A Pragmatic Study of Saudi Female Children’s Ability to Answer Oral Questions as EFL Learners within the Scope of Relevance Theory

A Dissertation

Submitted to the Department of English in Partial Fulfillment of the Requirements for the Degree of Master of Arts in Applied Linguistics

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ABSTRACT

Through this study, the researcher attempted to identify the difficulties Saudi children face when trying to communicate in the English language as EFL learners. The study specifically seeks to find out if there exists a developmental trend in both young Saudi children’s ability to answer oral context-related questions and in the strategies they use when finding it difficult to do so. This will be attempted by focusing on the comprehension processes proposed by the linguists Sperber and Wilson (1995). They refer to their theory as the *Communicative Principle of Relevance*, which they believe, is essential in explaining human communication and understanding, as they show how it is enough on its own to account for the interaction of linguistic meaning and contextual factors in utterance interpretation. The validity of the theory, as a reliable linguistic tool of study, was also one of the main points of focus in the study. The study adopted a cross-sectional method, where a group of sixty female students, of seven to nine year old, were studied at a specific point of time in order to compare their language and cognitive developments. The participating children were chosen from a similar socio-economic background, attending the same private school. The main instrument utilized in the study was a story from a series of children’s reading books designed for EFL learners.
DEDICATION

To my dear husband

Thank you for your patience, love, and unconditional support
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First and foremost, praise is due to Allah the Almighty for giving me the
courage and strength to persevere and never give up. Thank You God for Your
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project.

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<td>S&amp;W</td>
<td>Sperber and Wilson</td>
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<td>HTD</td>
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<td>CPH</td>
<td>Critical Period Hypothesis</td>
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<td>C</td>
<td>Context</td>
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CHAPTER ONE
THEORETICAL PRELIMINARIES

1.0. Introduction.

The complexity of human communication has been characterized as one of the hallmarks of our species. ‘How do human beings communicate with one another?’ has been a question that dwelled in the minds of researchers and scientists for many years. The psychologist Vygotsky (1962) provides a reasonable explanation of the complicated nature of human communication as follows:

That understanding between minds is impossible without some mediating expression is an axiom for scientific psychology. In the absence of a system of signs, linguistic or other, only the most primitive and limited type of communication is possible. Communication by means of expressive movements, observed mainly among animals is not so much communication as spread of affect... Rational, intentional conveying of experience and thought to others requires a mediating system, the prototype of which is human speech. (p. 6)

In the coming chapter a general overview of the background of the study will be covered. The chapter will also state the problem which the study attempts to address. The significance and limitations of the study will also be mentioned as well as the research questions and hypotheses suggested by the study. Finally, some terms that are related closely to the research will be defined.
1.1 Background of the Study.

The communicative process, however, has been defined and explained in numerous ways. For example, Morley (1992), in his communication researches and its connection to cultural studies, states that communication refers to the activity of imparting, or transmitting messages containing information, ideas, or knowledge, which according to him is known as interpersonal communication or the idea of conversation. Other definitions of communication have become commonly known in the scholarly field. For example, communication has been defined as a process of transferring information from one entity to another, or, as sign-mediated interactions between at least two agents, which share a repertoire of signs and semiotic rules, or as the imparting or interchange of thoughts, opinions, or information by speech, writing, or signs. However, it can be said that the simplest, most common definition of communication is that it is a process by which meaning is assigned and conveyed in an attempt to create shared understanding. This process requires a vast repertoire of skills in interpersonal processing: listening, observing, speaking, questioning, analyzing, and evaluating. Scholars believe that it is through communication that collaboration and cooperation occurs.

In the field of communication studies, the development and transformation of communication has been divided into three revolutionary stages. In the first stage, researchers believe that communication began in the ancient times in the written form, with what became known as pictographs. These writings were made on stone, which were too heavy to transfer. Researchers believe that during this era, written communication was not mobile, but nonetheless existed.

In the second stage of the information communication revolution, writing began to appear on paper, papyrus, clay, wax, etc. In addition, common alphabets were also introduced, allowing the uniformity of language across large distances. The Canadian media-communication scholar, Innis (1950), examines the rise and fall of ancient empires as a way of tracing the effect of communications media. His works explore the role of media in shaping the culture and development of civilizations.
Innis believes that people use different types of media to communicate, and the one they choose will offer different possibilities for the shape and durability of their society. For example, one of the civilizations he studied was the Egyptian era and the way they built their dynasty with very different properties than the ones known to us today. According to him, the Egyptians built their civilization on stone and papyrus. They used papyrus to transmit written orders across empires, and it enabled the waging of colonial administration and military campaigns. The other medium they used was stone. He asserts that the Egyptians sustained their authority from generation to generation by constructing temples and pyramids. Through these mediums, Innis asserts, they succeeded in shaping communication in their society.

Communication continued to develop across time until a big leap took place, which affected the ways information was communicated greatly; it was the invention of the printing – press. In the 15th century, Gutenberg printing–press was invented and took communication to a newer, faster, higher level. Moreover, centuries later marked the start of the third information communication revolution by the invention of electronic signals. Information can now be transferred via controlled, sophisticated waves and electronic signals, which no one back in history could have imagined would come to exist.

The study of communication often raises two major questions: first, what is communicated, and second, how is communication achieved?

To answer the question: what is communicated? Meanings, information, propositions, thoughts, ideas, beliefs, attitudes, emotions, are some of the answers that have been proposed. However, even more important than the question of what is communicated is the question of how communication is achieved. In other words, how can a physical stimulus bring about the required similarity of thoughts. Scholars have shown that humans make use of spoken and written languages in order to communicate with each other. However, our interest here is to focus specifically on oral communication. Oral communication is commonly defined in the communication field as a process whereby information is transferred from a sender to a receiver.
usually by a verbal means. The receiver could be an individual person, a group of people, or even an audience. Moreover, although studies have shown that most human languages use patterns of sounds for symbols, which enables oral communication with others around them, many scholars believe that ‘non-verbal’ factors, such as, body language, gesture, and even posture also play a key role in the oral communication process. Therefore, the question: can there be a general theory of communication? is what provoked scientists and linguists to research the theories that regulate the communication process from the early times.

Thus, numerous theories have attempted to describe and explain ‘how’ the process of human communication takes place through presenting their original ideas of different communication models. The first major model for communication was presented by the social scientists Shannon and Weaver in (1949). Their initial yet simple model consisted of three primary parts: sender, channel, and receiver. The model was often referred to as the ‘transmission model’ or the ‘standard view of communication’. It was based on a simple idea that information or content (e.g. a message in natural language) is sent in some from (e.g. as spoken language) from an encoder/sender to a decoder/receiver. This common conception of communication simply views communication as a means of sending and receiving information.

Moreover, Berlo (1960) expanded on Shannon and Weaver’s (1949) simple model of communication. He created what he called the ‘SMCR’ model of communication, which stands for: the ‘Sender - Message - Channel- Receiver’ model of communication. The model presented by Berlo contributed to the study of communication by separating Shannon and Weaver’s model of communication into clear parts. The model structured the communication process as based on a few major elements: the source (emisor/sendor/encoder), the message (what type of things are communicated, the form (in which form is the message being sent), the channel (through which medium is the message sent), the destination (receiver/target/decoder). In addition, another scholar in the field of communication studies, Wilbur Schram (1954), indicated that we should also examine the impact that a message has (both desired and undesired) on the target of the message.
Other prominent scholars who appeared in the field of communication studies include McKenzie and Barnlund. McKenzie (1997) studied and analyzed the theory of ‘coregulation’, which describes communication as a creative and dynamic continuous process, rather than a discrete exchange of information. On the other hand, Barnlund (2008) expanded on the transactional model of communication. He asserted that one of the main facts the transactional model proves is that individuals are simultaneously engaging in the transaction of sending and receiving of messages.

Furthermore, a second major model appeared in the communication study field: the ‘constitutive model’ or the ‘constructionist’ view (Chandler, 1994). The proposed model focuses on ‘how’ an individual communicates, as the determining factor of the way the message will be interpreted. This more complex view of communication believes that in a communication process, the sender and receiver are linked reciprocally. Here, communication is viewed as a conduit; a passage in which information travels from one individual to another, and this information becomes separate from the communication itself.

Hence, there appeared a common belief among most communication scholars, that, the communication process in general includes acts that confer knowledge and experiences, give advice and commands, and ask questions. These acts may take many forms depending on the abilities of the group communicating. The form, along with the communication content, makes the messages that are sent towards a destination. And the target can be oneself, another person or being, or even another entity, e.g. a group of people.

Regarding the theoretical aspect of human communication from a linguistic perspective, numerous theories have attempted to describe and explain the process it goes through in order to achieve successful communication (Grice 1957, Leech 1983, Chomsky 1986, Saussure 1974, Chandler 2002, Leach 1976, and Sperber & Wilson
1986/1995). Linguistic researchers believe that there are two ways to conceive of how thoughts can be communicated from one person to another. The first way is through the use of strict coding and decoding, which makes explicit use of symbols, rules, and language. The second way is by making interpretive inferences, where communication is achieved by producing and interpreting evidence, which communicates to the hearer information that is left implicit.

At first, the linguists’ attempts to explain the communication process continued to be based on one form or another of the code model, which is based on the idea that communication is achieved by encoding and decoding messages, until a well-known linguist, Paul Grice, presented his original idea for explaining the communication process, which was regarded as the point of departure for an ‘inferential model’ in the communication study field. Grice (1957) paved the way for many researches and studies among linguists and scholars later on. He proposed various definitions of ‘meaning’. The core he based his theory on can be seen through the following analysis he presents of what it is for an individual $S$ to mean something by an utterance $X$ (where ‘utterance is to be understood as referring not just to linguistic utterances but to any form of communicative behaviour):

"[S] meant something by $X$ is (roughly) equivalent to [S] intended the utterance of $X$ to produce some effect in an audience by means of the recognition of this intention”

(Grice, 1957/1971: 58)

Grice used his analysis of ‘meaning’ as the point of departure for a theory of ‘meaning’ trying to go from the analysis of ‘speaker’s meaning’ towards such traditional semantic concerns as the analysis of ‘sentence meaning’ and ‘word meaning’. Thus, Grice’s original idea can be seen as an attempt to rehabilitate a commonsense view of communication and spell it out in theoretically acceptable terms. His theory asserts the fact that communication involves the audience’s publication and recognition of the informative intention of the communicator.

Moreover, Grice has also developed his famous: Co-operative Principle, which,
in his belief, accounts for the general standards governing verbal communication. He developed his principle into ‘nine maxims’ classified into four categories: (1975, pp.45-46):

**Maxims of quantity:**

1. Make your contribution as informative as is required (for the current purpose of the exchange)
2. Do not make your contribution more informative than is required.

**Maxims of quality:**

1. Do not say what you believe to be false.
2. Do not say that for which you lack adequate evidence.

**Maxim of relation:**

Be relevant.

**Maxims of Manner:**

1. Avoid obscurity of expression.
2. Avoid ambiguity.
3. Be brief.
4. Be orderly.

Grice claimed that this *Co-operative Principle* makes it possible to explain how an utterance, which provides only an incomplete and ambiguous representation of a thought, can nevertheless express a complete and unambiguous thought (1975). Thus, many linguists believed Grice’s theory to be very valuable and applicable in their theories of language and communication.

Leech (1983) also conducted valuable research in the human communication
field. He agreed with Grice’s theory of the conversational maxims and extended it by suggesting his well-known politeness maxims. According to Leech (1983), there is a politeness principle with conversational maxims similar to those formulated by Paul Grice. He lists six maxims: tact, generosity, approbation, modesty, agreement, and sympathy (p.132):

1. The tact maxim states: 'Minimize the expression of beliefs which imply cost to other; maximize the expression of beliefs which imply benefit to other.' The maxim relates to Leech’s positive politeness strategy of attending to the hearer's interests, wants, and needs:

2. The Generosity maxim states: 'Minimize the expression of benefit to self; maximize the expression of cost to self.' Unlike the tact maxim, the maxim of generosity focuses on the speaker, and says that others should be put first instead of the self.

3. The Approbation maxim states: 'Minimize the expression of beliefs which express dispraise of other; maximize the expression of beliefs which express approval of other.' In other words, it is preferred to praise others and if this is impossible, to give some sort of minimal response, or to remain silent. The first part of the maxim avoids disagreement; the second part intends to make other people feel good by showing solidarity.

4. The Modesty maxim states: 'Minimize the expression of praise of self; maximize the expression of dispraise of self.' This maxim clearly stresses the importance of showing modesty and humility on the speaker’s behalf.

5. The Agreement maxim runs as follows: 'Minimize the expression of disagreement between self and other; maximize the expression of agreement between self and other.' This maxim asserts Leech positive politeness strategies of 'seek agreement' and 'avoid disagreement,' to which he attaches great importance.

6. The Sympathy maxim states: 'minimize antipathy between self and other; maximize sympathy between self and other.' This includes a small group of speech acts such as congratulation, commiseration, and expressing condolences - all of which is in accordance with the positive politeness strategy of attending to the hearer's interests,
wants, and needs. However, Leech asserts that these maxims vary from culture to culture: what may be considered polite in one culture may be strange or downright rude in another.

It has been noted that the importance of formal systems for modeling mental abilities has become increasingly apparent since Chomsky first used them in his study of language since the 1950s. Chomsky contributed his research to the cognitive revolution in psychology, as he believed that “When we study human language, we are approaching what some might call the “human essence,” the distinctive qualities of mind that are, so far as we know, unique to man.” (1972, p.2). Perhaps his most influential and time-tested contribution to the field is the claim that modeling knowledge of language using a formal grammar accounts for the "productivity" of language (1957). In other words, a formal grammar of a language can explain the ability of a hearer-speaker to produce and interpret an infinite number of utterances, including novel ones, with a limited set of grammatical rules and a finite set of terms.

Chomsky (1986) also began developing his theory of generative grammar, which has undergone numerous revisions and has had a profound influence on linguistics. According to him, generative linguistics, of which he was the original pioneer, has shifted the focus in language study “from the study of language regarded as an externalized object to the study of the system of knowledge attained and internally represented in the mind/brain” (p.24).

In his study (1986), Chomsky insisted on the difference between informal, traditional grammars and explicit, generative grammars. According to Chomsky (1976), informal grammars rely heavily on the intuitions of the user, and are intended to supplement rather than account for these intuitions. Generative grammars, by contrast, are intended to give an explicit, exhaustive account of the linguistic knowledge of the individual. In his study, Chomsky explains:

We must distinguish between the literal meaning of the linguistic expression produced by S and what S meant by
producing this expression … The first notion is the one to be explained in a theory of language. The second has nothing particular to do with language; I can just as well ask, in the same sense of ‘meaning’, what S meant by slamming the door. (p.76). (S being the speaker)

Thus, Chomsky asserts that a generative grammar consists of a set of rules or principles designed to provide a complete description of every sentence in a language, leaving nothing to individual intuition. He further established Chomsky’s hierarchy, a classification of formal languages in terms of their generative power. Overall, Chomsky’s naturalistic approach to the study of language has influenced the philosophy of language and mind, thus, he became well known in the academic and scientific community as one of the fathers of modern linguistics.

One of the models proposed to explain how communication is achieved is the system of signs, which T. Todorov (1977) dates back to Augustine. This semiological approach (as Saussure (1974) and his followers called it) is a generalization of the code model of verbal communication to all forms of communication. The model was seen as governing not just the ordinary verbal communication of thoughts but also communication by gestures, religious texts, symbols and rites. From a semiotic point of view, the existence of an underlying code is the only possible explanation of how communication is achieved.

Saussure, however, adopted the science of semiology in his studies, and he best defines it in these words: (Saussure, 1974)

Language is a system of signs that express ideas, and is therefore comparable to a system of writing, the alphabet of deaf-mutes, symbolic rites, polite formulas, military signals, etc. but it is the most important of all these systems.

A Science that studies the life of signs within society is conceivable … I shall call it semiology. (p.16)
Consequently, many linguists took for granted that a proper theory of communication should be based on the familiar code model. Semioticians granted that the best models we have of human languages are generative grammars, and since a generative grammar is just a code, which associates phonetic representations of sentences to semantic representations of sentences, it follows that the code model is applicable to verbal communication. Thus, from a semiotic point of view, communication was seen as a social interaction where at least two interacting agents share a common set of signs and a common set of semiotic rules. Chandler (2002), for example, described communications as processes of information transmission governed by three levels of semiotic rules:

1. Syntactic (formal properties of signs and symbols)
2. Pragmatic (concerned with the relations between signs/expressions and their users) and
3. Semantic (study of relationships between signs and symbols and what they represent)

Therefore, the semiotic program has been enthusiastically adopted by a number of linguists, literary theorists, psychologists, sociologists and even anthropologists. It has been shown through numerous researches that the linguistic science of pragmatics (including semiotics) has helped anthropologists relate elements of language to broader social phenomena; it thus helped spread the field of linguistic anthropology. Because pragmatics describes generally the forces in play for a given utterance, it includes the study of power, gender, race, identity, and their interactions with individual speech.

Linguistic anthropology seeks to understand the processes of human communications, verbal and non-verbal, variation in language across time and space, the social uses of language, and the relationship between language and culture. It is the branch of anthropology that brings linguistic methods to bear on anthropological problems, linking the analysis of linguistic forms and processes to the interpretation of sociocultural processes. Linguistic anthropologists often draw on related fields including sociolinguistics, pragmatics, cognitive linguistics, semiotics, discourse
analysis, and narrative analysis. It includes sub-fields, such as: descriptive linguistics, dealing with the construction of grammars and lexicons for unstudied languages; historical linguistics, including the reconstruction of old languages, from which our current languages have descended; ethnolinguistics, the study of the relationship between language and culture; and sociolinguistics, the study of the social functions of language.

One of the pioneers in the field of social and linguistic anthropology is the British anthropologist, Leach (1976), who was concerned with researching people’s actual lives and everything that plays a significant part in shaping their lives. Although Leach focused on studying social kinship in detail, he related a significant part of his studies to the science of language, grammatical structures and their social function. He believed that the same way there exists an organized set pattern of underlying codes and grammatical rules that govern our languages, there also exists similar underlying codes and rules that govern everything else in people’s lives, including the way they dress, cook, and act. Here is one of Leach’s endorsements from a semiotic point of view:

I shall assume that all the various non-verbal dimensions of culture, such as style in clothing, village lay-out, architecture, furniture, food, cooking, music, physical gestures, postural attitudes and so on are organized in patterned sets so as to incorporate coded information in a manner analogous to the sounds and words and sentences of a natural language. I assume therefore it is just as meaningful to talk about grammatical rules which govern the wearing of clothes as it is to talk about the grammatical rules which govern speech utterances. (p. 10)

According to recent linguists, although the history of semiotics has been successful, it has failed to live up to its promises. Linguists such as Sperber and Wilson (1995) discuss how although Saussure expected that “the laws discovered by semiology will be applicable to linguistics, and the latter will circumscribe a well-defined area within the mass of anthropological facts.” (Saussure 1974: 16), however, Sperber and Wilson maintain that what actually happened was that “for the few
decades in which structuralist linguistics flourished … no semiotic law of any significance was ever discovered, let alone applied to linguistics” (pp. 7-8.). They also mention that after the publication of Chomsky’s Syntactic Structures (1957), linguistics took a new turn and did undergo remarkable developments, but these owed nothing to semiotics. Therefore, as the structure of language became better understood, the assumption that all systems of signs should have similar structural properties became more and more untenable.

Sperber and Wilson (1995) also maintained that Grice’s theory of ‘meaning’ was the starting point of the ‘inferential model’, where “communication is achieved by producing and interpreting evidence” (p.24), which in turn represented one of the main pillars they base their communication studies on.

Based on their linguistic researches, Sperber and Wilson published a groundbreaking theory in the field of communication studies. They (1995) assured that both models; the code model and the inferential model are not incompatible, and that both models can be combined in various ways and can both contribute to the study of verbal communication. They believed that “it is true that a language is a code which pairs phonetic and semantic representations of sentences… however, there is a gap between the semantic representations of sentences and the thoughts actually communicated by utterances” (p.9). According to Sperber and Wilson (1995), this gap is filled not by more coding, but by inference. For Sperber and Wilson argue that communication is not a single process, and hence, there is not a single general answer to the question of how communication is achieved. In particular, they argue that neither decoding nor inference can provide by itself the basis of a single model of communication (1995):

We maintain that communication can be achieved in ways which are as different from one another as walking is from plane flight. In particular, communication can be achieved by coding and decoding messages, and it can be achieved by providing evidence for an intended inference. The code model and the inferential model are each adequate to a different mode
Therefore, by their developed theory, they attempt to show how communication can be described as a process of inferential recognition of the communication’s intention. With this theory they presented a new, general approach to the study of human communication, as they maintain that it provides a sufficient account on its own for explaining the interaction between linguistic meaning and contextual factors in utterance interpretation. According to them, in order to achieve understanding in a communication situation, individuals must focus their attention on what seems to them to be the most relevant information available. The theory will be elaborated on and discussed further in the study.

Thus, communication has always been a broad area of study and research. Such studies obviously aim to contribute to the understanding of how people engage with each other in various parts of the world. It also aims at helping to educate people in order to achieve better and more efficient interactions with each other, because, communication studies provide strong models, both new and old, that can be used to help everyone, from simple-minded babies all the way to professionals. Scholars also assert that knowing not only what to say but even how to say it is very critical in every situation of communication, because it can either help or hinder the communication process, resulting in fruitful communication or lack of understanding, respectively.

1.2 Statement of the Problem

Regarding foreign language learning and in order to communicate effectively in a foreign language, a number of different factors is likely to affect whether a child is able to answer questions, or not, in order to communicate effectively in a foreign language, children acquiring a foreign language – in this study the English language in
particular - often learn during classroom activities where specific, targeted English skills are being taught, rather than through the hands-on experiences typical of first language acquisition (Dunn, 1994). Moreover, Dunn asserts that children are also challenged to learn English quickly while keeping up with the new concepts introduced in their classes every day.

Therefore, regarding the research problem, the study attempts to analyze the numerous reasons that could participate in the comprehension difficulties and consequently in the children’s fluency when learning a foreign language – in this case the English language. The research also suggests that one of the problems facing the Saudi EFL learner is the inability to utilize a given context properly, and as a consequence, the inability to answer the context-related questions correctly. Such difficulties students face may lead to comprehension and communication problems in the foreign language.

1.3 Significance of the Study:

The present study is significant for a number of reasons. One of the reasons this study is conducted is to address the difficulties Saudi children face when trying to communicate in the English language they are learning as a foreign language. That is attempted throughout the study by trying to identify the strategies these children go through when trying to answer question that pose different levels of pragmatic demands. In other words, the study will focus on the role of the context in understanding the foreign language. Different studies have attempted to address this issue, for example, Ryder & Leinonen (2001) maintained that, from a very early age, children are able to infer meanings by combining information to work out meanings. They assure that this becomes more sophisticated with the children’s developing ability to go beyond the immediate context and make connections with their world knowledge and experience on the basis of subtle clues.
Furthermore, another reason for conducting the study is to show the significance of using children stories -or children literature- in the EFL classes, and its effect on their language development and enthusiasm to learn. Rosen (1988), for example, maintains that the impulse to story is present in every child; and that a storytelling culture in the classroom refines and enlarges upon that impulse. Launching from that belief, many linguistic researchers, such as: Rees (1979), Morgan & Rinvolucri (1983), Reid (2002), and Klippel (1984), have found that children’s literature can play a major role in student’s second/foreign language development, including listening, speaking, reading, and writing skills. Their studies illustrated the role of children’s literature in developing more positive attitudes toward learning the foreign language, English in particular. Rees (1979), for example, suggests that books written for English-speaking children can be used effectively in the EFL classroom. He also asserts that “foreign learners derive pleasure and satisfaction from the knowledge that they are listening to a story for the native speaker of English” (p.3). Rees adds that the secret of the success of these stories for EFL learners “lies in their light-hearted and random appearance, free from the heavy hand of didacticism” (p.3).

Thus, by this study, the researcher aims to contribute to the EFL curriculum in the child language acquisition field by attempting to locate the difficulties and the strategies Saudi children use when finding it difficult to understand or answer a context-related question as EFL learners. Allocating the reasons behind such difficulties will help in solving many obstacles that face the children while trying to communicate in English. The present study also attempts to contribute to the EFL field by trying to improve Saudi children’s English communication skills through the integration of English stories suitable for their age and attention span as part of their curriculum.

1.4 Objectives of the Study:
Through this study, the researcher attempts to identify the difficulties children face when trying to communicate in a foreign language they are learning. The study also seeks to find out if there exists a developmental trend in young children’s ability to answer questions and also in the strategies they use when finding it difficult to answer questions. This will be attempted by focusing on the Relevance Theory comprehension processes children go through while attempting to answer context-related questions. In other words, the present study is concerned with examining and explaining the process involved in the use of context in language comprehension and production from the Relevance Theory point of view.

1.5 Research Questions:

The present study attempts to answer the following questions:

a) Do developmental changes be found in young children’s ability to answer questions?

b) Is there a developmental trend in the strategies children use when finding it difficult to answer questions?

c) Do the processes of comprehension derived from the Relevance Theory have developmental validity?

1.6 Research Hypotheses:

In addition, the study also aims to examine the following hypotheses:

a. Developmental trends could be found in young children’s ability to answer questions.
b. There is a developmental trend in the strategies children use when finding it difficult to answer questions.

c. Developmental validity can be found in the processes of comprehension derived from the Relevance Theory.

1.8 Scope and Limitations of the Study:

Because the nature of this study is an empirical study rather than a comparative or a contrastive one, and in order to minimize the variables affecting the research. This study will be limited to Saudi female students in their first, second and third elementary levels (thus ranging from 7 – 9 years old). Students attending other levels as well as boys will be excluded from the study in order to cut down the variables and reach more accurate results. In addition, due to the fact that English language is taught to Saudi children in their early elementary levels only in private schools, one private school located in the city of Riyadh will be chosen to apply this study to cut down the variables, such as different social and financial backgrounds. The study will be attempted in the academic year 1430 H. /2009. Moreover, the chosen school will be one that includes English stories in their reading curriculum.

1.8 Definitions of Terms:

Key terms and variables are defined in this section to clarify how these terms pertain to the present study. All the following definitions are given by Sperber & Wilson’s *Relevance, Communication and Cognition* (1995).
**Relevance to an individual:** an assumption is relevant to an individual at a given time if and only if it has some positive cognitive effect in one or more of the contexts accessible to him at that time. (p.265)

**Principle of relevance:** Every act of ostensive communication communicates a presumption of its own optimal relevance. (p.158)

1. **First (cognitive) principle of relevance:** human cognition is geared towards the maximization of relevance (that is, the achievement of as many contextual effects as possible for as little processing effort as possible). (p.261)

2. **Second (communicative) principle of relevance:** every ostensive stimulus communicates a presumption of its own optimal relevance. (p.266)

**Optimal relevance:** a property that an utterance (or other ostensive stimulus) has, on a given interpretation, when (a) it has enough contextual (or cognitive) effects to be worth the hearer's attention, attention, and (b) it puts the hearer to no gratuitous processing effort in achieving those effects. (p.267)

**Processing effort:** the effort which a cognitive system must expend in order to arrive at a satisfactory interpretation of incoming information (involving factors such as the accessing of an appropriate set of contextual assumptions and the inferential work of integrating the new information with existing assumptions). (p.124)

**Assumption:** an assumption is a structured set of concepts. (p.85)

**Context:** is a psychological construct, a subset of the hearer's mentally existing assumptions about the world which interacts with newly impinging information (whether received via perception or communication) to give rise to contextual effects. It is these assumptions, rather than the actual state of the world, that affect the interpretation of an utterance. (p.15)

**Contextual effects:** the kind of result which a newly received stimulus must bring about, by interacting with some of the assumptions already in the cognitive system, in order for it to be relevant to the system; there are three types of contextual (or cognitive) effect it may have: supporting and so strengthening existing assumptions, contradicting and eliminating assumptions, combining inferentially with them to produce new conclusions. (p.108)
**Contextual implication:** a conclusion inferred on the basis of a set of premises consisting of both contextual assumptions and new assumptions derived from the incoming stimulus and not derivable from either of these alone. (p.109)

**Cognitive effect:** is a contextual effect occurring in a Cognitive system (e.g. an individual), and a positive cognitive effect is a cognitive effect that contributes positively to the fulfillment of cognitive functions or goals. (p.265).

**Cognitive environment (of an individual):** the set of assumptions or facts that are manifest to an individual at the time of the utterance. (p.39)

**Manifest:** a fact is manifest to an individual at a given time if and only if he is capable at that time of representing it mentally and accepting its representation as true or probably true. (p.39).

**Ostension:** behavior which makes manifest an intention to make something manifest. In other words: a human intentional communication. (p.49)

**Ostensive inferential communication:** transmission of information/meaning via a stimulus which comes with a communicative intention; that is, which makes it mutually manifest to communicator and audience that the communicator intends, by means of this stimulus, to make manifest to the audience a set of assumptions. Examples of such (ostensive) stimuli are verbal utterances, pointing and winking. (pp.50-54).

