

Chapter Two

Literature Review

This chapter contains a review of literature pertaining to listening comprehension in EFL environment. First, the importance of listening comprehension is discussed. Second, difficulties in listening comprehension for EFL learners are illustrated. Third, listening comprehension processing is discussed. Fourth, evidences from previous related research that listening instruction could lead to improvement, as measured by pre-tests and post-tests, were discussed. Fifth, nature and characteristics of children's learning are reviewed. Lastly, research questions of the present study are stated.

The Importance of Listening Comprehension

The increased importance of listening comprehension in language learning may be attributed largely to the development of communicative language teaching approach, which attempts to prepare learners to transfer their classroom skills to real-life context, over the past three decades (Asher, 1977; Krashen, 1982; Omaggio Hadley, 2001; Vande Berg, 1993). There has been a shift from non-teaching listening comprehension in the audio-lingual period to teaching listening comprehension in a strategy-based approach (Mendelsohn, 1998). Before World War II, the teaching of reading was given the most attention while that of listening comprehension was the most infertile and the least understood language skill (Winitz, 1981). Under the predominant audio-lingual approach in the 1960's and the early 1970's, the teaching of listening comprehension was still minor (Wu, 2004). With the increasing interest toward communicative language teaching approach, several researches revealed the importance of listening comprehension (Brown & Yule, 1983; Faerch & Kasper, 1986; Feyten, 1991; Long, 1985). Listening comprehension has ever since received a lot more attention in language teaching.

On the one hand, technological advances and the growing awareness of the importance of listening in the world have made listening even more crucial in communication process (Mendelsohn, 1998). In current globalized society, with universal and massive exposure to radio, television, satellite broadcasts, and internet, individuals are expected to be increasingly prepared to receive information through listening and orality, more than ever before (Dunkel, 1991; Vande Berg, 1993; Elkhafaifi, 2005).

On the other hand, some scholars (Min, 1996; Nord, 1981; Wintiz, 1981) considered proficiency in listening comprehension as a prerequisite for acquiring production language skills, namely speaking and writing. The comprehension-based teaching approach advocates that students at the beginning level should be allowed to keep silent until they feel safe and ready to produce the target language (Min, 1996). Therefore, it can be reasonably inferred that students are probably engaged in listening before they are able to speak and write in the target language, which means that second language instruction at a beginning level should focus on developing learners' listening comprehension ability (Min, 1996). Still, other scholars (Dunkel, 1991; Long, 1985; Rost, 1990; Vogely, 1999) stressed that listening is important because it provides input as the raw material for learners to process in language learning. Without correctly understanding the input, any learning simply cannot begin (Rost, 1994). Moreover, the failure of listening comprehension of the target language is an impetus, not merely an obstacle, to language learning as well as to communication interaction (Rost, 1994).

The recognition of the importance of listening comprehension has resulted in an increased number of listening activities in students' textbooks and even in comprehension-based methodology texts designed specifically for teaching listening

(Anderson & Lynch, 1988; Rost, 1990; Underwood, 1989; Ur, 1984). Several studies have found that through the use of effective pre-listening activities, instructors can increase students' understanding of the listening passages, which in turn develops their listening proficiency and contributes to their mastery of the target language (Elkhafaifi, 2005; Herron, 1994; Min, 1996; Richards, 1983; Rubin, 1994; Teichert, 1996; Vande Berg, 1993).

Difficulties in Listening Comprehension for EFL Learners

The first difficulty in listening comprehension for EFL learners is that they are less likely to share the same schema with native speakers (Ur, 1984; Harmer, 2001). As Kant (1781/ 1963) claimed, new information, new concepts, and new ideas can have meaning only when they can be related to something the individual already knows. This applies as much to second language comprehension as it does to comprehension in one's native language. The empirical research in the related field has come to be known as *schema theory* and has demonstrated the truth of Kant's original observation and of the opening quote from Anderson et al (1977). Schema theory research has shown the importance of background knowledge in language comprehension (Bartlett, 1932; Rumelhart, 1980; Rumelhart & Ortony, 1977). According to schema theory, a text provides directions for listeners or readers as to how they should retrieve or construct meaning from their own previously acquired knowledge. This previously acquired knowledge is called the listeners' or readers' *background knowledge*, and the previously acquired knowledge structures are called *schemata* (Bartlett, 1932; Adams & Collins, 1979; Rumelhart, 1980). The prior knowledge, or schema, that a L2 listener brings to the listening task plays a vital part in interpreting the material, and should be considered in the evaluation of learners' listening comprehension (Chiang & Dunkel, 1992; Long, 1990; Raphan, 1996). Based

