CHAPTER TWO

LITERATURE REVIEW

As mentioned in Chapter One, the main purpose in this present study is to examine the effects of pre-reading questions and previewing on the reading comprehension. In this chapter, the researcher would like to review the reading problems first, second the models of reading comprehension, then the schema theory on reading comprehension, next the pre-reading guides and reading comprehension, and last the previewing on reading comprehension.

The Reading Problems

A reading problem that readers meet is their linguistic proficiency. As Carrell (1988b) showed, linguistic deficiencies may cause "the inefficient interaction of text-based and knowledge-based processing in ESL reading" (p. 107). Alderson (1984) and Carrell (1991) both pointed out that L2 reading is a reading problem as well as a language problem. According to Carr, Brown, Vavrus, & Evans (1990), poor readers are not able to well distinguish visual patterns nor decode them to meanings. In other words, readers will have difficulty in recognizing words and sentences and this will further impede reading comprehension if they do not have L2 competence to some degree. Clarke's experiment (1980) on native Spanish and ESL reading indicated that good L1 readers may not successfully transfer their L1 reading skills into L2 reading because of their limited second language competence.

According to schema theory research, the more background knowledge readers

have about a text's content area, the better readers comprehend the text (Pearson, Hansen, & Gordon, 1979; Stevens, 1980; Taylor, 1979). Apparently, another problem readers may encounter is a lack of background knowledge or insufficient background information. Goodman (1971) described reading as "a receptive language process" and "a psycholinguistic process," in which readers start reading with the linguistic representations created by the writer and then through the reading process, readers construct meanings of the text from combination between the written symbols and their own prior knowledge. Many researchers (Alderson & Urquhart, 1988; Graves, Cooke, & LaBerge, 1983; Graves & Palmer, 1981; Johnson, 1981, 1982; Steffensen, Joag-dev, & Anderson, 1979) also stressed that prior knowledge affect reading a lot and may facilitate reading comprehension. What's more, Lono (1987) and Nelson (1987) indicated that to know the cultural content of a text that one read is an essential element in reading comprehension and pre-teaching relevant cultural background knowledge before reading facilitates readers' understanding of the reading text. Floyd & Carrell (1987) and Taglieber, Johnson, & Yarbrough (1988) also showed that texts with unfamiliar elements or culture-specific concepts will affect readers' understanding about the texts. However, if readers' prior knowledge is not compatible with the background knowledge presupposed by the texts (Carrell & Eisterhold, 1983), they may misunderstand or incorrectly interpret the meanings embedded in the texts. Therefore, it can be concluded that background knowledge plays a tremendously important role in reading comprehension (Anderson & Pearson, 1984; Aron, 1986; Carrell, 1983a; Rumelhart, 1980).

The Models of Reading Process

The process of reading, which is a complex one, has been examined by research over the last one hundred and thirty years. The research was firstly focused on the

process of L1 reading but now there are more and more researchers trying to figure out the process of L2 reading. Actually, the notion of reading process has altered a lot from the audiolingualism to the psycholingualism. First, the audiolingual model reading aims to reinforce the oral language skill and regards the reading process as decoding a series of linguistic units (Williams, 1983). Then, some researchers thought that reading is a cognitive process. As Goodman (1967) indicated, reading is "a psycholinguistic guessing game." Later, some researchers believed that reading is an interactive process between the reader and the text (Just & Carpenter, 1987; Rumelhart, 1977; Stanovich, 1980). Generally speaking, there are three kinds of reading models proposed by researchers, the bottom-up model (Gough, 1985; LaBerge & Samuels, 1985), the top-down model (Goodman, 1967, 1976; Smith, 1988), and the interactive model (Rumelhart, 1980; Rumelhart & McCelland, 1981). More details about the three models of reading process are explained as follows.

Bottom-up Model

Before 1970s, a quite passive or bottom-up view was pervasive in theoretic work on second language reading. This belief is influenced by the pervasion of audio-lingual method (Carrell, 1988a). Audiolingualism emphasizes listening over reading and speaking over writing and regards reading as a subordinate to oral skills. Hence, reading does not play a leading role and is thought of as a process of transforming written symbols into speech during oral or silent reading (Hayes, 1991).

