "people" is  (ren) and when we write two of them next to each other as  (cong), it means "to follow". However if we write another one on top of , it means a "crowd"  (zhong).

(4). Phonetic Compound: Radicals combined with phonetics. These characters consist of two parts-- Radicals (generally the left part) and Phonetics (generally the right part). While radicals denote meaning the phonetics

denote sound. For example: the Chinese word for "to peel" is 扒 (ba). The lefthand side is the radical 扌 (shou) signifying "hand/s", and the righthand side is the phonetic 八 (ba) signifying sound. According to Leong (1980), at least 80% of Chinese characters are formed in this manner.

(5). Loan Characters: Old words getting new meaning. For example: the Chinese word for "pine" is 松 (song). Later the sound and orthography was given for a secondary meaning "loose" (in English).

Chinese has virtually no inflections. According to Sapir (1921) Chinese is an isolating language and it is also analytical in the sense that the function of a word in the sentence is determined by its position. The following sentences illustrate his point:

他 爱 我.

Ta ai wo.
He loves me.

我 爱 他.

Wo ai ta
I love him.

In the first sentence 他 (ta), (he, she, him and her in English) is the subject because it is in sentence initial position while in the second sentence it is the object because it is in sentence final position. The

reverse is true of 我 (wo), (I or me in English).

Until recently, the teaching of reading of connected discourse in Chinese did not start in elementary schools in China until grade four. For the first three years individual words were the focus. The students were asked to recognize and write individual words and very simple sentences. It is only recently that early reading has been experimented with in a few elementary schools, and it is done through Pinyin.

My daughter happened to attend one of the few experimental elementary schools in China. Although she went to school in China for only a year and a half, she could read fluently long passages in Pinyin. This showed the effectiveness of Pinyin. However, sometimes she could not understand what she was reading.

The few studies that the author could find about Chinese learners were mostly about reading in Chinese. These studies investigated whether the subjects reading in Chinese used a phonetic recoding or a decoding strategy.

According to Smith (1971) there are two ways that readers could achieve meaning and comprehension in reading. They are mediated (indirect) and immediate (direct) meaning identification. In the former, the graphic input was assessed by means of sound image (matching the print

symbols with sound symbols or decoding) and then to meaning, while the latter led from the print symbols directly to its meaning without the decoding process. Liu (1976) argued that English orthography is an example that uses the former while Chinese orthography uses the latter.

In their study, Treiman, Baron, and Luk (1981) investigated whether speech decoding (indirect meaning identification) is used less by readers of Chinese than by readers of English. The subjects of their study were 22 undergraduate and graduate students, who were native speakers of English, and 11 Chinese subjects who were speakers of Chinese and who spoke English as a second language. The subjects were asked to judge whether sentences made sense or not. The sentences were of three types-- sentences that sounded sensible when read aloud (homophone sentences), sentences that did not (control sentences), and true sentences. The following is a list of sample sentences:

HOMOPHONE SENTENCES IN ENGLISH

A pair is a fruit.

CONTROL SENTENCE IN ENGLISH

A pier is a fruit.

煤 是 一 种 植 物.

Mei shi yi zhong zhi wu.

"Coal is a kind of plant."

CONTROL SENTENCE IN CHINESE

铅 是 一 种 植 物.

Qian shi yi zhong zhi wu.

"Lead is a kind of plant."

Their hypotheses were:

1. if sound codes are used in silent reading, subjects should take longer and make more errors on lists containing homophone sentences than a list containing control sentences.
2. If such codes are used to a greater extent in English than Chinese, the effect should be greater for English than for Chinese readers. (Treiman, Baron, and Luk 1981:119)

The results showed that the homophone list took longer than the control list, and in English there were significantly more errors on homophone lists than on control lists, while in Chinese there were fewer errors on homophone lists than on control lists. Treiman, Baron, and Luk (1981) concluded that speech decoding was used to a greater extent by readers of English than by readers of

Chinese, and Chinese readers might derive the meaning of printed words by a direct print-to-meaning route since Chinese orthography is more related to semantics than to pronunciation.

In their two experiments to investigate whether phonetic recoding was employed by Chinese readers while reading Chinese, Tzeng, Hung, and Garro (1978) concluded that speech recoding did occur in processing Chinese characters. In the first experiment, the Chinese subjects were visually presented with four characters randomly selected from the prepared target list, followed immediately by an oral interference task, and were asked to recall the previously presented four characters in order. The interference task was either phonetically similar or dissimilar to the target characters. There were three lists of target characters-- the SC (same consonant) list, the SV (same vowel) list, and the SCSV (same consonant and same vowel) list. Their results showed that the phonemic similarity between the target characters and the interference characters disrupted the memory for to-be-remembered items, leading them to conclude that phonetic recoding does occur in the visual processing of characters.

It is possible, of course, that the behaviors involved in the recall of the individual characters do not transfer

to connected reading tasks. A second experiment addressed this possibility. Instead of using characters as stimuli, the second experiment employed phonemically similar sentences. There were four types of sentences for the subjects to judge:

(A) Sentences were acceptable both syntactically and semantically, and consisted of phonemically similar characters.

(B) Sentences were acceptable both syntactically and semantically but consisted of phonemically dissimilar characters.

(C) Sentences were acceptable neither syntactically nor semantically, and they consisted of phonemically similar characters.

(D) Sentences were acceptable neither syntactically nor semantically, and they consisted of phonemically dissimilar characters.

The dependent measure was the subjects' reaction time required for making a correct judgment. Their results showed that the reaction time for phonemically similar sentences (Types A and C) was longer than that of phonemically dissimilar sentences (Types B and D), thus they concluded that, "Phonemic similarity not only affects the short-term retention of unrelated characters but also

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affects the reading of meaningful sentences written in characters" (Tzeng, Hung, and Garro, 1978:299).

In another study by Tzeng and Hung (1980), the role of phonetic recoding in reading Chinese characters was examined. In this study, Chinese subjects were asked to make decisions about strings of characters with or without a concurrent shadowing task. From the results of the study, they concluded that phonetic recoding played an important role even in reading a logographic writing system such as Chinese.

In this chapter the differences between English and Chinese in terms of orthography or writing systems (Chinese belongs to the category of word-writing system while English belongs to alphabetic writing system) were discussed. This chapter also reviewed a few studies about Chinese learners. The study by Treiman, Baron, and Luk (1981) showed that recoding is used less by Chinese speakers than English speakers, though the two studies by Tzeng and his colleagues indicated that speech decoding did occur in processing Chinese characters. However, their methodology casts some doubt on their conclusions. Simply by asking the subjects to read individual words and sentences, it is doubtful that they could safely conclude that they used decoding strategies in their normal reading.

After all, language is a means of communication; we need context.

One cannot deny the fact that English orthography has a more direct relationship to phonemes while Chinese has a more direct relationship to meaning. Contrastive Analysis theory, Interlanguage theory and common sense would all predict this would surely have an impact on learning English as a second language by native speakers of Chinese. An important question for research is what effect Chinese orthography has on learning and reading English by Chinese speakers at the initial stage and at the advanced level of learners. Related to this is the question of what kinds of strategies speakers of Chinese use to read and comprehend English as a second language. Another is whether ESL learners from different linguistic backgrounds (e.g., native speakers of Chinese and native speakers of Spanish) differ in their use of strategies in reading comprehension. These are the questions one would address in further research. These questions are addressed to Chinese ESL learners in particular. Further study is also needed about ESL learners in general. For instance, the research reviewed in this paper showed that all three cueing systems and background knowledge played certain roles in ESL reading comprehension. Now the question is how ESL readers

employ the three cueing systems and background information in their reading comprehension.

From the review it is easy to see that little research has been done to investigate how readers from non-alphabetic linguistic backgrounds process text in an alphabetic language. In order to help to fill the gap, a study was carried out to investigate the reading strategies of advanced Chinese ESL readers in reading English materials. In the the next chapter, the purposes, methods, procedures and analysis of data of the proposed research are presented.

THE STUDY

5.1. Purpose

A) The main purpose of this study was to provide a detailed description of the reading comprehension strategies used by advanced Chinese ESL readers in reading English text.

B) The second purpose was to compare the strategies used in reading English texts with the strategies used in reading Chinese in order to investigate the phenomenon of reading strategy transfer.

C) In addition, the degree of relation between reading strategies and reading performance was investigated.

D) Finally, the major obstacles in reading English texts for advanced Chinese ESL readers and how these readers attempt to overcome them was explored.

5.2. Subjects

Ten graduate students from the People's Republic of China at the University of Calgary were randomly selected for the study. They were all males because more than 90% of the students from China are males. They were considered to

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be at an advanced proficiency level in English since all of them had taken TOEFL (Test of English as a Foreign Language) with a minimum score of 550, except one subject, who was admitted into a graduate program without a TOEFL score because he had been in a university in the United States of America for about two years as a visiting scholar. They all received higher education and most of them were university faculty in China before coming to the University of Calgary to pursue graduate studies, all in the Faculties of Sciences, Engineering and Medicine, where about 90% of the Chinese students go. It is assumed that the subjects were effective readers in their native

TABLE 1: Preliminary Data on the Subjects

S	TOEFL	READ	YEAR	RESIDENCE	S.L.	F. L.
1.	580	620	1986	4 years	1978	3 years
2.	567	560	1986	3 years	1973	3 years
3.	583	600	1987	3 years	1978	6 years
4.	590	600	1988	3 years	1977	6 years
5.	575	580	1985	4 years	1974	4 years
6.	550	550	1987	3 years	1963	5 years
7.	558	580	1987	3 years	1978	3 years
8.	563	560	1986	4 years	1978	4 years
9.	N/A	N/A	N/A	4 years	1965	5 years
10.	587	550	1984	4 years	1974	4 years

Note: "S" is the subjects. "Read" is reading score of TOEFL; "Year" is the year in which TOEFL was taken; "Residence" is the number of years the subjects had lived in an English speaking country; "S.L." is the year that subjects began to learn English; "F. L." is the number of years subjects learned English formally.

language since all of them had taken and passed the ¹⁰¹
National College Entrance Examination in China in which
Chinese language (reading included) is one of the major
subjects. Table 1: "Preliminary Data on the subjects",
provides the basic information about the subjects.

5.3. Materials

An English expository passage of relative difficulty was chosen as the reading passage (see Appendix A), since an easy reading text would not reveal much information about reading strategies. If the reading passage is easy for the subjects, the processes of reading are most likely to be "automatized" (Anderson, 1980). Thus it is difficult for the subjects to report what they are doing. According to Afflerbach and Johnston (1984), such "de-automatization" can be achieved with unfamiliar or otherwise difficult texts" (p:314). The topic chosen was not biased toward any particular subject or group of subjects. A passage from a Grade 12 Diploma Examination English 33 was selected as the reading passage. It is assumed that the English Examination for Grade 12 is comparable in difficulty to the materials the subjects of this study confront normally. The Diploma Examination of English for Grade 12 is also the entrance level of first year students at the university. Moreover, a

TOEFL score of 550 or more is the requirement for admission for foreign students. Though the subjects for this study are graduate students, their English is not comparable to the standard for native speakers of English yet. However, their knowledge in the subject they are studying can usually compensate for the English deficiency. Thus they are quite able to compete with native speakers of English in their academic pursuit. The English passage from the Diploma Examination is about marriage and quarrels between a husband and wife. It consists of 55 sentences with about 800 words. It has 177 propositions. A Chinese passage of similar nature in difficulty was selected for the subjects to read (see Appendix E). The Chinese passage is about revolution or change in literature. It consists of 22 sentences with about 640 characters. It has 135 propositions. It is shorter than the English one. Ideally, a Chinese translation of the English passage was better than any other Chinese reading passage since it would be balanced for length, subject matter and difficulty. However, after reading the passage in one language, be it English or Chinese, subjects would likely remember certain ideas in the passage and this would surely have an effect on reading the same passage in the other language. As a result, a Chinese passage, other than the Chinese

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translation of the English passage, was chosen. The length of the Chinese passage should not cause any difference in the results because what was being looked at was not the comprehension or recall of the passage, but the use of reading strategies in reading the English and the Chinese passages. It would be naive to hypothesize that subjects would use the same number of strategies in reading two passages (one in English and one in Chinese) of equal length and difficulty. Once the number of strategies used was converted into percentages and the correlational analysis was based on the percentages of strategy use, there should not be any difference in the analysis and the results.

5.4. Measures

All activities (think aloud, interview, comprehension test, and written recall) were developed to provide opportunities to tap the subjects' on-line understanding of the passages and their strategies used to construct meaning from the passages; and to gather information about their linguistic background, their reading performance, their knowledge about reading strategies and their difficulties in reading English texts. Details of the activities are described below.

(1). INTERVIEWS

In order to find out the subjects' linguistic background and their knowledge about literacy, a structured interview was conducted (see Appendix C). Another structured interview was carried out after reading and thinking aloud (see Appendix D). The focus of the second interview was to find out the subjects' knowledge about reading strategies and the difficulties they encountered in their reading of English texts. Both interviews were carried out in English.

(2). THINK ALOUD

The subjects were asked to think out loud as they read the stories both in English and Chinese. The English passage was broken into its component sentences. The sentences were numbered. The subjects were asked to stop reading at the end of each sentence to report on how they got meaning out of the sentences. (for details of the instructions and the passage, see Appendix A). Subjects choose either English or Chinese to think aloud. These sessions were recorded on audio-tapes.