on schema theory, the process of interpretation and comprehension is guided by the principle that every input is mapped against some existing schema and that all aspects of that schema must be compatible with the input information (Carrell & Eisterhold, 1983). Efficient language comprehension requires the ability to relate the textual input to one's own background knowledge, which means that comprehending words, sentences, and entire texts relies not merely on one's linguistic knowledge but also the knowledge of the world (Carrell & Eisterhold, 1983). According to Richards (1983), much of our knowledge of the world is organized around scripts, which is our memory about particular situations, the goals, participants, and procedures commonly associated with them, and the information needed to comprehend is therefore not explicitly present in the utterance but is provided by the listeners from their repertoire of scripts. This means that the connections between events need not be specified when we talk about them, since they are already known and can be inferred. Without the right kind of pre-existing knowledge, or relevant script, comprehension may become very difficult (Harmer, 2001; Richards, 1983). Non-native speakers may have a different shared knowledge of cultural reference and discourse patterning in their own language and culture; their individual scripts may differ in certain degree and content from target language scripts, and that poses additional problems for some foreign language learners who have to work doubly hard to understand what they hear. (Harmer, 2001; Richards, 1983; Underwood, 1989).

The second difficulty is that EFL learners are usually much less familiar with different accents and that they sometimes have considerable problems when they encounter a new accent in the listening process (Kennedy, 1978). Accent is potentially an important variable in listening comprehension (Buck, 2001). Many foreign-language learners who are used to the accent of their own teacher are

surprised when they find they have difficulty understanding someone else (Ur, 1984). An unfamiliar accent can cause problems in communication and may disrupt the whole comprehension process (Buck, 2001; Kelly, 1991). Based on the study of Anderson-Hsieh and Koehler (1988), it is found that the stronger the accent, the lower the listeners' comprehension. Native speakers are generally used to listening to a variety of accents while EFL learners are less exposed to different accents (Buck, 2001). Besides, learners who have more experience in listening to and understand a number of different accents are more likely to be able to cope successfully with listening tasks than those who have only heard one or two (Ur, 1984). Therefore, it seems reasonable to infer that it generally takes a L2 learner much longer to adjust to the voice if the accent is very different from any with which he is familiar than a native speaker (Buck, 2001; Kelly, 1991).

The third difficulty is that EFL learners are less capable of perceiving prosodic features in English speech which have a direct impact on how listeners chunk and interpret discourse segments (Buck, 2001; Lynch, 1998; Rubin, 1994). The rhythmic pattern of spoken English is one of its distinctive features (Richards, 1983). Unlike many languages in the world that are *syllable-timed*, which means that the length of time required to pronounce an utterance depends upon the number of syllables it contains, English is a *stressed-timed* language (Buck, 2001; Richards, 1983). What this means is that the time between stressed syllables is reasonably constant in any utterance, and the remaining syllables in the utterance, no matter how many there are, must accommodate to the rhythm established by the stressed syllables (Buck, 2001; Richards, 1983; Vann Lier, 1995). As a stressed-timed language, the following English sentences would take about the same amount of time to articulate, even though the number of syllables contained in each sentence is very different (Richards,

1983; Vann Lier, 1995):

The CAT is INTERested in proTECTing its KITTens.

LARGE CARS WASTE GAS.

The result of the stress-timed language is that the words between the stressed syllables are pronounced very quickly, with no stress or mild stress, and if there are more words they are pronounced even quicker to fit in the short time, subjecting to considerable phonological modification (Buck, 2001). Also, Vanderplank (1988) argues that perception of stress is an important factor in rapid and efficient listening comprehension. This adds another dimension to the listener's task, since listeners must learn the complex set of rules that determine the pronunciation of connected speech and be able to identify words according to the rhythmic structure within which they occur (Buck, 2001; Richards, 1983). Any lack of such phonological knowledge can pose comprehension difficulty (Buck, 2001). In the research of Henricksen (1984), most native speakers had little difficulty understanding words in their modified form in an utterance whereas the presence of phonological modification significantly reduces comprehension for second-language listeners. In addition, Vanderplank (1985) found interesting differences in native speakers' and non-native speakers' ability to perceive stress by addressing that "NSs were in general agreement as to sentence stress location, while only a small number of NNSs agree with NS judgments as to stress location, and the ability to perceive stress location was not significantly linked to level of English ability in learners" (p. 38). Still, Bond and Garnes (1980) agree that speech perception is also subject to what they call "heuristic strategies" such as paying attention to stress, intonation patterns, and stressed vowels. Therefore, listeners need to know how the sound system works in English speech, in order to be able to process natural listening task in real time (Buck, 2001).