The bottom-up model, also known as text-driven, or text-based processing, or information processing model, is a lower-level and linear process of reading as well as a passive linguistic decoding process. The word "bottom" means, as Eskey & Grabe (1988) put it, "the physical text on the page." From the viewpoint of the bottom-up model, reading is a text-driven or a text-based activity that starts with recognition of

letters, phonetic elements, words, word groups, sentences, and finally passage meanings (Harris & Sipay, 1985). In other words, this model suggests that readers start reading a passage from the process of the smallest linguistic units to the highest-level ones. Readers process the reading word by word first, phrase by phrase next, sentence by sentence then, and last the whole passage (Gough, 1985). After that, comprehension takes place. As Carrell (1988a) defined, the bottom-up model is a processing in which readers decode individual linguistic units, such as phonemes, graphemes, and words, and figure out the textual meanings from the smallest units to the largest ones. In a word, the bottom-up model is a translating process from the decoding of the detail part to the global part for building up meanings in a text. For learners, it is assumed that master every sub-skill and they will acquire overall reading competency (Gough, 1985). Just as LaBerge and Samuels (1985) concluded, decoding and comprehending are the two skills readers do during the reading process.

However, reading process is not only a process of precise perception and identification of graphic elements. The theories of bottom-up model are thus criticized. The first problem bottom-up model is criticized is that it does not take prior knowledge into consideration during the process of reading comprehension (Stanovich, 1980). The second problem is that bottom-up model of reading fails to account for higher-level processing strategies during reading process (Dechant, 1991).

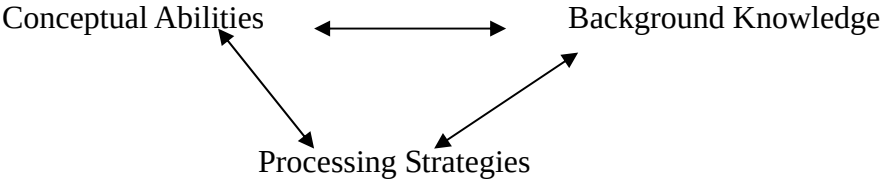
Top-down Model

According to Gough (1985), readers are not guessers in the reading process and they do not predict the text. Apparently, in the view of bottom-up model of reading, readers do not perform the higher-level processing like guessing and confirming the meanings of the text. However, in the view of psycholinguists and top-town

(reader-driven or reader-based) reading theorists, the reading process in real life is not so. Eskey & Grabe (1988) specified that the word "top" is referred to such "higher order mental concepts" as "the knowledge and expectations of the reader." Goodman (1967) pointed out that reading process is not performed in the manner of letter-by-letter and word-by-word and Eskey (1973) also indicated that the bottom-up model is not an adequate reading model because it devalues the role and contribution readers play and make in the reading process. As Goodman (1967) defined, reading is a "psycholinguistic guessing game" in which the readers reconstruct the messages in the text. In this game, readers make use of all the graphonic, syntactic and semantic cues in the text to predict meanings, confirm their predictions, or reject them on the basis of their own, previous experiences and world knowledge (Goodman, 1971, 1973). Similarly, Goodman (1967) and Smith (1988) pointed out that readers start reading with scheme, a general idea, or previous acquired knowledge, and use this scheme to interpret the graphic cues. In other words, readers are not passive participants in the reading process by passively receiving and decoding the information in the text but active roles by actively integrating their background knowledge with the messages resided in the text (Heilman, Blair, & Rupley, 1990).

The basic psycholinguistic model was later elaborated by Coady (1979), who suggested a model in which the ESL or EFL readers' existing prior knowledge interacts with conceptual abilities and processing strategies to generate comprehension (see Figure 1).