(3). COMPREHENSION TEST

In order to check the subjects' understanding and to investigate the relationship between reading strategies and reading performance, a comprehension test was administered. There were 11 items in the comprehension test, and it was in a multiple-choice format (see Appendix B). The possible range was from 0 to 11. Of the 11 items in the comprehension test, four were questions on the comprehension of specific words or phrases, such as the understanding of the phrase "flew into a great silence". Three were evaluations of the understanding of a particular sentence or a group of a few sentences, four items assessed the test takers' understanding of the whole passage in general, such as the main ideas of the passage and their ability to infer from the passage.

(4). WRITTEN RECALL

The subjects were asked to produce a written recall of both the English and the Chinese passages. Propositional analysis was then carried out with each recalled passage to determine how much they could remember and thus their comprehension of the passage. The total number of propositions for the English passage was 177. Stubbs (1983) defined propositions as follows: "A Proposition is part of

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the meaning of a sentence. More accurately, the meaning of a sentence may be represented as a set of propositions, and this set may be quite large (Smith and Wilson, 1979, 148-71). Each of the propositions has a truth-value, it may be true or false" (Stubbs, 1983:203). Thus a sentence is not the same as a proposition. Propositional analysis is used to work out how many propositions are expressed in each sentence of the passage concerned, and finally the total propositions in the given passage is calculated. For instance, sentence 14, "Perhaps they preferred discord over solution," in the English passage contains four propositions. It entails two "Existential prepositions" (Stubbs, 1983:204): (1) "There exists discord", and (2) "There exists solution". It also contains two other propositions: (1) "They liked discord better than (2) they liked solution". Each sentence in both the English reading passage and the Chinese reading passage was analyzed in this manner. So were each subject's written recalls of the English and the Chinese passages.

5.5. Procedures

All ten subjects were engaged in the same tasks, but each subject met with the investigator individually. The first step was an interview. Then each subject was asked to

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read silently the English passage and think aloud while reading. The next step was the comprehension multiple-choice questions, after which each subject was asked to recall the passage in written form. The final step was another interview in which each subject was asked questions about his knowledge of reading strategies and the difficulties he encountered in his reading of the English passage and in reading English materials in general.

The sequence of data gathering procedures for the English passage was the following:

A: Introduction and first interview

B: Passage reading

1. Reading and thinking aloud after each sentence
2. Doing comprehension test
3. Writing written recall

C: Second interview and conclusion

The reading of the Chinese section included the following two steps:

- 1) Reading and thinking out aloud after each sentences;
- 2) Writing the written recall of the passage.

Each section was tape recorded and transcribed.

5.6. Data Analysis

Pilot studies were carried out, and based on those findings and Block's (1986) classification of reading strategies, an inventory of strategies was developed. The analysis of the think-aloud protocols was based on the inventory of strategies. The think-aloud tapes were transcribed and analyzed both qualitatively and quantitatively. The qualitative analysis was carried out by a detailed description of the reading strategies and the quantitative analysis involved the calculation of the frequencies of each strategy used by each subject. First of all, all the reading strategies by each subject were classified into the pre-developed categories and the frequency in each category was calculated. In order to make the coding of the reading strategies reliable, the researcher and two other coders coded the think aloud protocols. Interrater reliability was very high, .85. Any differences remaining in coding were resolved through discussion.

Propositional analysis was carried out on each subject's written recall of both the English and Chinese passages.

The think aloud data formed the basis for the analysis of the reading strategies. The comparison of the reading

strategies in reading English and Chinese texts was to provide answers for the second research question. Because the total number of global strategies used by the subjects in reading the Chinese passage was very small, correlational analysis could not reveal much information. Therefore, each subject's use of each of the global strategies in reading English was compared with that in reading Chinese item by item.

As for the use of local strategies, correlational analysis between each subject's use of each strategy in reading English and in reading Chinese was calculated. Since the total number of the use of local strategies was different in reading Chinese and English, each subject's use of each strategy was converted into a percentage. Therefore the correlation was between the percentage of each subject's use of each local strategy in reading English and Chinese.

In order to find answers for the third question, the relationship between reading strategies and reading performance, correlational analysis between each subject's use of each reading strategy (both local and global) on the one hand, and each subject's reading comprehension score, and their recall scores on the other hand, were calculated.

The answer to the last question, the major obstacles

in reading English texts for advanced Chinese ESL readers and how they are tackled, was based mainly on the second interview and also on the think-aloud protocols. In the second structured interview there were questions about what constituted problems or obstacles in the subjects' reading of the selected passage and in reading English materials in general. The subjects' answers will be fully described and the description, in part, answers the last research question. The think aloud protocols were also analyzed in terms of difficulties for the subjects and how the subjects treated the difficulties or obstacles. This provides the other part of the answer for the last research question.

5.7. Classification of Strategies

In Chapter Two, in reviewing certain studies about reading strategies, classification of reading strategies in each study was briefly mentioned. Here we will consider the classification of strategies in greater detail in order to present the connection between the strategies scheme and the classification of strategies by earlier researchers. In the Interview Guide for Reading Strategies by Hosenfeld et al. (1981:472-474), a list of a number of effective reading strategies was offered. They listed 20 strategies as follows:

1. Keeps meaning in mind
2. Skips unknown words (guesses contextually)
3. Uses context in preceding and succeeding sentences and paragraphs
4. Identifies grammatical category of words
5. Evaluates guesses
6. Reads title (makes inferences)
7. Continues if unsuccessful
8. Recognizes cognates
9. Uses knowledge of the world
10. Analyzes unknown words
11. Reads as though he or she expects the text to make sense
12. Reads to identify meaning rather than words
13. Takes chances in order to identify meaning
14. Uses illustration
15. Uses side-gloss
16. Uses glossary as last resort
17. Looks up words correctly
18. Skips unnecessary words
19. Follows through with proposed solutions
20. Uses a variety of types of context clues

Block (1986:472-474) classified her subjects' reading strategies as follows:

GENERAL STRATEGIES

Anticipate content
 Recognize text structure
 Integrate information
 Question information in the text
 Use general knowledge and information
 Comment on behavior or processes
 Monitor comprehension
 Correct behavior
 React to the text

LOCAL STRATEGIES

Paraphrase
 Reread
 Question meaning of a clause or sentence
 Question meaning of a word
 Solve vocabulary problem

Sarig (1987:111-112) classified her subjects'

strategies into four moves:

(1) Technical-aid moves

- skimming
- scanning
- skipping
- writing key elements in the text
- marking parts of text for different purpose
- summarizing paragraphs in the margin
- using glossary

(2) Clarification and simplification moves

- substitutions
- paraphrases
- circumlocutions
- synonyms

(3) Coherence-detecting moves

- effective use of content schemata and formal schemata to predict forthcoming text
- identification of people in the text and their views of actions
- cumulative decoding of text meaning
- relying on summaries given in the text
- identification of text focus

(4) Monitoring moves

- conscious change of planning and carrying out the tasks
- deserting a hopeless utterance (I don't understand that, so I'll read on.)
- flexibility of reading rate
- mistake correction
- ongoing self-evaluation

In the study reported here, the classification was mainly based on Block's (1986) scheme and modified according to the pilot studies. The following categories of strategies were developed and classified into two levels:

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Global Strategies and Local Strategies. Both global and local strategies are listed below with one or more examples in quotations.

GLOBAL STRATEGIES (GS)

Global strategies, as the name indicates, are those used by the subjects for general comprehension and monitoring. When subjects use information beyond the sentence level or information not explicitly stated in the text, they are considered to be using global strategies. There are seven global strategies used by the subjects as identified from their think-aloud protocols.

GS1. ANTICIPATE CONTENT: The reader predicted what would occur in succeeding portions of the text. "From now on I'm expecting that the author would explain the best and the worst as mentioned earlier."

GS2. RECOGNIZE TEXT STRUCTURE: The reader distinguished between main points and supporting details. "So this looks like another example of an argument."

GS3. INTEGRATE INFORMATION: The reader connected new information with previously stated content. "Quarrel is a means of communication." (NOTE: The reader in this instance was connecting information in sentence 37 with information in sentence 8.)

GS4. USE GENERAL KNOWLEDGE AND ASSOCIATION: The reader used his general knowledge in his comprehension. "No one knows before they get married (whether) they know exactly what the marriage is."

GS5. MONITOR COMPREHENSION: The reader assessed his degree of understanding of the text. "So this has a deeper meaning than it looks like. What exactly it is I am not quite sure about, but I can sense that."

GS6. CORRECT BEHAVIOR: The reader noticed that he had made a mistake in comprehension and then changed it. "Now I know sentence 20 is said by the husband not the wife."

GS7. REACT TO THE TEXT: The reader reacted emotionally to information in the text. "Surprised! Laughable! They never quarreled and now they have an argument."

LOCAL STRATEGIES (LS)

Local strategies are those used by the subjects to handle specific linguistic units at or below the sentence level. There are eight local strategies as identified through the subjects' think aloud protocols.

LS1. PARAPHRASE: The reader rephrased content using different words. "Psychiatrists do not have a negative attitude towards quarrel." The original sentence was: "Psychiatrists don't look down upon the quarrel."

LS2. REREAD: The reader reread a portion of the text either aloud or silently. "I have read this sentence for a couple of times...."

LS3. SKIP: The reader skipped unknown/unnecessary words, phrases, clauses, and sentences. "'Paradoxical' looks familiar but I am not sure. I'll go on."

LS4. ANALYZE STRUCTURE: The reader analyzed the grammatical relations. "The first 'that' is the subject (Object) of 'recognize'."

LS5. GUESS: The reader guessed the meaning of a portion of the text. "I don't know the exact meaning of the word 'discord'. Perhaps it means fight."

LS6. ANALYZE WORDS: The reader used knowledge about word formation to solve vocabulary problems. "'Paradoxical' not quite sure but 'para' is prefix meaning conflict, like parachute."

LS7. USE DICTIONARY: The reader expressed a desire to use a dictionary for a particular word though he was not allowed to. "I don't understand 'matrimonial'. I have to look it up in the dictionary."

LS8. QUESTION MEANING: (A) OF A CLAUSE OR A SENTENCE: The reader did not understand the meaning of a sentence. "'Thou Shalt Not Kill.' What does it mean?". (B) OR OF A WORD: The reader did not understand a particular word. "I

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don't understand very clearly what 'cynical' means." (C) OR
OF A PHRASE: The reader did not understand the meaning of a
phrase. "I have problem understanding 'to do battle with'."

In general, strategies described above are effective in reading comprehension. However, some of them are neutral in the sense that they cannot help learners in their understanding of the reading materials. For instance, GS7, (React to the Text), merely tells us that readers might have understood or misunderstood, but it does not help readers in their comprehension. This category includes LS1 (Paraphrase), and LS8 (Question Meaning). Some strategies are poor in the sense that they might hinder readers' comprehension. For instance LS7 (Use Dictionary), if used properly this strategy could facilitate comprehension. However, if it is used excessively, it would interfere with reading comprehension, especially when used at the expense of contextual information. Considering the differences between languages, it might be very effective in reading Chinese (see Chapter Four). Its effectiveness decreases greatly in reading English.

The results of the analysis of reading comprehension strategies as well as those of the propositional analysis and correlational studies will be presented in the next chapter.

CHAPTER SIX

RESULTS AND DISCUSSION

In Chapter Five a detailed description of the study was offered. In this chapter, first of all, the results of the study will be presented, and then discussion of the results together with their implications will be provided.

6.1. Results

The presentation of the results follows the sequence of the four research questions: A) a detailed description of the reading strategies by advanced Chinese ESL readers in reading the English passage; B) comparison of strategies in reading the English and the Chinese passages; C) degree of relationship between reading strategies and reading performance, and finally D) description of the major obstacles in reading English materials for advanced Chinese ESL readers and the treatment of these obstacles.

6.1.1. The Description of Strategies

Subjects in this study used both global and local strategies in processing the English and Chinese passages. In English, subjects' use of local strategies exceeded

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their use of global strategies. Both are considered below.

Global Strategies

TABLE 2, "Use of Global Strategies in Reading English", shows the frequency of each strategy used by each subject in his reading of the English text. Subjects

TABLE 2: Use of Global Strategies in Reading English

SUBJECT	GS1	GS2	GS3	GS4	GS5	GS6	GS7	TOTAL	RANK
1.	0	7	4	0	2	2	0	15	2.0
2.	0	2	2	4	0	1	0	9	3.5
3.	0	0	0	0	0	0	0	0	10.0
4.	0	0	1	1	0	0	0	2	7.5
5.	2	1	1	0	0	0	0	4	5.5
6.	0	0	0	2	0	0	0	2	7.5
7.	0	2	1	6	0	0	0	9	3.5
8.	0	0	0	0	0	1	0	1	9.0
9.	0	0	2	0	2	0	0	4	5.5
10.	10	0	4	3	1	4	2	24	1.0
TOTAL:	12	12	15	16	5	8	2	70	N/A

favored local strategies over global strategies, using a total of only 70 global strategies compared to a total of 621 local strategies. Also within the category of global strategies itself, the subjects used the strategies unequally. GS3 (Integrate Information) and GS4 (Use General Knowledge and Association) were the most preferred ones, and GS5 (Monitor Comprehension) and GS7 (React to the Text)

were the least preferred by the subjects, and GS1 (Anticipate Content), GS2 (Recognize Text Structure) and GS6 (Correct Behavior) were placed somewhere between the two in frequency of occurrence. There were also differences between subjects in the use of global strategies. For example, Subject 10 used global strategies the most, with 24 instances. Subjects 1, 2, and 7 were medium users, and the rest, Subjects 3, 4, 5, 6, 8, and 9 were low global strategy users, none of whom used global strategies more than five times while reading the entire English passage.