**Explicature:** is a combination of linguistically encoded and contextually inferred conceptual features. Or, in other words: an ostensively communicated assumption, which is inferentially developed from the incomplete conceptual representation (logical form) resulting from linguistic decoding. (p.182)

**Implicature (conversational):** an ostensively communicated assumption that is derived solely via processes of pragmatic inference. (p.182)
1.9 Conclusion

Overall, in this chapter, the researcher presented a general view of the evolution in communication studies and the Relevance Theory as a theory of communication. The researcher also shed light on the problem, the significance of the study, the objectives of the study and how it will attempt to contribute to the EFL field. Moreover, the chapter pointed out the research hypotheses and research questions the researcher intends to find answers for through the research. Finally, the researcher provides a list of some of the main definitions that will be used in the study.
CHAPTER TWO

REVIEW OF RELATED LITERATURE

Introduction

The present chapter reviews the *Relevance Theory of Communication and Cognition* (1995), which will be the ground-base of this study. Sperber and Wilson's theory was first introduced in (1986) in their book: *Relevance Communication and Cognition*, but their modified Second Edition, published after nine years, in (1995), and titled: *Relevance, Communication and Cognition, Second Edition* is the one used in the present research. The chapter will shed light on the definition of the theory as developed by Sperber & Wilson (1986/1995), as well as a general discussion of the main pillars of the theory. This will be followed by some definitions of Sperber and Wilson’s Relevance Theory (RT) as proposed by other scholars along with some theoretical and empirical studies that have examined the RT. In addition, child foreign language learning, and the numerous studies that have attempted to explain how a child acquires/learns a second/foreign language will also be explored in the chapter. Furthermore, studies on the application of the RT in the child language learning field will also be examined.

2.1 Relevance Theory Defined

Relevance theory has been developed most famously over the last twenty years in the collaborations of two well-known linguists, Dan Sperber in Paris and Deirdre Wilson in London. This field of pragmatics is concerned with the contextual and inferential aspects of language communication, namely the relationship between how
what is only implied in a statement contributes to determining the meaning of what is explicitly said. Relevance theory also ties language to reality through psychological processes of human cognition that are considered universal because it takes as its basis the way the human brain functions in processing language.

Sperber and Wilson (S & W) (1995) present a new approach to the study of human communication, in which they assert that, “to communicate is to claim an individual’s attention: hence to communicate is to imply that the information communicated is relevant” (Preface). This fundamental idea that communicated information comes with a guarantee of relevance is what the co-authors, Sperber and Wilson, based their theory on. They refer to their theory as the Communicative Principle of Relevance, which, they believe, is essential in explaining human communication, as they show how “it is enough on its own to account for the interaction of linguistic meaning and contextual factors in utterance interpretation” (Preface, vii).

In relation to the actual meaning of the term ‘relevance’ within their theory, S & W maintain that: “We are trying to develop a theoretical concept of relevance, for use in the study of communication and cognition. We expect this theoretical concept to help predict people’s intuitions, but not necessarily their use of the word ‘relevance’ or of similar ordinary language terms.” (1995, p.125). Thus, the term ‘relevance’ does not refer to the ordinary meaning of the word in our everyday lives, but to a theoretical concept to be used in the study of human communication. They note, however, that the word should not be confused with its far more common sense of consciously deciding if a statement, once understood, is relevant to one's interests or not. Thus, the word "relevance" in their theory refers to that goal of a mental process by which the meaning of an utterance forms in the mind through the subconscious process of spreading ‘neural activation’ (p.119).
The co-authors believe that while communicating, the hearer is guided by a single, very general criterion to evaluate a variety of possible interpretations, which is precise and powerful enough to exclude all but a single interpretation, this criterion is nothing but the Principle of Relevance, which is the heart of the Relevance Theory. Sperber and Wilson (1995) defined the Principle of Relevance as “the principle that every utterance creates an expectation of relevance” (p.155). This principle is the basis of their understanding of what happens in a communication situation. For they believe that whenever a person communicates something, he automatically has the presumption that what he is going to say is believed to be relevant to the hearer. In defining "relevance", they stated that: “An assumption is relevant in a context if and only if it has some contextual effect in that context” (p.122). That statement, according to S & W, captures the intuition that to be relevant in a context, an assumption must connect up with that context in some way. However, they note that their theory does not attempt to exhaustively define the concept of ‘relevance’ in everyday use, but tries to show an interesting and important part of human speech.

Furthermore, within their Principle of Relevance, they make two fundamental claims, one about cognition, and the other about communication:

1) “Human cognition tends to be geared to the maximization of relevance”

2) “Every act of ostensive communication communicates a presumption of its own optimal relevance.” (p.260).

Thus, distancing itself from the code model of language, RT has instead turned to principles of cognitive psychology, and it attempts to work out in detail the co-authors’ linguistic claim that “an essential feature of most human communication is the expression and recognition of intentions” (p.21). This inferential model of how meaning is related to words takes human communication seriously by assuming that a communicator "provides evidence of his/her intention to convey a certain meaning, which is inferred by the audience on the basis of the evidence provided” (p.22). Therefore, for S & W, relevance is conceived as relative or subjective, as it depends upon the state of knowledge of a hearer when s/he encounters an utterance.
In addition, RT has achieved such prominence in communication studies mostly because it makes a serious attempt to confront the question: What is the nature and role of context in communication? Context here does not mean co-text or context of situation, but “the set of assumptions the hearer has about the world” (p.15). According to S & W, context is a wide and potentially enormous concept, including absolutely any assumption owned by the human mind. They assert that these assumptions may be from “information about the immediate physical environment or the immediately preceding utterances, or to a much greater extent, from expectations about the future, scientific hypotheses or religious beliefs, anecdotal memories, general cultural assumptions, or beliefs about the mental state of the speaker” (pp.15-16).

Both linguists claim that the recognition of the intended interpretation of an utterance, even the success of communication depends greatly on whether the hearer uses the speaker-intended or appropriate context. They argue that, “the context used to process new assumptions is essentially, a subset of the individuals old assumptions, with which the new assumptions combine to yield a variety of contextual effects” (p.132). For they believe that the right choice of ‘contextual assumptions’ will be followed by straightforward and logical inference of the intended implication, whereas the use of wrong assumptions will certainly lead to misunderstanding, even a complete failure of communication.

On the abstract level, S & W (1995) assert that “the notion of relevance applies not just to human beings, but to any information-processing device which is not simply involved in achieving a fixed goal at a fixed cost” (p.129). According to S & W, the mental processes that take place in order to understand an utterance, and hence communicate successfully, cannot be computed in exact, fixed amounts. Consequently, if the assessment of mental performances were the result of such accurate computations, people should be able to make absolute judgments, however, according to them, this expectation is neither true nor realistic.
On the other hand, numerous scholars have attempted to define and explain the Relevance Theory as proposed by S & W (1986/1995). Kuper & Kuper (2004), for example, explains that the relevance theory is mainly based on the idea that the human cognitive system automatically allocates attention to information that seems relevant. According to them, the RT states that: “Any act of communication demands the audience's attention; as a result, it creates an expectation of relevance. In interpreting an utterance or other act of communication, a rational hearer should choose the interpretation that best satisfies this expectation.” (p.796). He further explains that relevance theorists claim that no other principles of communication are needed in interpreting utterances. In this way, Kuper asserts, the relevance theorists reject Grice's Co-Operative Principle and maxims while retaining his central insights about the inferential nature of communication and the importance of speaker’s intentions.

Graesser and his co-authors (2003), maintain that a different development from linguistics is the work on relevance theory, S & W (1986). According to them, the relevance-theoretic account of utterance interpretation proposes that a fundamental assumption about human cognition is that people pay attention to information that seems most relevant to them. They maintain that, “Every utterance starts out as a request for someone else's attention, and this creates an expectation of relevance.”(p.376). This expectation of relevance, they explain, provides the criterion for evaluating possible interpretations of a speaker's utterance. They show how Sperber and Wilson claimed that newly presented information is relevant in a context only when it achieves contextual effects in that context, and the greater contextual effects, the greater the relevance. Thus, they assert that relevance is defined in terms of contextual effects and processing effort. They further explain how contextual effects are achieved. According to them, “contextual effects are achieved when a speaker's utterance strengthens, contradicts, or denies an existing assumption or by combining an existing assumption to yield some new contextual implications.”(p.378).
Borg (2004), however, maintains that there are two opposing approaches to the study of linguistic meaning: on the one hand, there is the formal approaches which suggest that there is a level of propositional or truth-evaluable content, namely sentence meaning, which, according to Borg, “can be delivered through interpretation of the formal features of the expressions in play”. On the other hand, this model is challenged by what he termed 'dual pragmatic accounts', like relevance theory, which, according to him, “no such level of formally derived content is attainable.” Rather, he maintains that, “the results of formal processing must be supplemented by pragmatic information to yield something genuinely propositional.” (p.74).

Borg further explains that, according to relevance theory, interpreting the literal meaning of some linguistic act is a kind of inference to the best explanation as: “the speaker produces a piece of evidence for her communicative intentions and the addressee uses this as a basis for constructing a hypothesis about those intentions.”(p.43). He further defines the main thesis of S & W’s project as follows: “Ostensive behavior provides evidence of one's thoughts, and it succeeds in doing so because it implies a guarantee of relevance. It implies such a guarantee because humans automatically turn their attention to what seems most relevant to them.” (p.45). He asserts that 'Relevance' here is a technical term and its connection to the non-technical homonym is also clearly important. Thus, “a communicative act is relevant just in case the cost of cognitive processing is outweighed by the amount of cognitive effects which are the result of that processing.”(p.47). In other words, the promise of relevance is the promise that any expenditure an individual makes in trying to understand an ostensive act will be worth his/her while in terms of what s/he learn from interpreting it. However, he asserts, “much it costs you to process, you are guaranteed that the information you will learn will cross some threshold of usefulness to you.”(p.47). Borg also adds that, according to RT, benefits of cognitive processing vary, but they may include deriving or strengthening new assumptions, and confirming or rejecting previous assumptions.
Giora (2003), on the other hand, is another scholar who has been interested in meaning activation and construction in discourse processing. She developed her own cognitive theory, and she called it: the Graded Salience Hypothesis (GSH), to explore if meaning is accessed in a hierarchical manner in cognitive processing. The contention of the GSH is that salient – i.e. consolidated and encoded - lexical meanings of a mental entity are always activated in the initial process of comprehension, regardless of the context. In her theory she claims that lexical processing takes priority over contextual processing. In other words, Giora maintains that in the initial phase of language comprehension, contextual and lexical processes do not interact but run parallel, and this stage, she asserts, is dominated by lexical access.

Giora, furthermore, compares her GSH to S & W's RT. She maintains that, accessible assumptions (assumptions made available by the immediate context), according to relevance theory, affect the relevance of incoming utterances by decreasing their ‘processing load’. She explains that, unlike the Graded Salience Hypothesis, RT focuses on accessible contexts. Giora further asserts that, although her GSH acknowledges the ‘predictive’ and ‘facilitative’ effects of contextual information, it is concerned primarily with the accessibility of meanings out of context—that is, with the effect of the comprehension process on ‘highly salient/accessible context-free meanings’ (p.27). Thus, she maintains that, “While relevance theory lays emphasis on the role contextual information plays in comprehension, the graded salience hypothesis underlines the role coded meanings play in the same process vis-à-vis contextual information.” (p. 28). In other words, Giora asserts that, unlike the RT, it is the salient (i.e. coded) meaning, rather than the contextual information or literal meaning, that govern communicator's linguistic behavior.

On the other hand, in his study which analyzed the use of the RT approach in the language of advertisement in Britain and Japan, Tanaka (1994) maintains that S & W's RT provides the most comprehensive account of utterance interpretation. He explains that S & W (1987b, p.742) argue that it is a step forward to recognize the
importance of goals, purposes, plans, and so on, however, Tanaka asserts that little progress has been made in developing adequate goal-based accounts of communication. He argues that “If the speaker’s goals affect the comprehension process, then some account must be provided of how the hearer can recognize these goals, and exactly how this recognition can affect the processes of disambiguation, reference assignment and understanding of metaphors, which are at the heart of comprehension.” (p.9). Tanaka further asserts that the RT can provide an account of how the hearer can recognize such goals.

Moreover, Tanaka believed that, unlike other approaches to communication studies, RT provides the most satisfactory answer to the basic question of how communication is achieved in advertising. Therefore, he attempted to apply the RT to the analysis of the language used in advertisements, by focusing on covert communication, puns, metaphors, and images of women in advertising. According to him, the theory is based on the idea of ‘ostension’, which is the communicator's intention to communicate and to publicize his intention. Tanaka explains that the task of the audience in ostensive communication is “to process the communicator's utterance against background information and derive an interpretation which is consistent with the principle of relevance.” (p.35). Thus, He asserts that by basing their framework on the notion of ‘ostention’, S & W’s theory provides an excellent tool to analyze advertisement language.

Tanaka, however, denotes that S & W offer a principled account in Relevance of “how an utterance is interpreted by the hearer in context.” (p.13). He explains that, at the most general level, S & W argue that it is thoughts which are communicated. He adds that, by thoughts, they mean mental representations, which hearers are capable of entertaining and believing. In other words, “thoughts take the form of sets of assumptions” (p.13). He also maintains that the theory attempts to explain the goal of the communicator in a communication situation, “The ultimate goal of the communicator is to alter his hearer's thoughts, and that is why he engages in communication at all.”(p.14).
Moreover, while attempting to provide a general exposition of the RT, Tanaka explains that S & W’s framework is based on ‘ostention’, “the communicator's intention to communicate and to publicize his intention”, and the principle that “an ostentive stimulus creates a presumption of optimal relevance” (p.6). He states that, to process the communicator's utterance against background information and derive an interpretation which is consistent with the principle of relevance, embodies the main task of the audience in ostensive communication. However, Tanaka maintains that here it is necessary to consider the distinction between semantics and pragmatics. He explains that, within the framework of RT, semantics is defined as having to do with elements of meaning, which can be directly obtained from the linguistic content alone, that is, the grammar and the lexicon. He further stresses that “Semantic meaning is obtainable by decoding linguistic expressions, and it remains valid independently of context”(p.7). Pragmatics, in contrast, he asserts “has to do with elements which depend on extra-linguistic contextual information and the hearer's inferential abilities.”(p.7).

Goatly (1997), in explaining “relevance”, claims that information is relevant to you if it interacts with your existing beliefs/thoughts (which S & W call assumptions (1986:2)). According to him, one product of this interaction is a Contextual implication. Creating contextual implications is one kind of contextual effect—others are the strengthening or elimination of existing assumptions—and the greater the contextual effects the greater the relevance. However, he asserts that the number and degree of contextual effects is only one factor in computing relevance, while the second factor is processing effort. Thus, Goatly maintains that, “the notion of relevance, then, which is comparative rather than absolute, can be summed up in the following formula:

(1) Other things being equal the greater the Contextual Effects, the greater the relevance.

(2) Other things being equal, the smaller the Processing Effort the greater the relevance.” (p.138)
This equation, he asserts, makes it clear that “if there is no Contextual Effect there will be no relevance, no matter how little the Processing Effort involved.” (p.139).

On the other hand, Blakemore (2002) states that, “Relevance theory is known as a theory of pragmatics,” and, that S & W regard their book as a result of their different interests in the study of contextual factors in verbal communication. Blakemore (2002) maintains that S & W's RT presents a cognitively grounded theory of utterance interpretation. She shows that ‘interpretations’, according to relevance theory, are “conceptual representations of thoughts, and they have truth conditions” (p.30). Though S & W claim that the more cognitive effects derived the greater there relevance of the input, she stresses that, “relevance is also a function of the processing effort required for the derivation of cognitive effects, and this means that the greater the processing effort the less relevant the information.” (p.61).

Blakemore thus asserts that “it is impossible to have a view of pragmatics without having a view of semantics, or vice versa, and it is not surprising that the relevance theoretic approach to pragmatics comes with a view of semantics attached.”(p.59). According to her, the distinction between semantics and pragmatics is a distinction between the two kinds of cognitive processes involved in utterance interpretation. She further explains that, in relevance-theoretic terms, semantic meaning is the result of linguistic decoding processes, which provide an input to inferential processes constrained by a single cognitive principle, whereas, pragmatics sets out to explain what people wish to achieve and how they go about achieving it using language.

She explains how S and W identify three ways in which new information $P$ yields an improvement to a person's representation of the world, or, in other words, three types of cognitive effect (p.63):

1. It may yield a contextual implication, or in other words, an assumption which is the
result of a deduction that crucially involves the synthesis of \( P \) and the context \( C \).

2. It may \textit{strengthen} an existing assumption. This is the effect derived when an assumption in the context is independently derived from a new set of premises that includes \( P \).

3. It may contradict and lead to the elimination of an existing assumption.

Therefore, numerous studies have attempted to define and explain S and W’s \textit{RT}. They explained its basic notion, which states that information processing during communication involves effort that will only be undertaken in the expectation of some reward, that being: relevance. The theorists assert that there is thus no point in drawing someone’s attention to a phenomenon unless it will seem relevant enough to him to be worth his attention, because, humans automatically turn their attention to what seems most relevant to them.

Overall, after shedding light on the definition of the relevance theory as developed by S & W, and as explained by other scholars, as well as a general discussion of the main pillars of the theory, it is clear how S & W’s RT attempts to contribute to a number of pragmatic fields, such as the study of cognition, input, communication, and comprehension. They proposed practical implications of their theory in such fields, which will be elaborated on more in the coming chapter. The following are some theoretical and empirical studies performed by other linguists who illustrated that RT can be a necessary tool in many pragmatic as well as other fields of study.

2.2 Relevance Theory Studies

2.2.1 Theoretical Studies:
Considering previous studies, RT, as a cognitive theory, has provoked numerous theoretical researches in pragmatics since the 1990s. Thus, numerous empirical studies have been attempted within the pragmatic frame of the Relevance Theory. Such studies have proved the theory to be a very reliable and efficient theory when it comes to analyzing and understanding the language we use in learning and communication.

Pragmatics, which is often defined as the study of language use and language users, sets out to explain what people wish to achieve and how they go about achieving it using language. Blakemore, for example, has based numerous publications of hers on S & W’s RT. In her book, *Understanding utterances; an introduction to pragmatics* (1992), she provides an introduction to pragmatics from the point of view of S and W’s RT and lays down the foundations of a relevance theory approach to utterance understanding. Her aim is to “indicate where and how Relevance Theory diverges from other approaches both in its general approach to communication and on specific issues.” (p.10).

Blakemore then attempts to apply the RT to the analysis of a range of phenomena, which are central to pragmatics, such as, implicature, speech acts, and the coherence of discourse. She raises many controversial pragmatic issues, such as her belief that the ‘coherence of discourse’ should be regarded not as evidence for the existence of a ‘grammar of discourse’, but as a result of “the way in which hearers use contextual information in their search for relevance.” (p.10). Moreover, Blakemore also attempts to apply RT to the analysis of phenomena, which have raised problems for the relationship between semantics and pragmatics, for example, reference, presupposition, and non-truth-conditional meaning. She asserts that in RT “pragmatic interpretation is seen as a psychological matter, governed by a single cognitive principle, and the distinction between semantics and pragmatics is a psychological distinction based on the difference between linguistic and non-linguistic knowledge.” (p.10). She thus provides exercises and discussion topics to encourage readers to participate in the development of the Relevance Theory framework, and in its application in the analysis of the way utterances are understood.
Blakemore (2002) presents an alternative approach to linguistic meaning by focusing on the semantics and pragmatics of ‘discourse markers’. She maintains that the cognitively grounded theory of utterance interpretation, which underlies the arguments of her book, is S & W's (1986, 1995) RT. Blakemore explains that, for S and W, “the distinction between semantics and pragmatics is a distinction between the two kinds of cognitive processes involved in utterance interpretation.”(p.65). According to her, semantic meaning, unlike pragmatic meaning which focuses on the actual language use, is the result of linguistic decoding processes, which provide an input to inferential processes constrained by a single cognitive principle.

In her findings, Blakemore concluded that this approach allows for two ways in which linguistic encoding may act as input to ‘pragmatic inferencing’ and hence two kinds of linguistically encoded meaning: “on the one hand, a linguistic expression or structure may encode a constituent of the conceptual representations that enter into pragmatic inferences, while on the other, a linguistic expression may encode a constraint on pragmatic inferences.”(p.170). This distinction she arrived at has become known in the pragmatic studies as the distinction between conceptual and procedural encoding.

Carston is another well-known scholar in the linguistic field of pragmatics that has also excessively dwelled on studying and applying the RT in her researches. In her many research, Carston has tried to develop a relevance-theoretic pragmatic account of the full range of thoughts, utterances and interpretations. In one of her wide-read publications, Carston (2002) presents a study of how semantics and pragmatics conspire to enable humans to convey long and complex thoughts through often short and simple linguistic utterances. She explores an alternative view according to which words merely evoke (rather than directly encode) thoughts, hence even the computation of explicit, literal meaning relies extensively on pragmatic-inferential processes. For example, in one of her co-authored studies with Blakemore (2003), they both present a study on the ‘and’ conjunction utterances from an RT point of view. In
the study, the co-authors develop a relevance-theoretic pragmatic account of the full range of interpretations and show how it is able to explain: (1) the interpretive disparities between *and*-utterances and the corresponding cases with *but*, and (2) why *and* may be used together with some discourse markers, such as *moreover*, but not with others.

Because of its significant explanatory nature in utterance understanding and interpretation, the RT has been adopted in the field of language research. Wolf (1999) discusses aspects of context from a relevance-theoretic perspective and considers how this may lead to a better understanding of how language learners recover verbal input. Wolf proposes that the way context is defined affects (1) the relationship between knowledge of language and context and (2) the way speakers access assumptions in everyday communication.

Foster-Cohen (2004) extends his linguistic studies to include second language learning and offers a comparison between Relevance Theory as an account of human communication and Herbert Clark's (1996) sociocognitive Action Theory approach. He argues that the differences between both theories are fundamental and impact the analysis of all kinds of naturally occurring communicative data, including that produced by non-native speakers. In the study, the differences are discussed and illustrated with data from second language communication strategies. He suggests that the often fraught interactions between native and non-native speakers are better captured through a Relevance Theory approach than through the alternatives.

Maia de Paiva and Foster-Cohen (2004) also explore a number of points at which Relevance Theory makes a useful contribution to second language theoretical models, specifically those of Bialystok and Schmidt and their respective notions of "analysis", "control" and "noticing". In the study, it is suggested that the inferential mechanisms of Relevance Theory can account for the contingencies of communicative interaction without which pragmatic negotiations do not make sense, and thus can complement such information-processing accounts through the notions of "manifestness" and the balance between "effort" and "effect".
Sequeiros’s (2004) explores second language (L2) learners’ interpretation of reflexive anaphora (the use of a word as a regular grammatical substitute for a preceding word or group of words) in VP-Ellipsis by critiquing the work of Ying (2003), who applies Relevance Theory to explain elliptical anaphora. Sequeiros argues against four claims made in his analysis: that L2 learners apply maximal relevance in anaphoric interpretation; that a procedural account of the impact of referential sentences on VP-ellipsis disambiguation is appropriate; that an account of anaphoric interpretation preferences should be based on processing cost; and that differences in experimental results between intermediate and advanced L2 learners are due to the use of different comprehension strategies. Instead, the study argues: that it is not maximal but rather optimal relevance that is at work; that the key in disambiguating anaphora in VP-elliptical sentences is the achievement of an optimally relevant interpretation; that the role of contextual assumptions in anaphora resolution is to enable L2 learners to derive enough contextual effects to make it worth their effort and, in doing so, identifying (as a side effect) what they take to have been the intended referent; and that what is crucial in the use of comprehension strategies is not processing effort, but rather consistency with the second principle of relevance. Overall, all these factors suggested by Sequeiros provide the basis for an alternative and more comprehensive explanation of the experimental results discussed by Ying.

Muma and Teller (2001), present their pragmatic analysis in relation to their social/linguistic studies. They presents a conceptual model of the cognitive social bases of language derived from the philosophical view of constructionism and theoretical perspectives of speech act theory and relevance theory. The centrality of intent, modality and core issues of language, lack of construct validity in assessment, and heterogeneity are discussed in the article.

Relevance theory studies have also reached the literary field and its different branches. Furlong (2007) claims that although one of the main roles of linguistics is to make significant contributions to literary and critical theory, it has failed to do so. His paper investigates the reasons for the failure and suggests an approach based in
Relevance Theory for a working relationship between literary studies and pragmatics. Literary critics, he asserts, have misappropriated linguistic terminology and theories, because their model of language is outdated, and because they blur the distinction between scientific theories and "interpretive frameworks"—contexts in which assumptions are highly salient. By following an outline of Relevance Theory, Furlong suggests that an application of relevance stylistics demonstrates the distinctions between theories and interpretive frameworks, and how they can reinforce one another.

The predictions of RT were also verified in the field of psychological studies and its relation to the field of pragmatics, such as, the study of adult reaction times and neurophysiological investigations. Noveck (2006) contrasts Relevance Theory to Levinson's (1987) default account on SI (scalar implicatures), i.e., effortful pragmatic inferences that are costly in terms of processing resources. Both sides have made explicit processing predictions on a range of topics and Noveck discusses what these might mean for the case of Sis. According to Levinson, SIs are generated automatically, without effort; and when participants interpret a scalar term without an SI, they must have generated the SI by default and then cancelled, rather than not generated it at all. However, as a result of being effortful, Noveck believes that one might expect that Sis will not appear early on in acquisition, and that by manipulating task demands in order to allow people less/more time to process the scalar terms, will affect the number of SIs participants generate.

A comprehensive range of studies, other than language research, have also been approached through the Relevance theory view. For example, Harter, in his book, *Psychological relevance and information science* (1992), made the first attempt to apply Relevance Theory to information science studies by proposing psychological relevance, which is based on the essence of Relevance Theory. Harter views information science as a discipline that helps in examining many factors that touch the scholarly communities and their researches, such as, electronic journals and their impact on research, information retrieval (IR), determining the institutional affiliation of authors, and even citation counts. In his study (1992), Harter explores the theory of psychological relevance and its relationship to information retrieval. He discusses
topics, such as, information need, the search process, the nature of information, topical relevance, relevance judgments, retrieval testing, information retrieval and bibliometrics. He believes that Relevance Theory is a valuable asset in information studies, where he notes that: “references on the topic may be less important than relevant references not on the topic - references that allow the making of new intellectual connections or cause other cognitive change” (p. 612).

In another study (1997), Harter discusses and evaluates numerous models for information retrieval (IR) evaluation, such as, the traditional Cranfield model. He thus suggests alternative models and various approaches to evaluation, one of which being the Relevance Theory, which he describes as an emerging theme in IR evaluation. Nonetheless, Harter stresses the significant explanations and analysis that the Relevance Theory provides for IR studies, and suggests further research in the light of the Relevance Theory for the information science field of study.

Tosca has also tackled the information science field from the RT perspective. In his study, A Pragmatics of Links (2000), he applies cognitive effects and processing effort to guidelines of writing relevant hypertexts depending on what kind of interpretive movement to provoke: Maximal (informational) cognitive effects at Minimum processing effort. This, he asserts, is important for presenting concrete information to enable the reader to know where she is and where she can go at all times, or Maximal (lyrical) cognitive effects at Increased processing effort for taking advantage of hypertext’s power of suggesting implicatures for the readers to explore.

Saracevic (2007) also extends the idea of applying RT on to the information technology studies. As noted by him, relevance in communication has some impact on thinking about relevance in information science than thoughts on relevance from other fields. White (2007) uses cognitive effects and processing effort within Relevance Theory to indicate term frequencies and inverse document frequencies in a two dimensional pennant diagram of bibliometric retrieval.

Unger (2006), on the other hand, points out the influence of genre on comprehension by applying RT in his study. Because, he believes, genre information enters into the comprehension procedure to the fine-tuning expectations of relevance.
Nevertheless, Unger’s statement is limited to linguistic discourses. Yus (2007), however, extends the ideas of genre and relevance to information technology and internet research. He stresses the role of genre information, relevance and the weblog template in stabilizing weblog genre. Yus asserts that, “genre identification is bound to save mental effort and direct the addressee towards particular interpretive paths and lead to specific expectations of weblog information” (p. 124).

It is worth noting that the importance of pragmatic translation, especially the revelation of RT on the translation practice, has also been increasingly recognized since the nineties. Pragmatic-translation studies have attempted to show how translation (skill, art, process, and product) is affected by pragmatic factors such as the acts performed by people when they use language; how writers try to be polite, relevant, and cooperative; the distinctions writers make between what their readers may already know and what is likely to be new to them; what is presupposed and what is openly affirmed; and not to mention time and space. Other factors are also taken into consideration in the pragmatic-translation field of study, such as, how writers refer to things and make their discourse coherent; and how issues may be hedged or attempts made to produce in readers of the translation effects equivalent to those stimulated in readers of the original.

It was in 1991 that Ernst-August Gutt (1991), a cognitive pragmatist, offered an account of translation purely in terms of the concept of relevance. Gutt had intended to find a new translation theory based on the RT. Interestingly enough, he realized that RT itself had such strong explanatory capability that it was able to account for existing translation theories as well as seemingly contradictory translation phenomena.

Gutt (1991) summarizes the value of relevance for religious-script translation (the Bible in particular). According to Gutt, because all translation must start with the translator's interpretation of the original language, relevance theory provides "a much sharper tool for meaning analysis" (p. 51). He asserts that the RT furthermore provides a more adequate understanding of translation problems by making
translators more conscious of the "contextual gap between the context envisaged by the original communicator and that available to the target audience” (p.52). In his study, Gutt offers, as further insights from relevance theory, an explanation of how implicit information is recovered, why there is implicit information in language processing, explanation of what it means for a translation to "make sense," and why contextual information is crucial for the interpretation of utterances.