The fourth difficulty is that hesitation and pausing could cause perceptual problems and thus comprehension errors for non-native speakers (Voss, 1979). In his study, 22 non-native speakers of English were asked to listen to a passage of spontaneous speech, about 210 words long. Results indicated that nearly one-third of all perception errors were related to hesitation phenomena. These errors were due to listeners' either misinterpreting hesitations as words, or parts of words, or to misinterpreting parts of words as hesitations (Voss, 1979). On the other hand, some researches indicated that hesitation and pausing aid listening comprehension (Blau, 1990; Blau, 1991; Dunkel, 1988; Friedman & Johnson, 1971; Johnson & Friedman, 1971). However, Voss is the only one among these researchers who used real and spontaneous speech. All of the other studies used a written text read aloud. Voss (1979) suggests that native speakers are usually not bothered by hesitation phenomena since they possess strategies to recognize and process such phenomena while focusing on meaning, and non-naïve speakers get stuck in bottom-up processing of phonetic utterances that do not affect meaning, while native speakers discard these utterances in favor of top-down processing. There are indications that in some cases hesitation and pausing can aid listening comprehension, and in others they may cause problems (Buck, 2001). In the researches of Friedman & Johnson (1971) and Johnson & Friedman (1971), pauses inserted at meaningful syntactic boundaries can benefit comprehension, whereas random pauses do not. When one-second pauses were introduced into a text at the juncture between clauses, comprehension improved, while pauses inserted randomly into the text resulted in lower levels of comprehension (Friedman & Johnson, 1971; Johnson & Friedman, 1971). Hence, the ability to comprehend spoken English must include the ability to deal with hesitation and pausing (Buck, 2001).

Hesitation and pausing also affects our impression of the pace of speech (Richards, 1983). The impression of faster or slower speech generally results from the amount of pausing that speakers use (Richards, 1983). Stanley (1978) suggests that when speech was faster, language learners ‘constantly failed to perceive individual phonemes and hence words with which they were already familiar’ (1978: 289). Comprehension declines as the speakers talk faster, and the weight of the evidence suggests that the decline in comprehension is rather slow until a threshold level is reached, at which time an increased speech rate leads to a much more rapid decline in comprehension (Buck, 2001). Griffiths (1990) found potential evidence that speech faster than two-hundred word per minute (w.p.m.) is difficult for lower-intermediate learners to understand. He found that this level of students perform best at 127 w.p.m.. In addition, Griffiths (1992) investigated the effects of three different speech rates (127, 188, and 250 w.p.m.) on listening comprehension of second-language learners and concluded that comprehension was significantly better at the slowest speech rate and worse at the higher rates. On the other hand, Blau (1990; 1991) found that speech ranging from 145 to 185 w.p.m. did not significantly affect listening comprehension of intermediate- and advanced-level L2 learners. As for the general concept of speech rate, Rivers (1981) cites the following figures:

Fast: above 220 w.p.m.

Moderately fast: 190-220 w.p.m.

Average: 160-220 w.p.m.

Moderately slow: 130-160 w.p.m.

Slow: below 130 wpm

Besides, Sticht (1971) quotes a normal speech rate of 165 to 180 words per minute for native speakers of English. Based on the researches abovementioned, speech rate is

one of the variables that affect listening comprehension, which may relate to text variables, such as vocabulary, syntax or topic, type of text used, and amount of background knowledge required (Buck, 2001; Rubin, 1994).