Local Strategies

Subjects in this study used local strategies a total of 621 times. Of the total local strategies, the preferred ones were LS1 (Paraphrase), used 348 times, and LS8 (Question Meaning), used in 118 instances. The most frequently used local strategies were not considered effective aids to reading comprehension. For instance, LS1 (Paraphrase) could not help the readers in their understanding of the sentences they were reading, though it could indicate whether the readers' understanding was correct or not. LS8 (Question Meaning) could only reveal that subjects were having difficulties understanding particular portions of the text. The least often used was

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LS7 (Analyze Word Structure) with only eight cases. Table 3, "Use of local Strategies in Reading English", presents the frequency of each local strategy used by each subject.

TABLE 3: Use of Local Strategies in Reading English

SUBJECT	LS1	LS2	LS3	LS4	LS5	LS6	LS7	LS8	TOTAL	RANK
1.	28	9	5	6	6	0	0	24	78	2.5
2.	51	2	3	0	11	0	0	11	78	2.5
3.	14	0	1	4	4	0	4	5	32	9.5
4.	46	2	1	0	7	0	6	14	76	4.5
5.	8	4	8	0	3	0	0	9	32	9.5
6.	39	0	0	0	0	4	8	10	61	7.0
7.	52	2	1	0	2	0	0	9	66	6.0
8.	59	5	0	1	4	0	2	5	76	4.5
9.	0	5	4	0	5	0	2	20	36	8.0
10.	51	10	2	2	6	4	0	11	86	1.0
TOTAL:	348	39	25	13	48	8	22	118	621	N/A

All subjects except 5 and 9 used LS1 more often than the other strategies. Subjects also differed in their use of local strategies. They could be divided into four groups of local strategy users: 1) very high (Subject 10), High (Subjects 1, 2, 4, and 8), medium (Subjects 6 and 7), and low (Subjects 3, 5, and 9).

To summarize, the most frequently used of the global strategies by the subjects were GS3 (Integrate Information) and GS4 (Use General Knowledge and Information). As noted earlier, however, their use of local strategies far

exceeded their use of global strategies, and the most preferred local strategies by these subjects were LS1 (Paraphrase), LS8 (Question Meaning) and LS5 (Guess).

Advanced Chinese ESL readers in this study exclusively used more local strategies than global ones. They basically adopted a bottom-up approach to reading English materials. In the next section, the comparison of strategy use in reading English and Chinese will be provided.

6.1.2. The Comparison of Strategies

In this section the phenomena of strategy transfer will be examined. The use of both global and local strategies in reading English will be compared with subjects' use of strategies in reading Chinese. In what follows, first of all, the comparison of the use of global strategies in reading English and Chinese will be presented and then the comparison of the use of local strategies in reading the two languages will be described.

GLOBAL STRATEGIES

The total number of global strategies used by the ten subjects in reading the Chinese passage was very low (only 14 instances) (see Table 4: "Use of Global Strategies in reading Chinese") compared with their total use of global

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strategies in reading English (70 instances). Table 5, "Use of Global strategies in Reading English and Chinese", presents the matrix of Global Strategies in reading English and Chinese by each subject.

TABLE 4: Use of Global Strategies in Reading Chinese

SUBJECT	GS1	GS2	GS3	GS4	GS5	GS6	GS7	TOTAL	RANK
1.	1	0	1	0	0	0	0	2	3.0
2.	0	0	0	1	0	0	0	1	5.5
3.	0	0	0	0	0	0	0	0	8.5
4.	0	0	0	0	0	0	0	0	8.5
5.	2	0	0	0	0	0	0	2	3.0
6.	0	0	0	0	0	0	0	0	8.5
7.	0	0	0	0	0	0	0	0	8.5
8.	0	0	0	0	0	1	0	1	5.5
9.	0	0	2	0	0	0	0	2	3.0
10.	2	0	1	1	0	1	1	6	1.0
TOTAL:	5	0	4	2	0	2	1	14	N/A

Since there were only a few instances in which the subjects used global strategies in reading Chinese, correlational analysis would not reveal much information. Therefore, the use of global strategies in reading both languages will be described below in general.

GS3 (Integrate Information) was the second most preferred strategy in reading both English (15 instances) and Chinese (four instances), only one instance less than the first most preferred ones, GS4 (Use General knowledge

and Association) in reading English (16 instances) and GS1 (Anticipate Content) in reading Chinese (five instances). GS5 (Monitor Comprehension) and GS7 (React to the Text) were the least preferred ones in reading English. And it is also the case in reading Chinese, as can be seen in Table 5. The subjects did not use GS2 (Recognize Text Structure)

TABLE 5: Use of Global Strategies in Reading English and Chinese

S.	E1	C1	E2	C2	E3	C3	E4	C4	E5	C5	E6	C6	E7	C7	A	B	C	D
1.	0	1	7	0	4	1	0	0	2	0	2	0	0	0	15	2	2.0	3.0
2.	0	0	2	0	2	0	4	1	0	0	1	0	0	0	9	1	3.5	5.5
3.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	8.5
4.	0	0	0	0	1	0	1	0	0	0	0	0	0	0	2	0	7.5	8.5
5.	2	2	1	0	1	0	0	0	0	0	0	0	0	0	4	2	5.5	3.0
6.	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0	7.5	8.5
7.	0	0	2	0	1	0	6	0	0	0	0	0	0	0	9	0	3.5	8.5
8.	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	9.0	5.5
9.	0	0	0	0	2	2	0	0	2	0	0	0	0	0	4	2	5.5	3.0
10.	10	2	0	0	4	1	3	1	1	0	4	1	2	1	24	6	1.0	1.0
TOT:12		5	12	0	15	4	16	2	5	0	8	2	2	1	70	14	N/A	N/A

Note: "S" is Subject. Columns A and B represent the total of GS used by each subject in reading English and Chinese while columns C and D represent the rank of GS used by each subject in reading English and Chinese. TOT is the total of each GS used in reading English and Chinese.

at all in reading the Chinese passage, but the use of GS2 (Recognize Text Structure) was very high, 12 instances in reading the English passage. The difference in the structures of the two languages may account for the

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subjects' reading behaviors. Although there might be some similarity in the subjects' use of global strategies in reading the two languages, since the incidences of the use of global strategies in reading their native language (Chinese) was very low, a correlational analysis would not be meaningful.

LOCAL STRATEGIES

The total number of local strategies in reading Chinese is 477 (see Table 6: "Use of Local Strategies in Reading Chinese"), lower than the number of local strategies in reading English, which was 621. This difference is likely attributable to fact that the Chinese passage was shorter.

The most preferred local strategy in reading English was LS1 (Paraphrase), and this was also true in reading Chinese (see Table 7: "Use of Local Strategies in Reading English and Chinese"). Its use accounted for more than half of the total local strategies in both languages. The second most preferred local strategy in reading English was LS8 (Question Meaning), and was a close third in Chinese.

TABLE 6: Use of Local Strategies in Reading Chinese

SUBJECT	LS1	LS2	LS3	LS4	LS5	LS6	LS7	LS8	TOTAL	RANK
1.	62	8	2	1	4	0	0	16	93	1.5
2.	39	0	0	0	0	0	0	1	40	4.5
3.	10	10	1	0	0	0	0	3	24	10.0
4.	32	0	0	0	1	0	0	0	33	7.0
5.	52	20	2	0	6	0	0	13	93	1.5
6.	29	0	0	0	0	0	0	0	29	9.0
7.	35	1	0	0	0	0	0	0	36	6.0
8.	34	2	0	0	2	0	0	2	40	4.5
9.	2	16	4	0	1	0	0	8	31	8.0
10.	35	4	2	1	1	0	0	5	48	3.0
TOTAL:	340	61	11	2	15	0	0	48	477	N/A

TABLE 7: Use of Local Strategies in Reading English and Chinese

S.	E1	C1	E2	C2	E3	C3	E4	C4	E5	C5	E6	C6	E7	C7	E8	C8	A	B
1.	28	62	9	8	5	2	6	1	6	4	0	0	0	0	24	16	78	93
2.	51	39	2	0	3	0	0	0	11	0	0	0	0	0	11	1	78	40
3.	14	10	0	10	1	0	4	0	4	0	0	0	4	0	5	3	32	24
4.	46	32	2	0	1	0	0	0	7	1	0	0	6	0	14	0	76	33
5.	8	52	4	20	8	2	0	0	3	6	0	0	0	0	9	13	32	93
6.	39	29	0	0	0	0	0	0	0	0	4	0	8	0	10	0	61	29
7.	52	34	2	2	1	0	0	0	4	2	0	0	0	0	9	0	66	36
8.	59	34	5	2	0	0	1	0	4	2	0	0	2	0	5	2	76	40
9.	0	2	5	16	4	4	0	0	5	1	0	0	2	0	20	8	36	31
10	51	35	10	4	2	2	2	1	6	1	4	0	0	0	11	5	86	48
T.	348	340	39	61	25	11	13	2	48	15	8	0	22	0	118	48	621	477

Note: "S" is Subject. Column A and B represent the total of LS used by each subject in reading English and Chinese. Line T is the total of each LS used by each subject.

LS4 (Analyze Structure) is the second least preferred strategy in reading English and it is also one of the

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lowest strategies in reading Chinese, only one case. LS7 (Analyze Word) was the least preferred strategy in reading English, with eight instances, and it is also the lowest one in reading Chinese. The subjects did not use LS6 (Analyze Word) and LS7 (Use Dictionary) in reading Chinese at all.

Since the total number of Local Strategies used in reading English and Chinese was not the same, they have been converted into percentages (see Table 8, "Percentage of the Use of Local Strategies in Reading English" and Table 9, "Percentage of the Use of Local Strategies in Reading Chinese"). LS1 (Paraphrase) accounts for more than half of the total local strategies used by the subjects in reading both languages (56% in reading English and 75% in reading Chinese). LS2 (Reread) to LS7 (Use Dictionary) were the least preferred strategies; each only accounts for less than 10% in reading English. The same also could be said about the use of these local strategies in reading Chinese except for LS2 (Reread) (which was 13% of the total). LS8 was the second highest in reading English (19%) and third in reading Chinese (11%).

TABLE 8: Percentage of the Use of Local Strategies in Reading English

SUBJECT	LS1	LS2	LS3	LS4	LS5	LS6	LS7	LS8
1.	36	12	6	8	8	0	0	31
2.	65	3	4	0	14	0	0	14
3.	44	0	3	13	13	0	13	16
4.	61	3	1	0	9	0	0	18
5.	25	13	25	0	9	0	0	28
6.	64	0	0	0	0	7	13	16
7.	79	3	2	0	3	0	0	14
8.	78	7	0	1	5	0	3	7
9.	0	14	11	0	14	0	6	56
10.	59	12	2	2	7	5	0	13
TOTAL:	56	6	4	2	8	1	4	19

TABLE 9: Percentage of the Use of Local Strategies in Reading Chinese

SUBJECT	LS1	LS2	LS3	LS4	LS5	LS6	LS7	LS8
1.	67	9	2	1	4	0	0	17
2.	98	0	0	0	0	0	0	3
3.	42	42	4	0	0	0	0	13
4.	97	0	0	0	3	0	0	0
5.	56	22	2	0	7	0	0	14
6.	100	0	0	0	0	0	0	0
7.	98	3	0	0	0	0	0	0
8.	85	5	0	0	5	0	0	5
9.	7	52	13	0	3	0	0	26
10.	73	8	4	2	2	0	0	10
TOTAL:	75	13	2	0	3	0	0	11

In order to investigate the relationship between the use of local strategies in reading English and Chinese, correlational analysis of the percentage of each strategy

by each subject was carried out. Table 10, "Correlation of Local Strategies (Percentage) in Reading English and Chinese", shows the relationship between the use of local strategies by each subject in reading English and Chinese. The correlation of some strategies such as LS1 and LS8 is high (.89 and .81 each), but others are low.

TABLE 10: Correlation of Local Strategies (Percentage) in Reading English and Chinese

LS	Index
1	.891
2	.357
3	.341
4	.205
5	.096
6	N/A
7	N/A
8	.814

Looking at the data as a whole, it is hard either to reject or to confirm the assumption that the subjects had transferred their use of global strategies in reading Chinese to reading English due to the limited use of global strategies in reading both languages. The correlational analysis between the use of global strategies in reading the two languages could tell us little because of the limited use of global strategies in reading both languages, particularly in reading Chinese.

As far as the use of local strategies is concerned, the correlation for some strategies, for example, LS1 (Paraphrase) and LS8 (Question Meaning) was high while others were low. Because the subjects had a strong preference in the use of local strategies in reading both languages (particularly so in reading Chinese, which may be attributable to the fact that the Chinese passage was shorter and not so difficult), the subjects' use of some local strategies was very low. This, in part, explains the low correlation between the use of some local strategies in reading the two languages. However, the results of the correlational analysis suggest that the subjects did transfer at least some of their use of local strategies (for instance, LS1 (Paraphrase) and LS8 (Question Meaning) in reading their native language (Chinese) to reading the second language (English)).