Jobes (2007), on the other hand, explains that work in the cognitive sciences of the last thirty or forty years has shifted the way scientists think of how language is processed in the mind. This revolution in the field of cognitive sciences, he asserts, has caused “a rethinking of linguistic relativity in the recognition that the physiology of the human brain and its cognitive functions at the neural level are universal”(p.1). This, he believes, “has given rise to a mediating position that has been congenial to the emergence of a new theory of how language communicates meaning, relevance theory.”(p.1). Moreover, Jobes maintains that the RT provides a union between the linguistics and the cognitive sciences, as it attempts to account for the role of context in determining the meaning of language. This element, he assures, was lacking in the older approach to meaning, known in the linguistic field as the code model, which basic notion was based solely on lexical semantics in which the meaning of a statement was thought to be coded into the words comprising in other words. He maintains that, “For decades linguists worked with a model of communication that considered meaning to be encoded into words that were strung together like cars of a freight train to carry meaning between two people.” (p.2)

According to Jobes, the field of pragmatics, from which the RT emerged, is concerned with the contextual and inferential aspects of language communication, namely the relationship between how what is implied in language contributes to the meaning of what is explicitly said. He attempts to define the word "relevance" in RT, by explaining that it “refers to that goal of a mental process by which the meaning of an utterance forms in the mind through the subconscious process of spreading neural activation.”(p.4). Jobes stresses that the meaning of the word ‘relevance’ in RT should
not be confused with its far more common sense of consciously deciding if a statement, once understood, is relevant to one's interests or not. For he maintains that, a linguistic input is considered relevant to a person "when its processing in a context of available assumptions yields a positive cognitive effect,"(p.5), in other words, one that makes a difference to the person's representation of the world. Furthermore, Jobes explains that S & W base their theory on two principles of human cognitive psychology: “(1) that the human mind subconsciously attends only to information that it deems relevant to itself; and (2) that the human mind is geared to achieve the greatest possible cognitive effect while exerting the smallest possible mental processing effort in a context of available assumptions.”(p.6). With all things being equal, he further explains, the greater the positive cognitive effect achieved, the greater the relevance of the linguistic input, and the greater the processing effort expended, the lower the relevance of the linguistic input.

Moreover, Jobes explores relevance theory as it bears on the question of what characteristics a translation must have in order to be faithful to the original when translating religious text. Jobes maintains that recently relevance theory has been receiving much attention among religious scripture translators. He asserts his belief that because translation between languages is also an act of linguistic communication, it should not be treated in isolation from the larger framework of sound linguistic and cognitive theory. He also stresses the significant value of the theory when translating religious text, “Broadly stated, the application of relevance theory to religious translation requires that sufficient communicative clues that were linguistically signaled in the original language from which a reader in the source culture would infer necessary implicatures must be adequately represented in the translation. Translators guided by relevance theory would therefore opt for the rendering that minimizes mental processing effort.” (p.9).

Jobes, furthermore, argues against the opposing parties when it comes to translating religious text, that is, the formal against the functional method, and vice versa. He asserts that, “The fidelity of a translation to the original language cannot be
adequately evaluated by pitting formal and functional equivalence against each other”. (p.11) In fact, Jobes maintains that a translation that is considered faithful to the original text has to include both the formal and functional methods in translating wherever each is suitable, which, he believes, the relevance theory makes possible. He asserts that RT substantiates that “every accurate translation must include features that resemble both formal equivalence and functional equivalence at various places throughout the text depending on the degree of congruence between the linguistic structures of the languages involved and the differences between the lexical, logical, and encyclopedic entries of the authors of Scripture and those of the reader in any given modern language and culture.” (p.13) Overall, Jobes concludes his article by asserting that the application of relevance theory to translation should continue to be explored for its potential value in the interpretation of written texts.

2.2.2 Empirical Studies:

On the other hand, numerous empirical studies have been attempted within the pragmatic frame of the Relevance Theory. Such studies have proved the theory to be a very reliable and efficient theory when it comes to analyzing and understanding the language we use in learning and communication.

Heltoft and Geist (1984) attempt to analyze the language used in a newspaper article from the point of view of the Relevance Theory. The three papers in this publication analyze a newspaper article on "economic politics," or more specifically, the devaluing of the Danish kroner. The papers all examine some linguistic or structural features of the language used in writing the article. Specific focus is on relevance theory and relevance in the article, the use of text analysis in looking at relevance, the function of the language used in the article, and the intention of the writing (e.g., how the writing of the article is used to shape the opinions of readers). The research findings provide direct support for the Relevance Theory view and suggest that results can be explained within the Relevance Theory frame.
Haegeman (1989), however, attempts to shed light on the selection of future time expressions in English tense usage. In his study, descriptive accounts of time usage expressions are reinterpreted against the background of the theory of utterance interpretation known as Relevance Theory. In conclusion, the research findings provide implications for relevance theory as an information retrieval system.

Delahunty, in his article: Whole Teaching: Performative Acts in Good Faith (1989), discusses ways in which the innate act of "telling" can be used in teaching to strengthen the bond between teacher and student and enrich the process of learning. The paper offers an intuitive rationale for using "telling" as a teaching mode in the community college classroom and provides a formal explanation of "telling" based on the work of theorists in the fields of cognitive science and speech-act theory. The author explains that among these theorists are the Russian meta-linguist, M. Bakhtin; Jurgen Habermas, the founder of "universal pragmatics"; and Dan Sperber, who developed the general "relevance" theory of communication which suggests that, for communication to occur, the speaker must "make manifest" his/her intention to effect "a change in the listener's cognitive environment" and that this show of intention ("ostension") is a precondition for meaningful exchange.

After discussing the relationship between "ostension" and "telling," Delahunty’s paper provides examples of performative teaching that took place in classrooms at Northampton Community College (Pennsylvania) between 1986 and 1988. Dialogues between students and teachers in speech/theater, economics, English literature, composition, and social science classrooms are used to illustrate acts of disclosure, active listening, restatement, and teaching within the context of interrogating learners. Concluding comments indicate that all acts of "telling" share the intention of reaching understanding and that from this common ground they diverge according to the demands of course content and mutual cognitive environments.
Byrne (1992) presents his study within the RT field. Byrne explains how relevance theory, the premise that a hearer will make the effort to process a communication if s/he feels it will alter or enrich his/her cognitive environment, can be useful for increasing the effectiveness of advertising communication. The researcher believes that the theory is particularly helpful for analyzing and improving the effectiveness of the creative devices often used in advertising language to add interest and additional meaning to the text. In addition, Byrne asserts that while essentially a theory of pragmatics, relevance theory gives a complete account of the recovery of meaning of an utterance. He also mentions that advertising text commonly contains variations on accepted standards of grammaticality and specific contextual implications. Analysis of the text using RT, he assures, can expose the text/context interaction and illustrate the role of linguistic style as a tool for conveying more than is actually verbalized. Finally, Byrne suggests areas that can be targeted by such analysis, including: disambiguation and referential assignment, readers’ anticipatory hypotheses, examination of phonetic effects, repetition, text length, media-specific contextual implications, intertext devices, illocutionary force, and cancellation of implicature.

On the other hand, Campbell (1992) performed a pragmatic study in the field of rhetorical arguments. He explains that RT in linguistic pragmatics is applied to the field of rhetorical argument. In the study, the author asserts the fact that the applied theory allows for multiple coincidental relevances (strategic, rational, and worldly) during the communication of arguments corresponding to horizons of awareness with regard to which arguments are made and understood. In conclusion, the study suggests that results can be explained within the RT framework.

Pickering (1995) provides an analysis of English intonation where he focuses on fall-rise and rise-fall instruction on the basis of RT. In his study, Pickering explains that fall-rise intonation marks material from which the speaker would derive a precondition for what he is saying, while rise-fall intonation marks material from which the speaker would derive a consequence from what he is saying based on inversion of the clause where the rise-fall appears. The data of the study were drawn
from a covertly recorded telephone conversation between two males about a series of mishaps suffered by a woman driving a car. In addition to the main finding that both certain implicatures and certain explicatures can be derived from fall-rise tones, it was also found that back-channel utterances by the listener were significantly related to the speaker's intention as interpreted by the listener through intonation, and that a sexist stance on the speaker's part was conveyed through intonation.

Watson (1995) examined whether the use of superordinate terms in 206 children's definitions is predictable by relevance theory. Children (ages 5-10) gave definitions for 16 basic-level words and 4 superordinate words from natural kind and artifact semantic domains. Watson found that superordinate terms were used more frequently when they supported more inferences. The findings reflect the speaker's intention to achieve optimal relevance and maximum contextual effects with least processing effort. In conclusion, the research findings provide implications for RT and the evaluation of information retrieval systems.

Groefsema (1995) argues that the polysemy view can not give a unified account of the meanings of can, may, must, and should, whereas the unitary meaning view does not encounter the problem. In the results of the study, unitary meanings are proposed that account both for the range of interpretations these modals can have and for why they get these interpretations. In conclusion, the research findings provide direct support for the RT view.

On the other hand, Fretheim (1996) compares the meanings of the English adverb "then," that is, at that time and after that, to their lexical equivalents in Hungarian and Norwegian, drawing conclusions in the spirit of S and W's relevance theory. The researcher proposes that neither Hungarian nor Norwegian has a word that, like the English "then," neutralizes the distinction between coreferential and non-coreferential terms. In conclusion, the study suggests that results can be explained with the RT framework.
The author Ku-Mesu (1997) presented a study that applied Relevance Theory to interpretation of texts written in Ghanaian English, particularly those intended for reading by multiple audiences. In his article, the nature of such "hybrid" texts is examined and key principles of Relevance Theory are outlined. In his study, Ku-Mesu offers first an explanation of S & W’s RT. He asserts that Relevance is defined in terms of contextual effect and processing effort. Contextual effects are achieved when new information interacts with a context of already existing assumptions in one of several ways; the greater the effort required to derive contextual effects (processing effort), the lower the relevance of the content. He also assures the view that the greater the contextual effect, the greater the relevance. In addition, the researcher reports his analysis of several texts which looks at contextualization, lexico-semantic variation, and syntactic variation. Proverbs were also considered, as a subcategory of hybrid text. It was concluded that two forms of relevance emerge from processing of hybrid texts: mother-tongue relevance and other-tongue relevance. He also suggests that variation in assumptions that underlies this process is particularly great between different cultures.

Nicolle and Clark (1999) attempted a replication of Gibbs and Moise (1997) experiments regarding the recognition of a distinction between what is said and what is implicated. Results showed that, under certain conditions, the subjects selected implicatures when asked to select the paraphrase best reflecting what a speaker has said. In conclusion, the study suggests that results can be explained with the RT framework.

Spink and Greisdorf (2001a), on the other hand, investigated the regions across a distribution of users’ relevance judgments. In their study, a multidimensional instrument was designed using four scales for collecting, measuring, and describing end-user relevance judgments, and was administered to 21 end-users who conducted searches on their own information problems and made relevance judgments on a total of 1059 retrieved items. Finally, the research findings provide implications for RT and the evaluation of information retrieval systems.
In addition, the co-authors published another study in 2001. In their study, the authors: Greisdorf and Spink (2001b) report their three pragmatic studies. Results from the three studies examining 1295 relevance judgments by 36 information retrieval (IR) system end-users are reported. Both the region of the relevance judgments, from non-relevant to highly relevant, and motivations or levels for the relevance judgments are examined. Implications for RT and IR systems evaluation are discussed within the studies.

Zegarac (2004) considers the implications of S and W's (1986/95) RT for the acquisition of the English "the" by second language (L2) learners whose first language (L1) does not have an article system. On the one hand, the researcher asserts that Relevance Theory provides an explicit characterization of the semantics of "the", which suggests ways of devising more accurate guidelines for teaching/learning than are available in current textbooks. On the other hand, he believes that Relevance Theoretic assumptions about human communication together with some effects of transfer from L1 provide the basis for a number of predictions about the types of L2 learners' errors in the use of "the." The author argues that data from previous research (Trenkic, 2002) lend support to these predictions. In the study, the author also tries to show that examples drawn from the data he has collected provide evidence for the view that L2 learning is not influenced only by general pragmatic principles and hypotheses about L2 based on transfer from L1, but that learners also devise and test tacit hypotheses which are idiosyncratic to them.

In their study, Bott and Noveck (2004) presented another pragmatic research in the field of understanding utterances. The researchers initiate their study by this simple example:

*When Tarzan asks Jane "Do you like my friends?" and Jane answers "Some of them," her underinformative reply implicates "Not all of them." (p.2)*

The researchers explain that the "scalar inference" arises when a less-than-maximally informative utterance implies the denial of a more informative proposition. According to them, default Inference accounts (e.g., Levinson, 1983, 2000) argue that
this inference is linked to lexical items (e.g., "some") and is generated automatically and largely independently of context. Alternatively, the co-authors reveal that Relevance theory (Sperber & Wilson, 1985/1995) treats such inferences as contextual and as arriving effortfully with deeper processing of utterances. The co-authors compare these accounts in four experiments that employ a sentence verification paradigm. They focus on underinformative sentences, such as "Some elephants are mammals," because these are false with a scalar inference and true without it.

Experiment 1 shows that participants are less accurate and take significantly longer to answer correctly when instructions call for a "Some but not all" interpretation rather than a "Some and possibly all" interpretation. Experiment 2, which modified the paradigm of Experiment 1 so that correct responses to both interpretations resulted in the same overt response, reports results that confirm those of the first Experiment. Experiment 3, which imposed no interpretations, reveals that those who employed a "Some but not all" reading to the underinformative items took longest to respond. Experiment 4 shows that the rate of scalar inferences increased as permitted response time did. Through these results of the study, the researchers argue against a Neo-Gricean account and are in favor of RT when we try to interpret the understanding process.

De Neys & Schaeken (2005) also attempted pragmatic studies in the scope of RT. In their study, they introduced a dual task methodology to test opposing psychological processing predictions concerning the nature of implicatures in pragmatic theories; the neo-Gricean view and S and W’s RT view. According to them: “Implicatures routinely arise in human communication when hearers interpret utterances pragmatically and go beyond the logical meaning of the terms” (p.1). The results of their experiment showed that participants made more logical and fewer pragmatic interpretations under the burden of memorization load. Their findings provide direct support for the RT view.

Another study by Thomas and Cronje (2007), investigates influences on the sustainability of a computers-in-schools project, in South Africa, during the
implementation phase thereof. In their article, the Computer Assisted Learning in Schools (CALIS) Project (1992-1996) was the unit of analysis. A qualitative case study research design was used to elicit data, in the form of participant narratives, from people who were involved in the regional management of the Project, as well as teachers who implemented the Project in their classrooms. These narratives were then analyzed from a postmodern perspective. The analysis revealed personal, programmatic, physical and systemic influences on the Project. The authors believe that these influences can be identified on all structural levels of the education system. Furthermore, metaphoric patterning across narratives was also analyzed in terms of implicatures, postulated by Sperber and Wilson's (1995) Relevance Theory. Analysis of the data provided evidence in support of Fullan's (2005) definition of sustainability as a quality of dynamic, complex systems. The authors maintain that the resulting ecological or viral growth is characteristic of complex systems, where further development is indeterminate. Finally, suggestions were made regarding the possible implications of these findings for the development of a framework for the sustainable implementation of ICT-enabled educational projects.

In a (2007) study, Loukusa and seven other co-authors utilized RT to investigate the ability of children with Asperger syndrome (AS) and high-functioning autism (HFA) to use context when answering questions and when giving explanations for their correct answers. Three groups participated in this study: younger AS/HFA group (age 7-9, n = 16), older AS/HFA group (age 10-12, n = 23) and a normally functioning control group (age 7-9, n = 23). The results indicated that the younger AS/HFA group did less well when answering contextually demanding questions compared to the control group, and the performance of the older AS/HFA group fell in between the younger AS/HFA group and the control group. The researchers concluded that both AS/HFA groups had difficulties explaining their correct answers, suggesting that they are not always aware of how they have derived answers from the context.

In addition, the authors Loukusa, Ryder, and Leinonen (2008) presented a research which explores, within the framework of RT, how children's ability to
answer questions and explain their answers develops between the ages of 3 and 9 years. Two hundred and ten normally developing Finnish-speaking children participated in this study. The children were asked questions requiring processing of inferential meanings and routines, and were asked to explain their correct answers to elicit understanding about their awareness of how they had derived the answers from the context. The results indicated that the number of correct answers increased rapidly between the ages of 3 years and 4-5 years. The co-researchers assert the fact that familiarity of context had a significant effect on young children's ability to answer questions. They also concluded that becoming aware of the information used in inferencing developed gradually over time between the ages of 3 and 9. Moreover, the analysis of the children's incorrect answers and explanations showed that, as children develop, their unsophisticated answer strategies diminish and they increasingly utilize context even in incorrect answers and explanations.

Moreover, in 2008, Ryder, Leinonen, and Schulz presented their study by which they aimed to develop both a cognitive approach to pragmatic language assessment based on Relevance Theory and an assessment tool for identifying a group of children with pragmatic language impairment from within a specific language impairment group. The researchers believed that pragmatic language impairment in children with specific language impairment has proved difficult to assess, and the nature of their abilities to comprehend pragmatic meaning has not been fully investigated.

Concerning the methods and procedures, Ryder and his co-authors focused on RT's view of the role of context in pragmatic language comprehension using questions of increasing pragmatic complexity in different verbal contexts (scenarios with and without pictures and a story with supporting pictures). The performances of the children with and without pragmatic impairment on the most pragmatically demanding Implicature questions were examined. Their study included 99 children: 27 with specific language impairment (including nine pragmatically impaired children) and two groups of typically developing children (32 children aged 5-6 years and 40 children aged 7-11 years). The outcomes and results of the study assert that: the specific
language impairment group performed similarly to their peers when utilizing context in inferring referents, inferring semantic meaning, and generating Implicatures, only when the answer was provided by pictorial context. Both the children with specific language impairment and the 5-6 year olds were not yet competent at utilizing verbal context when answering the most pragmatically demanding questions (targeting Implicature). On these questions the children with pragmatic language impairment performed significantly poorer than the rest of the specific language impairment group and performance scores on Implicature questions were found to identify accurately the children with pragmatic language impairment from the rest of the specific language impairment group (sensitivity = 89%).

The researchers concluded that children's ability to infer and integrate information in the comprehension of pragmatic meaning was found to be influenced by the available context. As children become more competent they are able to utilize verbal context and integrate information. Children with specific language impairment, and those with pragmatic language impairment were found to be developmentally delayed at making inferences, but children with pragmatic language impairment had particular difficulty in integrating contextual information. They also believe that their research findings support the view that a cognitive approach to assessing pragmatic comprehension deficits could provide clinicians with a useful tool.

Furthermore, in their (2009) study, Bonnefon and his co-authors present a number of reports and experiments concerning the use of RT when analyzing contexts. In their studies they believe that accounts of the scalar inference from "some X-ed" to "not all X-ed" are central to the debate between contemporary theories of conversational pragmatics. An important contribution to this debate, they assert, is to identify contexts that decrease the endorsement rate of the inference. They suggest that the inference is endorsed less often in face-threatening contexts, i.e., when X implies a loss of face for the listener. This claim is successfully tested in Experiment 1. Experiment 2 rules out a possible confound between face-threatening contexts and lower-bound contexts. Experiment 3 shows that whilst saying "some X-ed" when one knew for a fact that all X-ed is always perceived as an underinformative utterance, it is
also seen as a nice and polite thing to do when X threatens the face of the listener. The co-authors consider their findings from the perspective of Relevance Theory as well as that of the Generalized Conversational Inference approach.

2.3 Children Foreign Language Learning

As the focus of the study is concerned with the explanation of the processes children go through when learning a foreign language, it is essential to take an overview of the theories and studies that attempted to explain the way children acquire or learn a language in general, and a foreign language in particular. Literature has shown that a clear understanding of how a child acquires his first language L1 may reveal not only how L1 is learned but also his second and foreign language L2 and FL, which will, in return, improve teaching methods that will lead to more effective language learning skills. And because today, most linguistic scholars use 'language learning' and 'language acquisition' interchangeably, (unless the study is specifically addressing the contrast between the term 'language acquisition' with the formal and non-constructive 'learning'), we will take into consideration and make use of some theories that addressed child language acquisition as applicable to child language learning.

Numerous approaches have attempted to tackle the explanation of how a child acquires a language, including his first and second/foreign language. One approach proposes that the child possesses a unique capacity for language that the adult no longer has. Another view argues that the child’s brain is more flexible. A third approach assumes that language acquisition is innately determined and depends on some necessary neurological factors and unspecified minimum linguistic input during a critical period of brain lateralization of language specialization. (Banu, 1986)
2.3.1 The Language Acquisition Device (LAD):

The logical problem of child language acquisition, that is, “how is acquisition possible?” has been explained by the innate language learning system, Chomsky’s Universal Grammar (UG). Chomsky (1981) simply observed that while a human baby and a kitten are both capable of inductive reasoning, if they are exposed to the exact same linguistic data, the human child will always acquire the ability to understand and produce language, while the kitten will never acquire either ability. Chomsky labeled whatever the relevant capacity the human has, which the cat lacks, as the "Language Acquisition Device" (LAD). According to Chomsky’s theory, a learner’s LAD processes the incoming input automatically and produces output. Chomsky’s proposal asserts that a child’s brain is preprogrammed with some universal principles of language. The universal features that would result from these constraints are what he called the Universal Grammar (UG). Chomsky defined the UG as: “the system of principles, conditions and rules that are elements or properties of all human languages” (1975, p.29). This program, in Chomsky’s belief, is what makes a child learn a language so quickly within four to five years from his birth.

In his 1965 study, Chomsky shows his concern in human’s linguistic performance, that is, how we use our linguistic competence in speech, production and comprehension. He asserts that although his ‘generative grammar’ theory intended to give an explicit, exhaustive account of the linguistic knowledge of the individual, however, it is not enough by itself to prescribe how speech is produced. He believes that the human mind is able not only to acquire and store the mental lexicon and grammar, but also to access that linguistic storehouse to speak and understand language in real time. Chomsky (1965) explains that:

No doubt a reasonable model of language use will incorporate, as a basic component, the generative grammar that expresses the speaker-hearer’s knowledge of the language; but this generative grammar does not, in itself, prescribe the character or functioning of a perceptual model or a model of speech production (p.9).
Furthermore, because one of Chomsky's Universal Grammar suggestions bases formal similarities among natural languages, Chomsky developed his UG to explain not only L1 acquisition data, but maintains, that it also applies to L2 learners who achieve near-native fluency not attributable solely to input and interaction. Chomsky (1980) concedes that there exists a pragmatic competence, which he defines as “knowledge of the conditions and manner of appropriate use” (p.224). Such innate knowledge, according to him, helps the L2 learner to learn and develop the second language because he already possesses the universal grammatical rules of use of all languages. Moreover, Chomsky asserts that environmental factors must be relatively unimportant for language emergence, as so many different factors surround children acquiring L1. Instead, Chomsky claims language learners possess innate principles building a ‘language acquisition device’ (LAD) in the brain. According to him, these principles enable learners to construct a grammar out of ‘raw input’ collected from the environment. Because, according to him, input alone cannot explain language acquisition.

This assumption, that intuitive knowledge of native speakers is assumed to be attained uniformly around the age of five, has been tested in several studies. For instance, in a study by Crain and Nakayama (1987), thirty 3- to 5-year-old children responded to requests by posing yes/no questions in response to prompts that contained a relative clause. The study was used to see whether children would produce incorrect question forms. The outcome was exactly as predicted: Children never produced incorrect question forms. Thus, a structure-independent strategy was not adopted in spite of its simplicity and in spite of the fact that its application would yield a correct form for many sentences. The findings of this study, then, lend support to one of the central claims of Universal Grammar, that the initial state of the language faculty contains structure dependence as an inherent property. Therefore, Crain and Nakayama reported that children between the ages of three and five have syntactic knowledge of structure dependency.

Crain and Thornton (1988), on the other hand, support Chomsky’s UG and
they posit it as a solution to the logical problems of language acquisition. The authors outline the logical problem of acquisition: "...the data available underdetermine what the learner comes to know. As a solution to this problem, current linguistic theory supposes that the constraints that characterize the final state also characterize the initial state. That is, the constraints are not learned; rather they are innately specified as part of universal grammar..." (p.27). The authors thus indicate the logical necessity of this observation is that innate features should appear in every natural language and that children should conform to constraints early in the course of language development.

However, some scholars believe that although the UG theory is valuable in explaining how a child attains fluency in his mother tongue (L1), it fails to explain why child foreign language learners cannot attain fluency with his/her pre-knowledge of grammar and why his/her LAD does not work. For example, according to Jacobs and Schumann (1992), there is "no neurobiological evidence to support the existence of a distinct LAD or UG" (p. 286). They believed that the existence of a domain-specific language acquisition device (LAD) incorporating UG principles and parameters is not universally accepted.

In addition to the LAD, another theory appeared in the linguistics and language learning field, that also attempted to provide some explanation of how a child acquires a language, it is commonly known as the Critical Period Hypothesis (CPH).

2.3.2 The Critical Period Hypothesis (CPH):

One of the longstanding debates in linguistics and language acquisition for decades is the subject of the CPH, which regards the acquisition of language form a biological perspective. The CPH states that, the first few years of life (until puberty)
is the crucial time in which an individual can acquire a language fluently, if presented with adequate stimuli. If language input doesn’t occur until after this time, the individual will never achieve a full command of language – especially grammatical systems.

The CPH was first proposed by the neurologist Wilder Penfield and co-author Lamar Roberts in their (1959) paper: *Speech and Brain Mechanisms*. The paper both presented stem from L1 and brain damage studies which states that children who suffer impairment in the speech area of the cerebral cortex in the brain before puberty typically recover and redevelop normal language, whereas adults rarely recover fully, and often do not regain verbal abilities beyond the point reached five months after impairment (1959). According to Penfield and Roberts:

Comprehension of speech occurs after receiving auditory impulses in both hemispheres and in the higher brain stem, and during the interaction of impulses between the higher brain stem and the left temporo-parieto-occipital region. Reading occurs after receiving visual impulses in both hemispheres and in the higher brain stem, and during the interaction of impulses between the higher brain stem and the left temporo-parieto-occipital region (p.189).

And productive speech occurs when,

“… following interaction between the higher brain stem and the left hemisphere, impulses pass to both cortical motor areas and thence to the final common pathway to those muscles used in speech. . . .” (pp. 190-191).

However, they assert that, by puberty, the left hemisphere in the brain, responsible for language function, loses such plasticity, hence, the individual loses the ability to learn and produce the language fluently. According to them, It then becomes rigid, fixed and loses the ability for adaption and reorganization, rendering language (re-)learning difficult. Thus, both theorists agree that children have a neurological advantage in learning languages, and that puberty correlates with a turning point in ability. They assert that language acquisition occurs primarily, and possibly exclusively, during childhood.
In addition, Penfield’s concept of the communicative function of the brain is represented in his theory. He believes that the communicative process indicates how the neurological mechanisms make it possible for a speaker, who has a thought he would like to share, to select symbols for his thought in appropriate words. These words cause a listener to transform what he hears into his own thoughts, which then become the basis of an overt action or become converted into another selection of words. In the prologue to his and Roberts' book (1959), Penfield observes:

It is an astonishingly complex process that any speaker sets in motion. Consideration of it brings us, at once, face to face with the baffling problem of the nature of the physical basis of the mind. Without stopping for definition, let me say simply that I begin with what is called a thought. A succession of nerve impulses then flows out from my brain along the nerves in such a pattern that the appropriate muscles contract, while others relax, and I speak. An idea has found expression in electrical energy, movement, vibrations in the air. The boundary which separates philosophy from neurophysiology and physics has been crossed!

When that sound reaches your ear drums it is converted again into nerve impulses that are conducted along your auditory nerves and into your brain. This stream of nerve impulses results in a secondary mental proposition which resembles, but is far from being identical with, that of the speaker. It is a new perception. Again that strange brain-mind frontier has been crossed -- crossed twice by each utterance (pp. 3-4).

Penfield and Roberts’ approach was later popularized by Eric Lenneberg in (1967), with his: Biological Foundations of Language. In his study, Lenneberg supports Penfield and Roberts’ proposal of neurological mechanisms responsible for maturational change in language learning abilities. This, Lenneberg maintains, coincides with brain lateralization and left-hemispherical specialization for language around age thirteen. Lenneberg asserts that infants’ motor and linguistic skills develop simultaneously, but by age thirteen the cerebral hemispheres’ functions separate and become set, making language acquisition extremely difficult. He argued that the onset of language is marked by "a peculiar, language-specific maturational schedule" (1967, p.131). Therefore, Lenneberg asserts that there are maturational constraints on the time a first language can be acquired. According to him, if language acquisition
doesn't occur by puberty, some aspects of language can be learnt but full mastery cannot be achieved. And he called this view the ‘Critical Period Hypothesis’.