The fifth difficulty is that learners tend to suppose they have to completely understand what they hear, hence causing anxiety (Rubin, 1994; Ur, 1984). Most foreign-language learners run into a psychological problem: they have a kind of compulsion to understand everything, even things that are not important, and they feel discouraged and may even completely give up listening if they come across an incomprehensible word (Rubin, 1994; Ur, 1984). Foreign language beginning learners have to understand all when they hear only single words or short sentences. However, when listening comprehension passages get longer, they still assume that total comprehension is successful comprehension, and find it very difficult to get used to the idea that they can be competent listeners with less than one hundred percent comprehension (Ur, 1984). From the anecdotal evidence in the research of O'Malley et al. (1989), it is found that "...effective listeners seemed to be aware when they stopped attending and made an effort to redirect their attention to the task" (p. 428) and "ineffective listeners reported that when they encountered an unknown word or phrase in a listening text, they usually just stopped listening or failed to be aware of their inattention" (p. 428). Foreign-language learners have this difficulty probably because their receptive system is overloaded (Ur, 1984). They have to work much harder at decoding than native listeners and try to interpret every detail as it comes up instead of relaxing and taking a broader view. Compared with reading and writing, listening is more stressful for learners since it involves serious time constraints on processing, which cause learners' anxiety (Shohamy & Inbar, 1991; Ur, 1984; Wu, 2004).

Listening Comprehension Processing

Most models of listening perception in language learning incorporate what is usually referred to as top-down, bottom-up and interactive processing (Clark & Clark, 1977; Hughes, 1989; Marslen-Wilson & Welsh, 1978; Oakeshott-Taylor, 1977; Rivers, 1966; Rumelhart, 1977; Samuel, 1981; Shohamy, 1991; Tsui & Fullilove, 1998; Van Dijk & Kintsch, 1983).

Top-down processing.

In top-down processing, the listener needs to use their pre-existing knowledge to interpret or get a general view of the listening passage and to create appropriate and plausible expectations of what they are about to come across (Harmer, 2001; Goodman 1967; Shohamy & Inbar, 1991; Smith 1971). Top-down processing occurs as the perceptual system makes general predictions based on general schemata, or prior knowledge, and then searches the input, either visual or auditory, for information to fit into, or verify these predictions, and thus top-down processing is *conceptually-driven* or *knowledge-based* (Carrell & Eisterhold, 1983; Shohamy & Inbar, 1991). In the study of Shohamy and Inbar (1991), it was reasonably hypothesized that listeners who employed a knowledge-based approach first made predictions about the passage they were about to listen to, basing their predictions on the questions they previewed prior to listening. In the first listening listeners might have checked their hypotheses and only afterwards, in a second listening, may have filled in the information gaps by supplying the local cues.

Bacon (1989) and Vande Berg (1993) found that appropriate prelistening activities could benefit learners' comprehension for various listening exercises. Advance organizers, such as brainstorming (Vande Berg, 1993), illustrations and key words (Teichert, 1996), picture prediction (Harmer, 2001) and making inferences after

listening to a series of sentences (Brown, 2001), can be used to facilitate learners' top-down processing and help them be engaged in listening tasks.

Bottom-up processing.

In bottom-up processing, the listener focuses on individual words and phrases by decoding the linguistic input rapidly and accurately to refute implausible interpretation, and achieves understanding by combining these detailed elements together to build up a whole view of the listening passage (Harmer, 2001; Carrell 1983, 1988; Carrell & Eisterhold 1983; Rost 1990). Thus, bottom-up processing is *data-driven* or *text-based* (Carrell & Eisterhold, 1983; Rubin, 1994). There are two types of comprehension strategies identified by Van Dijk and Kintsch (1983): one is local strategies which require learners' attention to relations and links between the facts denoted by local clauses and sentences, and the other is global/ macro-strategies which require a focus on the overall coherence, gist or topic of a text. Based on the statements abovementioned, it can be reasonably inferred that the local strategies is related to bottom-up processing while the global/ macro-strategies is related to top-down processing. Kelly (1991) proposed that in the early stages of foreign language learning, learners rely very much on bottom-up processing when listening and only as they progress in regard to the proficiency and skills in the foreign language do they bring into semantic and other knowledge related to top-down processing.

Some bottom-up prelistening activities were proposed by several researchers to facilitate listening comprehension. Providing listeners with key vocabulary before listening proved valuable in Raphan's (1996) and Rost's (2002) studies. Harmer (2001) mentioned a bottom-up processing activity of finding differences between a written text and a recorded account of the same events that can be implemented in teaching

listening. Another bottom-up activity for beginning listeners is to listen to a series of sentences and then circle one (out of three) verb forms contained in the sentences (Brown, 2001).