6.1.3. Reading Strategies and Performance

There were two independent measures of the subjects' reading performance: a multiple choice reading comprehension test and a written recall. There were 11 items in the comprehension test, four choices in each item with only one of the choices correct. Therefore the possible range of the score for the comprehension test was

from 0 to 11. Table 11, "Reading Comprehension Scores", presents the subjects' scores on the comprehension test. The subjects were also asked to do a written recall of the English passage. They were not allowed to refer back to the passage while doing the recall. Propositional analysis was done both on the reading passage and on the written recall for each subject. The total number of propositions for the English reading passage is 177. The number of propositions recalled differed greatly from subject to subject (see Table 12: "The Recall Scores"). In order to find answers

TABLE 11: Comprehension Scores

TABLE 12: Recall Scores

SUBJECT	READING	READING%	RANK
1.	7	64	7
2.	8	73	5
3.	9	82	2
4.	8	73	5
5.	5	46	9
6.	5	46	9
7.	8	73	5
8.	9	82	2
9.	5	46	9
10.	9	82	2

RECALL	RECALL%	RANK
63	34	5
102	58	2
71	40	4
55	31	6
74	42	3
40	23	8
53	30	7
27	15	10
33	19	9
133	75	1

for the third research question-- the degree of relations between reading strategies and reading performance-- the correlation between the use of strategies (both global and local) and the results of the comprehension test and

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written recall was carried out. Because the number is small, the correlational analysis was expected to give only the roughest indication of a relationship between the variables. In the following sections the results of the correlation analysis will be presented in the following order: relationship between the use of strategies (global and local) and the reading comprehension scores, relationship between the use of strategies (both global and local) and written recall scores.

Strategies and Comprehension Scores

Table 13: "Correlation of GS and Reading Scores", shows the relationship between the use of global strategies and the reading comprehension scores. The highest

TABLE 13: Correlation of GS and Reading Scores

GS	Reading
1	.256
2	-.047
3	.065
4	.253
5	-.269
6	.426
7	.351

correlation is between Global Strategy 6 (Correct Behavior) and the comprehension scores, but it was very

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low, only 0.426. The others are even lower. Some strategies are negatively correlated with the reading scores. The low and negative correlations between the use of global strategies and the reading comprehension scores may be attributable to a number of facts: A) the range of the comprehension scores was very small; B) the number of global strategies used by the subjects was very small, too; and C) the strategies used by the subjects were not effective, or in other words, their use of strategies could not help them in their reading comprehension. All these will be considered and discussed in Section 6.2.

The correlation between local strategies and reading scores is not much higher than between global strategies and reading scores (see Table 14: "Correlation of Local Strategies and Reading Scores"). The highest correlation is between LS1 (Paraphrase) and comprehension scores. It is 0.618. Other local strategies that have a positive correlation with the comprehension scores are LS2 (Reread), 0.119; LS4 (Analyze Structure), 0.312; LS5 (Guess), 0.381. All the others have a negative correlation with the comprehension scores: LS3 (Skip), -0.525; LS6 (Analyze Words), -0.194; LS7 (Use Dictionary) -0.093; and LS8 (Question Meaning) -0.401.

The correlation between the total of global strategies

used and the reading comprehension scores was also very ¹³³
low, only 0.250.

TABLE 14: Correlation of LS and Reading Scores

LS	Reading
1	.618
2	.119
3	-.525
4	.312
5	.381
6	-.093
7	-.194
8	-.401

In summary, the correlational analysis between the use of both local and general strategies and reading comprehension scores showed that the correlation between the two was low in most cases. In other cases, the use of reading strategies and the reading comprehension scores were negatively correlated, which means, in other words, the more the subjects used particular strategies, the lower their scores were on the reading comprehension test indicating using certain strategies seemed to hinder reading comprehension.

Strategies and Written Recall

The correlations between the use of global strategies and written recall were a bit higher than that between the

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use of global strategies and comprehension scores (See Table 15: Correlation Between GS and Recall Scores). They ranged from a high 0.757 between GS1 (Anticipate Content) and the written recall to $-.002$ between GS5 (Monitor Comprehension) and written recall. The correlation between GS3 (Integrate Information), GS6 (Correct Behavior), GS7 (React to the text), and written recall was moderate to high as is shown in Table 15, "Correlation Between GS and Recall Scores".

TABLE 15: Correlation Between GS and Recall Scores

GS	Recall
1	.757
2	.068
3	.590
4	.353
5	$-.002$
6	.693
7	.736

TABLE 16: Correlation Between LS and Recall Scores

LS	Recall
1	.183
2	.372
3	.219
4	.177
5	.505
6	.348
7	$-.447$
8	$-.069$

The correlation between the use of local strategies

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and written recall was not very high, either. The highest was between LS5 (Guess) and written recall 0.505. Others are very low (see Table 16: "Correlation between LS and Recall Scores"). Some are even negative, which indicated that some strategies may be detrimental to reading comprehension

In summary, the correlational analysis revealed weak relationships between the use of particular strategies and performance on the reading comprehension test. The weak correlations are likely due to the small number of subjects although other possibilities will be discussed in Section 6.2.

6.1.4. Obstacles and Treatment

The answers for the last research question, concerning the major obstacles in reading English texts for advanced Chinese ESL readers and how they are tackled, were based on the second structured interview and the think-aloud protocols. In this section, the problems that the subjects identified in reading the passage and the obstacles for them in reading English materials in general, based on the second interview with them, will be presented. Then discussions of the problems the subjects encountered in their reading of the English passage as revealed through

the think aloud protocols will be offered.

Obstacles Revealed through the Interview

In the second structured interview, there were questions such as: "What are the major problems in your reading of the passage?", and "What do you find difficult in your reading of English materials in general?"

Table 17, "Obstacles in Reading the English Passage", gives the subjects' answers to the first question mentioned above. Of the ten subjects, seven said that vocabulary or new words caused the major problem for them in reading the English passage. Two subjects pointed out that their major problem was the hidden meaning. One subject considered the conclusion (the last paragraph) to be the major problem in his reading. One subject, aside from identifying vocabulary

TABLE 17: Obstacles in Reading the English Passage

SUBJECT	OBSTACLES
1.	HIDDEN MEANING
2.	VOCABULARY
3.	NEW WORDS
4.	VOCABULARY
5.	HIDDEN MEANING
6.	VOCABULARY
7.	VOCABULARY
8.	NEW WORDS
9.	CONCLUSION
10.	IDIOMS

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as the major problem, also said that complicated sentence structure was a problem for him.

Table 18, "Obstacles in Reading English in General", presents the subjects' answers to the following question: "What do you find difficult in your reading of English materials in general?". Eight out of the ten subjects put either new words, idioms or vocabulary as the most difficult for them. Two considered lack of background information to be the major difficulty for them.

TABLE 18: Obstacles in Reading English in General

SUBJECT	OBSTACLES
1.	BACKGROUND
2.	IDIOMS
3.	NEW WORDS
4.	BACKGROUND & VOCABULARY
5.	NEW WORDS
6.	VOCABULARY & IDIOMS
7.	COMPLICATED STRUCTURE
8.	NEW WORDS & IDIOMS
9.	BACKGROUND & IDIOMS
10.	NEW WORDS

From the second structured interview, we can see that most of the subjects in this study considered words their major problem in reading both the selected English passage and English texts in general. In what follows, the difficulties that the subjects encountered in reading the English passage will be identified through their think-

aloud data.

Obstacles from the Protocols

In Section 6.1.1: the Description of Strategies, a detailed description of the subjects' use of both global and local strategies was offered. The present section differs from that one in two major ways: the focus of this section is the difficulties that the subjects encountered in their reading. Some of the difficulties to be discussed in this section could not be captured in Section 6.1.1. For instance, one subject paraphrased "total strangers" as "all the strangers". In the description of strategy use, we could only say that this subject was using LS1 (Paraphrase). However, in this section, we would be able to analyze why he did that.

In the analysis of reading strategies through the think-aloud data, 118 instances of questioning the meaning (LS8) of a word, a phrase, a clause or a sentence were identified. This finding is consistent with subjects' own perceptions that vocabulary caused the major problems in their reading of English materials. It seems that these advanced Chinese ESL readers relied very heavily on prior knowledge of word meanings, or to put it another way, they failed to make use of the information provided by the

contexts. This suggests transfer from Chinese. They may have forgotten that in English, unlike Chinese, the meaning of the sentence is not the sum total of the meaning of each of its individual components. Even if they could figure out each and every word, they might still have problems understanding the sentence. We can find examples of this kind in almost every think aloud protocol. For example, in Subject 2's reading of the following sentence, "All of which, if true, led to the conclusion that if a man does not have a wife, he would have to quarrel with total strangers, and for that they can take you away", he deciphered "total strangers" as "all the strangers", by combining the meaning of "total" and "strangers". Examples could also be found in Subject 4's think aloud protocol. In reading the following sentence, "Yet they never thought of leaving each other, because 'People will talk'", the subject stuck to the basic meaning of talk and interpreted the clause "People will talk" as "People need to talk". Subject 5 demonstrated in his reading of the very first sentence, "My brothers and sisters and I were living witness to love and marriage at its best and worst: devotion, adoration, sympathy, loyalty, tenderness, along with anger, alienation, and bitterness", that he interpreted "living witness" as "living together". And he

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was not the only one who had this interpretation. Another example is from Subject 7. In reading the following sentence, "'She did not want me ...?' and they were off", Subject 7 could not figure out what "off" meant. In reading the same sentence, Subject 9 simply failed to understand what the sentence "They were off" meant.

All the above examples show that the subjects put too much emphasis on vocabulary or new words; they did not rely on the information provided by the context. Many of the examples discussed in the previous section could have been figured out if subjects had taken what they already understood about the text into consideration. Indeed, when they did take context into account, most of the time they were successful. For example, Subject 10 reported that, "I don't know 'matrimonial'. But from the context and 'marry' to 'matrimonial'. It is of marriage, about marriage". This subject worked out the meaning of 'matrimonial', partly based on contextual information, and partly on his knowledge of word formation. Another example was from Subject 1's think aloud report, "'They were off', this might be a problem but I can understand perhaps if you read the third sentence (sentence 32), you can understand that. Because I understand 32, I have no problem understanding 34, and they were all simply means that they fight each

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other." The examples discussed above show the subjects' handling of familiar words. Examples can also be found in most of the subjects' think aloud protocols about the handling of new words. In Subject 3's reading of the sentence, "They produced five talkative, exuberant children in silence", he did not know the word "exuberant". He could have figured it out based on the context as a few of his fellow subjects did. However, he said, "I've got to look in the dictionary". In reading "Monday you liked fried herring", Subject 4 said "I don't know 'herring'". Another example was from Subject 5, who said, "I read it three times. It seems to confuse me a little bit. I don't know who that 'worthy opponent' is". The sentence that he was reading was "They cared enough for each other and for themselves to do battle with (rather than against) a worthy opponent." Subject 6 questioned the meaning of "banished" in the sentence "You are banished anyhow." From the single sentence, it might be difficult to figure out the meaning of "banished". However, if we take the previous few sentences into consideration or if we read the few previous sentences together, we can figure it out easily.

From the think-aloud data, we can also see that vocabulary was the major problem for the subjects in their reading of the English passage.

Treatment of Obstacles from the interview

In the previous section the major difficulties in reading the English passage and in reading English materials in general were identified either through the second structured interview or the think aloud protocols. In what follows, I would like to show how the identified difficulties are tackled by the subjects, again through the second structured interview and the think aloud protocols.

In the second structured interview, seven out of the ten subjects considered new words, vocabulary or idioms to be their major problems in reading the English passage and eight of them also regarded new words, vocabulary, and idioms their major difficulty in reading English materials in general. In the second structured interview, there are questions such as, "What do you do when you encounter a new word?" and "What do you do when you don't understand a sentence or a phrase?" Table 19, "Treatment of Obstacles", presents the subjects' answers to the questions in the second interview. To the question "What do you do when you encounter a new word?", eight out of the ten subjects replied that they would guess as their first choice. Two said that they would look up the new words in the dictionary as their first choice. Six subjects mentioned that looking the words up in the dictionary would be their

second choice. Two said skipping the unknown words would be their second choice. To the question "What do you do when you don't understand a sentence or a phrase?", four subjects considered skipping their first choice. Two mentioned guessing as their first choice. Two said that they would rely on context as first choice. Two considered skipping as their second choice. Three said that they would ask somebody for help as their second choice. And two would reread. One would analyze the structures, and only one would rely on contexts. One said that he would consult the dictionary (see Table 19: "Treatment of Obstacles").

TABLE 19: Treatment of Obstacles

SUBJECT	WORDS A	WORDS B	WORDS C	SENTENCE A	SENTENCE B
1.	GUESS	SKIP	DICT	SKIP	REREAD
2.	GUESS	DICT		SKIP	REREAD
3.	GUESS	SKIP		SKIP	CONTEXT
4.	DICT	GUESS		SKIP	DICT
5.	GUESS			GUESS	ASK
6.	DICT	GUESS		ANALYZE	REREAD
7.	GUESS	DICT		GUESS	ASK
8.	GUESS	DICT		REREAD	SKIP
9.	GUESS	DICT	SKIP	CONTEXT	ANALYZE
10.	GUESS	DICT		CONTEXT	SKIP

Note: "DICT" is to use the dictionary. "ANALYZE" is to analyze the structure of the sentences in question and the first three columns (WORDS A, B, and C) were the subjects' answers to the Question: What do you do when you encounter new words, and A was the subjects' first choice, B, the second choice, and C, the third choice. The last two columns were the subjects' answers to the question: What do you do when you don't understand a sentence, and A was the subjects' first choice and B was the second choice.

Treatment of Obstacles in Reading the Passage

In the section entitled "Obstacles Revealed from the Protocols", the major problems for the advanced Chinese ESL readers were identified. It seems that vocabulary or new words and idioms were the major concern for advanced ESL readers in reading English materials. The purpose of this section is to investigate how these problems were solved by the readers as indicated through their think-aloud reports. Detailed description of the use of strategies by each subject was presented in Section 6.1.1. In what follows, the total of each strategy used by the subjects to solve their vocabulary problems in reading the English passage will be presented. LS5 (Guess) was the most often used strategy in the reading of the English passage to solve the vocabulary problems. There were 58 instances in which subjects guessed and most of the time they were right. LS3 (Reread) was another strategy that was often used, 39 cases in all. Sometimes, the subjects figured out the meaning by rereading. Other times they could not figure out and they had to use other strategies, either skip (LS2), or guess (LS5), or use dictionaries (LS7). Subjects often skipped if they failed to understand a word, a phrase, a clause, or a sentence. Subjects reported using this strategy 25 times.