Although Lenneberg (1967) directed most of his argumentation to primary or first language acquisition, however, he made a brief reference to L2 and pointed to learners' progress as well as their shortcomings. According to Lenneberg (1967), for adults learning an L2, they invoke the presence of a mental "matrix for language skills". In other words, he believes that adults can easily learn to communicate in a foreign language because the part responsible for languages in the brain has already been established during childhood. He asserts that this idea does not contradict with his CPH because of the similarity of the fundamental aspects of different languages. Thus, Lenneberg maintains that:

Most individuals of average intelligence are able to learn a second language after the beginning of their second decade. . . . A person can learn to communicate in a foreign language at the age of forty. This does not trouble our basic hypothesis on age limitations because we may assume that the cerebral organization for language learning as such has taken place during childhood, and since natural languages tend to resemble one another in many fundamental aspects, the matrix for language skills is present. (p. 176)

After the spread of the CPH studies and its effect on L1 acquisition, considerable interest have surrounded the age effects on second and foreign language acquisition. There were numerous evidences that the theory has extended to explain a critical period for second/foreign language acquisition. For example, Penfield and Roberts (1959) claim that children under nine can learn up to three languages. They maintain that early exposure to different languages activates a reflex in the brain allowing them to switch between languages, without confusion or translation into L1. Thus, stemming from the (CPH) ideas, there was a common notion among scholars that children learn L2 easily, whilst older learners rarely achieve native-like fluency. Singleton and Lengyel (1995), for example, states that in learning a second language, 'younger = better in the long run', but points out that there are many exceptions, noting that five percent of adult bilinguals master a second language even through
they begin learning it when they are well into adulthood - long after any critical period has presumably come to a close.

On the other hand, some L2 researchers have shown that certain linguistic aspects appear to be more affected by age than others. For example, Robertson (2002), observed that factors other than age may be even more significant in successful second language leaving, such as personal motivation, anxiety, input and output skills, settings and time commitment. While Singleton & Lengyel (1995), in discussion of the age factor in second language acquisition, report that there is no critical period for learning vocabulary in a second language. In addition, Oyama (1976) maintains that adult second-language learners nearly always retain an immediately-identifiable foreign accent, including some who display perfect grammar.

Inspite of the initial favor of the CPH, other works have appeared in the linguistic field that proposed a challenge to this biological approach. Scholars who rejected the CPH found that foreign language learners’ problems can be explained better by social and psychological factors. Krashen (1975), for example, proposed a behavioral approach that was based on the re-analyzation of clinical data used as evidence, and he concluded that cerebral specialization occurs much earlier than Lenneberg calculated. Therefore, according to Krashen, if a CP exists, it does not coincide with lateralization of the brain. Moreover, in their (1983) study, Krashen and Terrell maintain that “The ability to pick up languages does not disappear at puberty, as some have claimed, but is still with us as adults.” (p.26).

Another pioneer in the behavioral approach is Skinner (1957), who examines verbal behavior, and asserted that languages are learned as any other behavior, through conditioning. He details how operant conditioning forms connections with the environment through interaction, and applies the idea to language acquisition. Mowrer (1960), however, hypothesizes that languages are acquired through rewarded imitation of 'language models'. According to him, the model must have an emotional
link to the learner (e.g. parent, caretaker), as he asserts that imitation brings pleasant feelings which functions as positive reinforcement. Because, according to Mowrer, new connections between behavior and the environment are formed and reformed throughout life, it is possible to gain new skills, including languages, at any age. On the other hand, Chun (1980), a researcher in the factors affecting second language acquisition, supports this behaviorist view. He believes that there is no scientific evidence that proves that language learning, and second language learning specifically, decreases by age. Chun stresses that “We have no clear empirical support for the hypothesis of a general decrease in L2 learning ability with age.” (p.288)

Problems, however, have surfaced regarding this behavioral approach. One of the main problems is its assumption that all learning, verbal and non-verbal occurs through the same processes. Pinker (1995) notes that a more general problem to this approach is his belief that almost any sentence anybody voices is an original combination of words never previously uttered, therefore a language cannot consist only of word combinations learned through repetition and conditioning. He asserts that the brain must contain innate means of creating endless amounts of grammatical sentences from a limited vocabulary. This is precisely what Chomsky (1965) argues with his proposition of a Universal Grammar (UG), as mentioned earlier.

On the other hand, an interactionist approach appeared in the linguistic field, which was reluctant to ascribe specific innate linguistic abilities to children. This approach was based on Piaget's (1926) idea where he considers the brain a homogeneous computational system, with language acquisition being one part of general learning. He agrees this development may be innate, but claims there is no specific language acquisition module in the brain. Instead, Piaget suggests that external influences and social interaction trigger language acquisition. According to him, cognitive development and language acquisition are life-long active processes that constantly update and recognize schemata. He assumes language acquisition is part of this complex cognitive development, which processes and patterns change systematically with age, and that these developmental phases are the basis for an optimal period for language acquisition in childhood.
Although the CPH has been criticized by a number of scholars who adopted alternative approaches based on their concerns about the original evidence the hypothesis was based on, the CPH remained a viable hypothesis, which later studies have better explained and substantiated. For example, in support of the (CPH) approach, recent studies proposed by Thompson –Schill et al. (2009), and Ramscar & Gitcho (2007), suggest that if a critical period does exist, it may be due, at least partially, to the delayed development of the prefrontal cortex in human children. These researchers maintain that delayed development of the prefrontal cortex and an accompanying delay in the development of cognitive control may facilitate convention learning, allowing young children to learn language far more easily than cognitively mature adults and older children.

In a further research that attempted to study the viability of both Chomsky’s LAD theory (1981), and Penfield (1953) and Lenneberg’s (1967) Critical Period Hypothesis in relation to EFL studies, the Korean Linguist, Soo-Woong Ahn, who attempted to see whether there are any important mistakes in applying the LAD and CPH theories in EFL situations. He also attempted to see what are the factors that confuse many scholars and language policy-makers in these EFL situations. In Ahn’s proposal, in the EFL situations, he asserts the fact that “with the deficiency of input and language, attainment of fluency was not as successful as expected.” (1992, p. 4)

Regarding child’s acquisition in EFL situation, Ahn (1992) states that there is no report of successful acquisition of native-like proficiency. He asserts that a child in an EFL situation speaks English by consciously applying the grammar. His/her speaking is neither spontaneous nor automatic. In the author’s view the three conditions that are essential to attain proficiency in the target language are not satisfied in this situation. Although the LAD is supposed to be already existing in the learner’s mind, there is no actual language input outside the classroom, and there are minimum language needs in this situation especially if all the needs of the learner are satisfied in his/her first language. Language needs; such as, motivation, empathy,
understanding, specializing with peer group, ego boundaries, passing tests and curiosity for the unknown are all important factors which critically affects language acquisition in Ahn’s point of view. The researcher believes that loss of this factor causes loss of language as young children, under the age of five, usually lose their first or second language when they move to another country where the language is not heard or spoken. To support his view, Ahn mentions the example of Korean immigrants’ children and how they “fail to acquire Korean language even though there is Korean input by their parent at home because there are no language needs to satisfy their physical or psychological needs.” (p. 2).

Ahn (1992) thus concludes that:

1. The three conditions essential for attaining proficiency in L1 or second/foreign language situations are: 1) the LAD (Chomsky’s Language Acquisition Device), 2) language input; which is the data on which the LAD responds to and consequently forms the grammar of the language, and 3) language needs.

2. Ahn supports Krashen and Terrell’s rejection of the CPH and believes that the deficiency of one of the previous elements is the main cause of failure for attaining proficiency in the EFL situation, not because of the disappearance of the LAD after puberty or the critical period hypothesis.

3. Starting early to teach English in the EFL situation will not produce fluent speakers as it does in ESL situations, unless the three conditions are met.

4. Ahn agrees with Seliger (1978) and Ellis’s (1985) Multiple Critical Period Hypothesis who state that: children’s superiority in attaining the native speaker’s intonation is recognized, but achieving syntax has no correlation with the age. (p. 5).

Some researchers have also attempted to explain the difference between child and adult language acquisition in terms of different cognitive modules and theories. Park (1995) asserts the fact that child language acquisition of L1 and L2 is explained by the theory of parameter-setting in language-specific cognition which mainly consists of knowledge of UG and language learning principles. He believes that “UG
resolves the logical problem, and language learning principles take charge of the developmental problem of child language acquisition.” (1995, p.46). In his study, Park also proposes his Compensation Model, which, according to him, was stimulated by The Competition Model (Felix, 1985) and The Fundamental Difference Hypothesis (Bley-Vroman, 1989). Park believes that unlike the Competition Model, his model asserts that UG is not accessible in adult language acquisition, which addresses the logical problem of language acquisition. He also asserts that in his proposed model, language learning strategies take charge of the developmental problem of adult language acquisition unlike The Fundamental Hypothesis where general problem solving systems take charge.

In his conclusion, Park stresses on the need to develop a unified theory of L2 acquisition in order for the domain of L2 acquisition to be considered a mature science. He also maintains that even though his Compensation Model may prove to be wrong and remains to be verified, “it will certainly contribute to a better understanding of L2 acquisition phenomena from childhood to adulthood and to the development of a unified theory of L2 acquisition.” (1995, p.53)

Overall, the previous section was a general overview of some theories that addressed child language acquisition, theories such as, the Language Acquisition Device, The Critical Period Hypothesis, the Behaviourist approach, and the Interactionist approach. These theories attempted to explain how a child acquires a language, including his first, and sometimes, his second/foreign language. One approach proposes that the child possesses a unique capacity for language that the adult no longer has, while another approach assumes that language acquisition is innately determined and depends on some necessary neurological factors and linguistic input during a critical period of brain lateralization. Another approach argues that the child’s brain is more flexible than the adult's, while another suggests that external influences and social interaction are the main factors that trigger language acquisition. In the coming section we will look at some field studies that attempted to research and explain children's foreign language learning in particular.
2.4 Field Studies in Children’s Foreign Language Learning

Research done by the International Association for the Evaluation of Educational Achievement on teaching English as a Foreign Language in ten countries and teaching French as a foreign language in eight countries, provided no clear evidence that there is any special advantage in starting the study of a foreign language very early other than the fact that this may provide the student more time to attain a desired performance level at a given age (Stern, 1978).

A British project on primary French was performed through a longitudinal study between 1964 and 1974 with the cooperation of the Department of Education and Science of England and Wales, the National Foundation for Educational Research, the Nuffield Foundation and the schools Council. The researchers were very doubtful of the advantages of early teaching. They found that the early starters were not overwhelmingly better than the later starters. The researchers said that if there was any advantage at all for the early start, it was only that it allows more time for second language learning (Stern, 1978).

However, more recent researches have stressed on the significant advantages of an early start in the EFL situation. For example, a 1994 study investigated foreign language instruction in the elementary schools (FLES) in Austin, Texas in the United States. The co-authors of the study, Moore and Ramsay (1995), shed light on the scarcity of research topics relating to foreign language education at the elementary school level. They hold that “a review of the last three decades of literature does indeed provide ample evidence that the bulk of research continues to focus on foreign language education at the secondary and college levels. Nevertheless, leaders in the field do recognize the need for longer contact hours, and do recommend that foreign
language instruction begin at the elementary school level.” (1995, p.3). They support their view by quoting (Met & Rhodes, p.438) in the National Priorities Conference hosted by ACTFL in 1989, which stated that “A primary goal in the next decade is to work actively to increase the number of high-quality, carefully designed elementary school foreign language programs based on a strong administrative, parental and community support.” (p. 3)

James and Hull (2007), however, performed a study where its purpose was to examine the short-term effects of a two-way bilingual education program on the literacy developments of students from Kindergarten to 12th grade as an extended Foreign Language (EFL) program. The community and groups of children were compared in terms of their academic achievement in English language arts. The Urban Landscapes included students from low-income communities and with limited English proficiency (LEP) or lacking basic skills as well as students who were not LEP. One group of students was instructed in English approximately 70% of the time and in Spanish approximately 30% of the time. The academic performance of these students was compared with that of a group of students who attended schools in other areas. After this academic intervention that lasted one year, research results show that young students in the EFL program make adequate academic progress, confirming the usefulness of communication and representation of space and place. The researchers further recommend that educators need to increases their knowledge of the effects of instructional programs on the language acquisition of LEP students in order to improve the students’ academic development.

Yi and Kellogg (2006), on their part, studied three Korean primary children and their English diaries in order to search further into the nature of language and language awareness. By studying the development of reported speech as direct and then indirect recorded speech in children’s writing, they saw how a child’s utterances consciously acknowledge and incorporate utterances by others. The finding of their research was that children do indeed achieve higher cognitive ground, but this resulting cognitive complexity is only realized when it once more becomes a concrete utterance in context.
Therefore, for a child, the development of a foreign language can occur in different ways. For example, a child may be exposed, from birth, to two languages at the same time; or a high school student might take a foreign language elective (Moffett, 1968). If we want to talk specifically about children who learn a language other than English at home then begin to learn English when they enter school - just like the situation in our country, depending on the school’s program, these children may be placed in an English speaking classrooms, or in an EFL classroom.

According to other linguistic researches in the foreign language acquisition field, children learning EFL acquire conversational skills (in about 2 years) before the abstract language required in a classroom is fully developed (in 5 to 7 years) (Dunn, O. 1994). He also asserts that these children still learn language best through exposure and experiences.

Faltis and Sarah (1998) maintain that, EFL children, in general, enter school with proficiency in their native languages, which they then use as natural foundations for learning English. In addition, Freeman, Yvonne, and David (1998) believe that the process of acquiring English as a foreign or second language is gradual and follows a pattern of development similar to first language acquisition. For example, simple sentences are produced before complex ones. They also believe that children make errors in English that reflect the linguistic rules of their first language.

Furthermore, many linguistic researchers, such as: Ghosn (1998), Morgan & Rinvolucri (1983), Smallwood (1988), and Klippel (1984), have found that children’s literature can play a major role in student’s second/foreign language development. Their studies illustrated the role of children’s literature in developing more positive attitudes toward learning the foreign language. The linguistic researchers emphasized how literature can be a model of culture, presenting linguistic benefits for language learners, teaching communication, and being a motivator in language learning. Klippel (1984), states that for learners who are studying English in a non-English-speaking setting, it is very important to experience real communicative situations in order to achieve better fluency. According to him, since foreign language teaching should help
students achieve some kind of communicative skill in the foreign language, all situations in which real communication occurs naturally have to be taken advantage of and many more suitable ones have to be created. Klippel asserts that “traditional textbook exercises – however necessary and useful they may be for pre-communicative grammar practice - do not as a rule forge a link between the learners and the foreign language in such a way that the learners identify with it (p.5). He stresses the need of meaningful activities which improve performance and generates interest. Story-related activities is one of the meaningful activities he suggests as a step towards this identification.

Morgan & Rinvolucri (1983), however, maintain that, “since first starting to work with stories, we have come to realize something of the extent to which narrative underlies our conversational encounters with others, and of the deep need that people have to tell and exchange stories. We have also learned something about the ways in which storytelling can take place in the foreign language classroom” (p.8). In their study, Morgan & Rinvolucri show how inclusion of children’s literature in the ESL/EFL classroom can promote appreciation and enjoyment of literature, enhance the development of language skills, stimulate more advanced learning, and promote student’s personal growth.

Other researchers in the field of language acquisition including [Cullinan (1977), Huck (1968), Barton & Booth (1990), Anderson (1972), Coody (1973)] believe that applying children’s literature in the elementary school curriculum can be not only beneficial but rather necessary for the language learning process. They all assure that using children stories in the EFL/ESL classrooms contributes to achieving communicative fluency and better understanding. Coody, (1973), for example, asserts that “There is a great deal of evidence that a person’s success in reading depends largely on the kinds of experiences with literature that take place during the preschool years, at home, and during the first few years in school” (p.1).
Newman (1997) emphasizes that English-as-a-foreign language (EFL) teachers should not reject traditional methods of imparting knowledge. According to the author, methods such as storytelling, repetition through memorizing, chanting, and logical analysis should all have a place in EFL instruction alongside contemporary approaches. Newman believes that each child has a different mind and deserves to be taught appropriately. Whole brain teaching, integrating language skills and balance between creativity and rote learning, are all much needed in the author’s point of view.

Ghosn (1998) presents four arguments in favor of integrating literature into English as a foreign language (EFL) classes for grade school children. He focuses particularly on cases where academic language proficiency is the ultimate goal of instruction but where English exposure and use is limited to the classroom and school. The first argument Ghosn presents is that authentic literature provides a motivating, meaningful context for language learning, and it presents natural language at its finest, promoting vocabulary development in context. In his second reason, Ghosn argues that literature stimulates oral language use and involves the child with the text while exposing him or her to some aspect of the target language culture. Moreover, Ghosn asserts in his third argument that literature can promote academic literacy and critical thinking skills, and has the potential of fostering private interpersonal and intercultural attitudes. And finally, in his fourth argument, Ghosn stresses that good literature can also contribute to the emotional development of the child because it deals with some aspects of the human condition and attempts to come to some understanding of life, either symbolically or metaphorically.

Smallwood (1988) stresses the fact that despite a common assumption to the contrary, there exists children’s literature appropriate for limited English proficient students, from the age of 9-14 in particular. These story-books, she believes, agree with the unique needs and characteristics of the target population. She also recommends that the chosen literature has: age-appropriate theme; simple language; limited use of metaphor and unfamiliar experiences; use of rhyme; unambiguous plot;
realistic but simple dialogue; potential for reading aloud; brevity; good illustrations and familiar themes, like fairy tales.

Furthermore, Smallwood (1998) asserts her belief that because of the unique characteristics of children’s literature, such as, the economy of words, beautiful illustrations, captivating and quickly moving plots, and universal themes, carefully chosen books can offer educational benefits not only for elementary ESL/EFL students, but also for adult language learners. She also stresses that from its strong foundation as a way to develop literacy in elementary schools, children’s literature has recently become incorporated into family literacy programs, in which parents learn to read in order to transmit literacy patterns to their children.

In addition, Smallwood (2002) mentions that the incorporation of age- and language-appropriate thematic literature into the early childhood curriculum can stimulate content-based academic learning for English Language Learners (ELLs) in general. Smallwood also assures that this systematic approach is particularly beneficial to young ELLs ages 3 through 8, because it provides background knowledge and cultural information along with opportunities to hear, speak and interact with carefully crafted language in thematic and story contexts, (2002). She believes that the systematic approach also develops literacy in an engaging and playful context. For example, a well-chosen picture book can provide a meaningful focus for developing reading skills such as vocabulary and comprehension, as well as an awareness of sounds and sound-letter relationships. Smallwood conclude her study by suggesting a digest that provides early childhood educators with book selection criteria, literature-based teaching strategies, and curricular topics appropriate for use with ELLs in early childhood settings.

Hui-Li Lin (2003) discusses feasible curriculum designs and principles of using English children’s picture books when teaching children English as a foreign language under the framework of the Nine-year Joint Curricula Plan for Elementary and Junior High Schools in China. He believes that picture books provide readers
with an ample amount of contextual information, which, according to him, has been proved to be helpful for learning/acquiring languages. Lin suggests two different curriculum designs; picture books as the main teaching material, or, as part of the supplementary teaching materials, with examples showing how to incorporate the usage of picture books in the suggested plan. He also suggested that, when English picture books are used, (1) portfolio assessment be adopted; (2) a library-like system be organized; (3) books appropriate to the cognitive abilities and English proficiency of the students be selected; (4) multiple intelligences be well integrated in classroom instruction; and (5) internet resources be wisely used and a domestic picture book teaching resource web site be constructed. (p.7)

Another study that is worth noting is the study conducted by Liaw (2003) on an elementary EFL classroom in Taiwan. Beside a number of findings the researcher has reached in his study, he found that when the children were instructed to self-select storybooks to read in English independently, the number of students who performed at the “excellent” level dropped from (57%) to (11%). After taking a close look at the books that the children picked out to read for the assessment, Liaw found that “the decline in the scores might have due to children’s willingness to choose books that were challenging for them to read” (p.29). Therefore, according to him, “instead of interpreting the decline as a lack of improvement in the children’s reading proficiency, one might see it as a reflection the increase of the children’s confidence to read more difficult text… even when they were being evaluated… could also mean that the children, after being instructed in the approach where reading was also for fun and enjoyment, had become less grade-conscious.” (p.29)

In addition, a study presented by Hsiu-Chih (2008), investigated the value of integrating English picture story-books in the EFL curriculum in Taiwan. The participating teachers in the study perceived themselves as a mediator whose job was not to transmit the meaning of the book to the students, but to encourage participation and interaction. The results suggested three significant educational values perceived by the teachers: (1) linguistic value, (2) the value of the story, and (3) the value of the picture.
Paran (2006) intends to provide practical examples of innovative approaches that have been successfully tried in language learning, related in particular to teaching and learning English in second and foreign language contexts. In it he illustrates the strong relationship between literature and language learning, and offers his ‘highly valuable advice’ on adding literature to language classes. He stresses the fact that learning English can be a pleasurable experience if some degree of literature is used to flavour the process. The author also provides practitioners ways and examples of how to integrate literature into ESL/EFL classes.

After taking the previous overview into consideration, which focused on the field studies that aimed at researching and explaining the ways children acquire or learn a foreign language, and the studies that illustrated the significant role children’s literature play in developing more positive attitudes toward learning the foreign language, we will move on to a more specific domain that relates closely to the scope of this study. In the next section, the researcher will point out a number of studies which attempted to apply the Relevance Theory to child language learning. As some linguistic researchers found the theory to be a beneficial tool in understanding the processes the child goes through when trying to learn or acquire a foreign language.

2.5 Application of the RT to Child Language Learning:

As mentioned earlier, the Relevance Theory has been widely accepted as a solid ground for a variety of pragmatic researches, not to mention the child language learning field, which will be the focus of this research. Researchers believed the theory to be a very valuable asset in the field of pragmatic studies for its innovative and ingenious approach in analyzing human communication and understanding.
Basing his child language acquisition and learning studies on the *Relevance Theory*, Bishop (1997), believes that factors important to consider are the understanding of the semantics of the proposition, the world knowledge and experience available to the child. Bishop asserts that an ability to constrain this knowledge whilst using the available context is necessary to comprehend pragmatic meaning.

Ryder & Leinonen (2001), also based their studies on the RT. They assert that children possess that mental ability to analyze context and understand a newly introduced language through inferential processing. They maintain that “from a very early age children are able to infer meanings by combining information to work out meanings. This becomes more sophisticated with their developing ability to go beyond the immediate context and make connections on the basis of subtle clues.” (p.1). They also maintain that one possible influence on the child’s ability to answer a question is the cognitive processing demands placed on the child by the question. They assert that, in the comprehension of questions, input such as pictorial information, and/or verbal information are integrated with world knowledge and experience to infer meaning. Blakemore (1992), on the other hand, denotes that the number of inferences necessary for an interpretation may have an effect on the child’s ability to answer questions.

In their case study in the comprehension of inferential meaning, Leinonen and Letts (1997) found out that the ability of six and eight year old children to answer questions was connected with their increasing competence in understanding pragmatic meanings. Parnell and Amerman (1983), in their study where they focus on the research and application of answers to WH questions, also suggest that it is ultimately the pragmatic or functional requirements of questions which have a strong bearing on the appropriacy of answers. Moreover, in examining comprehension problems in children with specific language impairment, Bishop and Adams (1992) found that questions defined as descriptive or literal appear to pose fewer problems for children than inferential questions. Questions requiring the children to describe something in a picture, elicited more correct answers than those requiring the children to go beyond the picture to the context and/or their world knowledge.
On the other hand, Foster-Cohen (1994) is another linguist who attempted to study child foreign language learning/acquisition from the *RT* point of view. Foster-Cohen evaluates a set of predictions based on Reinhart's (1986) Theory of Relevance against published results of tests of Binding Theory. The researcher believes that Relevance Theory provides a means of understanding constraints on testing syntactic knowledge. He also suggests that pragmatic factors must be systematically controlled in any evaluation of the syntactic knowledge of the child.

Other linguists, such as, Levinson (1987), have also attempted to apply RT in their child language learning and acquisition studies and found it a very reliable resource in explaining the development of the language learning process, and how understanding is achieved while communicating. According to Levinson's default account, one might expect that SIs (Scalar Implicatures, a term used in relevance theory to refer to a concluded assumption that is derived solely via processes of pragmatic inference) are generated automatically, without effort; and when participants interpret a scalar term without an SI, they must have generated the SI by default and then cancelled, rather than not generated it at all. Moreover, on this default account, Levinson believes that SIs might appear early on in the course of child language development. According to a RT account, this cost is balanced by the gains in terms of informativeness.

2.6 REVIEW OF SPERBER & WILSON’S RT:

The following section attempts to provide a comprehensive review of the Relevance Theory by focusing on it’s aim, and the practical implications of the RT for pragmatics in fields, such as, comprehension, cognition, communication and input. The different publications Sperber and Wilson have produced in relation to their theory, and the different views scholars have regarding the plausibility of the theory
in linguistic research, including critiques and supporters of the theory will also be discussed. Moreover, special emphasis will be placed on the comprehension steps suggested by the theorists.

S&W (1986) (1995) present their original idea, which is to introduce a new approach to the study of human communication...an approach that is grounded in a general view of human cognition. Their fundamental idea, that communicated information comes with a guarantee of relevance, they first called it the principle of relevance and then they called it the Second, or Communicative Principle of Relevance. They argue that this principle of relevance is essential to explaining human communication, and show how it is enough on its own to account for the interaction of linguistic meaning and contextual factors in utterance interpretation (1995, p.vii).

In order to know how the original book (1986) came about, there comes a need to trace the works and publications of both authors and go back a little in history. According to Blakemore (2002), Sperber and Wilson regard their book as a result of their different interests in the study of contextual factors in verbal communication — in Wilson's case, an interest which began with her work on presuppositions (Wilson 1975), and in Sperber's, an interest in rhetoric and symbolism (Sperber 1975).

In 1975, Deirdre Wilson, a professor of Linguistics at the University College in London, published: Presuppositions and Non-Truth-Conditional Semantics, and also in the year (1975) Dan Sperber, a director de Recherche at the CNRS and CREA in the Ecole Polytechnique in Paris, published his French ‘Rudiments de rhetorique cognitive’ (1975b), a sequel to his Rethinking Symbolism, (1975a). In these works, they were both turning to pragmatics - the study of contextual factors in verbal communication - but from different perspectives: Deirdre Wilson was showing how a number of apparently semantic problems could be better solved at a pragmatic level; Dan Sperber was arguing for a view of figures of speech rooted in pragmatics. After a few months, the two authors joined together and they co-authored a joint essay, which aimed at showing their shared point of views about the continuities and
discontinuities between semantics, pragmatics and rhetoric. However, their project extended from months into years and the joint essay turned into a series of papers, which turned into their co-authored Relevance book (1986).

Sperber and Wilson first published their: Relevance, Communication and Cognition, in 1986. The Second Edition of the book, published in 1995 (after nine years of the first edition) preserves the text of the original, except for the correction of typographical errors, removal of obvious mistakes and inconsistencies, updating of existing references, and addition of a few explanatory notes. However, in the Second Edition, they added a new Postface, where they sketch the main developments in the theory since the First Edition was published in 1986, discuss the more serious criticisms of the theory, and argue for some revisions both of formulation and of substance.


In addition to their shared publications, both authors produced individual papers and studies addressing the theory and related linguistic subjects. Sperber, for instance, had a number of publications, to name a few: Rethinking Symbolism, (1975a), ‘Rudiments de rhetorique cognitive’, (1975b), ‘Understanding verbal understanding’, (1994a), and ‘The Modularity of thought and the epidemiology of representations’, (1994b). Wilson, on the other hand, published a number of significant papers relating to their Relevance theory as well, such as, Presuppositions and Non-Truth-Conditional Semantics, (1975), ‘Relevance and understanding.’
2.7 Reactions to Sperber & Wilson’s Relevance Theory:

After the publication of *Relevance, Communication and Cognition*, in (1986), the theory had attracted waves of intense and exciting debate in many fields of study, and a substantial body of work evaluating the basic ideas of relevance theory appeared in the literature. Some of the major works that discussed the theory were: ‘Presumptions of relevance’ by Sperber and Wilson (1987), and some pragmatic books discussing and explaining the theory like; Blakemore (1992); Sinclair and Winckler (1991). Furthermore, expository articles designed for non-specialist audiences also appeared in the research fields of relevance, for example; Gutt (1986); Carston (1988); Kempson (1988); Levinson (1989); Leech and Thomas (1990); Smith and Wilson (1992). In addition, the publication of major reviews, to mention a few; Fowler (1989); Hirst (1989); Levinson (1989); Travis (1990); and Walker (1989), not to mention a multiple review of *Relevance* that appeared in *The Behavioral and Brain Sciences* (10.4, 1987), which many reviews of the theory appeared within.

Many commentators, however, have raised a wide variety of objections to the theory and several lengthy critiques and discussions appeared, such as, Berg (1991); Garnham and Perner (1990); Mey (1993); Martin (1992); Swales (1990); Gazdar (1979), and Gazdar and Good (1982). For instance, Gazdar (1979), was considered one of the scholars who rejected any view that claims that pragmatic principles can contribute to explicit content as well as implicatures, including the relevance theory view. Gazdar imported into pragmatics a formal picture of semantics, which conflated linguistic semantics with truth-conditional semantics. He defined pragmatics as ‘meaning minus truth conditions’. On his account, pragmatic processes should be ‘post-semantic’, and should not ‘intrude’ into the truth-conditional domain, a view which relevance theorists have consistently rejected. Sperber and Wilson asserted that
although both terms are distinguishable, they are still connected when it comes to pragmatic processes and understanding of meaning. In *Relevance* (1995), (chapter 4), the authors distinguished between linguistic semantics (the semantics of natural-language sentences) and truth-conditional semantics (the semantics of conceptual representations). On this approach, they believed that “the pragmatic processes that contribute to explicit truth-conditional content do not ‘intrude’ into a unitary semantics: they act on the output of linguistic semantics, enriching incomplete logical forms into fully propositional forms which are in turn the bearers of truth conditions.” (1995, p.258).