Interactive processing.

Listening comprehension is viewed by some researchers as interactive process between top-down and bottom-up processing and as a continuous modification of a developing interpretation in response to incoming information and pre-existing knowledge (Brownell, 1996; Buck, 1991; Harmer, 2001; Shohamy & Inbar, 1991; Tsui & Fullilove, 1998; Yeh, 1997). Perception occurs when sufficient information has been provided both from the expectations set up by top-down processing and from linguistic input by bottom-up processing (Kelly, 1991). According to Kelly (1991), if the sound signal is weak, obscured or incomplete, the listener will probably make greater use of top-down processing; similarly, it is when the listener's expectations are low or not sensible that he will need to rely more on the sensory level and to hear clearly what is being said by bottom-up processing, and such view of perception processing would, furthermore, probably fit in with almost all current models of auditory speech perception. Similarly, some studies have indicated that effective listening comprehension takes place when the listener can successfully monitor their interpretation by constantly checking it against the incoming linguistic cues and to modify their hypotheses accordingly (Tyler & Warren, 1987; Buck, 1990). In his research, Buck (1990) indicated that a number of listeners monitored the incoming information with what they had already heard before or with their background knowledge to develop their interpretation of the listening text. Further, there were instances in his study that serious comprehension problems had occurred when listeners failed to notice their developing interpretations were incompatible with the

incoming information. In addition, O'Malley, Chamot, and Kupper (1989) as well as Wolff (1987) indicated that bottom-up processing is only fragmentary for efficient EFL listeners; they activate more L1 knowledge in the form of schemata and use both top-down and bottom-up strategies to construct meaning. Hildyard and Olson (1982) found that efficient listeners and readers utilize the knowledge-based interactive mode of text processing, while low level students relate mostly to local details. According to Rumelhart (1980), both top-down and bottom-up processing should be occurring at all levels simultaneously: bottom-up processing ensures that the listeners will be sensitive to information that is novel or contradictory to their ongoing hypotheses about the text; top-down processing helps the listeners to resolve ambiguities or to select between alternative possible interpretations of the incoming data.

Effectiveness of top-down and bottom-up processing.

There is ongoing discussion about the role of top-down and bottom-up processing in listening comprehension, but little could we infer whether top-down or bottom-up processing is more important to a listener. Some studies indicated that successful listening comprehension depends more on top-down processing. In the researches of Carrell & Eisterhold (1983), Conrad (1981, 1985), Hildyard & Olson (1982), Kelly (1991), Meyer & McConkie (1973), Rumelhart (1983), Shohamy & Inbar (1991), Van Dijk & Kintsch (1983), it is found that skilled listeners, like proficient readers, use a knowledge-based mode of text processing, namely top-down processing, whereas less-skilled listeners and readers both attend mostly to local details as in the bottom-up processing. Similarly, Voss (1984) found that "successful speech perception depends on an active reconstruction process applying top-down strategies to the acoustic input, i.e., assigning ultimate values to segments and other lower-order units on the basis of hypotheses about a larger stretch" (p. 148). In

Weissenreider's (1987) study, schemata which are crucial in top-down processing were found to be beneficial in listening comprehension. Her results show that both textual schemata (knowledge about the newscast processing) and content schemata (topic familiarity with specific news) aid the listening comprehension of nonnative speakers, particularly when participants are capable of incorporating cognitive strategies. Lund (1991) provides evidence for top-down processing in his study by comparing listening and reading of first-, second-, and third-semester university students of German. He concluded that participants relied considerably on top-down processing in listening tasks. Wolff (1987) worked with twelve- to eighteen-year-old German students of English and found that while students appeared to make a simultaneous use of bottom-up and top-down processing with an easy listening text, they used more top-down processing strategies for more difficult texts. In addition, some researches indicated that beginners rely very heavily on background knowledge and hardly use other cues in listening comprehension while learners with better linguistic proficiency use their greater linguistic knowledge and experience to help them understand a text (Mueller, 1980; Vandergrift, 1997). Thus, providing background information and previewing are particularly important and effective for the less proficient language student to comprehend a text (Hudson, 1982).