There were also certain instances that they did not report. twenty-two times the subjects said that they would consult dictionaries, and in eight instances the subjects analyzed the word formation. In most of the cases where the subjects skipped a portion of the text or said that they would consult dictionaries, they could have figured out the meaning based on contextual information.

Most of the times, the vocabulary problems encountered by the subjects in reading the English passage were solved by guessing, although it is difficult to tell whether subjects relied on contextual information or whether they took into consideration word formation or anything else.

6.2. Discussion

In the first part of this chapter the results of the study with regard to the four research questions were presented. The major findings are: (A) The subjects tended to use significantly more local strategies (621 in all) than global strategies (only 70 cases in total) in reading the English passage, (b) There is evidence to support the claim that the subjects have transferred at least some of the use of their strategies in reading Chinese (their native language) to reading English (their second language)

based on the correlation analysis of the use of local strategies in reading both languages, although the correlational analysis of the use of global strategies in reading the two languages revealed little because of the fact that there were only a few cases in which the subjects used global strategies in reading both languages, especially in reading Chinese, (C) The correlation between the use of reading strategies and the results of reading performance (the comprehension scores and the recall scores) was very low, (D) Based on the second structured interview and the think aloud protocols, the major problems for the subjects to read English materials were in unfamiliar vocabulary, and sometimes the subjects were successful in solving their vocabulary problems by guessing but other times they were not, though the context should have made accurate guessing possible. The discussion which follows is organized around the following topics or sections: Characteristics of Chinese Revisited, Strategy Transfer, the Transfer of Training, the Ineffectiveness of Strategies, Strategy Acquisition, Language Proficiency as Compensation, the Role of Background Knowledge, and Cognitive Development.

6.2.1. Characteristics of Chinese Revisited

In Chapter Four, a brief description of Chinese was offered. There are characteristics of Chinese which may well relate to the subjects' use of strategies in reading this language, and may also shed light on the phenomenon of reading strategy transfer.

Orthographically, Chinese is not alphabetic like English and the majority of the languages in the world. It is characterized by the uniqueness of its written form-- a system of characters. These characters are very powerful and flexible in word formation. They are capable of producing a word or words equivalent to any word in any language. As noted in Chapter Four, Chinese words have no inflections. Their function is determined by their positions in the sentence. Chinese sentences are not so redundant as their English counterparts; thus they carry more information. For example, the following English sentence "This is a book." provides four indicators of the singularity of book-- the use of "this", the verb "is", the indefinite article "a" and the 0-marking of the noun "book". In the Chinese counterpart "Zhe shi shu.", there is only one indication of the singularity of shu (book). It is the use of "zhe" (this). Thus if certain ideas could be expressed in one page in English, it would only take about

two thirds of a page to say exactly the same thing in Chinese. These salient characteristics of the language make reading comprehension in that language unique.

Another important consideration in evaluating the transfer phenomenon is the notion of literacy in Chinese. According to Jiang Shanye and Li Bo (1985), any one who could master 2400 Chinese characters would be considered functionally literate, and any one who has acquired 4000 to 5000 Chinese characters would be thought to have at least a secondary education. The mastery of characters is essential in learning Chinese. It seems that it is also the major criterion for literacy and education. The underlying assumption is that if one masters a certain number of characters (for example, 5000), one is regarded as having at least a secondary education as I mentioned earlier. Thus one can read and understand any modern writing on a general topic in Chinese. A note in passing, classical Chinese is quite different from modern Chinese. Generally, middle (high) school graduates could only understand some simple writings in classical Chinese. It is easy to see why character learning is the focus of initial instruction at elementary schools. Jiang Shanye and Li Bo (1985) also claimed that, " ... character recognition is a vital ingredient of the foundation of Chinese language education.

Without the acquisition of characters, reading is out of the question, let alone writing" (1985:765). Moreover, Children begin to learn reading and writing at later stage of their elementary education than English speakers. As Jiang Shanye and Li Bo (1985) pointed out, "Not until they were promoted to the fourth and fifth grades was it possible to start reading and writing instruction" (1985:765).

Since character mastery is the major criterion for literacy and education, it is logical to believe that it is also the key to reading. In reading Chinese, if one knows each and every character in a given sentence, one can understand that sentence without or with very little difficulty. Therefore, the strategies in reading Chinese tend to be local rather than global. They are used to figure out the identity of the characters. The meaning of a character or a word is always clearly stated in the dictionary. It rarely changes in different contexts as English does. That reading Chinese involves primarily local strategies is also supported by the present study. There were only 14 instances in all that the subjects used global strategies compared to the 477 cases that they used local strategies in reading the Chinese passage. The question which arises at this point is whether these strategies

transferred to the reading of English and whether they did so effectively.

6.2.2. Strategy Transfer

In Section 6.1.2, a comparison of the use of both global and local strategies in reading both English and Chinese was offered. The analysis suggested that there was no transfer of global strategies, simply because they do not exist to any meaningful degree in reading Chinese. It is not hard to understand why subjects used so few global strategies in reading Chinese once we know the characteristics of Chinese and characteristics and strategies in reading the language. It is possible that because the subjects in this study tended to use fewer global strategies in reading their native language, they also used fewer global strategies in reading English. Although we cannot call this reading strategy transfer, since it was not the reading strategies that were being transferred, there was definitely transfer of some kind. We call this kind of transfer the transfer of training (for detail, see the next section).

While we can safely conclude that there was no transfer of global strategies from reading Chinese to reading English, the question remains: Was there transfer

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of local strategy use from Chinese to English? This seems highly likely. In the correlational analysis of the use of local strategies in reading English and Chinese, the correlation for some local strategies such as LS1 (Paraphrase) and LS8 (Question Meaning) was moderately high (.891 and .814 respectively). Therefore, it is safe to conclude, at least, that the use of certain local strategies in reading Chinese had been transferred to reading English. Other studies (for instance, Block, 1986; Sarig, 1987) also indicated that reading strategies in the native languages could be transferred to the reading of the second language. However, both studies involved the transfer of effective reading strategies. The transfer of reading strategies in the present study was not helpful in the subjects' reading comprehension because, as mentioned elsewhere in this dissertation, that the strategies which are considered effective in reading the native language might not necessarily be so in reading the second language on account of the differences between the two languages. This is called "native language interference" (Yorio, 1971:111).

6.2.3. Transfer of Training

In the previous section, discussion of the transfer of

strategies in reading Chinese to reading English was offered. In this section another kind of transfer will be considered: Transfer of training. In discussing interlanguage, Selinker (1979) suggested five central processes which established the knowledge underlying interlanguage behavior. One of the five processes was the transfer of training. According to Selinker, "The transfer of training is a process which is quite different from language transfer (see Selinker, 1969) and from overgeneralization of TL rules" (1979,64). He illustrated the point with Serbo-Croatian speakers learning English. Although in both Serbo-Croatian and English, the distinction between he and she was the same and there should not be any native language interference. Serbo-Croatian speakers at all levels of English proficiency regularly had trouble with the he/she distinction. This was due directly to transfer of training, because teachers and textbooks almost always presented drills with he and never with she. Selinker's notion of transfer of training captures the reading behaviors of the subjects in the present study.

As discussed in the previous section one reason for the subjects to use a large percentage of LS1 (Paraphrase) in reading the English passage might be the result of

strategies transfer, since the subjects also used a large number of LS1 in reading the Chinese passage. Another explanation is that it is the transfer of training. In China, paraphrase is one of the major ways to check the students' understanding of English texts. Paraphrase for this purpose is used very often in English-as-a-second-language classrooms. It is quite possible that the subjects have transferred this technique in their reading of the English passage. Other instances of transfer of training are the abundant use of local strategies and the limited use of global strategies. In China, in the teaching of reading (actually it is called intensive reading in China), vocabulary and sentence comprehension are the focus. Although it has been criticized, it is still the standard practice. A Chinese saying is appropriate to describe this approach, "One fails to see the wood for the sake of trees." Explanation and discussion about the reading passage are more often at the bottom level (for instance, new words and idioms) and it seldom reaches the top levels (the structure or organization) of the passage. This is transfer of L2 training to the reading task at hand.

Now another kind of transfer of training will be considered. It is transfer of training from L1 reading to L2 reading. As I discussed in Section 6.2.1, the focus of

teaching Chinese as a native language in China was characters and words, which might be very appropriate for that language because of its characteristics. Subjects in this study transferred the skills in reading Chinese as a result of their training in reading Chinese to reading English. Unfortunately, their skills in reading Chinese were not so useful in reading English.

6.2.4. The Ineffectiveness of Strategies

In Section 6.2.2, it was argued that the subjects transferred their strategies in reading in their native language (Chinese) to reading in their second language (English) in terms of the use of some local strategies, and in section 6.2.3 the phenomena of the transfer of training was discussed. In Section 5.1.3 we also discussed the correlation of the use of reading strategies and reading performances as measured by the multiple choice reading comprehension questions and the written recall. The correlation between reading strategies and reading performance was not very high. One of the likely reasons is that the strategies and behaviors the subjects transferred from reading Chinese, and the transfer of training from L1, which are effective for that purpose, might not be necessarily effective in reading English. In addition, some

strategies, both global and local, might not help the subjects in their comprehension. For example, after reading the following sentence, "Perhaps it is not even a fight," subject 10 predicted "My impression is that they might do some thing more serious than fight." Because his prediction was wrong, it did not help him at all in his comprehension of the sentence or the succeeding sentences, although sometimes this strategy (GS1: Anticipate Content) did help him in comprehension. Instances of this kind can be found in almost every think aloud protocol. It was more pronounced in the local strategies. Global strategies, if used properly, could facilitate comprehension, but some local strategies were not useful in comprehension as has been discussed earlier. For example, LS7 (Use Dictionary) and LS8 (Question Meaning) could in no way help the subjects in their understanding of the English passage. Other local strategies could be helpful if they had been used properly. LS1 (Paraphrase), LS2 (Reread), LS3 (Skip), LS5 (Guess) belong to this category. For instance, when Subject 9 reported that, "I don't quite understand its meaning, Go on to the next sentence", he was using both LS8 (Question Meaning) and LS3 (Skip). However, neither helped him in his comprehension. Examples of this kind are very common in the subjects think aloud protocols.

This study seems to indicate that effective strategies in one's native language, particularly Chinese, may not be effective in reading the second language, although further research needs to be done to verify this assertion. In this case, the difference between the two writing systems and in the structures of the two languages makes the strategies in reading the two languages different in certain ways. Subjects' reading behaviors may also be different. Now the question arises of whether or not it is desirable to transfer those strategies that are effective in reading the native language but not so in reading the second language? The answer is certainly "no". However, desirable or not, it may occur. The manner in which one reads one's own language will surely influence one's reading of the second language. This is consistent with the theory of contrastive analysis discussed in Chapter Three.

In the above four sections, the characteristics of Chinese, the phenomenon of reading strategy transfer, the transfer of training, and the ineffectiveness of the strategies that the subjects used in reading the English passage were discussed. In the following sections, the reasons for the subjects' relatively high scores on the reading comprehension test and the written recall will be explored.

6.2.5. Strategy Acquisition

In section 6.2.2, in the discussion of the transfer of strategies in reading Chinese to reading English, we concluded that the subjects used significantly fewer global strategies than local strategies in reading English as well as in reading the Chinese passage. This is likely because subjects transferred their skills from their training in reading Chinese to reading English. However, subjects used more global strategies in reading the English passage than reading the Chinese passage. One explanation is that while learning English as a second language and having English as their major means of receiving instruction at the University of Calgary, the subjects have informally acquired certain reading strategies. This explanation makes sense in light of the fact that certain global strategies are effective for English and that in learning to read, the subjects may have also learned, or been taught, some of these strategies. In his model of second language acquisition (Monitor Model) Krashen (1982) proposed five hypotheses, and one was the differences between "Learning" and "Acquisition". Learning refers

to conscious knowledge of a second language, knowing the rules, being aware of them, and being able to talk about them. In non-technical terms, learning is "knowing about" a language, known to most people as "grammar", or "rules". Some synonyms include formal knowledge of a language, or explicit

learning. (Krashen, 1982:10)

Acquisition, on the other hand, is

a process similar, if not identical, to the way children develop ability in their first language. Language acquisition is a subconscious process: language acquirers are not usually aware of the fact that they are acquiring language, but are only aware of the fact that they are using the language for communication. (Krashen, 1982:10)

Since learners could acquire the second language naturally, there is no reason why they could not acquire reading strategies naturally without being formally taught. However, I would argue that for learners at certain levels of English proficiency in the target language, the subjects in the present study for instance, formal explicit instruction of reading strategies will be more effective and more efficient. The subjects in the present study had studied English as a foreign language for many years, from four to ten years in China before they came here to the Faculty of Graduate Studies, where English is the major if not the only means of instruction. Although they have not studied English as a second language formally in Calgary, they have been attending courses conducted in English, reading the assigned materials and making presentations in English. Through all these activities, they have acquired some techniques and strategies in reading English as a second language. This may help to explain why they used

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more global strategies in reading English than in reading Chinese.