Mey (1993), however, claims that linguistic/psychological theories, such as the relevance theory, are unrealistic in nature and do not address utterance understanding in the way that happens in everyday situations. The author argued that a theory which treats utterance interpretation in this way is “disconnected from everyday communication and its problems, … and … that the mindless automaton is an inappropriate analogy when one is trying to explain what people do when they communicate” (p.82). According to him, people are 'social beings' who interact in “pre-existing [socially determined] conditions … while… Mindless automatons are not.” (Mey 1993:82).

Another criticism of Relevance Theory is that it is not sufficiently explicit about purpose. According to Martin (1992), ‘relevance’ only becomes meaningful if we can decide on the answer to the question ‘Relevant to what?’. He further stresses that: “We have to locate this principle of communication in social space as part of a genre which reflects purposeful human activity” (p.78).

Another study compares two models of information processing: Sperber &Wilson’s Relevance Theory (1986), and Fodor’s theory of Modularity (1983). In his paper, Luchjenbroers (1990) criticizes and disputes S&W’s argument that 'deduction' is a key process in the Central System processing (or, What Fodor calls it: non-demonstrative inferencing), and that any assumption that non-demonstrative
inferences cannot contain a deduction as one of its subparts is unwarranted. This view, Luchjenbroers explains, is in contrast to Fodor's argument where he maintains that the nature of ‘non-demonstrative inferencing’ and the processes of hypothesis formation and confirmation is unknown and scarcely understood.

Luchjenbroers starts his paper by explaining how S&W's (1986) model is clearly based on Fodor's (1983) 'Modularity' thesis which claims that within the apparently seamless, united body of the human mind there actually exist a number of discrete, relatively autonomous cognitive units each dedicated to dealing with a smaller, specific task, and each of which ultimately contributes to the intelligent behaviour of the complete organism. Fodor's thesis, according to Luchjenbroers, is in turn built on Gall's (1758-1828) theory that the mind is organized into vertical facilities and that information processing in the mind occurs within domain specific faculties, or ‘modules', which are “informationally encapsulated, neurologically hardwired, and innately specified” (Fodor, 1983:119).

Furthermore, the writer sheds light on Fodor's claims that it is feasible to assume the existence of some super-ordinate cognitive system which Fodor claims are responsible for integrating the information taken from various input systems with 'schematic info' that exists in the memory in order to form hypotheses. Fodor further suggests that the hypotheses that have been formed go through a hypothesis confirmation stage, in which a subsequent mental process takes place, which he referred to as the Hypothesis Testing Device (HTD). Fodor claims that the HTD is an essential step in information processing because it is responsible for comparing newly formed hypotheses with existing assumptions about the world to either confirm, contradict or modify the already existing assumptions in memory.

Luchjenbroer explains that S&W propose the same process in their model, and they refer to it as the deductive device, a device, which they claim, would provide the hearer with the means to automatically compute the effects of adding a new proposition to an already existing set of assumptions. The researcher further illustrates
how S&W agree with Fodor's view and call these super-ordinate cognitive systems the 'Central System', which they believe to be 'non-demonstrative' in functioning.

The author maintains that S&W define comprehension in 'truth conditional' terms, as they hold that the proposition generated in the Central System is derived from the utterance plus the relevant context, which presents the conclusion. The author further explains how it is that in order to clarify the natures of the separate cognitive levels, S&W distinguish between 'local' and 'global' comprehension processes. According to the author, these two levels represent different types of information interpretation procedures: the levels of 'input' versus 'post-input' processing, accordingly. He adds that S&W, (like Fodor, 1983), define 'local' comprehension as a process of deductive reasoning from fixed premises and adheres to formal logic principles, whereas 'global' comprehension refers to the kind of empirical scientific reasoning that utilizes all available knowledge, taken from a vast context derived from the various sources of input information (such as; visual, auditory, linguistic, others) along with conceptual information in memory, which all contribute to the derivation of the assumptions or concluded premises. However, Luchjenbroers explains how S&W maintain that in order to face the difficulty that arises by extracting the 'local' premise from a 'global' context, they propose the criterion of relevance as a possible solution.

The author extends in explaining S&W's distinction between the HTD, where the hypothesis confirmation takes place, and the Central System, where hypothesis formation takes place. According to the author, S&W argue that hypothesis confirmation could be called a 'local', deductive process because it proceeds from specific premises, which then leads to a necessary conclusion that stands in a semantic relation to the premises. On the other hand, S&W believe that the process of hypothesis formation is clearly 'global', where premises are chosen from an array of possible contexts relevant to the hearer.
The writer asserts that although S&W's approach is fundamentally based on Fodor's (1983) modularity thesis, it varies from it in their claim that 'the key process involved in the inferencing process is the formation of assumptions by deduction' (1986:83). According to the author, Fodor argued that the processes of hypothesis formation and confirmation are scarcely understood and that 'nobody begins to understand how such factors have these effects,' (Fodor 1983: 128). However the author explains that S&W proposed an answer to this problem by maintaining that the processes of hypothesis formation and confirmation occur at differing levels of computation within the mind; both of which operate according to deductive rules. According to Luchjenbroers, S&W justify their proposition of a ‘deductive system’ in the process of hypothesis confirmation by asserting that it presents a purely logical process governed by inference rules, because it would guarantee the accuracy of the
premises, enable economy of storage in memory and expose inconsistencies (such as contradictions) (p.3). Fodor maintains that S&W believe that the model they presented will offer the guarantees of a local deductive system, veiled in terms of a global system. (p.7).

Luchjenbroers thus criticizes S&W’s point of view. He states that the main definitional problem in S&W's model is that global processes are not deductive in nature, in contrast to S&W’s belief. The author explains his own point of view that although S&W maintain that, during comprehension tasks, inferencing processes other than deductive ones are at work, they do not present any stage or rules other than deductive, elimination rules. The author also explains S&W’s proposal that in order to face the one difficulty that arises during information processing, which is to extract the local premise from a global context, they argue that this is possible by virtue of the criterion of Relevance. However, the author stresses that “this is by no means a straight-forward or totally reliable identification by the hearer. As premises are based on the speaker’s ostensive behaviour, and additionally on the hearer’s interpretation of that behaviour in the linguistic and non-linguistic context of an utterance” (p.8). That is why the author believes that it is debatable to what extent a ‘deductive reasoning process’ can be said to guarantee anything. Luchjenbroers further concludes that because the specific input information, and information in memory chosen by the hearer are ‘variables’ and not given, global processes cannot be defined in terms of guarantees.

On the other hand, there also appeared in literature studies that not only discussed and analyzed the theory, but also praised it for its comprehensive implications. These scholars have proven that the relevance theory is should be considered a valuable tool, not only in linguistic studies but also in other fields of study, such as, cognitive psychology, translation, philosophy, information sciences and even advertisement.

As noted before, one of Sperber and Wilson’s (1995) propositions, which they based their theory on, is that it is true that a language is a code which pairs phonetic and semantic representations of sentences, however, they also believe that there is a
gap between the semantic representations of sentences and the thoughts actually communicated by utterances. According to them, this gap is filled not by more coding, but by inference (p.9). This view, that claims the necessity to infer intention in order to understand an utterance, is supported by the pragmatist, Morgan (1978), who maintains that:

It has become fairly obvious in the past few years that a good part of comprehension must be ascribed not to the rules of language that assign meanings to sentences as a function of the meanings of the parts, but to our ability to somehow infer what the speaker’s intentions were in saying what he has said, with the literal meaning it has. (p.264).

Jobes (2007), on the other hand, by applying the RT to his translation studies, believes that Relevance Theory has appeal because: (1) of its relatively optimistic understanding of language as communication; (2) its emphasis on the speaker's or author's intention to communicate brings a welcome corrective to the reader-response hermeneutic; (3) it is based on a model of human cognitive processes that is not language or culture specific, making it appropriate for issues of religious interpretation and translation that necessarily involve at least two languages; and (4) it explicitly accounts for the role context plays in determining meaning, which previous models of language acknowledged but did not explicate. (p.1)

Jobes asserts that in order to account for the mental processing that produces comprehension, relevance theory postulates that for every concept known to a human mind there are three types of mental entries somehow represented within the brain. These categories should be understood as logical entities rather than a description of how they map onto the neural substrate. According to him, since there is no scientific explanation of how the meaning of a word is represented in the brain, models such as Sperber and Wilson's that answer to the general requirements of language processing are adequate for discussions such as this, even if they eventually need to be refined or scrapped because of subsequent new knowledge about how the brain represents and stores language. (p.1)
Borg (2004) is another scholar who adds his vote to the supporters of the Relevance theory. He asserts that the linguistic approaches which appeared before the Relevance theory neglected the formal features of languages. The Relevance theory takes the formal features into consideration, where he states that:

“While previous use-based approaches often seemed to neglect entirely the formal features of our natural languages, many of these new use-based accounts do not set themselves up in such total opposition to formal accounts, rather they adopt a kind of hybrid stance. They recognize that language, as a system of repeatable signs, has a formal foundation, which may itself admit of independent study.” (p.31).

Thus, according to Borg, dual pragmatic theories do not, on the whole, reject the formal approach to the study of language out of hand. He asserts that, for many dual pragmatic approaches, an utterance can, and indeed should, be analysed initially to reveal its syntactic structure, which might, just as in formal theories of meaning, be rendered in terms of the expression's 'logical form'. Furthermore, he maintains that on some accounts (like Sperber and Wilson's relevance theory), this formal representation may itself be open to something like a formal semantic analysis; “that is to say, there may be aspects of meaning which are recoverable simply via sensitivity to the formal features of the linguistic item produced, just as the formal theorist originally claimed.” (p.35).

Borg also elaborates on the difference between the relevance theory and formal semantics. He maintains that “if we are clear that by the term 'semantic' we mean (as formal semanticists have standardly meant) a level of content which is propositional or truth-evaluable, and which captures the literal meaning of a natural language sentence, then it is clear that relevance theory and formal semantics are fundamentally opposed”. (p.44). He depends in his point of view on the notion that: relevance theory claims that this sort of content certainly can't be arrived at without some kind of (relevance-directed) pragmatic processing, while formal theories claim that this level of content is delivered solely via sensitivity to the formal features of the
expressions involved. Thus, according to Borg, “it would appear to be the result of decoding alone, not inference”. (p.44)

In another study published by: Graesser, Gernsbacher, and Goldman, (2003), titled: *Handbook of Discourse Processes*, the authors elaborate on the important role the theory plays in explaining discourse understanding. They believe that Relevance theory offers a significant advance over the Gricean view of utterance interpretation, especially to the degree that it seeks to tie together pragmatic language use and cognition. In their study, they emphasize that “nonliteral speech acts in text and discourse provides several different opportunities to explore the intimate relationship between thought and language.”(p.380). The authors maintain that their review of some recent debates over nonliteral speech acts illustrates the importance of pragmatic and conceptual knowledge in how people produce and understand what speakers say and what they imply in discourse. Furthermore, they assert that “characterizing the psychological processes that underlie nonliteral speech act use requires scholars to recognize how different research methods tap into different aspects of what occurs when people produce, make sense of, immediately comprehend, and consciously interpret what speakers and writers aim to communicate when they imply something that varies from what they say.” (p.388).

According to Graesser, Gernsbacher, and Goldman (2003), nonliteral speech acts are simply means of optimizing relevance in verbal communication. They further explain how Relevance theory suggests that metaphors and other figures of speech are examples of *loose talk* (Sperber & Wilson, 1986). One of the examples they propose is the utterance “*My neighbor is a dragon*” (p.382). They explain that speaking loosely like this requires that speakers have in mind some further idea or contextual implication beyond the single thought “My neighbor is fierce and unfriendly”. For instance, the speaker might wish to convey an image of fierceness or unfriendliness that is beyond most people’s experience and will expect the listener to put some effort toward exploring a wide range of contextual implications (e.g., having to do with the nature of the neighbor's unfriendliness, the behavior it manifests, and perhaps the neighbor's appearance). Thus, the indirect nature of metaphor calls for extra
processing effort on the listener's part, but, according to them, “this is offset, according to the principle of optimal relevance, by extra effects not achievable by saying directly that “My neighbor is fierce and unfriendly.” (p.383). According to the authors, relevance theories propose that certain information is likely to be more relevant or appropriate in different metaphorical mappings. The authors reach the conclusion that: “nonliteral speech acts are fundamental reflections of typical cognitive processes.” (p.389).

In their conclusion, the authors maintain that the new developments of linguistic/philosophical theories, such as, conceptual blending and relevance theory, hold an intuitive promise on indirect and figurative discourse studies for their respective suggestions for how people use and understand nonliteral speech acts. According to them, both theories implicitly assume something about information that is most salient and what information must be suppressed when people construct meaningful interpretations of metaphorical and poetic figures. They assert that such theories provide larger theoretical frameworks for evaluating the plausibility of the newer psychological proposals, unlike some of the recent hypotheses, such as, the suppression and graded salience hypotheses, which provide possible constraints on indirect and figurative discourse research.

Thus, although only a few experimental studies have directly tested the psychological plausibility of relevance theory as an account of nonliteral speech act understanding (Gibbs (1987); Jorgensen et al. (1984)), yet they assure that relevance theory holds much promise and should clearly be the focus on additional empirical research. They state that: “The time is right now for scholars in all fields interested in discourse processes to accept some of the main challenges identified in this chapter, especially those emphasizing the link of pragmatics and conceptual knowledge to nonliteral discourse… Clearly, there is much room for the crossfertilization of theory and data between the newer work in psychology, linguistics, and philosophy.” (pp. 388-389).
In addition, another scholar, Goatly (1997), also asserts that Relevance Theory can give us an insight into the distinctions between literal and metaphorical language, and between ‘Active’ and ‘Inactive metaphors’. He maintains that the theory can also be modified to explain ‘Subjective’ and ‘Phenomenalistic’ metaphor, and also ‘metaphorical allusion’. The scholar further maintains that the Relevance theory plays an important role in showing the relationship between metaphor and irony. (p.140).

Recanati’s ‘Contextualism and anti-contextualism in the philosophy of language’ (1994), is also in agreement with Sperber and Wilson’s fundamental claim of dual pragmatics. That is to say, he holds that there is a central role for rich pragmatic processes to play in determining the correct analysis (or in his words: the delivery of a truth-conditional specification) of the literal meaning of an utterance of a given sentence, in addition to there being a role for such processes in determining the contextual implicatures of the utterance. (pp.156-66). However, Recanati’s account differs from Sperber and Wilson's in several respects. With Recanati (2004) we find the suggestion that the term 'semantic' may be reserved just for the results of decoding. He writes: “[o]n my view semantic interpretation, characterized by its deductive character, does not deliver complete propositions: it delivers only semantic schemata—propositional functions, to use Russell's phrase” (p.40).

Therefore, Recanati has a different view on the kinds of pragmatic processes, which play a role ‘pre-’ and ‘post-semantically’ processes. Unlike relevance theory, Recanati holds that very different pragmatic processes occur on both occasions. He labels the former 'primary pragmatic processes' and the latter 'secondary pragmatic processes'. For Recanati (2004) these processes must be radically different since the pragmatic inferences at stage (1) must be capable of operating on sub-propositional items, while those at stage (2) take complete propositions as input. (p.42). However a more substantial difference between the two types of process is marked by what Recanati terms the 'Availability Principle', which, according to him, concerns those elements of an interpretation which are consciously accessible by the agent. In his word, he explains; “a primary pragmatic process operates on an item which is not
consciously accessible to the agent and it yields an item which is available to consciousness; ... whereas a secondary pragmatic process takes an item which is already consciously accessible and yields a further consciously accessible item.” (p.42).

Politzer, another supporter of the Relevance theory, who has applied the theory in his studies by focusing on analyzing the role of ‘inferences’ in communication. In his (1990) study, Politzer has reanalyzed several major experimental paradigms in the psychology of reasoning, and shown how considerations of relevance affect the performance of subjects in ways that can explain some of the most striking experimental results.

In addition, Leslie (1989), also a supporter of the theory, maintains that ‘Cognitive science is very often marred by demarcation disputes and protectionist attitudes which have little or no rational basis. Occasionally, however, it works as it should and a book appears which reaches across the bread and butter lines which institutional life forces upon us. Relevance is, I think, such a book.’ (Sperber & Wilson, 1995, back-cover of the book).

Overall, as shown from the previous outlook, while the Relevance theory has been criticized by some scholars, it has been recognized and praised by many others for its comprehensive view. The book, which appeared in 1986, was named as one of the most important and influential books of the decade in the Times Higher Educational Supplement for its valuable implications in the fields of communication studies and language research. Not to mention, the translation of the book into many languages such as; French; Spanish; Japanese; Russian; Korean; Italian; and Malaysian which is a living example of the significance of the book in the pragmatic field. Moreover, the implications proposed by the book for pragmatic theory not only have they been explored in a growing number of books and articles, it has also inspired work in other fields of study, including linguistics, literary studies,
psychology, philosophy and even advertisement. To take for instance the review presented by Alastair Fowler in (1989) for the *London Review of Books*, in which he commented:

> The repercussions of *Relevance* are likely in the long run to be great-felt first, perhaps, in the pragmatics of conversation, the philosophy of language, and reader-response criticism, but also in many other activities: construction of memory models, pedagogy machine learning, and (doubtless) advertising and propaganda.

2.8 Objectives of the Relevance Theory:

The present study is based on Sperber and Wilson’s *Relevance Theory of Communication and Cognition*, which attempts to explain the second method of communication: ‘implicit inferences’ as it argues that the human mind will instinctively react to an encoded message by considering information that it conceives to be ‘relevant’ to the hearer. The co-authors attempt to introduce a new approach to the study of human communication, which is grounded in a general view of human cognition. The theorists claim that the theory provides a way of explaining how a certain expression can mean more than what is linguistically expressed and how contextual processing is constrained by processing costs. Accordingly, their main argument is that “human cognitive processes are geared to achieving the greatest possible cognitive effect for the smallest possible processing effort” (1995, vii). To achieve this, individuals must focus their attention on what seems to them to be the most relevant information available.

To prove and explain their point of view, Sperber and Wilson developed their basic principle, which they called: the *Communicative Principle of Relevance*. The principle is based on their fundamental idea that communicated information comes
with a guarantee or relevance. According to them, it is enough on its own to account for the interaction of linguistic meaning and contextual factors in utterance interpretation. They state that:

[Our] main thesis … is that an act of ostension carries a guarantee of relevance, and that this fact - which we call the principle of relevance - makes manifest the intention behind the ostension. (1986, p.31)

Sperber and Wilson thus proposed their theory as a way to better explain how the communication processes takes place and how understanding among communicators is achieved. According to them, during oral communication, the speaker intends to affect and change the thoughts of the hearer in order for the hearer to receive the same thoughts that exist in the speaker’s mind, which he intends to communicate. Therefore, oral communication is “a modification by the speaker of the hearer’s acoustic environment, as a result of which the hearer entertains thoughts similar to the speaker’s own.” (1995, p.1).

To justify their point of view, Sperber and Wilson (1995) suppose that if “it is physically possible to transport thoughts from one brain to another, as programs and data stored on a magnetic disk can be transported from one computer to another: then communication would be unnecessary” (p.1). According to the researchers, thoughts do not travel, and the effects of human communication cannot be achieved by any other means. To support their view, Sperber and Wilson mention the instance, when they wrote down their book. They have not literally put down their thoughts on paper. What they had on paper were ‘little dark marks’, as for their thoughts they remain where they always were, ‘inside their brains’ (p.1). Thus, they have just communicated their thoughts rather than transfer them, in other words, they created in the mind of the receiver thoughts similar to the ones inside their minds.
2.9 Practical Implications of RT:

With their relevance-theoretic account of cognition and communication, Sperber and Wilson (1995) proposed practical implications for pragmatics in general and in other specific fields as well, such as: relevance and cognition, relevance and input, relevance and communication, and relevance and comprehension.

2.9.1 Relevance and Cognition

A well-known fact is that human cognition aims at improving the individual’s knowledge of the world. This means adding more information that is more accurate, more easily retrievable, and more developed in areas of greater concern to the individual. As Sperber and Wilson have noticed: “Human cognition tends to be geared to the maximization of relevance” (1995, p.260).

It is apparent therefore, that Sperber and Wilson’s approach is grounded in a general view of human cognition as they argue that, “human cognitive processes are geared to achieving the greatest possible cognitive effect for the smallest possible processing effort.” (1995, p.vii). In other words, Sperber and Wilson view language communication as a cognitive process which is involved in the human ability to entertain representations of other people's thoughts and desires and ideas, on the basis of public stimuli such as utterances or gestures. To achieve this, humans should exert the least amount of mental effort, by focusing their attention on what seems to them to be the most relevant information available, in order for the communication process to be successful. The essence of Sperber and Wilson’s cognitive theory can be seen as driven from their belief embodied in these lines:

“All humans live in the same physical world. We are all engaged in a lifetime’s enterprise of deriving information from this common environment and constructing the best possible mental representation of it. We do not all construct the same representation, because of differences in our narrower physical environments on the one hand, and in our cognitive abilities on the other. Perceptual
abilities vary in effectiveness from one individual to another. Inferential abilities also vary, and not just in effectiveness. People speak different languages, they have mastered different concepts; as a result, they can construct different representations and make different inferences. They have different memories, too, different theories that they bring to bear on their experience in different ways. Hence, even if they all shared the same narrow physical environment, what we propose to call their cognitive environments would still differ. (1995, p.38).

Accordingly, not all humans construct the same representation, because of differences in their narrower physical environments on the one hand, and in their cognitive abilities on the other. Because people speak different languages, they have mastered different concepts, and as a result, they can construct different representations and make different inferences. They have different memories, too, and different theories that they bring to bear on their experience in different ways.

Sperber and Wilson (1995) stressed on the major role our ‘cognitive environment’ plays in the communication process. They maintain that an individual’s cognitive environment consists of not only all the facts that he is aware of, but also all the facts that he is capable of becoming aware of in his physical environment. They assert that: “A cognitive environment is merely a set of assumptions which the individual is capable of mentally representing and accepting as true.” (p.46). Thus, when an individual communicates with another, he aims at affecting and changing the cognitive environment of the hearer. They explain that, “when you communicate, your intention is to alter the cognitive environment of your addressees; but of course you expect their actual thought processes to be affected as a result.” (p.46).

There exists two types of cognitive operations that happen in the individual’s mind, long-term and short term, and they differ in their goal and efficiency. “While long-term cognitive efficiency aims at improving one’s knowledge of the world as much as possible given the available resources, short-term cognitive efficiency, however, is a much more complicated procedure” (1995, p.47). In short-term cognitive
operations, at every moment (seconds or milliseconds) many different cognitive tasks could be performed, and this is for two reasons: First, “human sensory abilities monitor much more information than central conceptual abilities can process... and... Second, central abilities always have plenty of unfinished business.” (pp.47-48). Thus, the key problem for efficient short-term information processing is to achieve the best, or ‘optimal’, allocation of central processing resources. According to them, “Resources have to be allocated to the processing of information which is likely to bring about the greatest contribution to the mind’s general cognitive goals at the smallest processing cost.” (p.48).

Sperber and Wilson’s theory suggests a solution to this arising problem in information processing. They believe that during short-term cognitive processing, old information that already exist in the mind are combined with new information that present itself to the individual. Regarding the selection of new information, however, only the information that is connected to the individual’s old representations of the world is selected, because, according to them, new information that is entirely unconnected to anything in the individual’s old representation of the world will complicate the information processing and overload the central system, because “this usually means too much processing cost for too little benefit” (1995, p.48). When these interconnected old and new information are used together as premises in an inference process, further new information can be derived: “information which could not have been inferred without this combination of old and new premises.” (p.48).

### 2.9.2 Relevance and Communication

Communication, through the eyes of Sperber and Wilson (1995), can be seen as a process involving two information-processing devices. One device modifies the physical environment of the other. In the case of human beings, while communicating, the mind of the speaker (the first device) modifies the already existing representations in the mind of the hearer (the second device). Consequently, the second device constructs representations similar to the ones already stored in the first device. In other words, oral communication is “a modification by the speaker of the hearer’s acoustic
environment, as a result of which the hearer entertains thoughts similar to the speaker’s own.” (p.1). Thus, “A striking demonstration of the sophisticated nature of our communication system is our ability to draw pragmatic inferences or implicatures… Often speakers tend to convey far more than the logical meaning of the words they utter and hearers readily retrieve the intended interpretation.” (p.1). They described the Relevance Theory, thus, as a theory which provides a way of explaining how it is that an expression, in a communicative situation, can mean more than what is linguistically expressed, and how contextual processing is constrained by processing costs.

Sperber and Wilson refer to their Second Principle of Relevance as: the Communicative Principle of Relevance, in which they state that: “Every act of ostensive communication communicates a presumption of its own optimal relevance.” (p.266). According to them, communication, or what they call: inferential-communication, is a mutual process, in other words, it is not just a matter of intending to affect the thoughts of an audience; it is a matter of getting them to recognize that one has this intention. They maintain that the universal cognitive tendency to maximize relevance makes it possible, at least to some extent, to predict and manipulate the mental states of others. They assert that knowing of one's tendency to pick out the most relevant stimuli in his/her environment and process them so as to maximize their relevance, someone may be able to produce a stimulus which is likely to attract his/her attention, to prompt the retrieval of certain contextual assumptions and to point him/her towards an intended conclusion.

In order for understanding to be achieved in any communicative situation: informative and communicative intentions need to be fulfilled. According to them, understanding is achieved when the communicative intention is fulfilled – that is, when the audience recognizes the informative intention of the speaker, which is 'the intention to inform the audience of something'. Sperber and Wilson assert that, “There is a gap between understanding and believing. For understanding to be achieved, the informative intention must be recognized, but it does not have to be fulfilled”. (p.55). Thus, inferential communication - what relevance theory calls: “ostensive–inferential communication” – involves not only a communicative intention, but an informative
intention as well: "a. The informative intention; the intention to inform the audience of something. b. The communicative intention; the intention to inform the audience of one’s informative intention." (p.29).

2.9.3 Relevance and Input

To Sperber and Wilson, the mind is a variety of specialized systems, each with its own method of representation and computation. These systems are divided into two broad types: on the one hand there are the ‘input systems’, which according to them, processes visual, auditory, linguistic and other perceptual information. On the other hand, there are the ‘central systems’, which “integrate information derived from the various input systems and from memory, and perform inferential tasks.” (1995, p.71). They further assume that each input system has its own method of representation and computation, and can process only information in the appropriate representational format. They assert that, for example, “auditory perception can process only acoustic information, and the processes involved in the auditory perception differ from those involved in olfactory perception, etc.” (p.71). A similar method of processing, according to them, applies to the other input systems, each with its unique way of representation and computation.

According to Sperber and Wilson, intuitively, an input (a sight, a sound, an utterance, a memory) is relevant to an individual when it connects with background information he has available in order to yield conclusions that matter to him: say, “by answering a question he had in mind, improving his knowledge on a certain topic, settling a doubt, confirming a suspicion, or correcting a mistaken impression.” (1995, p.81). Thus, it is obvious that input plays an important role in the Relevance Theory by providing the essential information that will be processed along with older assumptions in order to reach successful communication and understanding.

In relevance-theoretic terms, an input is relevant to an individual when it’s processing in a context of available assumptions yields a “positive cognitive effect”
A positive cognitive effect is a worthwhile difference to the individual’s representation of the world – a true conclusion, for example. False conclusions, according to the authors, are not worth having. They are cognitive effects, but not positive ones. The most important type of cognitive effect achieved by processing an input in a context is a “contextual implication” (pp.107-108); a conclusion deducible from the input and the context together, but from neither input nor context alone. A simple example the theorists provide is that, if someone is seeing his train arriving, he might look at his watch, access his knowledge of the train timetable, and derive the contextual implication that his train is late (which may itself achieve relevance by combining with further contextual assumptions to yield further implications) (p.263). Other types of cognitive effect include the strengthening, revision or abandonment of available assumptions.

As Sperber and Wilson (1995, p.265) propose:

a. Other things being equal, the greater the positive cognitive effects achieved by processing an input, the greater the relevance of the input to the individual at that time.

b. Other things being equal, the greater the processing effort expended, the lower the relevance of the input to the individual at that time.

More generally, when similar amounts of effort are required, the effect factor is decisive in determining degrees of relevance, and when similar amounts of effect are achievable, the effort factor is decisive.

One of the functions of the input systems, according to Sperber and Wilson, is to transform ‘lower level’ sensory representations into ‘higher level’ conceptual representations, which are all in the same format regardless of the sensory modality from which they derive. They explain that, “It is because they operate over such modality- neutral conceptual representations that the central processes can integrate and compare information derived from the various input systems and from memory.” (pp.71-72).
2.9.4 Relevance and Comprehension

There are two essential properties of utterance comprehension, the processing of both new and old assumptions. Where the notion of a contextual effect helps describe these properties: “Comprehension involves the joint processing of a set of assumptions, and in that set some assumptions stand out as newly presented information being processed in the context of information that has itself been previously processed.” (1995, pp.118-119).