Figure 1. Coady's Model of the ESL/EFL Readers (1979)



The conceptual abilities in this model mean general intellectual capacity, and the processing strategies stand for various subcomponents of reading abilities, such as lexical meanings, syntactic information, contextual meanings, etc. As for the background knowledge, Coady (1979) thought it might be able to compensate for syntactic deficiencies at some degree. In this case, readers are active information processors rather than text decoders and reading is a process in which the readers combine textual information with the information they bring to the text (Widdowson, 1979). In this way, reading is just like a conversation between the readers and the text (Grabe, 1988) and in the dialogue, readers make connections between their background knowledge and information embedded in the text. In other words, readers apply their knowledge and experiences to the information presented by the author and make use of their own prior knowledge to reach an understanding of the text and produce comprehension.

Though top-down model of reading is a good explanation to specify the reading process, it de-emphasizes the importance of the bottom-up processing, which accounts for precise and rapid reading (Adams, 1990; Rayner & Pollatsek, 1989). As a result, a more compensating model of reading, the interactive model, is advocated for a more thorough explanation of the process of reading.

Interactive Model

Both top-down and bottom-up models, which are thought of as one-way process, have their own advantages and shortcomings and fall short of being adequate. Some second language reading researchers felt that effective L2 reading requires top-down strategies as well as bottom-up skills (Rumelhart, 1977; Eskey, 1988; Eskey & Grabe, 1988; Carrel, 1988b). Therefore, a compromised cycling model, interactive model, which combines with the merits of the previous two reading models, has come into

the world. Eskey (1988) said that he favored the interactive approach for two reasons. First, “good reading is a more language-structured affair than the guessing-game metaphor seems to imply (Eskey, 1988).” On the one hand, he agreed the importance of the higher-order cognitive skills the top-down theorists advocated. On the other hand, he did not downgrade the significance of language decoding as a major role in the reading process. Second, the interactive model is more likely to account for empirical research that seems to disagree with the basic assumptions of the top-down theory. According to Stanovich (1980), “reading rate is more dependent on the speed with which a reader can recognize words and construct a representation” (p.44), which are bottom-up skills. Moreover, the interactive model of reading is more possible to explain the role of certain bottom-up skills that are essential to successful reading acquisition (Eskey & Grabe, 1988).

Rumelhart (1977) was among the first to propose the interactive model of reading and argued that the lower-level reading skills like translating word by word and the higher-level process like guessing and confirming meanings work together interactively through the reading process. To put it another way, interaction between readers and the text is emphasized and readers will not mainly focus on either the text-based processing (bottom-up) or the reader-based processing (top-down) but integrate different skills in order to have better understanding and more fluent reading process. Also, Widdowson (1979) viewed reading as an act of creation. Readers create meanings by interacting with a text.

In Grabe’s opinion (1988, 1991), the word “interactive” has two different concepts—interaction between the reader and the text and interaction between higher-level and lower-level processes, i.e., between different reading skills. The first concept means that reading is not just a process of identifying information from the text. In the view of Widdowson (1979), reading is combination of textual

information and meanings readers bring to a text. Widdowson's view can be explained that when reading, readers activate the information or knowledge they already have in their minds and the knowledge will further be refined, combined or extended with the new information they get from the text. Grabe (1988) gave a good explanation to this kind of reading as "a kind of dialogue between the reader and the text" (p. 56).

The second concept is interaction between higher-level and lower-level processes, that is, interaction between different skills. The higher-level process is referred to as the top-down strategies while the lower-level process is said to be the bottom-up strategies. The top-down strategies are strategies that readers retrieve, guess, confirm, or construct meanings and information from their own prior knowledge while bottom-up strategies represent individual linguistic units of the text are decoded to extract the meanings and information resided in the text. Some researchers (Gough, 1985; LaBerge & Samuels, 1985) supported the bottom-up model of reading while others (Goodman, 1971; Smith, 1988) advocated the top-down model of processing. Both strategies have their effectiveness and limitations in reading and cannot be focused on only one of them. They should be employed interactively and simultaneously for compensating for each other.

