The Impact of Schemata on English Text Translation
A Case Study of Three Sudanese Universities

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Dedication

To the soul and memory of my first teacher.

My father.

Who instilled love of learning in me.
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My extreme gratitude and praise go first to Alla who paves the way for me and made the dream comes true. As students at faculty of education – El Hasahiesa, I am really fortunate to have Dr. Abdul gadir Mohammed Ali as a teacher and then as a supervisor, I am grateful to him for his unequivocal, perseverance, grate support, and invaluable comments.

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ABSTRACT

Schema knowledge has had a crucial role on English text translation, that it enables it's users to better comprehension for perfect translation. This study attempts to investigate the impact of schemata on English text translation. It is an attempt for finding solutions to the problems of translation like idioms, terms, collocations, unsolved acronyms, abbreviations, proper names of people, organizations and places slang difficult to understand and respect to punctuation conventions, are due to the lack of different types of schemata and cultural mismatch between the source language and target language. And how the previously stored knowledge may facilitate text translation. Also applying reading techniques and activating prior knowledge can lead to the promotion of translation. The study used the analytical and descriptive method. The study used a test as a tool for data collection for the purpose of the study. To achieve the objectives of the study, (130) students were chosen as a sample for this study from Elnilin, Gezira and Sudan for Science and Technology universities These samples were divided into two groups, medicine and English language, (65) for each. For data analysis, the study adopted the (SPSS) programme to achieve results. The main findings of the study are that the background knowledge has had a great influence on text comprehension and translation. It showed that bottom-up and top-down processes interact to give perfect translation through thorough comprehension. The knowledge of subject matter and cultural scenario gives the translator advantage over those who had not got that knowledge. Moreover, the activation of the schema obviously leads to better text translation. Thus there is enough evidence that shows the impact of schemata on English text translation, the study recommended maximization of schematic knowledge through the activities of building, modifying and activating schema. Translation test designers should consider how people outside a given culture may misunderstand events with unfamiliar cultural connotations. Besides, establishing translation training centres based on schema theory to support novice translators in Sudanese universities. Finally, activating translators’ schemata by using different reading techniques according to the specific area of translation.
أثر المعلومة المختزنة في ترجمة النص الإنجليزي
دراسة حالية لثلاثة جامعات سودانية
إبراهيم عثمان محمد إبراهيم
دكتورة في اللغويات التطبيقية (2014)
قسم اللغات الأجنبية
كلية التربية – الحصاصية
جامعة الجزيرة

مستخلص البحث

للغواية المختزنة دور مهم في ترجمة النص الإنجليزي التي تمكن مستخدميها من فهم جيد وترجمة دقيقة. تهدف هذه الدراسة لتقصي أثر المعلومة المختزنة في ترجمة النص الإنجليزي، وهي تحاول إذًا حل من مشاكل الترجمة كعبارة ومسميات والكلمات التي تظهر مع بعضها البعض والاختصارات وأسماء الأشخاص والمنظمات والأماكن واللغة ذات الصبغة العامة التي قد تحدث فيهما وما يتعلق بأحكام الترقيم وكل ذلك يرجع إلى عدم وجود الأدوات المختلفة للمعلومة المختزنة وعدم التوافق الثقافي بين اللغة الأم واللغة الأجنبية، وكيف يمكن للمعلومة المختزنة تسمية ترجمة النص الإنجليزي وأيضاً تطبيق أساليب القراءة وتشييده المعلومة السابقة لترجمة جيدة. استخدمت الدراسة النهج الوافي التحليلي والاختبار كأساس لجميع المعلومات لغرض الدراسة. وتحقيق أهداف البحث تم اختيار (130) عينة تتمثل مجموعة الدراسة من جامعات الجزيرة، النيل، والسودان للعلوم والتقنية. هذه العينة الفرضت إلى مجموعتين (مجموعة علامة الطب ومجموعة دارسي اللغة الإنجليزية) (65 لكل مجموعة). استخدمت الدراسة برنامج الحرم الحاسبة للعلوم الاجتماعية (SPSS) لتحليل البيانات. وأظهرت النتائج لغة الدراسة أن المعلومة السابقة لها تأثير كبير على فهم النص وترجمته كما أوضحت الدراسة أن طريقة المعلومة المختزنة طريقة المعلومة المتفرقة تدخل لإيجاد ترجمة جيدة عبر فهم دقيق. كما أن الإخمام بوضع النص والسيناريو الثقافي يمكن المترجم عن غيره من أولئك الذين لا يملكون مثل هذه المعرفة. إضافة إلى أن تشريطة المعلومات المختزنة تبدو إلى ترجمة أفضل. والأمر الذي يلاحظه كلاً من ثنائي النص الإنجليزي، أوتمنى الدراسة ترجمة المعلومة المختزنة عبر إنشاء نظام أو تغيير أو تدوين المعلومة المختزنة. وعلى مصطلح اختيارات الترجمة مراعاة أن من لا ينتمون إلى الثقافة المعينة قد لا يفهمون الأحداث ذات المضعفين الثقافية. بجانب إنشاء مراكز تدريب للترجمة مؤسسة على نظرية المعلومة المختزنة لدعم المترجمين الجدد وطلاب الترجمة في الجامعات السودانية. أخيراً تنشيط المعلومات المختزنة للمترجمين باستخدام أساليب القراءة المختلفة على حسب مجال الترجمة المعين.
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## Conclusion, Findings & Recommendations