In verbal communication, speakers manage to convey a very wide range of meanings despite the fact that there is no independently identifiable basic layer of information for the hearer to pick up. What makes it possible for the hearer to recognize the speaker’s informative intention is that utterances encode logical forms (conceptual representations, however fragmentary or incomplete) which the speaker has manifestly chosen to provide as input to the hearer’s inferential comprehension process. As a result, verbal communication can achieve a degree of explicitness not available in non-verbal communication. In more simple words, Sperber and Wilson propose these steps within the comprehension procedure as follows, (p.265):

a. Follow a path of least effort in computing cognitive effects: Test interpretive hypotheses (disambiguations, reference resolutions, implicatures, etc.) in order of accessibility.

b. Stop when your expectations of relevance are satisfied.

Overall, it is clear how Sperber and Wilson’ Relevance Theory attempts to explain and provide practical implications regarding a number of pragmatic fields, such as, the study of cognition, input, communication, and comprehension. Their theory can be a very beneficial tool in studying and analyzing such pragmatic fields, which later paved the way for applying the theory to other fields of study as will be elaborated on later in the study.
Furthermore, in order to comprehend the RT fully, there are some basic pillars of the theory that must be understood. Wilson (1994) once claimed that, "the most basic assumption of Relevance Theory is that every aspect of communication and cognition is governed by relevance." (p.2). Thus, according to him, in every communicative situation there exists a guarantee of the relevance of the communicated information for the audience. Because, he maintains that if the information communicated was not relevant to the audience, it will not attract their attention, and hence, the communication process will not achieve success.

Dan Sperber and Deirdre Wilson (1995) maintain that, in their Relevance Theory (RT), by "relevance" it is meant: “whatever allows the most new information to be transmitted in the mental context of already existing assumptions on the basis of the least amount of effort required to convey it.” (p.48). They further provide a more detailed definition of the term ‘relevance’ from their effect and effort point of view. Sperber and Wilson define it as (p.125):

**Relevance:**

*Extent condition 1:* an assumption is relevant in a context to the extent that its contextual effects in this context are large.

*Extent condition 2:* an assumption is relevant in a context to the extent that the effort required to process it in this context is small.

Therefore, the core of the Relevance Theory is the *Principle of Relevance*, which Sperber and Wilson (1995) define as “the principle that every utterance creates an expectation of relevance” (p.155), and they argue that the principle is essential to explaining human communication. They also maintain that the principle is based on the fundamental idea that: “Every act of ostensive communication communicates a presumption of its own optimal relevance.” (p.158). In this way, according to Sperber and Wilson (1995), the vast majority of acts of communication will implicitly make manifest the intention to communicate. However, they assert that the actual process of deciphering other implicit interpretations is largely left to the communicators themselves by using mental shorthands, or heuristics (p.193). For Sperber and Wilson, relevance is conceived as relative or subjective, as it depends upon the state
of knowledge of a hearer when they encounter an utterance (p.142). The co-authors propose not one but two *Principles of Relevance*; one about cognition, and the other about communication:

(1) Human cognition tends to be geared to the maximization of relevance.
(2) Every act of ostensive communication communicates a presumption of its own optimal relevance. (p.260)

According to Sperber and Wilson (1995), the human cognitive system is such that "our perceptual mechanisms tend automatically to pick out potentially relevant stimuli, our memory retrieval mechanisms tend automatically to activate potentially relevant assumptions, [and] our inferential mechanisms tend spontaneously to process them in the most productive way.” (p.32). In addition, the theorists stress that during cognitive development, the mind tends to process new information that presents itself to an individual only if it is relevant to him. However, the question arises: what sort of things may be relevant? According to Sperber and Wilson (1995), relevance is a potential property not only of utterances and other observable phenomena, but of thoughts, memories and conclusions of inferences. In relevance-theoretic terms, any external stimulus, or internal representation, which provides an input to cognitive processes may be relevant to an individual at some time. They maintain, “When the processing of new information gives rise to such a multiplication effect, we call it *relevant*. The greater the multiplication effect, the greater the relevance.” (p.48). They further argue that utterances raise expectations of relevance not because speakers are expected to obey a Co-operative Principle and maxims or some other specifically communicative convention, but because the search for relevance is a basic feature of human cognition, which communicators may exploit.

The Communicative Principle of Relevance and the notion of “optimal relevance” are the key to relevance-theoretic pragmatics. Sperber and Wilson view language communication not only as a cognitive process, but also as an ostensive-inferential process that is closely related to people’s psychological activities. (by ‘ostension’ they mean “the request for attention in its simplest form” (p.49) ). Here comes the question: how does the communicator indicate to the audience that s/he is
trying to communicate with them in this intentional way? To answer this question, Sperber and Wilson suggested what they call the ‘ostensive-inferential-communication’ process. According to them: “Every ostensive stimulus conveys a presumption of its own optimal relevance” (1995, p.163). In other words, ostensive-inferential communication involves the use of an “ostensive stimulus”, which is designed to attract an audience’s attention and focus it on the communicator’s meaning.

Moreover, relevance theory claims that use of an ostensive stimulus may create precise and predictable expectations of relevance not raised by other stimuli. The fact that ostensive stimuli create expectations of relevance follows from the definition of an ostensive stimulus and the Cognitive Principle of Relevance. An ostensive stimulus is ‘a stimulus which is designed to attract the audience’s attention’ (p.163). According to S&W, given the universal tendency to maximize relevance, an audience will only pay attention to a stimulus that seems relevant enough. Therefore, by producing an ostensive stimulus, the communicator therefore encourages his/her audience to presume that it is relevant enough to be worth processing. An ostensive stimulus, then, creates a “presumption of relevance”. The notion of optimal relevance is meant to spell out what the audience of an act of ostensive communication is entitled to expect in terms of effort and effect. According to Sperber & Wilson, an ostensive stimulus is optimally relevant to an audience if: (pp. 163-164)

a. It is relevant enough to be worth the audience’s processing effort.

b. It is the most relevant one compatible with communicator’s abilities and preferences.

According to clause (a) of this definition of optimal relevance, the audience is entitled to expect the ostensive stimulus to be at least relevant enough to be worth processing. S&W argue that a stimulus is worth processing only if it is more relevant than any alternative input available at the time. Thus, according to them, in order to satisfy the presumption of relevance conveyed by an ostensive stimulus, the audience may have to draw stronger conclusions than would otherwise have been warranted.
However, the theorists maintain that there may be relevant information that the communicator is unable or unwilling to provide (an ostensive stimuli that would convey their intentions more economically), or unable to think of at the time. All this is allowed for in clause (b) of the definition of optimal relevance, which states that the ostensive stimulus is the most relevant one (i.e. yielding the greatest effects, in return for the smallest processing effort) that the communicator is willing and able to produce.

Furthermore, in their book (1995), the co-authors emphasize on the important role the ‘context’ plays in the process of understanding and communication. They assert that: “In much of the pragmatic literature, events are assumed to take place in the following order: first the context is determined, then the interpretation process takes place, then relevance is assessed. In other words, relevance is seen as a variable to be assessed in function of a predetermined context” (p.141). However, S&W believe that from a psychological point of view, this is a highly implausible model of comprehension because “humans are not in the business of simply assessing the relevance of new information… They try to process information as productively as possible; that is, they try to obtain from each new item of information as great a contextual effect as possible for as small as possible a processing effort” (p142). They both assure that assessment of relevance is not the goal of the comprehension process, but only a means to an end, the end being “to maximize the relevance of any information being processed”. (p.142).

Furthermore, both researchers claim that the success of communication depends greatly on whether the hearer uses the speaker-intended or appropriate context. They believe that the right choice of ‘contextual assumptions’ will be followed by a logical inference of the intended implication, whereas the wrong choice of assumptions will certainly lead to misunderstanding. Thus, according to Sperber and Wilson, in the process of communication, the hearer constructs the immediately given context based on the previous discourse (which is itself an indispensable part of the next discourse understanding), and the contents of the memory of the deductive device. They
maintain that the hearer has to select a particular context out of a range of possible contexts in order to understand the intended meaning, and they assure that “the selection of a particular context is determined by the search for relevance” (p.141). So, according to them, context is constantly changed, expanded and enriched, becoming the base of further interpreting of new information. In this sense, context is a variable, and not fixed in advance (p.142).

2.10 The Deductive System:

On the other hand, Sperber and Wilson also emphasize on the key role the human deductive system plays during verbal communication. They assure that the deductive system is the central location of the inferential tasks that take place within the mind. The deductive device, according to S&W, is “at the centre of spontaneous non-demonstrative inference” (p.107), that is, it is a major source of assumptions, and its processes “affect the strength of both the initial and final theses of the deductions it performs.” (p.107). They also assure that "the spontaneous and essentially unconscious formation of assumptions by deduction is a key process that makes human communication a substantially inferential process.” (p.85). Furthermore, S&W stress on the critical role the deductive system plays in verbal communication and understanding. They maintain that the deductive system provides an important economy of storage located in the memory. For they believe that a deductive rule system is an extremely efficient device for reducing the number of assumptions that have to be separately stored in memory for either “accessing the conclusions of arguments, for drawing out the implications of newly acquired conceptual information, and for increasing the impact of this information on a stored conceptual representation of the world. (p.102).

S&W define the human deductive device as, “a system which explicates the content of any set of assumptions submitted to it.” (p.96). They further explain it as a system that arranges information into a logical order and creates a storage for them from which assumptions can be easily retrieved according to deductive rules. According to S&W, deductive rules are: “a set of computations which take account of
the semantic properties of assumptions only insofar as these are reflected in their form.” (p.85).

The authors attempt to explain how the deduction process works. They maintain that the process starts by a set of assumptions that are placed in the memory of the device. Assumptions entering the memory of the deductive device, according to them, have four possible sources: they can come from perception, linguistic decoding, encyclopedic memory, or they can be added to the memory of the device as a result of the deductive process itself. After that, the device in turn “reads the each of these assumptions, access the logical entries of each of its constituent concepts, applies any rule whose structural description is satisfied by that assumption, and writes the resulting assumption down in its memory as a derived thesis…the process applies to all initial and derived theses until no further deductions are possible.” (p.95). They add that the deduction process monitors for redundancies and contradictions. For, the maintain that, before writing down the assumption in memory, the system checks to see whether the assumption or its negation is already there. If so, the device refrains from writing it down again.

S&W assure that, “A central function of the deductive device is thus to derive, spontaneously, automatically and unconsciously, the contextual implications of any newly presented information in a context of old information.” (p.108). They further add, “Other things being equal, the more contextual implications it yields, the more this new information will improve the individual’s existing representation of the world.” (p.108). According to them, the addition of new information to a context of old information brings not only contextual implications but also analytic and synthetic implications as well. Sperber and Wilson also distinguish between the deductive system and the input systems of the human mind. The deductive system, according to them, applies to conceptual rather than to perceptual representations, that is, to representations with a logical or propositional form. They also distinguish it from other central processes due to the different type of computation it performs.
Moreover, in order to account for the mental processing that produces comprehension, relevance theory postulates that for every concept known to a human mind there are three types of mental entries somehow represented within the brain; the logical entry, the encyclopedic entry, and the lexical entry. According to Sperber and Wilson, the ‘logical entry’ for a concept consists of “a set of deductive rules which apply to logical forms of which that concept is a constituent”, the ‘encyclopedic entry’ contains information about “the extension and/or denotation of the concept”, the ‘lexical entry’ contains information about “the natural-language counterpart of the concept: the word or phrase of natural language which expresses it.” (p.86). They further maintain that the fact that a concept has all these three entries provides a point of contact between input and central processes, that is, "between the linguistic input system and the deductive rules of the central conceptual system.” (p.90). According to S&W, “Recovery of the content of an utterance involves the ability to identify the individual words it contains, to recover the associated concepts, and to apply the deductive rules attached to their logical entries.” (p.90).

In his study (2007), Jobes explain these three mental entries, and he stresses that these categories should be understood as logical entities rather than a description of how they map onto the ‘neural substrate’. He explains that relevance theory posits that: (p.5)

1. There is a lexical entry containing information about the word or phrase in one's language used to express it along with syntactic and phonological information about the word. This psychological construct is clearly language specific.

2. Relevance theory posits a second type of entry in the mental context that is a set of logical deductive rules that apply to the set of relationships of which the given concept is a member. This entry facilitates the logical entailments that make communication a substantially inferential process. The logical entry is part of mental cognition that structures concepts into systems such that when one concept is invoked in a statement all other logically related concepts are automatically made available to the mental context in which comprehension of the statement occurs. Some logical deductive rules are relatively universal across speakers, cultures, and time but the relationships between some concepts may be culturally specific.

3. There is what Sperber and Wilson have called the encyclopedic entry in the human mind associated with each known concept that contains information used to enrich the concept. Encyclopedic entries vary from culture to culture, from person to person, and even throughout the lifetime of
Moreover, according to Sperber and Wilson (1995), they maintain that their characterization of ‘relevance’ is comparative rather than quantitative: it makes clear comparisons possible in some cases, but not in all. S &W claim that, “while quantitative notions of relevance might be worth exploring from a formal point of view, it is the comparative rather than the quantitative notion that is likely to provide the best starting point for constructing a psychologically plausible theory” (pp.79-80). In the first place, they assert the fact that it is highly unlikely that individuals have to compute numerical values for effort and effect when assessing relevance. Such computation would itself be effort-consuming and consequently detract from relevance. Moreover, even when individuals are clearly capable of computing numerical values (for weight or distance, for example), they generally have access to more intuitive methods of assessment which are comparative rather than quantitative, and which are in some sense more basic.

In the second place, they also assure that while some aspects of human cognitive processes can already be measured (e.g. processing time) and others may be measurable in principle (e.g. number of contextual implications), it is quite possible that others are not measurable at all (e.g. strength of implications, level of attention). S&W stress that: “relevance is a property which need not be represented, let alone computed, in order to be achieved. When it is represented, it is represented in terms of comparative judgements (e.g. ‘irrelevant’, ‘weakly relevant’, ‘very relevant’), but not in terms of fine absolute judgements, i.e. quantitative ones.” (p.132).

2.11 Explanation of the RT Comprehension Processes:

As mentioned before, the principle of relevance is based on Sperber and Wilson’s fundamental idea that communicated information comes with a guarantee or relevance, for they believe that, in utterance interpretation, it is enough on its own to
account for the interaction of linguistic meaning and contextual factors. Thus, concerning utterance interpretation and in the light of the principle of relevance, when the hearer hears an utterance while communicating, s/he is guided by a general and single criterion to evaluate a variety of possible interpretations. This criterion enables the hearer to exclude all but a single interpretation, which is the most relevant interpretation to him. Sperber and Wilson elaborate on what they mean by ‘relevance’ to an individual in these words:

*Relevance to an individual (classificatory)*

An assumption is relevant to an individual at a given time if and only if it is relevant in one or more of the contexts accessible to that individual at that time. (p.144).

However, they are quick to stress that special attention should be paid here that what is important to the hearer is not ‘maximal relevance’, which is meant to “yield the greatest possible contextual effects in return for the smallest amount of processing effort." (pp.141-142), but ‘optimal relevance’ which is achieved through: “enough contextual effect worthy of the hearer’s attention without any gratuitous processing effort.” (p.158).

Thus, according to the co-authors, "An utterance, or a given interpretation, is consistent with the principle of relevance if and only if the speaker might rationally have expected it to be optimally relevant to the hearer on that interpretation " (p. 144). In this sense, the speaker naturally makes the assumption that there is no other interpretation which has enough effect worthy of the hearer’s attention, and is easier for the hearer to construct than the intended one. In addition, the speaker is convinced that the first acceptable interpretation to occur to the hearer is the one he intends to convey, and proves satisfactory and justifiable. As for the hearer, he assumes that the context needed for the correct interpretation is the most easily available and that combined with the appropriate context, the intended interpretation will be reached, which is effort-worthy. Therefore, the pursuit of optimal relevance guides the hearer to keep in mind that; “The first interpretation tested and found consistent with the principle of relevance is the only interpretation consistent with the principle of relevance: all other interpretations are disallowed ”. (p. 158).
Furthermore, in their explanation of how individuals interpret utterances in the communication process, the co-authors believe that “every utterance is a more or less faithful interpretation of a thought the speaker wants to communicate.” (1995, p.259). Thus, according to RT, verbal comprehension starts with the recovery of a linguistically encoded sentence meaning, which must be contextually enriched in a variety of ways to yield a full understanding of the speaker’s intended meaning. The Communicative Principle of Relevance and the definition of optimal relevance suggest a practical procedure for performing these subtasks and constructing a hypothesis about the speaker’s meaning. Sperber and Wilson explain that the hearer should take the linguistically encoded sentence meaning; following a path of least effort, s/he should enrich it at the explicit level and complement it at the implicit level until the resulting interpretation meets his/her expectation of relevance. (pp.176-182)

In addition, Sperber and Wilson’s theory elaborates on some watershed assumptions that are typical of pragmatic theories. It agrees that all utterances are encountered in some context, frequently make use of sentences, create ‘explicatures’ in the process of understanding, which are: “a combination of linguistically encoded and contextually inferred conceptual features” (p.182), and that all utterances convey a number of ‘implicatures’: “an assumption that is intended to be communicated and is derived solely via processes of pragmatic inference” (p.182). In addition, they posit the notion of ‘manifestness’, i.e. when ‘something is grasped either consciously or unconsciously by a person’ (p.298). This, according to them, will be manifest to people who are engaged in inferential communication that both the speaker and the hearer have the notion of relevance in their minds prior to the utterances. Consequently, it will cause each person engaged in the interaction to arrive at the presumption of relevance, which is the notion that:

a) implicit messages are relevant enough to be worth bothering to process, and,

b) the speaker will be as economical as possible in communicating it. (p.125).

The theorists also emphasize the significant role that ‘propositional forms’ play in understanding utterances. According to them, every utterance with a propositional form resembles the thought of a speaker, in other words, the propositional form
interprets the speaker’s thought. They maintain that, “In some limiting cases propositional form may resemble the speaker’s thought completely, but more often there are cases of ‘Approximation’ because the standard for communication is not truth but relevance.” (p.183). They further explain that the hearer’s first task in recovering the ‘explicature’ of an utterance is to identify it’s propositional form. However, in order to achieve that, the hearer must use a specific criterion to select the right propositional form. S&W suggest that criterion and call it the ‘comprehension processes’. These processes include three suggested steps: disambiguation, reference assignment, and enrichment. Sperber and Wilson believe that the right propositional form that will lead to an overall interpretation (which the hearer should be recovering) must be the one that is consistent with the principle of relevance. In other words, they stress that, “At every stage in disambiguation, reference assignment and enrichment, the hearer should choose the solution involving the least effort, and should abandon this solution only if it fails to yield an interpretation consistent with the principle of relevance.” (p.185). RT also claims that in the case of ‘disambiguation’ and ‘reference assignment’, as crucial aspects in the interpretation process, “the first interpretation consistent that meets the hearers expectation of relevance is the one the hearer should choose.” (p.257).

In his study, Jobes (2007) explains Sperber and Wilson’s three steps of their suggested ‘comprehension process’. According to him, an individual word is connected to some number of schemas and/or cultural frames, such that all roles, relations, and actions associated with the word are simultaneously activated by a sensory perception of it. Jobes asserts that this activation of various associated neural networks forms the mental context within which meaning is determined by the three subtasks defined by Sperber and Wilson:

1. Processing the explicit contents of a statement via decoding, disambiguation, reference resolution, and other pragmatic enrichment processes to yield what are called the explicatures of the statement.
2. Determining the intended contextual assumptions, or the implicated premises.
3. Determining the intended contextual implications, that is, the implicated conclusions. (pp.7-8)
According to Jobes, the spreading activation of neural networks that brings previously associated knowledge into the mental context within which meaning is determined means that comprehension is achieved by a combination of what is explicitly said combined with inferences reached from other associations that have been activated by the statement.

Therefore, according to Sperber and Wilson, in order to understand an expression “several inferential steps are needed if the informative intention is to become mutually manifest.” (p.163). That is; the expression needs to go through a number of processes which are determined by the number of inferences and/or logical operations required (p.163-193). Consider, for example, the following real life exchange by an adult who has collected children from the swimming pool: (Ryder, N. & Leinonen, E. 2001, p.2):

Adult: Did you enjoy the swimming then?
Child: It was freezing

According to the RT, in order for the adult to recover the intended meaning: linguistic, inferential, and logical operations need to take place. The child’s answer is intended to be understood as: ‘No, I didn’t enjoy swimming because the water was too cold.’ The linguistic information alone does not provide the intended meaning and has to undergo a number of ‘processes’ in order to become contextually viable. These processes (referred to in RT as Reference Assignment, Disambiguation and Enrichment, p.191) operate according to the demands of the input. Thus, this example indicates that both Reference and Enrichment are necessary in order to reach the intended interpretation.

Reference assignment: \( it = \) the water

By using the context in which the utterance was said, the meaning is enriched:

Enrichment:

\( was = \) the time the swimming took place prior to the utterance.
\( freezing = \) the water was unacceptably cold in relation to the temperature expected.
According to RT we have now arrived at a more explicit meaning, an ‘explicature’, which Sperber and Wilson explain as: an ostensibly communicated assumption, that is inferentially developed from the incomplete conceptual representation (logical form) resulting from linguistic decoding. (p.182)). The ‘explicature’ can be summarized as follows:

Explicature:

The water in which we were just swimming was unacceptably cold in relation to the expected temperature.

In addition, to reach the intended meaning: ‘the children did not enjoy swimming’ further processing is needed. The explicature needs to be combined with world knowledge/experience of swimming.

World knowledge/experience:

-Swimming can be pleasant when the temperature of the water is normal.
-Swimming in cold water can cause shivering/ is uncomfortable/ usually means you get out earlier than normal.

In RT terms an ‘implicature’ can be reached at this point – a conclusion- by the help of logical operation:

Implicature:

The water was cold.
Being cold is not enjoyable.
The children didn’t enjoy swimming.
The children did not enjoy swimming because the water was too cold.

Therefore, according to RT, we can arrive at the intended meaning of an utterance by combining the first contextual meaning (explicature) with the above contextual information via the process of deduction. The outcome of this process is called an implicature (p.193). Moreover, the RT guides the receiver to choose the interpretation
that achieves the greatest contextual effect/support with the least processing effort (p.153).

- Figure 2 summarizes the comprehension process as explored in the previous example, shedding light on the role of context in comprehension.
Figure 2: Processes in Pragmatic Comprehension

PROCESSES IN PRAGMATIC COMPREHENSION

as suggested by Sperber and Wilson’s RT, (Ryder, N. & Leinonen, E., 2001)

LINGUISTIC INPUT

gives rise to

|  |

LOGICAL FORM (pre-pragmatic)

Which has to be completed into a fully propositional form via

|  |

REFERENCE ASSIGNMENT

DISAMBIGUATION

ENRICHMENT

when completed the hearer has recovered one or more

|  |

EXPLICATURE(s)

(fully propositional form recovered from the words themselves and logical rules/operations), this may give rise to

|  |

CONTEXTUAL EFFECTS

Involving retrieval of assumptions and/or integration of assumptions based on the context. Logical operations are applied to assumptions giving rise to an

||

IMPLICATURE

(implicated conclusion)
Therefore, and according to Sperber and Wilson (1995, p.118-131), “the notion of contextual effect is therefore crucial to a characterization of relevance, or an indispensable condition for relevance”(p.118). When an utterance is attempted, to the hearer, some information is old: it is already present in the individual’s representation of the world, such information is not worth processing at all. Other information is not only new but entirely unconnected with anything in the individual’s representation of the world (p.48). When these interconnected new and old items of information are used together as premises in an inference process, further new information can be derived: information which could not have been inferred without this combination of old and new premises. Sperber and Wilson maintain that: “When the processing of new information gives rise to such a multiplication effect, we call it relevant” (p.48). That is to say, when and only when new information achieves contextual effect in a context can it be considered relevant. In addition, other things being equal, the greater the contextual effect is, the greater the relevance will be. The interaction of new and old information gives birth to the so-called ‘contextual effect’ which is yielded when newly presented information affects existing contextual assumptions in the following three ways: strengthening or confirming existing assumptions in the context; contradicting and eliminating existing assumptions in the context; combining with existing knowledge to produce a contextual implication (p.48-50).

Moreover, Sperber and Wilson assert that “contextual effect” is achieved through “processing effort”, and “the greater the effort needed to obtain contextual effect, the lower the relevance will be” (1995, p.131). They argue that the two main factors affecting processing effort are: the effort of memory and imagination needed to construct a suitable context, as well as the psychological complexity of the utterance itself (p.130).

Therefore, information processing during communication involves effort that will only be undertaken in the expectation of some reward, that being: relevance. There is thus no point in drawing someone’s attention to a phenomenon unless it will seem relevant enough to him to be worth his attention. Because humans automatically turn their attention to what seems most relevant to them.
2.12 Conclusion:

Overall, the previous chapter presented a comprehensive review of the theory, which the study will be based on, Sperber & Wilson’s: *Relevance Theory of Communication and Cognition* (1995). By shedding light on the main pillars of the theory as developed by its founders and explained by other scholars, along with an insight on some theoretical and empirical studies that have examined the RT, and a general discussion of the practical implications of the RT for pragmatics studies, not to mention the child language/foreign language acquisition field. The researcher attempted to show why Relevance Theory has been widely accepted as a solid ground for a variety of pragmatic researches. The studies mentioned in the chapter show how the linguistic researchers believed the theory to be a very valuable asset in the field of pragmatic studies for its innovative and ingenious approach in analyzing human communication and understanding. The examined studies also illustrate how linguists, have also attempted to apply RT in their studies in the child foreign language learning field, which will be the focus of this research, and found it a very reliable resource in explaining the development of the language learning process, and how language understanding is achieved while communicating. Furthermore, the chapter shed light on the objectives of the RT, the different publications Sperber and Wilson have produced in relation to their theory, and the different views scholars have regarding the plausibility of the theory in linguistic research, including critics and supporters of the theory. Moreover, the chapter has covered the explanation of the theory in detail with special emphasis on the comprehension steps suggested by the theorists.
CHAPTER THREE

Methodology

3.0 Introduction

In this chapter the methodology followed in the study will be discussed. In so doing, the researcher will shed light on the information surrounding the subjects of the study, e.g. their age, gender, and background information. While discussing the context of the study, the procedure of the study, the materials and instrument used in the study, such as the book, which includes the story that has been chosen to be used in the study, the type of questions the participants are required to answer, along with the method that will be followed during data analysis. The actual process of this empirical study concerning the data collection and data analysis will also be covered.

In general, there are several methods to be adopted in studying child language development. One strategy is to record samples of child speech and to analyze the emerging patterns of language which these samples display. Another is to set up experimental situations in which children are asked to carry out various tasks involving speech production or comprehension. Analysis is also carried out of the input language used by adults when they talk to children (motherese or caretaker speech, which is characterized by the shortening and simplifying of words) and of the nature of the interaction between them (Fernald, 1987). The investigation may involve single children studied over extended periods of time (longitudinal studies) or groups of varying sizes, compositions, and ages studied at a particular point in time (cross-sectional studies). The present empirical study, however, adopts a cross-sectional method, whereas a sample of children with different age groups are studied at a specific point of time in order to analyze and compare the differences in their pragmatic abilities.
3.1 Subjects of the Study:

Sixty Saudi girls participated in the present study. The mother-tongue (first language) of all the participating students is Arabic, and they are all learning English as a foreign language in their school. Most of them were exposed to some degree to the English language in their preschool years. Therefore, all the participating students more or less come from the same linguistic background. Moreover, due to the fact that child language acquisition researches have shown that by **age 6-10** children are able to communicate effectively in demanding settings (Ryder, N & Leinonen, E. 2001), the age of the participating subjects was within that age-range. Thus, the sixty participating students were divided into three age-groups; seven year olds, eight year olds, and nine year olds (according to the Gregorian calendar). The chosen students were in their first, second, and third elementary grades respectively. The interview was conducted towards the end of the second semester of the year 2009/1430 H.

The participants were randomly selected from several school sections. For example, the first group, which consisted of twenty students attending their first elementary year, was selected from four sections: 1/A, 1/B, 1/C, and 1/D, five students from each section. And the same was applied to the second and third grade students.

Table (1): The age for Participants in the study:

<table>
<thead>
<tr>
<th>Class</th>
<th>No. of cases</th>
<th>Age range</th>
<th>Mean of Age</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Minimum</td>
<td>Maximum</td>
</tr>
<tr>
<td>1</td>
<td>20</td>
<td>6.5</td>
<td>7.7</td>
</tr>
<tr>
<td>2</td>
<td>20</td>
<td>7.5</td>
<td>8.6</td>
</tr>
<tr>
<td>3</td>
<td>20</td>
<td>8.6</td>
<td>9.5</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>6.5</td>
<td>9.5</td>
</tr>
</tbody>
</table>
3.2 Context of the Study:

The participants were attending the Najd private school in Riyadh, Saudi Arabia. A private school was chosen to apply the present study because in Saudi Arabia English is taught as a foreign language to such young age group only in private schools. Moreover, in order to guarantee that the participating children came from a similar socio-economic background, they were specifically chosen from the same private school. In addition, the study was limited within one school in order to fix the variables, as the focus of the study is to test the relevance theory and its explanation of how communication takes place with regards to different age and cognitive development rather than to compare or contrast EFL student’s development in different schools. Furthermore, in order to apply the research successfully, the school chosen is one that includes reading in its English course, specifically stories approved for EFL learners. And due to the nature of this empirical study, only one school will be chosen to apply the study.

3.3 Data Collection:

The following section will cover the tools that have been utilized to collect the data, including: the material used, such as, the textbook of the study, the features of the story and the instrument of the test and. In addition, the procedures of the test will also be pointed out.