In Grabe's (1988) review of the literature of reading process, there is more than one interactive model. Generally speaking, there are five models proposed. They are McClelland & Rumelhart's (1981) interactive-activation model, Stanovich's (1980) interactive-compensatory model, Taylor & Taylor's (1983) bilateral cooperative model, LaBerge & Samuels' (1985) modified automatic-processing model, and Perfetti's (1986) verbal efficiency model. Both McClelland & Rumelhart's (1981) interactive-activation model and Stanovich's (1980) interactive-compensatory model are mainly based on the process of word recognition. Stanovich (1980) further

specified that good readers use other strategies to compensate for weaker ones while poor readers do not have the ability to employ reading strategies. Taylor & Taylor's (1983) bilateral cooperative model, as its name suggested, manifests two tracks of processes; one is fast and global while the other is slow and analytic, compensating for each other throughout the reading process. LaBerge & Samuel's (1985) automatic-processing model is originally a bottom-up processing, which claims that readers read fluently by recognizing most words automatically. Then a revised model argues that readers will make use of lower and higher levels of processing interactively, depending on their needs. The final model is Perfetti's (1985) verbal efficiency model. He thought reading should be narrowly defined instead of including other elements like thinking and inferential strategies. Therefore, he suggested that three core elements, lexical access, proposition integration, and text model building, form his verbal efficiency model. For Perfetti, these three processing skills are processes specific to reading.

Schema Theory and Reading Comprehension

"Advance organizer," first proposed by Ausubel (1961), is explained as "introductory material at a higher level of abstraction, generality, and inclusiveness than the learning material itself" (p. 252). In other words, if readers are supported with a higher level of relevant introduction of the about-to-learn text, they will have a chance to relate new information to their prior knowledge and learning will be facilitated. Ausubel (1968) also proposed that "the most important single factor influencing learning is what the learner already knows" (p. 5) and Hewett (1990) mentioned that "reading requires prediction, and prediction requires knowledge" (p. 67). Here, both "what the learner already knows" and "knowledge" mean the schemata learners already possess. Schemata, whose singular form is schema, were

first extended by Bartlett (1932) as “an active organization of past reactions, or past experience” (p. 201) and were “the building blocks of cognition” and “the fundamental elements upon which all information processing depends” (Rumelhart, 1980, p. 33). That is, when encountering a text, readers tend to interpret the meanings of the text by using their schemata, also known as prior knowledge, in relation to the text or to associate previous old information with new information and build up meanings from the text.

The role of background knowledge in schema theory is widely discussed in reading comprehension (Bartlett, 1932; Carrell, 1983a, 1984a; Floyd & Carrell, 1987; Rumelhart & Ortony, 1977; Rumelhart, 1980). Schema theorists emphasize a lot the significance of readers’ prior knowledge in language comprehension. According to Rumelhart (1980), readers’ prior knowledge always interacts with the new information in the text during the reading process. Carrell (1984a) verified the schema-theoretic perspectives that the meanings of the text do not embed in the text itself but in the interaction between readers and the text. To be precise, meanings of a text should be extracted and new information should be built up through the interaction between readers’ prior knowledge and the text itself.

It is obvious that readers play an extremely active role in the process of reading (Adams & Collins, 1979; Anderson & Pearson, 1984; Barnitz, 1986), and understanding the meanings of a text is an interactive process in which readers’ existing knowledge and the text cooperate to create comprehension (Rumelhart, 1977; Stanovich, 1980). Johnson (1982) indicated that background knowledge has clearer effects on reading comprehension than vocabulary difficulty and Carrell & Eisterhold (1983) proposed that related schemata must be activated. Carrell (1983b) also pointed out that failing to activate or get access to the appropriate schema may influence ESL reading comprehension. Accordingly, it can be concluded that

readers' abilities to activate their existing background knowledge and relate it to the information in the text are quite crucial to full comprehension of the text.

In addition to the activation of prior knowledge, providing readers with appropriate background knowledge is helpful to reading comprehension. Carrell & Eisterhold (1983) found that if a mismatch exists between readers' prior knowledge and the information in the text, misunderstanding may occur. Therefore, it is necessary to offer readers relevant background information before reading. Gatbonton & Tucker (1971), Johnson (1982), and Floyd & Carrell (1987) all affirmed that background knowledge is useful in comprehending and remembering text information.