6.2.6. Linguistic Competence as Compensation

In spite of the limited use of global strategies by the subjects in reading the English passage, most of the subjects did well in the multiple choice reading comprehension questions. Out of the total 11 items, three subjects got nine and another three subjects got eight correct. One got seven and three got five correct (see Table 11: "Comprehension Scores"). One of the reasons that the subjects attained relatively high scores might have been their proficiency in English. All of them had been here as graduate students for at least two years. Therefore it is reasonable to believe that they had reached a very high level of English proficiency which would assist them not only in reading the passage but also in understanding the test items. There is the additional possibility that subjects after spending two years in a Canadian university, had become knowledgeable "test-takers" and were able to recognize the correct responses possibly in excess to their understanding.

The notion of linguistic competence as compensation was also supported by a study cited by Alderson (1984):

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"Alderson, Bastien and Madrazo (1977) provide evidence which suggests that a student's knowledge of the foreign language is more important to the comprehension of foreign language texts than is reading ability in the first language" (Alderson, 1984:13).

6.2.7. The Role of Background Knowledge

In addition to the advantages provided by language competence and, possibly test-taking competence, it is likely that knowledge of the world and personal experiences helped in reading comprehension. All subjects were adults, ranging from 27 to 42 in age, who have had a variety of life experiences both in China and in Canada. Although their think aloud protocols revealed only 16 instances in which subjects used Global Strategy 4 (Use General Knowledge and Association), it is possible that they used personal experiences and knowledge of the world in helping them to understand the English passage, though there was no explicit evidence in the think aloud protocols. This is one of the limitations of verbal report (think aloud). It is impossible for subjects to report one hundred percent of what they were thinking as they were reading.

The importance of background knowledge of both form (Formal Schemata) and content (Content Schemata) to reading

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has been focus of a large number of studies as reviewed in Section 2.2.2. The studies have shown exclusively the important roles of background knowledge in reading comprehension. Thus it is reasonable to assume that the subjects in this study, as the subjects in other studies, did use background knowledge to help them in their comprehension.

6.2.8. Cognitive Development

Another reason that the subjects may have achieved relatively high scores on the reading comprehension test in spite of their lack of global strategies is that they were very advanced cognitively. Most of the subjects in the present study attended university in China after 1977, which was the first year that very strict admission was reinstated and which marked officially the end of the ten years of turmoil in China. Ever since then, university applicants have had to write the National College Entrance Examination. Only 30% of those writing the exam pass the examination and are admitted into university. All the subjects in this study were successful in this competition, and after four or five years of study as undergraduate students at the universities, most were invited to work or teach at the university they were attending. The percentage

of the graduates who are asked to stay and work or teach at the same universities is very low. What is more, after working or teaching for a few years, they were chosen to study abroad. The selection is very competitive and again all the subjects were successful in the selection, otherwise they would not have been here. It is not exaggerating to say that each subject may be academically the best one of 10,000 Chinese people. They are very highly developed cognitively and are experienced learners. Their overall cognitive development and their educational experience were most likely to help them in their reading of the English passage. This is also supported by some theoretical assumptions. Cummins used the term "Cognitive/Academic Language Proficiency (CALP) "...to refer to the dimension of language proficiency which is strongly related to overall cognitive and academic skills" (1979:198).

6.3. Summary

In this chapter first of all, the results of the study were presented. The major findings were:

A) the subjects tended to use significantly more local strategies than global strategies in reading English as a second language;

B) the use of some of the local strategies in reading English and Chinese was highly correlated while others were only moderately so. As for global strategies, no correlational analysis was carried out because of the limited number of global strategies used in reading both languages, particularly in reading Chinese. Therefore, we cannot say that the subjects have transferred their use of global strategies in reading Chinese to reading English;

C) the use of strategies (both local and global) in reading English was not highly correlated with the reading comprehension scores and the written recall scores;

D) the major obstacles for the subjects in reading the selected English passage and in reading English in general were new words and idioms as identified either through their think-aloud protocols and the second structured interview.

In the second part of this chapter some of the possible explanations related to the findings were offered. The subjects' overpreference for local strategies may be attributable to native language interference. Chinese could be said to be less context-dependent. Chinese words seldom, if ever, change meaning in different contexts. Therefore, local strategies, particularly word recognition is an essential part in reading Chinese. It is highly likely that

the subjects have transferred this behavior in reading Chinese to reading English. From the correlational analysis between the use of local strategies in reading English and Chinese, we could say at least the subjects have transferred the use of some of the local strategies in reading Chinese to reading English. Since we argued that the subjects might have transferred their behavior in reading the native language to reading in English and they have transferred their local strategies too, it is easy to see why the correlation between the use of strategies (both global and local) and the reading comprehension scores and the written recall scores was low. The subjects' strategies might be effective in reading their native language. However it might not necessarily be so in reading English. The strategies used by the subjects in reading English were not very effective, in other words, the use of those strategies might not help the subjects in their comprehension. The subjects' use of local strategies might also be attributable to the way that they were taught English. In China, the teaching of English mainly focuses on words, idioms and phrases. The possible reasons for their relatively high scores in comprehension and recall were also offered in this chapter. The subjects in this study might have acquired certain reading strategies in the

process of learning English either as a foreign or second language. Their linguistic competence, their knowledge of the world and their cognitive development might also have something to do with their high scores on the comprehension scores and their recall scores as well.

CHAPTER SEVEN

IMPLICATIONS AND CONCLUSIONS

The research, undertaken to provide more information about advanced ESL readers' use of reading strategies, specifically speakers of Chinese, reveals some interesting results. Perhaps the most thought-provoking result is the abundant use of local strategies by even advanced ESL readers. This seems contradictory to the results of research conducted by others. For instance, Cziko (1980) argued, based on the results of his study, that

While readers with either native-speaker or advanced competence appear to use an interactive strategy of relying on both graphic and contextual information in reading, readers with less competence appear less sensitive to contextual information and consequently use a more bottom-up strategy of relying primarily on graphic information. (Cziko, 1980:113)

Clarke's (1979) study also showed the importance of language proficiency in reading.

Cloze test performance and oral reading behavior suggest the presence of a "Language Competence Ceiling", which hampers the good L1 reader in his attempts to use effective reading behaviors in the target language: apparently, limited control over the language "Short Circuits" the good reader's system, causing him to revert to "poor reader

strategies" when confronted with a difficult or confusing task in the second language. (1979:138).

Both Clarke (1979) and Cziko (1980) concluded that proficiency in English (the target language) played a very important role in the reading behaviors of ESL readers. Less proficient readers tended to use bottom-up strategies in their reading while advanced ESL readers used both bottom-up and top-down strategies in their reading. The subjects in the present study were advanced readers, since their level of English proficiency was very high.

The fact that the subjects in this study used significantly more local strategies than global ones may be due to the following reasons: either the passage was too difficult for them or they transferred their reading strategies and behavior in reading their native language to reading English. The former is unlikely, because the subjects were fairly advanced in their proficiency of English. I would assume that they had already reached the "Language Competence Ceiling" (Clarke, 1979:138); thus language competence could not "short-circuit" (Clarke, 1979:138) their reading behaviors. It is true that language proficiency and reading ability are closely related. However, they are not one and the same thing as revealed in

this study. This is also supported by Benedetto's study. Benedetto (1985) claimed that, "... contrary to previous findings in the L2 literature, ... L2 reading ability does not necessarily improve as a function of increased ability in the second language" (1985:7). With little evidence to the contrary, it seems reasonable to conclude that subjects' use of more local strategies was the result of native language interference. Because of the great differences between the native language (Chinese) and the target language (English) in orthography, syntax, and semantics, the strategies in reading the two languages may be markedly different. Thus what are effective in reading one language may not necessarily be so in reading the other. The subjects in this study are advanced in their English proficiency and they might also have acquired certain strategies in reading English. However, they were not formally taught reading in the second language (English). Thus they would rely on whatever strategies they had acquired in the second language and whatever strategies they were familiar with in reading their native language.

Although the subjects in this study failed to use more effective strategies or they failed to use contextual information as they should have, the reading performance (Reading Comprehension Scores and Recall Scores) was still

good. I would argue this was due to their competence in the target language, their knowledge of the world and their cognitive development. All these can compensate for their inadequate use of reading strategies. However I believe that they could have done much better if they had used more contextual information to aid their comprehension.

The findings of this study also challenge the reading universal hypothesis (Goodman, 1970). While there are undoubtedly certain commonalities in the reading behaviors of different languages, this study supports the view that the enormous differences which exist in the reading behavior of different languages, (especially those with difference in writing systems), play an important role in understanding second language reading.

What the results of this study imply is that although linguistic competence plays a role in reading, the use of effective reading strategies plays a greater role. Thus it may be important to include instruction in reading strategies in teaching second language reading. In advanced ESL courses, the traditional way of focusing exclusively on vocabulary (without using contextual information), sentence structure and multiple choice questions at the end of the passage might not be so successful as the explicit teaching of reading strategies.

Further studies to investigate the effect of teaching reading strategies on reading ability should be conducted in future research.

As a preliminary investigation into the reading strategies by advanced Chinese ESL readers, the present study has a number of limitations. First, because of the in-depth nature of the analysis, it was impossible to study the reading behaviors of a large number of subjects. As in other studies of this nature, therefore, the results are suggestive rather than definitive. The directions for further research have been indicated. Second, the subjects for this study were advanced in their level of English proficiency and might have acquired certain reading strategies in the course of learning English. Studies with intermediate level ESL readers might reveal more information about reading strategy transfer since it is unlikely that they could have acquired reading strategies in their learning of English either as a second or foreign language. Third, the subjects came from a single linguistic background. They are all native speakers of Chinese and thus the results of this study cannot be safely generalized to other linguistic or ethnic groups. Further studies need to be carried out with ESL readers from different language background, especially from linguistic backgrounds that are

different in writing systems (e.g., native speakers of Chinese and native speakers of French). The next limitation of this study is methodological. While the present study has confirmed the value of the think aloud technique for the investigation of the process of reading, it also presented methodological problems. To stop at the end of each sentence to report what was going on in their mind might interfere with or intrude upon their reading process. I suspect this might have an effect on the subjects' use of reading strategies.

In short, one of the most important findings of this study is that the subjects' use of local strategies far outnumbered their use of global strategies and this might be the result of the transfer of reading behavior since Chinese is less context-dependent. Reading in Chinese means something different from reading in English in certain aspects. Further studies to investigate the use of reading strategies by Chinese ESL learners at different levels of English proficiency are surely needed, as are studies using ESL learners from different linguistic backgrounds.

BIBLIOGRAPHY

- Afflerbach, P. and Johnston, P. (1984). Research Methodology on the Use of Verbal Reports in Reading Research. Journal of Reading Behavior, 16. (pp.307-321).
- Alderson, J. C. (1984). Reading in a Foreign Language: A Reading Problem or a Language Problem. In Alderson, J. C. and Urquhart, A. H. (Eds.), Reading in a Foreign Language. (pp.1-24). London and New York: Longman.
- Alderson, J. C., and Urquhart, A. H. (1988). The Test is unfair: I am not an Economist. In Carrell, P. L., Devine, J., and Eskey, D. E. (Eds.), Interactive Approaches to Second Language Reading. (pp.168- 182). Cambridge: Cambridge University Press.
- Anderson, J. R. (1980). Cognitive Psychology and its Appreciation. San Francisco: Freeman & Co.
- Anderson, R. C. (1978). Schema-directed Processes in Language Comprehension. In Lesgold, A. M., Pellegrino, J. W., Fokkema, S.D., and Glaser, R. (Eds.), Cognitive Psychology and Instruction. (pp.67-82.). New York: Plenum Press.
- Argile, M. (1983). The Psychology of Interpersonal Behavior. London: Pelican Books.
- Aron, H. (1986). The Influence of Background Knowledge on Memory for Reading Passages by Native and Nonnative Readers. TESOL Quarterly, 20. (pp.136-140).
- Barnett, M. A. (1989). More Than Meets the Eye: Foreign Language Reading-theory and practice. Englewood Cliffs, New Jersey: Prentice-Hall, Inc.
- Bartlett, F. C. (1932). Remembering: An Experimental and Social Study. Cambridge: Cambridge University Press.
- Bell, J. and Burnaby, B. (1984). A Handbook for ESL Literacy. Toronto, Ontario: OISE Press.
- Benedetto, R. A. (1985). Language Ability and the Use of Top-Level Organizational Strategies. Paper presented at the Annual Meeting of the National Reading

Conference. (ERIC Document Reproduction Service, No. ED 266-437).

- Block, E. (1986). The Comprehension Strategies of Second Language Readers. TESOL Quarterly, 21. (pp.463-494).
- Brewer, W. F. (1984). The Story Schema: Universal and Culture-specific Properties. (Tech. Rep. No. 322). Champaign, IL.: University of Illinois, Center for the Study of Reading.
- Brislin, R. W. (1981). Cross-culture Encounters. New York: Pergamon.
- Brown, D. (1980). Principles of Language Learning and Teaching. Englewood Cliffs, New Jersey: Prentice-Hall.
- Brown, H. D. (1980). Principles of Language Learning and Teaching. Englewood Cliffs, New Jersey: Prentice-Hall, Inc.
- Carrell, P. L. (1983a). Some Issues in Studying the Role of Schemata, or background knowledge, in Second Language Comprehension. Reading in a Foreign Language, 1. (pp.82-92).
- Carrell, P. L. (1983b). Three Components of Background Knowledge in Reading Comprehension. Language Learning, 33. (pp.183-207).
- Carrell, P. L. (1984a). The Effects of Rhetorical Organization on ESL Readers. TESOL Quarterly, 18. (pp.441-469).
- Carrell, P. L. (1984b). Evidence for a Formal Schema in Second Language Comprehension. Language Learning, 34. (pp.87-112).
- Carrell, P. L. (1987). Content and Formal Schemata in ESL Reading. TESOL Quarterly, 21. (pp.461-481).
- Chomsky, N. (1957). Syntactic Structure. The Hague: Mouton.
- Chomsky, N. (1965). Aspects of the Theory of Syntax. Cambridge, Mass.: The MIT Press.
- Clarke, M. A. (1979). Reading in Spanish and English: Evidence from adult ESL students. Language Learning, 29. (pp.121-150).