3.3.1 Material:

In the present research study, which is based on Dan Sperber and Dierdre Wilson’s (1995): Relevance Theory of Communication and Cognition (RTCC), a
cross-sectional method was adopted, where a group of seven to nine year olds will be studied at a specific point of time in order to compare their language and cognitive developments.

3.3.1.1 The Textbook of the Study:

A story from a series of school children’s reading books; *Houghton Mifflin’s Reading Delights*, was used in the study. The book was published in the year (2003), by the Houghton Mifflin Company, Boston, U.S.A. Although the books-series were designed for school-use in the elementary levels for English native speakers, they were also redeemed by educationalists (specifically in the private and International schools in Riyadh, Saudi Arabia, such as Najd school) suitable for children as EFL learners and beginning children readers. Thus, these reading books were adopted by numerous EFL schools world-wide. The chosen book contained a collection of co-authored award-winning children stories, with interesting themes, related exercises, drawings, pictures, and even a colorful glossary written in simple form and supported by attractive pictures intended for young learners.

3.3.1.2 The Story Features:

The title of the selected story is “The Great Ball Game”, written by Joseph Bruchac, an American children novelist. In an attempt to emphasize the universal theme of the story, Susan brilliantly used cut paper collected from all over the world in order to make the illustrations for this story: red umbrella paper from Thailand, an envelope from Tibet, blue paper from Japan, and green paper from Italy (Cooper & Pikulski, 2003, p.90-109). The text of the story used in the present research study is relatively short and written in simple words in order to accommodate the attention span of younger children. The story also contains colorful pictures and illustrations in every page, which, in the researcher’s point of view, will attract the attention of the child for a better understanding of the text and application of the theory under investigation.
The story is based on a theme familiar to children; a ball match between two competing groups. The two groups agree to play a ball game in order to end a quarrel. Each group believes it has an advantage over the other one. Both groups agree that the winners may set a penalty that the losers must accept. However, what is interesting about the two competing teams is that they consisted of non-human contestants who were playing a human game. The teams that were formed consisted of the animals on one side and the birds on the other, which can be an interesting, attractive and a fun idea for the students. Therefore, as the name of the book implies (*Reading Delights*), the story was found by the researcher, and further by the participating students, to be a real delight not only for the ears to hear but also for the eyes to see. (A copy of the story can be found in Appendix D.).

3.3.1.3 The Instrument of the Study:

During the testing sessions, the story was individually read to each child, in a quiet place in school. The sessions, including the reading, questions and answers, were audio-recorded without the students noticing that, in order to feel relaxed and comfortable and to be able to elicit genuine answers from them. Once the child enters the reading-room, and to break-the-ice, friendly conversation first took place, where the researcher introduced her name and profession first, then asked the child about her name and age, and then asked the student if she likes stories her self and which stories did she prefer, all that while maintaining a welcoming friendly smile. After that, the researcher tells the child why she is here (only to read and evaluate the story and not the student) and then starts the reading. Double-faced pictures of the story were used while reading, and if the student seemed confused or hesitant after reading any part, the reading of that particular section was repeated.

Each of the reading sessions lasted for about fifteen to twenty minutes. While reading, the researcher stops intermittently to ask text-related research questions. The questions the girls were asked were specific, grammatically simple, and included the
three types of questions proposed by the study; Reference, Enrichment and Implicature questions.

Following Sperber and Wilson’s approach, their RT will be adopted in this pragmatic study to examine the difficulties Saudi female children face as EFL learners which consequently affect their understanding and communication of the English language. These difficulties will be measured through examining their ability or inability to answer oral, context-related questions within the scope of the Relevance Theory.

3.3.2 The Procedure of the Test:

In order for the oral-testing sessions to proceed smoothly without the child feeling nervous that she was being tested, the tape-recorder was turned on before the child entered the testing area, and it was hidden under the table in a place unnoticeable to the student. Each testing sessions followed the same procedure, which included:

1. The researcher started each oral session by initiating a friendly conversation with the student, e.g. the researcher introduced herself first, her name and her job as an English teacher, and then asked the student about her name and grade, whether the student liked stories or not, and which stories did she prefer.
2. After that the researcher introduces the name of the story to be read and explains to her that she wants to know if the student likes the story or not.
3. Before starting to read the story, the researcher explains to the student that at different points of the reading she will be asked some simple questions that requires answering, and in case she needs the question or the reading of that specific part to be repeated she can certainly ask for that.
4. In order to aid the process of understanding and to add an element of fun to the reading, a double-faced picture of the story was used while the researcher was reading the story.

5. Each testing session lasted for about 15-20 minutes.

3.4 Data Analysis:

3.4.1 Types of Story Questions:

A total of nine questions were asked, per participant, intermittently while reading, three questions from each of the question types: Reference, Enrichment, and Implicature questions. Each type of question proposed a different level of pragmatic difficulty on the student:

3.4.1.1 Reference Questions: the child was asked to explicitly state who or what a pronoun referred to after reading the sentence. In all cases the referent was unambiguous in the text and was supported by the pictures of the story. This type of questions propose the least pragmatic difficulty on the student, for in order to answer, the student needs only to refer to the immediate previous context in the story, with no comprehension processes or calculations required. For instance, the question: ‘Who had a great argument?’ was asked after reading the sentence: “Long ago the Birds and Animals had a great argument.” In such case, reading the text and asking the reference question were done while the child was looking at a picture of a group of birds and another group of animals. The rest of the reference questions were asked in the same manner.

3.4.1.2 Enrichment Questions: the child was required to enrich the explicit information to its full propositional meaning. This type of questions propose a medium level of pragmatic difficulty to the student because she is only required to enrich her
answer by the use of the direct context mentioned prior to the question. Again the answers to enrichment questions were also supported by the story illustrations. For example, the question: ‘What did the two sides argue about?’ was asked after reading: “‘We who have wings are better than you,’ said the Birds. ‘That is not so,’ the Animals replied. ‘We who have teeth are better.’”

3.4.1.3 Implicature Questions: in order for the child to answer this specific type of questions, she is required to engage in the kind of comprehension processes described earlier in order to arrive at an implicature. This type of questions propose the most pragmatic difficulty on the students, because the student needs to make use of all the story previous context in order to reach a conclusion or an ‘implicature’. For example, the question: ‘What game began?’ was asked after reading: “Two poles were set up as the goalposts at each end of the field. Then the game began.” In order to answer this question the student needs to go through a number of pragmatic computations by including all the previous information given in the story in order to reach an implicature i.e. the answer to this specific question which is “a ball game”.

The questions that were asked, while reading the relevant text of the story of ‘The Ball Game’, were as follows:

1. The Reference Questions:
   a. Who had a great argument?
   b. Who had both teeth and wings?
   c. Who laughed at the bat because it was too little?

2. The Enrichment Questions:
   a. What did the two sides argue about?
   b. What advantage did the Birds have?
   c. What teams were formed?

3. The Implicature Questions:
   a. What game began?
b. Why was the Bat accepted as an animal?
c. Why do Birds fly south every winter?

3.4.2 Types of Answers:

The given answers of each child were first analyzed in terms whether the child gave a correct or an incorrect answer to the three types of questions mentioned above. An answer is deemed correct if it utilized available contextual information in a way that is relevant to the story. The correct answers to all of the nine questions, accordingly, are as follows:

1. Answers to the Reference questions are as follows:
   
   a. The Birds and the Animals.
   b. The Bat.
   c. The Birds.

2. Answers to the Enrichment questions are as follows:

   a. Which team is better.
   b. They could fly / They had wings.
   c. The Animals and the Birds.

3. Answers to the Implicature questions are as follows:

   a. The ball game.
   b. Because he won the game for the Animals.
   c. Because they lost the game. / Because that was the penalty.

3.4.2.1 Correct Answers:
The answer given is considered a correct one if it matched the previous answers, in other words, if it utilized available contextual information in a way that was relevant to the story. If the child appeared puzzled, or if her answer was uninterpretable or completely unexpected, the reading and the question asked were repeated only once, and the child was then asked to repeat the answer. Thus, the child will be given the opportunity to either correct or explain her unexpected answer.

In an attempt to minimize the variables, the grammatical errors of the students were overlooked. Thus, if the student’s answer matched the correct answer but had some grammatical mistakes it was deemed correct, because identifying grammatical errors is beyond the scope of the present study.

3.4.2.2 Incorrect Answers:

Incorrect answers are those which impose pragmatic difficulties on the student, resulting in answers that utilized the available context inappropriately. Such incorrect answers will be further categorized into one of six response types which will reflect how the children use available contextual information incorrectly i.e. in a way that is irrelevant to the story. The following categorization, of the incorrect answers into six response types, were suggested by the researchers Ryder and Leinonen in their (2001) study. In their study, they proposed that children between the ages of three and five years-old (all were native speakers of the English language) do show signs of following specific strategies when faced with pragmatically demanding questions. They based these strategies in the light of Sperber and Wilson’s (1995) Relevance Theory. For they believed that the comprehension process steps proposed by the theory do indeed have developmental validity. Such divisions, I found suitable and applicable to my research because they serve the study appropriately. By dividing the incorrect answers of the children into six response types, according to the Relevance Theory view, thus helping to fulfill the main purpose of the study.
Therefore, the six categories of incorrect responses were adopted from Ryder & Leinonen’s (2001) study, where the divisions and relevance to the study are deemed appropriate by the researcher. The categories are as follows:

1. **Viable**: refers to answers that utilized the story context inappropriately. Such answers will refer to some aspect of the story, showing awareness of the context, but the aspect that was focused on is not appropriate for the particular question.

2. **Irrelevant**: refers to answers which do not support any relevant contextual information and hence these answers will not be appropriate given the specific story context.

3. **Picture**: refers to answers that utilized pictorial information inappropriately.

4. **World Experience**: refers to answers that utilized world experience inappropriately.

5. **Don’t Know**: when the child answers ‘I don’t know’

6. **Problem**: refers to answers that will not fit any of the above categories.

Categories 1, 3 and 4 indicate how children use context when they have difficulty formulating an answer to a question that requires particular pragmatic processing. They attempt to prove that even though the child could/did not utilize the context entirely appropriately, she will, however, attempt to bring contextual information into the answer. ‘Irrelevant’ answers, on the other hand, show that the child could not utilize any relevant context. A ‘don’t know’ answer, however, may occur for a number of reasons ranging from incomprehension to lack of cooperation or interest. The incorrect answers are included under the ‘don’t know’ category if the child answers: ‘don’t know’ or when she is silent with no answer at all. Furthermore, incorrect answers listed under the ‘problem’ category were those that showed problems in areas of language understanding, language use, or when the child showed hesitance or confusion.

The following are a few examples of the categorization of the children’s incorrect answers according to the six response types. After the researcher read this text of the story: “*Holding the ball, Bat flew right between the poles at the other end!*
The Animals had won! This is how Bat came to be accepted as an Animal. He was allowed to set the penalty for the Birds. ‘You Birds,’ Bat said, ‘must leave this land for half of each year.’ So it is that the Birds fly south each winter...”, then the researcher asked the child this Implicature question: “why do Birds fly south every winter?”, to which the correct answer would be: ‘Because the Birds lost the game’ or ‘Because the animals have won’. When a child answered: “because they want to go to fly”, it was considered under the ‘irrelevant’ category because the answer did not support any given textual information. If the child was silent or answered: “don’t know” the incorrect answer was considered under the ‘Don’t Know’ category. If the answer was: “Because when it’s winter its so cold and they need to get warm” it was considered under the ‘World experience/knowledge’ category. When another child answered: “because its so cold” the incorrect answer was considered under the ‘picture’ category because while reading the relevant text in the story, it was accompanied by a picture of the birds flying away and the color of the sky being grayish and gloomy with white background. On the other hand, if the child answered: “Because the bear said who lose they will go out” it was considered under the ‘viable’ category, because the child showed evidence of utilizing the contextual information but inappropriately, in other words, in a way that is not relevant to the given context. Finally, when a child answered: “They say you know how to fly..” it was considered under the ‘problem’ category, because it showed that the child had language understanding problem and couldn’t fully grasp the intended meaning of the story.

3.5 Conclusion:

In the previous chapter, the researcher provided some important information concerning the methodology of the study, the sample of the study, e.g. their age, gender, and background, and information surrounding data collection and data analysis that are applied in the study. A general description of the actual testing sessions that were performed on the sample of the study was discussed, including how, when and where the testing took place. In addition, the types of questions used during the oral tests were explained in detail, with reference to the level of pragmatic difficulty of each (Reference, Enrichment, and Implicature questions). Then, the types
of answers were discussed thoroughly, including correct and incorrect answers and the further division of the incorrect answers into six response types. The chapter also included a discussion of the materials and tools used in the study, such as the book, the story that has been chosen for the test, the instrument of the study, which was the test used, the procedure of the test and the types of questions used. The research results and discussion will be dealt with in detail in the following chapter.
4.0 Introduction:

The following chapter will include some statistical results that appeared throughout the study and a discussion of the research results in relation to the Relevance Theory of Sperber and Wilson (1995). The discussion of the results will also be supported by tables and figures to illustrate and analyze the data collected from the three age groups sample, which will aid the comparison between the different age groups, hence, the analysis of the study results. Tables and figures will be presented.

4.1 Statistical Tests:

A number of statistical methods has been utilized in the study in order to analyze the resulting data. One of the main tests utilized by the researcher is the (ANOVA) statistical test, or what is more commonly known as the analysis of variance. The test provides a statistical test of whether or not the means of several groups are all equal, and therefore generalizes t-test to more than two groups. In other words, ANOVA is used in comparing two, three or more means.

In addition, the ANOVA test is usually followed by a number of follow up tests in order to reach further statistics. The 'Sum of Squares' test, for example, is measured by squaring (the second power of a quantity) the student's total number of incorrect answers in each question type and then summing them. The (Df), in addition, is another follow up test that refers to the 'degrees of freedom'. In this study, the degrees of freedom are measured between the groups and within the groups of
each type of question, the Reference, Enrichment, and Implicature questions. In the following Table (2-1), the (Df) is measured for each question type, in the first row between the groups, by subtracting the number groups (3) minus 1, which equals (2) in this study. The (Df) in the second row of each question type is measured within the groups, by subtracting the number of the sample (60 sts.) minus the number of the groups participating in the study (3), which equals (57). Furthermore, the 'Mean Square' is also a follow up test that is reached by dividing the 'Sum of Squares' by the (Df). In Table (2-1) the 'Mean Square' is given between groups and within groups for each question type.

The F-test, on the other hand, is another follow up test that is used for comparing the components of the total deviation, or what is also referred to as the 'F value' or the 'F ratio'. We reach the (F) value by dividing the number representing the 'Mean Square' between groups by the number representing the 'Mean Square' within groups of each question type. According to Table (2-1), the (F) value in the Reference question category equals (1.23), in the Enrichment category (1.15), and in the Implicature category (4.46). Such results indicate that there are no significant effects in the Reference and Enrichment categories in regard to age differences, whereas, they also show a significant effect for Implicature questions in relation to the different age groups.

Moreover, the (Sig) abbreviation in the study refers to another follow up test that measure if there exists any significant differences between the chosen variables (or not). In this particular study the (Sig) is measured between groups and within groups for each question type. According to Table (2-1), there appears a significant difference between groups in the Reference question category (0.301), and no significant differences within groups (N.S.). In the Enrichment category, there also appears a significant difference between groups (0.325), and no significant differences within groups. And in the Implicature category, there appears significant differences between groups (0.016) and within groups (0.05). Such results can be due to the fact that Implicature question pose more pragmatic demand on the children, i.e. they are more difficult to process and understand than the Reference and Enrichment
questions. Thus, in order for the child to answer, even incorrectly, she attempts to utilize the given context in her own personal way, that differs from each child to another.

### Table (2-1): One Way Analysis of Variance (ANOVA) for the Difference in Percentage of Correct Answers by Age:

<table>
<thead>
<tr>
<th>Type of question</th>
<th>Source</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reference</strong></td>
<td>Between Groups</td>
<td>925.93</td>
<td>2</td>
<td>462.96</td>
<td>1.23</td>
<td>0.301 (N. S.)</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>21500.00</td>
<td>57</td>
<td>377.19</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Enrichment</strong></td>
<td>Between Groups</td>
<td>1814.82</td>
<td>2</td>
<td>907.41</td>
<td>1.15</td>
<td>0.325 (N. S.)</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>45055.56</td>
<td>57</td>
<td>790.45</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Implicature</strong></td>
<td>Between Groups</td>
<td>8259.26</td>
<td>2</td>
<td>4129.63</td>
<td>4.46</td>
<td>0.016 (0.05)</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>52833.33</td>
<td>57</td>
<td>926.90</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In order to reach the source of these differences, the (Tukey) test has been utilized. The Tukey test, or what is often referred to as 'Tukey's range test' is one of the different follow up tests which often follow the ANOVA test. The test most commonly compare every group mean with every other group mean (and typically incorporate some method of controlling for Type 1 errors). Tukey test is considered to be one of the 'post hoc' tests, which are performed after looking at the data, as opposed to 'priori' tests which are planned before looking at the data. In Table (2-2), the test indicates that there are differences between the seven-year-olds and the nine-year-olds, with the results being in favor of the nine-year olds.

<table>
<thead>
<tr>
<th>Age</th>
<th>Mean</th>
<th>7 YRS</th>
<th>8 YRS</th>
<th>9 YRS</th>
<th>Difference in Favor of</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 YRS</td>
<td>18.33</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 YRS</td>
<td>36.67</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 YRS</td>
<td>46.67</td>
<td>*</td>
<td></td>
<td></td>
<td>9 YRS</td>
</tr>
</tbody>
</table>

(*) Indicates significant differences which are shown in the table.

(*) The mean difference is significant at the .050 level.

Overall, the one way unrelated analysis of variance test (ANOVA) used in the study showed a significant effect for Implicature questions in relation to the different age groups (F = 4.46, Sig = 0.016). The analysis also illustrates that there is no significant statistical differences for Reference and Enrichment questions in regard to age differences.

4.2 Discussion of the Results:

On the other hand, results as a function of question type and age can be seen in Table (2-3).

Table (2-3): Percentage of Correct Answers as a Function of Question Type and Age:
<table>
<thead>
<tr>
<th>Age</th>
<th>Reference</th>
<th>No.</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 YRS</td>
<td>51</td>
<td>85.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>34</td>
<td>56.67</td>
<td></td>
</tr>
<tr>
<td></td>
<td>11</td>
<td>18.33</td>
<td></td>
</tr>
<tr>
<td>8 YRS</td>
<td>46</td>
<td>76.67</td>
<td></td>
</tr>
<tr>
<td></td>
<td>37</td>
<td>61.67</td>
<td></td>
</tr>
<tr>
<td></td>
<td>22</td>
<td>36.67</td>
<td></td>
</tr>
<tr>
<td>9 YRS</td>
<td>46</td>
<td>76.67</td>
<td></td>
</tr>
<tr>
<td></td>
<td>42</td>
<td>70.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>28</td>
<td>46.67</td>
<td></td>
</tr>
</tbody>
</table>

Results as a function of question type and age can be seen in Figure 3.

**Figure (3): Percentage of Correct Answers as a Function of Question Type and Age.**
As can be seen in Figure 3, the overall percentage of the correct answers elicited by all the age groups was significantly high compared to the incorrect answers, which will be elaborated on later in the study. Moreover, the percentage of correct answers is shown to increase with age. As seen in the figure, the seven-year-olds had the least correct answers for the pragmatically most demanding questions (Implicature questions). Seven years, however, had the most correct answers for the pragmatically least demanding questions (Reference assignment questions), thus, showing no appreciable difficulty with this specific type of questions, i.e., the Reference questions. The eight and nine years were quite similar in answering reference questions. The Enrichment questions, which fall in-between the two other types of question in terms of pragmatic processing, showed an emerging pragmatic ability in the seven-year-olds. The eight-year-olds showed a similar developmental pattern to the seven-year-olds with regard to the three question types, except that the significant increase in the pragmatic ability here falls on the most demanding pragmatic question type (Implicature questions). This in turn shows a developmental trend for the two age groups. Moreover, the nine-year-olds also showed a similar developmental pattern to the other two age groups, also, in turn, showing a developmental trend by eliciting a higher number of correct answers than the eight-year olds for the Implicature questions.
Overall, for each age group Reference assignment questions produced the highest number of correct answers. However, across age comparison elicited a somewhat different pattern for the Reference questions as compared to the other question types. The seven-year-olds produced somewhat higher number of correct answers to Reference questions as compared to the eight and nine-year-olds, whom, in turn, elicited almost the same number of correct answers to this type of question. Although this difference was not statistically significant, the researcher believes that the reason behind that is the development of the child’s pragmatic abilities by age. For, according to Sperber and Wilson’s theory, there is an emerging ability to use more sophisticated contextual processing as a function of age. As a consequence, affected by the increase in the pragmatic abilities, the child unwillingly let it interfere with the easy straightforward answer of the Reference questions. Thus, the eight and nine year olds, being affected by these developing pragmatic abilities, were led to their incorrect answers to this pragmatically least demanding type of questions, the Reference questions.

These results support the first hypothesis proposed in the study, that there is a developmental pattern with regard to the 7, 8, and 9 year-old children’s ability to answer questions that show increasing pragmatic/contextual complexity. There is an emerging ability to use more sophisticated contextual processing as a function of age. The processes of comprehension as proposed by Sperber and Wilson appear to have validity in that Reference assignment questions, i.e., the least demanding questions pragmatically, produced the highest number of correct answers for each age group, while, implicature questions, i.e., the most demanding questions pragmatically, produced the least number of correct answers.

The following Tables 3, 4, and 5, and Figures 4, 5, and 6 summarize the results of the children’s six response types when answering the questions incorrectly. It is worth mentioning, however, that the researcher has observed that the number of
incorrect answers compared to the correct ones were not high for all the response types in all three age groups.

Table 3, Figure 4 illustrate the type of incorrect answers given by the three age groups, 7, 8 and 9 year-olds when answering the Reference assignment questions, the least pragmatically demanding of all the three types of questions. As can be seen in the figure, it is clear that the percentage of incorrect answers for all age groups was not significantly high, which indicates that the level of difficulty of the Reference questions were relatively low.

Table (3): Percentage of Incorrect Answers to References Question by Category and Age:

<table>
<thead>
<tr>
<th>Age</th>
<th>Type of Response</th>
<th>Incorrect Answers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>No.</td>
</tr>
<tr>
<td>7 YRS</td>
<td>Viable</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Irrelevant</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Picture</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>World Experience</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Don't Know</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Problem</td>
<td>0</td>
</tr>
<tr>
<td>8 YRS</td>
<td>Viable</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Irrelevant</td>
<td>0</td>
</tr>
<tr>
<td>Category</td>
<td>9 YRS</td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td>-------</td>
<td>--------------</td>
</tr>
<tr>
<td>Viable</td>
<td>7</td>
<td>11.67</td>
</tr>
<tr>
<td>Irrelevant</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Picture</td>
<td>7</td>
<td>11.67</td>
</tr>
<tr>
<td>World Experience</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Don't Know</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Problem</td>
<td>0</td>
<td>0.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category</th>
<th>9 YRS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Viable</td>
<td>7</td>
<td>11.67</td>
</tr>
<tr>
<td>Irrelevant</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Picture</td>
<td>7</td>
<td>11.67</td>
</tr>
<tr>
<td>World Experience</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Don't Know</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Problem</td>
<td>0</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Figure (4): Percentage of Incorrect Answers to References Question by Category and Age.
Table 3 and Figure 4 illustrate that all the age groups have elicited only two types of incorrect answers for the Reference assignment questions: ‘viable’ and ‘picture’. Both response types, albeit incorrect, reflect different degrees of contextual utilization by the children when faced with a difficult or challenging question.

It is apparent that the eight-year-olds produced the most ‘viable’ responses, while the seven-year olds produced the least of this response type. In other words, the eight-year-olds misinterpreted or misunderstood some parts of the text more than the other two groups, which consequently led to a higher percentage in the ‘viable’ response type. Such observations assert the idea that children tend to show some degree of contextual utilization when faced with a challenging question.

On the other hand, the nine-year-olds produced the most of the ‘picture’ responses, while the seven-year-olds produced the least of this response type. The researcher believes that an increase in the 'picture' category by age is probably due to the misunderstanding or misinterpreting of the pictures. In other words, the seven-year-olds showed more understanding for the pictures than the other two groups. All
groups, however, showed some degree of contextual utilization, in this case the pictures of the story, when faced with a difficult question.

It is apparent from Figure 4 and Table 3 that the percentages of both the ‘viable’ and the ‘picture’ response types were relatively close among the eight and nine years old with slight differences between the age groups in comparison to the seven year olds. The eight-year-olds had less incorrect answers with the ‘picture’ category than with the ‘viable’ category. On the other hand, the seven-year-olds had more incorrect answers in the ‘picture’ category than in the ‘viable’, which the researcher believes may also be a result of misunderstanding or misinterpreting the pictures that are associated with the text. Not to mention that the nine-year-olds produced the same percentage of both the ‘viable’ and ‘picture’ responses. Overall, although both response types were considered incorrect, they are proof that when the children were faced with challenging questions they tend to show different degrees of contextual utilization.

Moreover, the figure shows that none of the incorrect answers elicited by any of the children (in all the age groups) fell into the other four categories of the incorrect response types; the ‘irrelevant’, ‘world experience’, ‘don’t know’ and the ‘problem’ categories. The researcher believes that such results are maybe due to the fact that Reference questions posed less pragmatic demands on the students. In other words, the Reference questions were easier for them to answer and not get confused, in comparison to the other two types of questions, the Enrichment and Implicature questions.

Furthermore, Table 4 and Figure 5 show the percentage of incorrect answers elicited by the children for the questions that posed a medium level of pragmatic difficulty; the Enrichment questions. The figure shows the percentage according to the response category and age of the child.
Table (4): Percentage of Incorrect Answers to Enrichment Question by Category and Age:

<table>
<thead>
<tr>
<th>Age</th>
<th>Type of Response</th>
<th>Incorrect Answers</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>No.</td>
<td>Percent</td>
</tr>
<tr>
<td>7 YRS</td>
<td>Viable</td>
<td>16</td>
<td>26.67</td>
</tr>
<tr>
<td></td>
<td>Irrelevant</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>Picture</td>
<td>1</td>
<td>1.67</td>
</tr>
<tr>
<td></td>
<td>World Experience</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>Don't Know</td>
<td>6</td>
<td>10.00</td>
</tr>
<tr>
<td></td>
<td>Problem</td>
<td>3</td>
<td>5.00</td>
</tr>
<tr>
<td>8 YRS</td>
<td>Viable</td>
<td>14</td>
<td>23.33</td>
</tr>
<tr>
<td></td>
<td>Irrelevant</td>
<td>1</td>
<td>1.67</td>
</tr>
<tr>
<td></td>
<td>Picture</td>
<td>1</td>
<td>1.67</td>
</tr>
<tr>
<td></td>
<td>World Experience</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>Don't Know</td>
<td>7</td>
<td>11.67</td>
</tr>
<tr>
<td></td>
<td>Problem</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>9 YRS</td>
<td>Viable</td>
<td>13</td>
<td>21.67</td>
</tr>
<tr>
<td></td>
<td>Irrelevant</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>Picture</td>
<td>2</td>
<td>3.33</td>
</tr>
</tbody>
</table>
It is evident from Table 4 and Figure 5 that the children from all age groups elicited more incorrect answers with the Enrichment questions than with the Reference questions in general. This stresses the fact that the Enrichment questions are pragmatically more demanding than the Reference questions, in other words, the complexity of the Enrichment questions is relevantly higher than the latter.
Moreover, the table and the figure illustrate that all age groups elicited the highest percentage of incorrect answers in the ‘viable’ response type, that is, most of the children’s incorrect answers for Enrichment questions were affected by the inappropriate utilization of the contextual information of the story. Here, the seven-year-olds produced the highest percentage of the ‘viable’ responses, while the nine-year-olds produced the lowest. Although the difference in the percentages between the age groups was not significant, incorrect ‘viable’ responses decreased with age.

The ‘don’t know’ category comes in the second place, after the ‘viable’ response type, with the eight-year-olds producing the highest percentage and the nine-year-olds the lowest. The seven and eight years old were relatively close to each other compared to the nine years old. This shows that when some students found the Enrichment questions to be challenging, they resorted to the ‘don’t know’ answer rather than trying to figure out the correct answer from the context or the pictures, either because of the increase in pragmatic difficulty of the Enrichment questions, not understanding or, loss of interest.

In addition, the percentage of the ‘irrelevant’ category was relevantly low, with slight differences between the age groups. There were no ‘irrelevant’ response types for both the seven and nine-year-olds. However, the eight-year-olds were the only group who elicited a low percentage of this incorrect response. Such low percentage reflects that children resorted more to utilizing the context than to answer with information that is not relevant to the text when faced with a challenging question, in regards to Enrichment questions.

The ‘picture’ response type percentages were also relatively low in all age groups in comparison to other incorrect response types. Both the seven and eight-year-olds elicited the same percentage in this category. On the other hand, the nine-year-olds elicited the highest percentage in the ‘picture’ category. The researcher believes that such results show that there was an increase in contextual utilization by age to some degree when the child is faced with a difficult question.
The seven-year-olds were the only group who elicited a number of incorrect answers, although with a relatively low percentage, in the ‘problem’ category. Both of the eight and nine-year-olds did not elicit any incorrect answers in this category. This, in the researcher's point of view, is maybe due to the fact that Enrichment questions posed a more pragmatic difficulty than Reference questions, especially on the younger age.