According to Carrell (1983c), there are two kinds of schemata, formal schemata and content schemata. Formal schemata are referred to the background knowledge of the formal rhetorical organizational structure of a text, i.e., the structure of poetry, short stories, newspaper articles, expository texts, etc., while content schemata are background knowledge of the content area of a text, i.e., information or knowledge about the text.

Carrell (1984c) mentioned that research on discourse or text comprehension has shown that "comprehension is determined not only by the local effects of sentences or paragraphs, but also by the overall suprasentential or rhetorical organization of a text" (p. 87). Every type of text, like stories, fables, expository and scientific texts, has its own conventional structure and the knowledge of these convention structures may help readers understand the text and recall it later (Kintsch & van Dijk, 1978; Meyer, 1975; Thorndyke, 1977). This kind of knowledge, according to Bartlett (1932), is called a schema or a more specific name by Carrell (1983c), a formal schema. Carrel (1984b) also found that different types of rhetorical organization of expository prose in English have an impact on ESL readers with different native language

background. The results in this study show that some types of rhetorical organization are easier for nonnative readers to recall. Other results in Carrell's (1984c, 1985) research revealed that formal schema, or text structure, has a major role to play in reading comprehension. Also, Hinds (1983) indicated that, for different groups of readers, there are contrasting effects on different texts organized in a typical American English pattern and those in a typical Japanese pattern.

As for content schemata, Carrell & Eisterhold (1983) argued that one reason that content schemata do not exist in readers' mind is that the schema is culturally related. Research by Steffensen, Joag-dev, & Anderson (1979) and Johnson (1981) showed that a text with the content of readers' own cultural background knowledge will be easier to understand than that with less familiar and distant culture. Hewett (1990) concluded that reading culturally weighted L2 material is more difficult than reading culturally unweighted material. Johnson's (1982) study also revealed that a text with a familiar topic is recalled better and more by ESL readers than a text with an unfamiliar topic. Furthermore, Alderson & Urquhart's (1988) research proved that students from a particular discipline will do better on tests with areas of their own subject discipline than those from other disciplines or outside the former academic field. In short, academic background or discipline-specific effect may have a major role to play in measuring reading comprehension.

Pre-reading Guides and Reading Comprehension

Reading is important to second language learners and so are pre-reading guides. Pre-reading guides are something like advance organizers, proposed by Ausubel (1961), which provide scaffolding, or the ideational framework, for readers to connect what they know with what they have to know in a text and thus facilitate reading comprehension (Clark & Bean, 1982; Harris & Sipay, 1985). Advance organizers

are often prepared by the author or the teacher and are usually offered in the form of written summaries, such as outline, summary, a semantic map, a structured overview, or a preview guide with the main idea (Dechant, 1991).

Pearson-Casanave (1984) divided pre-reading activities into two categories. The first category is referred to those directly derive from the reading passage as discussing titles, illustrations, headings, and charts, as well as skimming and scanning. The second category is made up of those that are external to the text. This kind of guides can be non-communicative activities or communicative activities; these refer to such activities as student pairs, small groups, class discussion, and outside contacts, and those are interventions using slides, videos, films, pictures, lectures, and field trips.

There are some studies examining the effects of pre-reading activities on learners' comprehension. First, a study by Simonsen and Singer (1985) indicated that a brief passage prior to a longer reading selection is helpful to students' understanding of the longer text. Second, studies by Hall (1990), Marino, Gould, & Haas (1985) showed that imagining and writing something relevant to the topic of the upcoming text will activate students' prior knowledge and improve reading comprehension to some degree. Third, Britton, Glynn, Muth, & Penfield (1985) carried a study in which three groups of undergraduates, one group with explicit pre-reading guides, another with vague guides, and the other without guides, were asked to read a five-page expository text. The results showed that the subjects in the group with explicit pre-reading guides recall more information from the text than the other two groups. Fourth, a study administered by Pan (2003) pointed out that the participants are significantly beneficial from pre-reading questions on reading comprehension tests, especially on the comprehension of main idea. Just as Carrell (1988b) indicated, "pre-questioning functions to motivate students to read what

follows for a purpose, that is, to gain the requisite information to answer the question. Being motivated is one of the most important factors that can help students in the process of reading" (p.247).