Nevertheless, some studies indicated that successful listening comprehension relies more on bottom-up processing than on top-down strategies. Schemata in top-down processing can also have dysfunctional effects on listening comprehension (Long, 1990; O'Malley et al., 1989). In Long's (1990) study, participants completed a survey of their background knowledge of two topic used, namely, gold rush and rock groups, and he found that participants overextended their gold rush schemata onto a set of data that were clearly incongruent. It is clear, then, that schemata can hurt, as

well as help listening comprehension and it can also be inferred that linguistic knowledge plays a prominent role in comprehension when appropriate schemata are not available to the listener (Long, 1990). Similar misapplications of background knowledge are reported as well by O'Malley et al. (1989) and Tsui & Fullilove (1998). The findings in Tsui & Fullilove's study (1998) revealed that bottom-up processing is more important than top-down processing in discriminating listening performance of L2 learners on tests. There were two variables in Tsui & Fullilove's study: the schema type of the aural text and the question type. The schema type of the listening text includes: first, "non-matching" schema type in which the schema activated by the initial acoustic input discords with the subsequent acoustic input; and second, "matching" schema type in which the schema activated by the initial acoustic input accords with the subsequent acoustic input. According to Tsui & Fullilove, for test items with "non-matching" schemata, if subjects were unable to process subsequent linguistic input which contradicted the initial schema activated and revise it accordingly, they would not be able to have the correct comprehension. In other words, if subjects were weak in bottom-up processing, they would not be able to get the correct answer. From their study, Tsui & Fullilove suggested that less-skilled listeners need to learn to become less reliant on guessing from contextual or pre-existing knowledge and to master on rapid and accurate decoding of the linguistic inputs. Further, Bacon (1992) found that students used more top-down strategies with the more familiar passage than with the less familiar passage. She suggested that listeners resort to more "text-based" or bottom-up strategies on more difficult text. Also, in the study of Carrell (1983), ESL participants were found to process the text by first utilizing their sub-schemata (local processing) and then proceeding to schema type, global processing.

Evidences from Previous Related Research

Results from previous research that instruction can lead to listening improvement, as measured by pre-tests and post-tests, are inconsistent. On the one hand, there were no significant improvement in the studies of Johnson and Long (2007), Ozeki (2000), O'Malley et al. (1985), Seo (2000), and McGruddy (1995). Johnson and Long (2007) assessed listening competency of college students through the Watson-Barker Listening Test (Watson & Barker, 2000). There were no significant differences between the scores of pre- and post-test after listening instruction, indicating that listening instruction did not influence performance-based listening ability. In Ozeki's (2000) study, Japanese college students made improvement in listening, but limited to certain extent in light of pre-test and post-test. Similarly, O'Malley et al. (1985) found differences, but not statistically significant, in the scores at the post-test of ESL learners who received different types of listening instruction. As for Seo's (2000) study, participants in the experimental group appeared to improve mainly in the use of bottom-up processing, with the top-down strategies of inferencing and elaboration apparently less sensitive to instruction. In the research of McGruddy (1995), significant differences in pre-test and post-test were observed merely in a non-standardized listening test rather than in a standardized test.

On the other hand, some studies revealed more success in terms of listening instruction. In the study of Thompson and Rubin (1996), the experimental group of third-year university learners of Russian made significant improvement over the control group in the video test. In the study of Nichols, Brown and Keller (2006), the trained group of 31 freshman students made significant gains in scores during the period of listening instruction. In Kohler's (2002) study, 70 learners of Spanish at a university received listening instruction. Their listening comprehension significantly

increased, compared with the nonintervention group. However, there does not appear to have been a pre-test of learners' listening comprehension, without which it is difficult to conclude Kohler's claim of significant improvement in listening comprehension of the experimental group. In addition, in the study of Graham and Macaro (2008), 151 senior high school students of French as a foreign language in England were targeted, and a positive impact of listening strategy instruction was observed. Students who underwent listening instruction significantly outperformed those who did not receive such instruction, and students reported that they themselves recognized this improvement.

Characteristics of Children's Learning

Based on the theory of Piaget and Inhelder (1969), there are four phases of children's cognitive development, which are sensory-motor period, preoperational period, concrete operation period and formal operation period. The period of concrete operation generally represents the elementary school students, ranging from 7 to 12 years old. Children in the concrete operation period begin to think logically. Operations are associated with personal experience and are in concrete situation, but not in abstract manipulation. Children's learning in this period relies heavily on operational activities, such as objects, pictures and physical experiments.