Not to mention that, the ‘world experience’ response type, which indicates that the child is drawing upon world knowledge/experience in an inappropriate way when being faced with a difficult question, was not elicited from any of the age groups for the Enrichment question. Such results show that the children were trying to utilize the contextual information more, when facing a challenging question, rather than resorting to information about the outside world, in regards to both Enrichment and Reference questions.

Overall, Table 4 and Figure 5 both reflect some interesting results about the Enrichment questions and how the children reacted to them when they found them challenging. The data shows that, in comparison with Table 3 and Figure 4 regarding the Reference questions, the Enrichment questions posed more pragmatic demands on the child, in other words, the complexity of the Enrichment questions was relatively higher than the latter, which is apparent from the increase in both the percentage and types of incorrect answers among all the age groups in Table 4 and Figure 5. This stresses the fact that the Enrichment questions are pragmatically more demanding than the Reference questions.

The data also indicate that, there seems to be a developmental trend with the strategies children use when faced with a difficult question. As the children found Enrichment questions to be more demanding than Reference questions, when answering them, albeit incorrectly, they seem to revert to more contextually available
information of the story, in other words, the ‘viable’ response type. For example, as with the other two age groups, the nine-year-olds’ incorrect answers to the more demanding question type (Enrichment questions) show a tendency to revert back to more contextually available information. In other words, when answering Enrichment questions, most of their incorrect answers fell into the ‘viable’ response. This indicates that the children were in the process of becoming less dependant on the pictures for contextual processing and were starting to move towards using the context of the story, but had not yet progressed towards more complex contextual processing involving the use of world experience.

Table 5 and Figure 6, on the other hand, illustrate the percentage of incorrect answers to the most pragmatically demanding of the three types of questions; the Implicature questions, also according to the response type and age of the child.

**Table (5): Percentage of Incorrect Answers to Implicature Question by Category and Age:**

<table>
<thead>
<tr>
<th>Age</th>
<th>Type of Response</th>
<th>Incorrect Answers</th>
<th>No.</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 YRS</td>
<td>Viable</td>
<td></td>
<td>16</td>
<td>26.67</td>
</tr>
<tr>
<td></td>
<td>Irrelevant</td>
<td></td>
<td>5</td>
<td>8.33</td>
</tr>
<tr>
<td></td>
<td>Picture</td>
<td></td>
<td>7</td>
<td>11.67</td>
</tr>
<tr>
<td></td>
<td>World Experience</td>
<td></td>
<td>5</td>
<td>8.33</td>
</tr>
<tr>
<td>Category</td>
<td>8 YRS</td>
<td>9 YRS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------</td>
<td>-------</td>
<td>-------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Don't Know</td>
<td>15</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problem</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viable</td>
<td>12</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Irrelevant</td>
<td>7</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Picture</td>
<td>9</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>World Experience</td>
<td>4</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Don't Know</td>
<td>5</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problem</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category</th>
<th>8 YRS</th>
<th>9 YRS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Don't Know</td>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td>Problem</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Viable</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Irrelevant</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Picture</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>World Experience</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Don't Know</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Problem</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

**Figure (6):** Percentage of Incorrect Answers to Implicature Question by Category and Age.
Table 5 and Figure 6 clearly indicate that the Implicature questions elicited the most incorrect answers from all the age groups, stressing that such questions were in fact the most pragmatically demanding questions of all the question types used in the study.

Again, as with the Enrichment questions, the ‘viable’ category elicited the highest percentage of incorrect answers in all age groups, with the seven-year-olds producing the most responses in this category. The eight and nine-year-olds elicited the same percentage in this category. Such results show that the younger group tended to rely more on contextual utilization when faced with a challenging question. It also shows that Implicature questions proved to be more pragmatically demanding on the younger group.

In addition, the ‘don’t know’ category comes in the second place for the seven-year-olds, having a significantly higher percentage than the other two age groups. The eight and nine-year-olds elicited a close, and rather, relatively low percentage in this category in comparison to the seven-year-olds, with the eights
having a slightly higher percentage than the nine-year-olds. This, as with the Enrichment questions, also indicates that the Implicature questions pose greater pragmatic demands on the children than the other two types of questions.

In addition, in the ‘picture’ response type, the eights had the highest percentage and the nines had the lowest. This category shows that, although Implicature questions posed more pragmatic difficulty than the other two questions, there still existed different degrees of contextual utilization by the students when they found it difficult to answer questions, although they relied more on the context (viable) than on the pictures under this specific type of question.

With the ‘irrelevant’ category, the eights produced the highest percentage of incorrect answers, and the sevens produced the lowest in this category. However, all the groups showed a close percentage to each other, with slight differences, when answering incorrect answers under this category. If we refer back to Table 4 and Figure 5 we can observe that only the eight-year-olds elicited answers in this category when it came to Enrichment questions. And none of the age groups elicited answers in this category when it came to Reference questions. This is another indication of the increase in complexity and pragmatic demands of the Implicature questions.

Furthermore, the ‘world experience’ response type elicited a lesser yet also significant percentage in all the age groups, with slight differences, the nines producing the highest percentage and the eights producing the lowest. This observation proves to be very significant, knowing, from the previous tables and figures, that all age groups didn’t elicit any answers under this category for both the Enrichment and Reference questions. Such data proves that Implicature questions are the most pragmatically demanding of all three questions. It also indicates that the students are showing a tendency to move towards utilizing their world knowledge and experience when faced with a more challenging question. In other words, they have progressed towards more complex contextual processing involving the use of world experience.
Last but not least, the ‘problem’ category elicited the lowest percentages from both the seven and eight-year-olds, and no responses of this category occurred among the nine-year-olds. This, in the researchers point of view, indicates the development of language with age, in other words, the language capabilities showed improvement with the nine-year-olds more than the other two groups.

Overall, as apparent from Table 5 and Figure 6, when it came to Implicature questions, all the age groups elicited the highest percentage in the ‘viable’ category, with the seven-year-olds having the highest overall percentage in this specific response type. Not to mention that the sevens also elicited the highest percentage in the 'don't know' category. This statistic stresses the pragmatic difficulty of the Implicature questions on the younger group. The seven and the eight-year-olds elicited their lowest percentage in the 'problem' category, with the nines showing no percentage in this category at all. This indicates that the language of the children is indeed developing by age. Such results prove that children do tend to utilize the context more when finding it difficult to answer a question, although, they did show some tendency to rely on their world knowledge when it came to the most pragmatically demanding of the questions, the Implicature questions.

To summarize, as indicated by Figures 4, 5, 6 and Tables 3, 4, and 5, a number of common observations regarding the relationship of question type and incorrect response type come into perspective. For one, it is evident that the ‘viable’ category elicited the most incorrect answers across all the three question types, the Reference assignment, Enrichment and Implicature questions. The ‘viable’ answers indicate that the child utilizes the verbal information given in the story incorrectly. Such statistics indicate that most of the children within the age groups of the study resort to utilizing the contextual information given in the story, albeit sometimes incorrectly, when finding it difficult to answer a question, i.e., when finding the question pragmatically challenging. Moreover, if we look at all the age groups, we notice that they elicited the highest percentage of ‘viable’ responses in both the Enrichment and Implicature
questions, while the Reference questions elicited the lowest percentage of ‘viable’ responses.

As with the ‘viable’ response, the ‘picture’ and ‘world experience’ response types reflect different degrees of contextual utilization by the children. While the ‘picture’ responses indicate that the child utilizes the given pictorial information when it is not appropriate, the ‘world experience’ responses indicate that the child is drawing upon knowledge/experience in an inappropriate way. If we take a look at the ‘picture’ response type for all the three types of questions we find that the Implicature questions elicited the highest rate in the pictorial responses for all the age groups. The researcher believes the reason behind that is when the child finds a particular question type more contextually demanding she seems to revert to using the picture strategy.

Moreover, the ‘world experience’ response type indicates that the child is drawing upon world knowledge/experience in an inappropriate way, when being faced with a difficult question. All the seven, eight and nine year-olds used the ‘world experience’ response type in their incorrect answers for Implicature questions, thus indicating that they are indeed moving away from processing in the ‘here and now’. However, the older group; the nine-year-olds elicited the highest number of ‘world experience’ responses, which shows that the older children have progressed to utilizing world experience in their answers, especially when facing a difficult question.

Thus, this kind of influence of the question type can be seen clearly in the cases of ‘viable’, ‘picture’ and ‘world experience’ response types. As apparent in the Figures and Tables, the seven-year-olds had the greatest difficulty with the Implicature questions, less difficulty with the Enrichment questions, and the least difficulty with the Reference assignment questions. This indicates that the children were in the process of becoming less dependant on the pictures for contextual processing and were starting to move towards using the context of the story, but had
not yet progressed towards more complex contextual processing involving the use of world experience.

For Implicature questions the seven-year-old children attempted to draw more upon the story (‘viable’) and not much on their world experience. When incorrectly answering Enrichment questions, the children demonstrated the use of story book context to a much higher extent than all the other response types, especially ‘world experience’ where the children of all age groups did not produce this response type when it came to Enrichment and Reference questions.

When answering the Reference assignment questions incorrectly, the seven-year-olds demonstrated the use of story book context and pictorial information to a similar manner, and there was also no occurrence of the ‘world experience’ responses in this type of question. But as they find Implicature questions more demanding than Reference and Enrichment questions, when answering them (albeit incorrectly) they seem to revert to more contextually available information of the story, in other words, the ‘viable’ answers. Similar to the seven and eight-year-olds', the nine-year-olds’ incorrect answers to the most demanding question type (Implicature questions) show a tendency to revert back to more contextually available information. In other words, when answering Implicature questions, most of the nine-year-olds’ incorrect answers fell into the ‘viable’ response.

On the other hand, the three figures also show that the number of ‘don’t know’ answers elicited from the children of all three ages was related to the complexity of the question. In other words, the most complex questions- the Implicature questions- elicited the greatest number of ‘don’t know’ answers, while the question with the medium level of complexity- the Enrichment question- elicited a lesser number, and the least complex questions- the Reference questions- did not elicit any ‘don’t know’ answers for all of the three ages. The researcher believes that this pattern indicates that the children's ‘don’t know' answers reflect the pragmatic complexity of the question, and is hence potentially connected with the child’s developing cognitive
resources. Moreover, as can be seen in Figure 6 the nine-year-olds' ‘don’t know’ response type were, to an extent, lesser than the eights'. However, both it was significantly lesser for the eights and nines compared to the seven years. The researcher believes that one reason behind this observation is that the age difference between the eight and nine years was relatively close. Thus, it is evident that the older children are already utilizing contextual information in their answers to a greater extent, although not always appropriately.

Furthermore, if we look at the three figures regarding ‘irrelevant’ response type, we can see that no age group provided irrelevant answers to Reference assignment questions. This was expected considering the age group of all the children, which usually indicates that most of them are already able to assign referents in context, albeit in varying degrees. In other words, all the three age groups did not resort to the strategy of simply providing any irrelevant answer to this specific type of question, without trying to draw on available contextual information.

Moreover, as with the ‘don’t know’ responses, the complexity of the question had an effect on the number of ‘irrelevant’ responses elicited across the age groups, thus indicating that the questions carry different levels of complexity. In other words, the greater the complexity of the question the more irrelevant responses were elicited by the children. Thus, the implicature questions elicited the most ‘irrelevant’ responses among all age groups.

The ‘problem’ response type included the answers that did not fit any of the above categories, i.e., the incorrect answers that showed problems in areas of language understanding, language use, or when the child showed hesitance or confusion, was not significantly high. However, if we observe the ‘problem’ response type shown in the three Tables and Figures we notice that Enrichment and Implicature questions elicited more problematic responses from the 7 and 8 year-olds, which is slightly expected due to the increase in the pragmatic difficulty of those questions. On the other hand, the nine-year-olds didn’t have any problematic responses for any of the three types of
questions. This, the researcher believes is due to the fact that they have had more exposure and experience with the English language, and a better command of it.

Overall, if we look at the relationship of question type and incorrect response type we note that students elicited a somewhat fluctuating pattern in all of the three question types, the Reference, Enrichment, and Implicature questions. This unsteady pattern of language development was evident, to an extent, among all the three groups. Thus, the language development pattern was not steady among all the age groups. The researcher believes that observation, although not dominant, can be due to the different experiences in the English language the children have been exposed to in their younger years, and hence, led to their different cognitive abilities as well.

4.3 Conclusion

This chapter covered the results and discussion of the present study according to the three main topics, which constitutes the research questions and hypotheses, with reference to data statistics. The results of the research were thoroughly analyzed by the use of tables and figures, which were aimed at analyzing the data collected from each of the three age groups. For example, a one way Analysis of Variance statistical test (ANOVA) indicated that there existed a significant effect for Implicature questions in relation to the different age groups, while it also showed that there were no significant statistical differences for Reference Enrichment questions with regard to age differences. At the end of the chapter, the results of the research were examined, to confirm the validity of the three hypotheses proposed in the study, and hence, ultimately confirming the implications of the Theory of Relevance as a valid theory for language studies. The following chapter will shed light on the findings of the research and how they contribute to the hypotheses suggested by the study in the light of the RT.
CHAPTER FIVE

CONCLUSION

5.1 Main Findings:

This present study asked whether developmental trends could be found in young children’s ability to answer questions. The question types were designed to investigate the processes that place different pragmatic demands on the child and are said to be involved in comprehension according to the Theory of Relevance. Overall, a developmental trend was evident suggesting that these processes do develop between the ages of seven and nine. Thus, confirming the first hypothesis of the study, which states that developmental trends could be found in young children’s ability to answer questions.

In the present study, however, and in terms of the strategies used by the children when answering incorrectly, some overall trends were evident. The researcher observed that the strategy used by the child was related to the pragmatic complexity of the question and the age of the child. For instance, for the seven-year-olds, the wrong answers for the Reference assignment questions indicate the child’s reliance on the pictorial information to a high extent. However, the pattern for picture reliance decreased with age regarding Enrichment questions. On the other hand, the reverse is true for world knowledge/experience, a strategy which the nine-year-olds relied on most with the Implicature questions and less with the Enrichment and Reference questions. Such findings confirm the second hypothesis of the study, which states that there is a developmental trend in the strategies children use when finding it difficult to answer questions.
Furthermore, the findings of the research confirm the third hypothesis proposed by the study, which states that developmental validity can be found in the processes of comprehension derived from the Relevance theory. Though the seven-year-olds slightly out-performed the two other age groups when answering Reference questions, all age groups gave more correct answers to Reference questions than the other question types. Although no obvious pattern emerges to explain the better performance of the seven-year-olds, the researcher believes that the nine-year-olds’ tendency not to rely so much on the picture and to anticipate what may have happened after a particular point in the story by relying on their world knowledge or experience, did sometimes result in an incorrect answer. However, the nine-year-olds showed an ability to use the story context to give a fuller answer than the eight-year-olds and this additional processing may have led to some inappropriate answers. The processes of comprehension as suggested by S & W appear then to have developmental validity.

The tendency of nine-year-olds to use more world knowledge in their answers, together with their comparatively better performance on Implicature questions suggests that the increasing ability to integrate world knowledge may have a trade-off effect when answering questions. The findings show that the older children tried to rely more on their world knowledge when faced with the pragmatically challenging Implicature questions. This suggests that when answering questions, in addition to having the knowledge base from which to answer the question itself (for example in this study; having knowledge of bird’s migration every winter) an ability to process and integrate contextual knowledge is developing.

The researcher believes that a number of different factors affect the comprehension difficulties and consequently the children’s fluency when learning a foreign language, i.e. their ability to communicate effectively in the foreign language – in this case the English language. As indicated in the present research, one of the problems facing the Saudi EFL learner is the inability to utilize a given context properly, and as a consequence, the inability to answer the context-related questions correctly. The difficulties that students face may lead, in the researcher’s point of view, to comprehension and communication problems in the foreign language. Hence, in
order to communicate effectively in the foreign language, a number of different factors are likely to affect whether a child is able to answer questions.

Thus, through this study, the researcher attempted to identify the difficulties Saudi children face when trying to communicate in the English language they are learning. The study also sought to find out if there exists a developmental trend in young children’s ability to answer questions and also in the strategies they use when finding it difficult to answer questions. This was attempted by focusing on the comprehension processes proposed by Sperber and Wilson’s Relevance Theory of Communication and Cognition. The theory proposes that children go through comprehension processes while attempting to answer context-related questions, thus highlighting the role of context in comprehension.

Therefore, this empirical study was designed to investigate whether the Relevance Theory, as a theory of language comprehension, provides a valid and suitable framework to investigate Saudi children’s comprehension of questions. The data collected from the subjects was analyzed and compared based on the assumptions put by the RT, and then used to find answers to the questions that were suggested by the study. The questions which the present study attempted to answer were as follows:

d) Can developmental changes be found in young children’s ability to answer questions?
e) Is there a developmental trend in the strategies children use when finding it difficult to answer questions?
f) Do the processes of comprehension derived from the Relevance Theory have developmental validity?

From the findings of this study, a developmental trend can be seen in the children’s ability to answer the three types of questions investigated; the Reference assignment, the Enrichment and the Implicature questions. The question types were designed to investigate the processes that place different pragmatic demands on the
child and are said to be involved in comprehension according to the Theory of Relevance. Overall, through the collected data, a developmental trend was evident suggesting that these processes do develop between the ages of seven and nine. Thus, confirming the first question proposed by the study.

The findings of the study also show that some trends can be seen in the strategies used by the children when they had difficulty answering the questions. The researcher observed that the strategy used by the child was related to the pragmatic complexity of the question and the age of the child. The strategies the children relied on when answering incorrectly were categorized into six types, 'viable', 'picture', 'irrelevant', 'world knowledge', 'don't know' and 'problem'. Each child used a different strategy when answering incorrectly, according to her age and depending on the pragmatic difficulty of the question type, the Reference, Enrichment, and Implicature questions. The statistical results of the collected data prove. Thus, also confirming the second question proposed by the study.

Regarding the third and last question proposed by the study, through the study, it became evident that the processes of comprehension as suggested by Sperber and Wilson, which suggests that: in order to reach an understanding while communicating, the human mind goes through a number of comprehension processing steps in order to reach an Implicature, do appear to have developmental validity. Therefore, the theory of language comprehension, the Relevance Theory, does provide a suitable framework to investigate children’s comprehension of questions. Thus, the three hypotheses proposed by the study were confirmed to be valid ones, which stated that:

a. Developmental trends could be found in young children’s ability to answer questions.

b. There is a developmental trend in the strategies children use when finding it difficult to answer questions.

c. Developmental validity can be found in the processes of comprehension derived from the Relevance Theory.
5.2 Practical Implications:

The results and findings of the present study can be of benefit to different fields of study. The study aims to contribute to the EFL curriculum in the child language acquisition field by trying to improve Saudi children’s English communication skills through the integration of English stories suitable for their age and attention span as part of their curriculum. The study suggests that if the developmental trends that were proven in the study would be taken into consideration by the educators, EFL learning can become more interesting, enjoyable and fun, and the learning outcome will become more effective and achieve better results in less time and effort, which will later on contribute to further studies in EFL field.

One of the findings of the present research is that Implicature questions are the most pragmatically demanding of questions when introduced to the child as an EFL learner. Thus, educators need to pay more attention to the types of questions presented to EFL students according to their age. In other words, the level of the pragmatic difficulty of the questions should be taken into consideration. For example, teachers and educators should introduce Implicature questions to the EFL student after making sure that the child has grasped the ability to answer less pragmatically demanding questions, such as, the Reference assignment and Enrichment questions, where s/he makes use of the immediate previous context to answer questions rather than having to go through the comprehension process steps in order to reach an Implicature, hence, posing more difficulty on the child. Such technique, the researcher believes can ease the process of understanding newly introduced language material so as not to discourage or confuse the learner by the challenges of difficult questions when trying to acquire a new language.

Another finding of the study is that when the children were asked whether they have enjoyed the story that was read to them during the test or not, 98% of the children
answered with a “Yes”, and some added: “Very Much !”. Such an observation asserts the idea that integrating children’s literature into the EFL curricula is of crucial importance to make the language learning process a more successful one.

Furthermore, one of the findings reached through the study was the positive attitudes found among the children toward the chosen story, which was maybe due to its rather familiar and enjoyable theme to the kids, which is ‘a ball game’. This finding asserts the scholarly belief that children literature with age-appropriate themes is essential in child language learning because it can provide background knowledge and cultural information along with opportunities to hear, speak and interact with carefully crafted language in thematic and story contexts. Thus, the researcher recommends that the stories selected for EFL children learners should also be connected with familiar themes that the children can relate to in order to connect the new information with their world knowledge and experience and hence reach a better understanding of the language.

The researcher also found out that the process of story-telling appealed to the children’s interest as much as the theme of the story itself. This finding supports the idea that foreign language learners derive pleasure and satisfaction from the knowledge that they are listening to a story for the native speaker of English. Therefore, by using the technique of reading short stories with interesting themes to the EFL learners, the children will be captivated by the story, hence, the language learning process can take a more fun, enjoyable and interesting toll. Moreover, the study findings also support the idea that picture books provide readers with an ample amount of contextual information, which has been proved to be helpful for learning/acquiring languages.

Last but not least, concerning the developmental trends shown by the children throughout the study, the researcher stresses the importance of taking into consideration the age of the child when assigning a specific EFL curriculum, in order to make the learning process more effective and successful. The developmental trends
that the children have illustrated when being faced with challenging questions, according to their age, can aid educators belonging to all fields of study by assigning special curricula’s which meets the children’s capabilities and prevents confusion and difficulty. Not to mention specific training should be given to EFL teachers in order to incorporate new and more interesting teaching methods, such as, story-telling, in order to make the learning experience more fun and enjoyable.

5.3 Suggestions for Further Research

Based on this thesis, a number of studies can be conducted:

1. Regarding the sample of the study, all the participating EFL students were young girls. Thus, the researcher suggests performing another study on the young boys covering the same age groups. The suggested research could include a comparison between the findings and discuss the differences in the language developmental trends of both the male and female genders, if it exists, as well as explore the effect of gender on the comprehension process steps suggested by the Relevance Theory.

2. The present study could also serve as a pilot study to a much larger study conducted on young EFL learners of the same age in different cities in Saudi Arabia, such as, Jeddah, Dammam and Abha, to explore the effect of having different social backgrounds.

3. The researcher further suggests that the approach adopted in the study can be extended and applied to other age groups and grades in older elementary levels, to see if the developmental trends suggested by the Relevance Theory continues to exist and their extent in relation to age.
4. A succeeding study can also be applied to ESL learners of the English language to further verify and confirm the Implications of the Relevance Theory as a language study theory.

5. A final recommendation would be to conduct more experimental studies on young Saudi EFL learners, however, the researcher suggest the studies to be longitudinal studies, covering a course of two to three years, in order to investigate the implications of the Relevance theory on the process of language learning in the long term.
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APPENDICES

Appendix A. Najd School Certification Letters
Date: June 21st, 2009

To whom It May Concern

This is to certify that the M.A. student in Princess Noura bint Abdulrahman University/Literary Department:

Nasiba Abdulrahman Alvami

has completed an oral test of (60) female students in their 1st, 2nd and 3rd elementary years in our school, on the dates 15th/6/09, 16th/6/09, and 17th/6/09.

Upon her request, she was provided with this letter. Our school is happy to participate in such studies in the hope that they will contribute to the development of the youth education system in the kingdom of Saudi Arabia.

Signed: [Signature]
Headmistress
Shaikha Al Madi
إلى من يهمه الأمر

تغيد إدارة مدارس نجد الأهلية للبنات بأن طالبة الماجستير بجامعة الأميرة نورة بنت عبدالرحمن / الأقسام الأدوية : نسيبة عبدالرحمن اليامي قد أكملت امتحان (200) طالبة من المرحلة الإبتدائية الأندية شفية في مدارسنا كإحدي المطلوبات لإنجازها، بتاريخ 15/6/2015 م الموافق 1436/6/22 م وذلك لمدة ثلاث أيام من تاريخها، وقد سَتَمَّت هذا الخطاب بناءً على طلبها، وتعتبر مدارسنا خدمة الأبحاث التي تهدف إلى تنمية وتطوير برامج تعلم أطفالنا في المملكة العربية السعودية.

مدير المدارس

شيخة حمد الماضي
Appendix B. Researcher Request of Test Letter Presented to the School
بسم الله الرحمن الرحيم

سعادة الأستاذة/شيخة الماضي .....

مديرة مدرسة نجد الأهلية

حفظها الله

السلام عليكم ورحمة الله وبركاته...

إشارة إلى بحث رسالة الماجستير الخاص بدراستي، حيث تم بعون الله إنهاء استكمال ما لا بقل عن سنوات طالبة من المرحلة الابتدائية بمدارس الفاضلة كإحدى المتطلبات الرئيسة بالبحث، وعلى هذا ينصح الإشارة إلى أن هذا الإنجاز لم يتم إلا بفضل الله ثم بفضل توجيهاتكم وتعاون جميع مسؤولي مدارس الكريمة. ويبعد داني أنقل بجزيل الشكر لسعادتكم على دعمكم لمشرفة اللغة الإنجليزية بالمراحل الابتدائية، الأستاذة/ مها فاخوري، لمساندتها المستديمة لي والتي كان دعمها بمكانية الاحترافية والمتالبية.

وفي الختام أتمنى أن نقبلوا مني هذا التذكير البسيط لشكركم، وامتناني.

انتقدوا أطعمني وتقدير
أ/شيماء عبد الرحمن الياسي

معيدة بجامعة الأمير تمارة بنت عبد الرحمن
قسم اللغة الإنجليزية

١٨٧
Appendix C. Questions and Answers of Oral-Test based on Sperber and Wilson’s Relevance Theory
The questions that were asked, after reading the relevant text of the story: ‘The Ball Game’, were as follows:

4. The Reference questions:
   d. Who had a great argument?
   e. Who had both teeth and wings?
   f. Who laughed at the bat because he was too little?

5. The Enrichment questions:
   d. What did the two sides argue about?
   e. What advantage did the Birds have?
   f. What teams were formed?

6. The Implicature questions:
   a. What game began?
   b. Why was the Bat accepted as an animal?
   c. Why do Birds fly south every winter?

The correct answers to all of the nine questions, accordingly, are as follows:

1. The answers for the Reference questions:
   d. The Birds and the Animals.
   e. The Bat.
   f. The Birds.

2. The answers for the Enrichment questions: (with immediate or direct relation to the context)
   a. Who was better.
   b. They could fly / They had wings.
   c. The Animals and the Birds.
3. The answers for the Implicature questions:
   
a. The ball game.

   b. Because he won the game for the Animals.

   c. Because they lost the game. / Because it was the penalty.
Appendix D. Text and Pictures of Story Used in the Test
Who will win the great ball game? As you read, stop and summarize the important parts of the story.
Long ago the Birds and Animals had a great argument.

"We who have wings are better than you," said the Birds.
"That is not so," the Animals replied. "We who have teeth are better."

The two sides argued back and forth. Their quarrel went on and on, until it seemed they would go to war because of it.
Then Crane, the leader of the Birds, and Bear, the leader of the Animals, had an idea.

"Let us have a ball game," Crane said. "The first side to score a goal will win the argument."
"This idea is good," said Bear. "The side that loses will have to accept the penalty given by the other side."

So they walked and flew to a field, and there they divided up into two teams.

On one side went all those who had wings. They were the Birds.

On the other side went those with teeth. They were the Animals.
But when the teams were formed, one creature was left out: Bat. He had wings and teeth! He flew back and forth between the two sides.
First he went to the Animals. “I have teeth,” he said. “I must be on your side.”

But Bear shook his head. “It would not be fair,” he said. “You have wings. You must be a Bird.”
So Bat flew to the other side. “Take me,” he said to the Birds, “for you see I have wings.” But the Birds laughed at him. “You are too little to help us. We don’t want you,” they jeered.
Then Bat went back to the Animals. "Please let me join your team," he begged them. "The Birds laughed at me and would not accept me."

So Bear took pity on the little bat. "You are not very big," said Bear, "but sometimes even the small ones can help. We will accept you as an Animal, but you must hold back and let the bigger Animals play first."
Two poles were set up as the goalposts at each end of the field. Then the game began.

Each team played hard. On the Animals' side, Fox and Deer were swift runners, and Bear cleared the way for them as they played. Crane and Hawk, though, were even swifter, and they stole the ball each time before the Animals could reach their goal.
Soon it became clear that the Birds had the advantage. Whenever they got the ball, they would fly up into the air and the Animals could not reach them. The Animals guarded their goal well, but they grew tired as the sun began to set.
Just as the sun sank below the horizon, Crane took the ball and flew toward the poles. Bear tried to stop him, but stumbled in the dim light and fell. It seemed as if the Birds would surely win.
Suddenly a small dark shape flew onto the field and stole the ball from Crane just as he was about to reach the poles. It was Bat. He darted from side to side across the field, for he did not need light to find his way. None of the Birds could catch him or block him.
Holding the ball, Bat flew right between the poles at the other end! The Animals had won!
This is how Bat came to be accepted as an Animal. He was allowed to set the penalty for the Birds.

"You Birds," Bat said, "must leave this land for half of each year."
So it is that the Birds fly south each winter...
And every day at dusk Bat still comes flying to see if the Animals need him to play ball.