In conclusion, pre-reading guides are, in some ways, useful and helpful to learners' understanding of the about-to-read articles. In other words, learners should be given opportunities to be better and adequately equipped with knowledge related to the topic of the upcoming passages. In order to prepare students with relevant and helpful information, teachers are suggested to help students to comprehend a text "by creating conditions under which appropriate knowledge is brought to awareness and applied (Langer, 1981, p. 156)" and encouraging students to think about the topic and make predictions before they read. By providing pre-reading activities and building proper background knowledge, learners are able to predict as they read (Goodman, 1967) and can become better readers and comprehend more as well.

Previewing and Reading Comprehension

Most studies on previewing lay emphasis on the efficacy of previewing on the English native speakers' reading comprehension in their native language, i.e., English. Previews, which were defined by Graves, Cooke, & LaBerge (1983), are "introductory material presented to students before they read specific selections," and the function of previews, as Graves & Cooke (1980) put it, is "to build background information, thereby providing a framework for the new material" (p. 39). A preview consists of three key components:

> First, the teacher gives the students a framework for understanding upcoming texts. Second, the students engage in a brief discussion about the topic of each upcoming text. Third, the teacher gives the students both

> specific information and general information about the content of upcoming texts, including “key elements of plot, characters, point of view, tone, setting, and perhaps theme,” as well as “definitions of difficult vocabulary, translations of foreign phrases, and explanations of potentially difficult concepts.” (Graves, Cooke, & LaBerge, 1983, p. 264)

Generally speaking, a preview of a story, according to the quote from Graves, Cooke, & LaBerge (1983) and the guidelines by Graves, Prenn, & Cooke (1985), begins with a question or a statement to get readers’ attention and interest, then briefly describes the specific information important to the story, introduces the characters, depicts the plot up to the climax, and gives directions for reading the story. To put it another way, previews are presented to readers prior to a passage in order to give them in advance the specific and important information of the reading selection, and they are viewed as the bridging of the background knowledge of the upcoming article, leaving readers with less new information to pick from the reading text (Graves, Cooke, & LaBerge, 1983; Dole, Valencia, Greer, & Wardrop, 1991). Apart from being the prior knowledge essential to the understanding of the about-to-read text, previews are helpful in focusing readers’ attention exclusively on the most important information (Dole, Valencia, Greer, & Wardrop, 1991).

Graves & Cooke (1980) were the first to attest the effectiveness of previewing on story comprehension of L1 readers. Their findings verified the positive effects of previewing on difficult short stories by eleventh grade American readers. Later, similar studies were done by Graves & Palmer (1981) and Graves, Cooke, & LaBerge (1983), and both of the two studies showed that readers, fifth, sixth, and eighth graders, with a preview treatment outperformed those with a no-preview treatment on their performance of multiple-choice questions and oral recall. Then, an experiment

carried out by Neuman (1988) also gave robust evidence to the facilitation and contribution of previewing to grade readers' reading comprehension. However, a finding different from the previous three studies is that without the teacher's assistance and guidance, previewing does not do any good to the readers' comprehension on difficult stories (Neuman, 1988).

Except for the effects of previewing on L1 readers, two studies, taking EFL learners as targets, can be found in the reading literature. The first research was conducted by Chen & Graves (1995) on the effectiveness of previewing and providing background knowledge on Taiwanese college students' reading comprehension of American short stories. The results reveal that previewing contributes greatly to the EFL learners' comprehension performance of narrative texts, and as a whole, EFL readers enjoy and welcome the previewing. The second study, done by Huang (2003), also attested the efficacy of previewing on Taiwanese technological university students' reading comprehension on stories. The main findings of Huang's study are the same with those in the researches discussed above. What makes the study different from the previous ones is that Huang further pointed out the effects of previewing on comprehension at different levels and found that previewing is most effective for EFL readers in three aspects, "identifying main ideas and details, deciding exact meanings of unfamiliar words from context, and making inferences about what was not explicitly stated in the story" (p. 77).

To sum up, in the empirical studies, the implement of previewing on reading comprehension of difficult short stories is tested and proved to be facilitative to both L1 readers and EFL learners on their overall reading performance.