- Clarke, M. A. (1980). The Short Circuit Hypothesis of ESL Reading. Modern Language Journal, 64. (pp.203-209).
- Clarke, M. A. (1981). Reading in Spanish and English: Evidence from Adult ESL Students. In Hudelson, S. (Ed), Learning to Read in Different Languages. (pp.69-92). Washington, D.C.: The Center for Applied Linguistics.
- Coady, J. (1979). A Psycholinguistic Model of the ESL Readers. In Mackay, R., Barkman, B., and Jordan, R.R. (Eds). Reading in a Second Language. (pp.5-12). Rowley, Massachusetts: Newbury House Publishers. Inc.
- Coe, R. M. (1988). Towards a Grammar of Passages. Carbondale and Edwardsville: Southern Illinois University Press.
- Cohen, A. D., and Hosenfeld, C. (1981). Some Uses of Mentalistic Data in Second Language Research. Language Learning, 31. (pp.285-313).
- Cole, M. and Scribner, S. (1974). Culture and Thought. New York: Pergamon.
- Corder, P. (1971). Idiosyncratic Dialects and Error Analysis. IRAL, 9. (pp.147-159).
- Cummins, J.(1979). Cognitive/Academic Language Proficiency, Linguistic Interdependence, the Optimum Age Acquisition and Some Other Matters. Working Papers on Bilingualism, 19. (pp.197-205).
- Cziko, G. A. (1978). Differences in First- and Second-language Reading: the Use of Syntactic, Semantic and Discourse Constraints. Canadian Modern Language Review, 34(3). (pp.473-489).
- Cziko, G. A. (1980). Language Competence and Reading Strategies: A Comparison of First- and Second-language Oral Reading Errors. Language Learning, Vol. 30 No. 1. (pp.101-116).
- Devine, J. (1984). ESL Readers' Internalized Models of the Reading Process. In Handscombe, J. Orem, R. A. and Taylor, B. P. (Eds) On TESOL '83. (pp.95-108). Washington, D.C.: TESOL.
- Devine, J. (1988). A Case Study of two readers: Models of

- Reading and Reading Performance. In Carrell, P. L., Devine, J., and Eskey, D. E. (Eds.), Interactive Approaches of Second Language Reading. (pp.127-139). Cambridge: Cambridge University Press.
- Diller, K. C. (1971). Generative Grammar, Structural Linguistics, and Language Teaching. Rowley, Mass.: Newbury House.
- Dulay, H. and Burt, M. (1974). Natural Sequence in Child Second Language Acquisition. Language Learning, 24. (pp.37-53).
- Dulay, H. and Burt, M. (1983). Goofing: An Indicator of Children's Second Language Learning Strategy. In Gass, S. and Selinker, L. (Eds), Language Transfer in Language Learning. (pp.54-68). Rowley, Mass.: Newbury House.
- Dulay, H., Burt, M. and Krashen, S. (1982). Language Two. New York: Oxford University Press.
- Eggington, W. G. (1987). Written Academic Discourse in Korean: Implications for Effective Communication. In Connor, U. and Kaplan, R. B. (Eds.), Writing Across Languages: Analysis of L2 Text. (pp.153-168). Addison-Wesley Publishing Company.
- Eskey, D. E. (1988). Holding in the Bottom: an Interactive Approach to the Language Problems of Second Language Readers. In Carrell, P. L., Devine, J., and Eskey, D. E. (Eds) Interactive Approaches to Second Language Reading. (pp.93-100). Cambridge: Cambridge University Press.
- Fromkin, V and Rodman, R (1983). An Introduction to Language. (3rd Ed.). New York: Holt, Rinehart and Winston.
- Gass, S. and Selinker, L. (Eds) (1983). Language Transfer in Language Learning. Rowley, Mass. : Newbury House.
- Goodman, K. S. (1965). A linguistic Study of Cues and Miscues in Reading. Elementary English, 42 (6), October.
- Goodman, K. S. (1967). Reading: A Psychological Guessing Game. Journal of the Reading Specialist, Vol.6, No.4, May. (pp.126-135).

- Goodman, K. S. (1970). Psycholinguistic Universal in the Reading Process. Journal of Typographic Research Vol. IV, No. 2, Spring. (pp.103-110).
- Goodman, K. S. (1973). Miscues : Windows on the Reading Process. In Goodman, K.S. (Ed.), Miscue Analysis, Applications to Reading Instruction. (pp.3-14). ERIC, Urbana, III.
- Goodman, K. S. (1975). The Reading Process. Proceedings of the 6th Learning Symposium on Learning: Language and Reading. Bellingham, Wash.
- Goodman, K. S. (1981). Letter to the Editor. Reading Research Quarterly, 16(3). (pp.477-478).
- Goodman, K. S. (1982). The Reading Process. In Gollasch, F. V. (Ed.), Language and Literacy: The Selected Writings of Kenneth S. Goodman, Vol 1. (pp.5-16). Boston: Routledge and Kegan Paul.
- Gough, P. B. (1972). One Second of Reading. In Kavanagh, J. F., and Mattingly, I. G. (Eds.), Language by Ear and by Eye. (pp.331-358). Cambridge, Mass.: MIT Press.
- Haddad, F. T. (1981). First Language Illiteracy-Second Language Reading: A Case Study. In Hudelson, S. (Ed.), Learning to Read in Different Languages. (pp.32-44). Washington, D.C.: The Center for Applied Linguistics.
- Hodes, P. (1981). Reading: A Universal Process. In Hudelson, S. (Ed.), Learning to Read in Different Languages. (pp.27-31). Washington, D.C.: The Center for Applied Linguistics.
- Hosenfeld, C. (1977). A Preliminary Investigation of the Reading Strategies of Successful and Nonsuccessful Second Language Learners. System, 5. (pp.110-123).
- Hosenfeld, C. (1979). Cindy: A Learner in Today's Foreign Language Classroom. In Borne, W. (Ed.), The Foreign Language Learner in Today's Classroom Environment. (pp.53-75). Montpelier, Vermont: Northeast Conference on the Teaching of Foreign Languages.
- Hosenfeld, C. (1984). Case Studies of Ninth Grade Readers. In Alderson, J. C., and Urquhart, A. H. (Eds), Reading

- in a Foreign Language. (pp.231-244). London and New York : Longman.
- Hosenfeld, C., Arnold, V., Kirchofer, J. L., and Wilson, L. (1981). Second Language Reading: A Curricular Sequence for Teaching Reading Strategies. Second Language Annals, 14. (pp.415-422).
- Hudson, T. (1982). The effects of induced schemata on the "Short Circuit" in L2 Reading: Non-decoding Factors in L2 Reading Performance. Language Learning, 32. (pp.1-31).
- Immigration Canada (1990). Annual Report to Parliament: Immigration Plan for 1991-1995.
- Jahoda, G. (1978). Cross-Culture Perspectives. In Tajfel and Fraser (Eds.), Introducing Social Psychology. (pp.76-95). London: Penguin.
- Jiang Shanye and Li Bo (1985). A Glimpse at Reading Instruction in China. The Reading Teacher, 38. (pp.762-766).
- Johnson, P. (1981). Effects on Reading Comprehension of Language Complexity and Cultural Background of a Text. TESOL Quarterly, 15. (pp.169-181).
- Johnson, P. (1982). Effects on Reading Comprehension of Building Background Knowledge. TESOL Quarterly, 16. (pp.503-516).
- Kaplan, R. B. (1966). Cultural Thought Patterns in Inter-Cultural Education. In Croft, K. (Ed) Readings on English as a Second language for Teachers and Teacher Trainees. (2nd ed.), (pp.399-418). Boston: Little Brown & Company.
- Kintsch, W. and Greene, E. (1978). The Role of Culture-specific Schemata in the Comprehension and Recall of Stories. Discourse Process, 1. (pp.1-13).
- Krashen, S. D. (1982). Principles and Practice in Second Language Acquisition. Oxford, New York: Pergamon Press.
- Lado, R. (1961). Language Testing. London : Longmans.
- Langer, J. A. (Ed), (1987). Language Literacy and Culture: Issues of Society and Schooling. Norwood, New Jersey:

Ablex Publishing Corporation.

- Langer, J. A. et al (1988). Meaning Construction in School Reading Tasks: A Study of Mexican American Students. ED 295 133.
- Larsen-Freeman, D. (1986). Techniques and Principles in Language Teaching. Oxford University Press.
- Lee, J. F. (1986). Background Knowledge & L2 Reading. Modern Language Journal, 70. (pp.350-354).
- Leong, C. K. (1973). Hong Kong. In Downing, J. (Ed.), Comparative Reading. (pp.383-402). New York: The Macmillan Company.
- Li, C. and Thompson, S. (1975). Subject and topic: A New Typology of Language. In Li, C. (Ed), Subject and Topic. (pp.457-490). New York: Academic Press, Inc.
- Liu, S. S. F. (1976). Decoding and Comprehension in Reading Chinese. In Feitelson, D. (Ed.), Cross-Cultural Perspectives on Reading and Reading Research. (pp.144-156). Newark, Delaware: International Reading Association.
- Mackay, R., Barkman, B., and Jordan, R. R. (1979). Introduction. In Mackay, R., Barkman, B., and Jordan, R. R. (Eds.), Reading in a Second Language. (pp.V-X). Rowley, Massachusetts: Newbury House Publishers. Inc.
- McClure, E., Mason, J., and Williams, J. (1981). Sociocultural Variables in Children's Sequencing of Stories. (Tech. Rep. No. 209). Champaign, Il.: University of Illinois, Center for the Study of Reading.
- Meyer, B. J. F., and Freedle, R. O. (1984). Effects of Discourse Type on Recall. American Educational Research Journal, 21. (pp.121-143).
- Miramontes, O. (1987). Oral Reading Miscues of Hispanic Good and Learning Disabled students: Implications for Second Language Reading. In Goldman, S. R. and Trueba, H. T. (Eds.), Becoming Literate in English as a Second Language. (pp.127-154). Norwood, New Jersey: Ablex Publishing Corporation.
- Mott, B. W. (1981). A Miscue Analysis of German Speakers

- Reading in German and English. In Hudelson, S. (Ed.), Learning to Read in Different Languages. (pp.54-68). Washington, D.C.: The Center for Applied Linguistics.
- Moulton, W. G. (1961). Linguistics and Language Teaching in the United States (1940-1960). In Mohrmann, C., Sommerfelt, A. and Whatmongh, J. (Eds.), Trends in European and American Linguistics 1830-1960. (pp.82-109). Ulrecht: Spectrum.
- Nelson, G. L. (1987). Culture's Role in Reading Comprehension: A Schema Theoretical Approach. Journal of Reading, 23. (pp.424-429).
- Nelson, G. and Schmid, T. (1989). ESL Reading: Schema Theory and Standardized Tests. TESOL Quarterly, 23. (pp.539-543).
- Nemser, W. (1971). Approximative Systems of Foreign Language Learners. IRAL, 10. (PP.11-123).
- Oller, J. W. Jr. and Tullius, J. R. (1973). Reading Skills of Non-native Speakers of English. IRAL, 11(1). (pp.69-80).
- Piper, D. (1985). Formal Vs. Content Schemata in the Reading of Adult Vietnamese Students of English as a Second Language. Reading Canadian Lecture, 3. (pp.187-197).
- Piper, D. (1986). Language Growth in the Multiethnic Classroom. Language Arts, Jan. 1986. (pp.23-36).
- Piper, T. and McEachern, W.R. (1988). Content Bias in Cloze as a General Language Proficiency Indicator. English Quarterly, 21. (pp.41-48).
- Prator, C. (1967). Hierarchy of Difficulty. Unpublished Classroom Lecture, UCLA.
- Richard, J. C. and Rodgers, T. S. (1986). Approaches and Methods in Language Teaching. Cambridge University Press.
- Rivers, W. (1964). The Psychologist and the Foreign Language Teacher. Chicago: University of Chicago Press.
- Rivers, W. (1968). Teaching Foreign Language Skills.

Chicago: University of Chicago Press.

- Romatowski, J. A. (1981). A Study of Oral Reading in Polish and English: A Psycholinguistic Perspective. In Hudelson, S. (Ed.), Learning to Read in Different Languages. (pp.21-26). Washington, D.C.: The Center for Applied Linguistics.
- Rumelhart, D. E. (1977). Toward an Interactive Model of Reading. In Dornic, S. (Ed.), Attention and Performance, Vol. VI. (pp.573-603). New York: Academic Press.
- Rumelhart, D. E. (1980). Schemata: The Building Blocks of Cognition. In Spiro, R. J., Bruce, B. C. and Brewer, W. E. (Eds.), Theoretical Issues in Reading Comprehension. (pp.33-58). Hillsdale, N.J. : Lawrence Erlbaum.
- Sapir, E. (1921). Language. Harcourt, Brace and Company, New York: A Harvest Book.
- Sarig, G. (1987). High level Reading in the First and in the Foreign Language: Some Comparative Process Data, in J. Devine, P. L., Carrell, and D. E. Eskey (Eds.), Research in Reading in English as a Second Language. (pp.107-120). Washington, D. C. : Teachers of English to Speakers of Other Languages.
- Schachter, J. and Rutherford, W. (1979). Discourse Function and language Transfer. Working Papers on Bilingualism, 19. (pp.1-12).
- Selinker, L. (1969). Language Transfer. General Linguistics 9. (pp.67-92).
- Selinker, L. (1972). Interlanguage. IRAL, 10. (PP.209-231).
- Selinker, L. (1979). Interlanguage. In Nehls, D. (Ed). Studies in Contrastive Linguistics and Error Analysis: I the Theoretical Background. (pp.55-77). Julius Groos Verlag Heidelberg.
- Smith, F. (1971). Understanding Reading. New York: Holt, Rinehart and Winston, Inc.
- Smith, N. and Wilson, D. (1979). Modern Linguistics: The Results of Chomsky's Revolution. Bloomington and London: Indiana University Press.