Another theory concerning children's learning is the scaffolding theory (Wood, Bruner, & Ross, 1976) which was developed based on the concept of zone of proximal development proposed by Vygotsky (1978). Zone of proximal development refers to the differences between the level of actual development and the level of potential development; the level of actual development means children's actual independent problem-solving competence while the level of potential development means children's problem-solving competence developed either through the leading

or guidance from adults or instructors or through the collaboration or cooperation with more competent peers (Wertsch, 1984). The zone, or the difference, of proximal development does not mean a fixed distance or concrete space of learning; rather, it refers to the possible, learnable scope created by the interaction between people and it changes with the development of individuals (Cole, 1985; Moll, 1990). Scaffolding, when applied in teaching practices, generally refers to the development of learners' gradual comprehension of knowledge through the interaction between the instructor and the learners (沈, 民 86; 單, 民 82; & 潘, 民 91). In such interaction, teachers, as assistants in children's learning process, provide necessary assistance to foster learners' cognition with the consideration of learners' development level. According to Chen (陳, 民 95), the interaction which is the scaffolding in the teaching process generally follows the pattern of question asking from the teacher, replying from students, specific guidance of asking further questions from the teacher, and then replying from students.

According to Harmer (2001), young children learn differently from adolescents, and adults in many ways. Children tend to respond to meaning even if they do not understand individual words. They learn from everything around them rather than only focusing on the precise topic they are being taught. Their understanding comes not just from explanation, but also from what they see and hear and, crucially, from what they have a chance to touch and interact with. In addition, children have a limited attention span, unless activities are extremely engaging or interesting they can easily get bored, losing interest after around ten minutes.

In the light of these characteristics, teachers at this level need to provide a rich diet of learning experiences which encourages students to get information from a variety of sources (Harmer, 2001). In addition, in the process of scaffolding in

teaching, it is essential for teachers to be skillful in asking questions to activate students' thinking and creativity, which are helpful in deepening and broadening the language development of the students (陳, 民 95). Teachers are suggested to avoid closed-ended, trivial or forcing questions, but to provide open-ended, supportive or guiding ones to foster the interaction between teachers and students (陳, 民 95).

Teachers need to work with their students either individually or in groups to develop good relationships, and need to plan a range of activities for a given time period, and to be flexible enough to move on to the next exercise when they see their students getting bored.

Research Questions of the Present Study

Listening comprehension is important for EFL learners. According to Min (1996), beginning instruction in a second language should focus on developing learners' listening comprehension. In Taiwan, formal EFL beginning instruction falls in elementary education, a phase in which listening comprehension should be paid attention to. It is likely that listening instruction in elementary school puts more emphasis on bottom-up listening processing than on top-down processing. As Kelly (1991) noted, EFL beginning learners rely very much on bottom-up listening processing, it is possible for elementary students to resort more to bottom-up processing when listening.

Although some studies have investigated either the effects of different advance organizers on listening comprehension of undergraduate and junior-high school students (Sherman, 1997; Vande Berg, 1993; Herron, Hanley, & Cole, 1995; Wu, 2004) or how to teach high school students listening skills more effectively (Su, 1994; Teng, 1994), little research has been done regarding the teaching of listening in elementary school, which is the beginning level of EFL learners.

From the above discussion in the literature review, little research has targeted elementary EFL learners in terms of listening instruction. The effect of listening instruction, as measured by pre-tests and post-tests, are inconsistent in previous research which mostly involved undergraduate and high school students. Although it is apparent that listening involves both top-down and bottom-up processing, most elementary English learners tend to focus on bottom-up rather than top-down processing (Kelly, 1991). Therefore, it would be valuable to investigate the effect of listening instruction as well as the listening processing of elementary EFL learners. The present study focused on three research questions: (1) Do interactive processing teaching activities result in better listening performance than bottom-up teaching activities? (2) Why or why not? (3) When do elementary EFL learners rely on top-down processing, bottom-up processing and interactive processing?

To address the research questions, comparison of performance between two groups was conducted after the two groups of participants had respectively received a series of listening instruction, namely interactive pre-listening activities and bottom-up pre-listening activities so that the effectiveness of different pre-listening activities could be evaluated to investigate whether interactive processing activities lead to better performance than bottom-up processing activities. Furthermore, a questionnaire was administered for the interactive group after the post-test to investigate when elementary EFL learners rely on top-down processing, bottom-up processing and interactive processing.