- Stanovich, K. E. (1980). Toward an Interactive-compensatory Model of Individual Differences in the Development of Reading Fluency. Reading Research Quarterly, 16(1). (pp.32-71).
- Steffensen, M. S., Joag-Dev, C. and Anderson, R. C. (1979). a Cross-cultural Perspective on Reading Comprehension. Reading Research Quarterly, 51. (pp.10-29).
- Stubbs, M. (1980). Language and Literacy: The sociolinguistics of reading and writing. London, Boston and Henley: Routledge & Kegan
- Stubbs, M. (1983). Discourse Analysis: The Sociolinguistic Analysis of Natural Language. Chicago: The University of Chicago Press.
- Treiman, R. A., Baron, J. and Luk, K. (1981). Speech Recoding in Silent Reading: A Comparison of Chinese and English. Journal of Chinese Linguistics, Vol. 9. (pp.116-124).
- Tzeng, O. and Hung, D. (1980). Reading in a Nonalphabetic Writing System. In Kavanagh, J. F. and Venezky, R. L. (Eds.), Orthography, Reading and Dyslexia. (pp.211-226). Baltimore: University Park Press.
- Tzeng, O. J. L., Hung, D. L. and Garro, L. (1978). Reading the Chinese Characters: An Information Processing View. Journal of Chinese Linguistics, Vol. 6. (pp.287-305).
- Upshur, J. A. (1973). Productive Communication Testing: Progress Report. In Oller, J. W. Jr. and Richards, J. C. (Eds), Focus on the Learner: Pragmatic Perspectives for the Language Teacher. (pp.177-183). Rowley, Mass.: Newbury House.
- Whitman, R. (1970). Contrastive Analysis: Problems and Procedures. Language Learning, 20. (pp.191-197).
- Whitman, R. and Jackson, K. L. (1972). The Unpredictability of Contrastive Analysis. Language Learning, 21. (pp.29-41).
- Xinhua Chinese Dictionary (1980). Beijing:Commercial Press.
- Yorio, C. A. (1971). Some Sources of Reading Problems for Foreign Language Learners. Language Learning, 21.

(pp.107-117).

Young, L. W. (1982). Inscrutability Revisited. In Gumperz, J. J. (Ed.), Language and Social Identity. (pp.73-84). Cambridge: Cambridge University Press.

APPENDICES

Appendix A

Instructions and the English Reading Passage

DIRECTIONS: You will be given ONE short passage to read silently. you should read the passage silently but STOP reading when you come to the end of each sentence. The sentences are numbered and when you stop at the end of each sentence please SAY as much as you could about what you are thinking when you read and about what you did to understand when you did not understand.

You should continue reading and talking this way until you finish the passage. You will not be interrupted in your reading. You can do this either in English or Chinese. you will be tape-recorded.

If you have any questions, please ask Mr. Ma now, otherwise you could start. Thank you.

IN ONE ERA AND OUT THE OTHER

1. My brothers and sisters and I were living witness to love and marriage at its best and worst: devotion, adoration, sympathy, loyalty, tenderness, along with anger, alienation, and bitterness.

2. A loving couple and a quarreling couple could be one and the same couple.

3. The secret of an enduring marriage was no secret.

4. Our parents quarreled.

5. We saw nothing paradoxical about it.

6. Married people exercised their marriages the way babies exercise their lungs, by yelling.

7. They strengthened their matrimonial muscles by giving them a daily workout.

8. Psychiatrists do not look down upon the quarrel.

9. Confrontation is also communication.

10. The wide open dialogue, the airing of the disparity between "is" and "ought", real and ideal, performance and aspiration, may have been (and may still be) my parents' version of today's encounter sessions.

11. They would rather fight than switch.

12. Perhaps it was not even a fight.

13. They cared enough for each other and for themselves to do battle with (rather than against) a worthy opponent.

14. Perhaps they preferred discord over solution.

15. Perhaps they instinctively recognized that incompatibility was inherent in people and ideas, that dichotomy is really unity, that positive cannot live without negative, and that opposites attract because they need each other.

16. All of which, if true, led to the conclusion that if a man did not have a wife, he would have to quarrel with total strangers, and for that they can take you away.

17. Sometimes she talked first: "I don't understand you.

18. Monday you liked fried herring.

19. Tuesday you liked fried herring, Wednesday you liked fried herring, now all of a sudden Thursday you don't like fried herring!"

20. "Herring! Herring! It's not the herring! It's the last twenty years!"

21. Sometimes he talked first: "You can always leave me!"

22. "I'm gonna leave you and make you happy!"

23. When words no longer sufficed to express the

depth of their anger they flew into a great silence, during which the children were used as messengers.

24. "Tell your father it's time to eat."

25. "Papa, Mama says it's time to eat."

26. "Tell your mother I'm not talking."

27. Mama, Papa says he is not talking."

28. "So tell him 'Thank you'!"

29. "Tell her she's welcome!"

30. A dying quarrel sometimes had to be revived.

31. You can't quarrel alone: "I don't like the way you're sitting there not saying nothing."

32. On cold winter evening, when the homework was finished and there wasn't much to do, the children could kindle a warm argument and huddle around it.

33. Pa, Grandma said she never wanted Mama to marry you."

34. "SHE didn't want ME...?" And they were off.

35. My Uncle M. and Aunt N. hardly ever argued because they hardly ever talked to each other under the best of conditions.

36. They produced five talkative, exuberant children in silence.

37. Yet they never thought of leaving each other because "People will talk."

38. The day Aunt N. got sick my brother Joe told Uncle M. to deliver Aunt N. to Mount Sinai Hospital in an ambulance.

39. "I'll be waiting there for you under the main entrance canopy."

40. The ambulance pulled up, Uncle M. got out, but there was no Aunt N.

41. "Where is Aunt N?"

42. "We had an argument, and she took the subway."

43. Years later, at Uncle M.'s funeral, Aunt N. stood at the graveside as they lowered the coffin, crying out: "Wait a minute! Listen! I want to talk to you."

44. As usual he didn't answer.

45. It would seem that our constant exposure to the quarreling of the mamas and the papas might have turned us prematurely cynical.

46. On the contrary, our early combat training taught us to bring our "as you like it" into focus with "like it is," not on the subject of marriage alone but on people partnerships in general.

47. Even when we "play house" we didn't play like story book princes and princesses but like real fighting people.

48. "Look, you're only a prince.
49. You can't be the king.
50. You were king yesterday.
51. I'm gonna to be king.
52. Okay, so get your own kingdom.
53. You are banished anyhow."
54. We came to realize that every man and woman has something to say in his own defense; that there were not two sides to an argument, but dozens; that one of the reasons God said "Thou Shalt Not Kill" was that you might not yet have heard all sides of the story; that in human relations there is no perfect and final answer; that some ideas may never be happily wedded to others; that the dialogue, whispered or shouted, is eternal, and that the seeking of the answer is the answer.

Appendix B

Multiple Choice Questions

Answer the following questions based on the passage you have just read. You may refer back to the passage when answering the question. mark your answer by ticking the corresponding letter. You may begin now.

1. The parents sometimes "flew into a great silence" (sentence 23) because they
 - A: hated each other
 - B: wanted to leave the family
 - C: lacked adequate vocabulary
 - D: disliked involving the children
2. In sentences 31 to 32 quarrels are compared to
 - A: fires
 - B: cold
 - C: silence
 - D: loneliness
3. The statement "When the homework was finished and there wasn't much to do, the children could kindle a warm argument" in sentence 32 suggests that the children
 - A: felt insecure
 - B: wanted entertainment
 - C: were tired of playing
 - D: were angry with their parents
4. The use of the phrase "huddle around it" (sentence 32) implies that a parental quarrel caused the children to feel
 - A: comfortable
 - B: isolated
 - C: hopeful
 - D: bored
5. The statement "Yet they never thought of leaving each other, because 'People will talk'" (sentence 37) implies that Uncle M. and Aunt N.
 - A: really liked each other
 - B: feared community censure
 - C: lacked a spirit of adventure
 - D: wanted to protect the children
6. The words "combat training" (sentence 46) refer to the children's exposure to

- A: sibling rivalry
- B: adult cynicism
- C: military service
- D: marital quarrels

7. In sentences 54, the writer's main idea is conveyed by a tone that is

- A: bitter
- B: serious
- C: humorous
- D: patronizing

8. Throughout the essay the writer asserts that a normal and natural condition for a married couple is

- A: cynical silence
- B: heated confrontation
- C: humorous coexistence
- D: reasonable negotiation

9. The writer's attitude toward quarrels such as those of his parents is one of

- A: approval
- B: sympathy
- C: cynicism
- D: hostility

10. The writer concludes that because his parents quarreled, his outlook on life is

- A: realistic
- B: hateful
- C: hopeful
- D: pessimistic

11. The main idea of this article is that

- A: quarreling is an important part of marriage
- B: children enjoy the arguments of their parents
- C: open dialogue is part of a healthy relationship
- D: marriage often survive because of fear of criticism

Appendix C

First Structured Interview

In (Investigator): How are you today?

Sub (Subject): _____.

In: Thank you for taking part in my study. I'd like to ask you a few questions about your study of English?

Sub: _____.

In: How long have you studied English?

Sub: _____.

In: When did you begin to learn English?

Sub: _____.

In: Where did you study English? Was it in China?

Sub: _____.

In: Have you ever attended reading courses or have you been taught how to read in English formally?

Sub: _____.

In: What is your TOEFL score?

Sub: _____.

In: What is your score on the Reading Section?

Sub: _____.

In: How old are you now?

Sub: _____.

In: Thank you very much. Now would you please read this passage and do what is required in the instructions. Thank you.

Sub: _____.

Appendix D

Second Structured Interview

In: Thank you very much for what you have done in this study. You have done a really good job. It was excellent. Now I'd like to ask you a few more questions about your study of English. First of all, do you find the passage you have just read difficult or easy?

Sub: _____.

In: What are the major problems in your reading of the passage?

Sub: _____.

In: What do you find difficult in your reading of English materials in general?

Sub: _____.

In: What do you do when you encounter a new word?

Sub: _____.

In: How often do you do that?

Sub: _____.

In: What other strategies do you use?

Sub: _____.

In: And how often do you do that?

Sub: _____.

In: What do you do when you don't understand a sentence or a phrase?

Sub: _____.

In: How often do you do that?

Sub: _____.

In: What else do you do?

Sub: _____.

In: Thank you very much again for your help.

Sub: _____.

In: See you.

Appendix E

The Chinese Reading Passage

今「
義，與中

不相類；故自文藝復興以來，政治界有革命，宗教界亦有革命，

革命之賜也。歐語所謂革命者，為革故更新之

倫理道德亦有革命，文學藝術，亦莫不有革命，莫不因革命而新興而進化。近代歐洲文明史，宜可謂之革命史。故曰，今日莊嚴燦爛之歐洲，乃革命之賜也。

吾苟偷庸懦之國民，畏革命如蛇蝎，故政治界雖經三次革命，而黑暗未嘗稍減。其原因之小部分，則為三次革命，皆虎頭蛇尾，未能充分以鮮血洗淨舊污。其大部分，則為盤蛇入精神界根深蒂固之倫理、道德、文學、藝術諸端，莫不黑幕層張，垢污深積，并此虎頭蛇尾之革命而未有焉。此單獨政治革命所以於吾之社會，不生若何變化，不收若何效果也。推其總因，乃在吾人疾視革命，不知其為開發文明之利器故。

孔教問題，方喧嚷於國中，此倫理道德革命之先聲也。文學革命之氣運，醞釀已非一日；其首舉義旗之急先鋒，則為吾友胡適。余甘冒全國學究之敵，高張「文學革命軍」大旗，以為吾友之聲援。旗上六書特書吾革命軍三大主義：曰、推倒彫琢的阿諛的貴族文學，建設平易的抒情的國民文學；曰、推倒陳腐的鋪張的古典文學，建設新鮮的立誠的寫實文學；曰、推倒迂晦的艱澁的山林文學，建設明瞭的通俗的社會文學。

國風多里巷猥辭，楚辭盛用土語方物，非不斐然可觀。承其流者兩漢賦家，頌聲大作，彫琢阿諛，詞多而意寡，此貴族之文古典之文之始作俑也。魏、晉以下之五言，抒情寫事，一變前代板滯堆砌之風，在當時可謂為文學一大革命，即文學一大進化；然希託高古，言簡意晦，社會現象，非所取材，是猶貴族之風；未足以語通俗的國民文學也。齊、梁以來，風尚對偶，演至有唐，遂成律體。無韻之文，亦尚對偶。尚書周易以來，即是如此。『古人行文，不但風尚對偶，且多韻語，故駢文家頗主張駢體為中國文章正宗之說。』（亡友王无生即主張此說之一人。）不知古書傳鈔不易，韻與對偶，以利傳誦而已。後之作者，烏可泥此？」