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CHAPTER ONE
INTRODUCTION

1.0 Background

The explosive growth of globalization of technology entails translation and recognizes as a significant genre of communication. The nature of translation is almost recognized by everyone starting from students and ending with scholars. Linguists and scholars display different views about it. According to (Sofer, 2002) everything in life is translation, we translate our feelings into actions when we put everything into words. Thoughts, and physical actions are translations from one state into other. Translating from one language into other is only the most obvious and perhaps the most common form of all human activities. Translation, as well as any other human activity, is not easy or simple. It only looks easy because you are practicing it. Anyone who is good at a certain activity can make it appear easy, even though when we pause to think, we realize there is nothing easy about it.

Translating English text is a prerequisite to access to modern society, so many technical and scientific work is published in English language. One of the factors that impede translation is the failure to understand and reach the central of the text as intended by the writer. In addition to reading comprehension ability, the knowledge of the specialized subject derived from specialized training and wide cultural background, and the global vision of cross-cultural and interlingual communication, it is a must to learn how to handle the strategic and tactical tools for good translation performance. It is remarked that the source of error in
translation can be divided into translator’s problematic reading process of the source text and wrong lexical interpretation.

Recent development in theories of knowledge has had influence on the current thinking of text comprehension. Cognition sciences have provided simple but very useful ideas about meaningful comprehension i.e. a positive approach to learning that comes from the relationship between previous knowledge and the new knowledge. The previous knowledge which has been formulated as schema theory has its impact on language comprehension.

The hay day of schema theory was probably in the 1970s but it is far from outmoded and remains a basic concept in cognitive psychology. Developmental psychology, and social psychology, besides being of importance in many disciplines that border psychology.

Schema theory is based on the belief that “Every act of comprehension involves one knowledge of the world as well” (Anderson et al. in Carrel, 1983: 73), thus coherent interpretation of the text can be developed by interactive process of combining textural information with the information a reader brings to the text. Putting it other way round, the interactive process involving the interaction between the reader and the text and between the top-down and bottom-up processes. (Rumelhard, 1977; Stanovich, 1980).

The translation process is essentially a process of schemata translation and is the core of correct understanding of the source language and decoding. Effective translation requires efficient comprehension of the text which requires the ability to relate textual material to one’s own knowledge, comprehending words and sentences. An entire text comprehension involves more than relying on the linguistic knowledge. Carrel (1988: 10) explains that:

"In order to comprehend an EFL text, a reader needs two types of knowledge, one is the background knowledge a reader needs to process its rhetorical organization i.e. the difference in structure of short story, news paper, etc. the other type of knowledge is the knowledge about the content area of the text e.g. information about subject matter, political situation etc”.

Cultural-specific background knowledge is a crucial factor in text comprehension and translation, and cultural-specific knowledge is an earlier name for schemata. Torop (2002: 600) states that "culture has its own language or sign systems which the member of the culture uses to communicate and the language of the culture are to be learned to understand it”. According to Peterson and Coltrance (1995: 1) language reflects culture and hence, cultural knowledge is a must in learning a foreign language let alone translating one language
into the other. Kippel (1995: 107) draws the attention to the same point by stating that “Learning a language therefore implies learning something about culture as well”, people can have a better command of language if they gain a background knowledge and cultural awareness.

Snell-Horby (1988: 39-64) writes that "the translation process can be investigated between two cultures involving “cross-cultural transfer” rather than between two language". Nord (1997: 1) states:

"Communication takes place through a medium and in situations that are limited in time and place. Each specific situation determines what and how people communicate, and people communicating change it. Situations are not universal but are embedded in a cultural habitat, which in turn conditions the situation, language is thus to be regarded as a part of culture. And communication is conditioned by constrains of the situation-in-culture”.

So, cultural specific schema is important to decipher unfamiliar cultural connotation text in a top-down manner.

This thesis seeks to investigate further exploration of strategies that can be used to facilitate English text comprehension and an attempt for solving translation problems, utilizing reading theories. Poor translation cannot only lead to hilarity or to minor confusion but it can also be a matter of life and death.

The importance of translation perfection is not only in the acquisition and command of the language and translation strategies and procedures but also in specific knowledge area and, what is equally important, in professional ethics.

1.1 Statement of the Problem

The study tries to investigate how schema theory may find solutions to the main error sources in translation which are, first, the problematic reading process, like miscues which are the incorrect guess made by the reader, eg; hop as hope, ready as reading. And translators' wrong assumptions of the background knowledge when they lack that knowledge. The second error source is the wrong lexical interpretation like error in prepositional meaning which can be divided into two: 1- The wrong internate meaning of a word, the translators select wrong alternate meaning of a word, eg; the word right can be translated as right as opposed to wrong and right as opposed to left. 2- wrong part of speech, eg; I am fine, translated as a fine (noun instead of adjective). Another example of wrong lexical interpretation is error in translating
expressive meaning, which can pose many problems for translators especially fledgling ones. This leads to the fact that the problem is not merely as a result of translators' anemic knowledge of linguistic competence, but also to the lack of cultural awareness. McDonough (1995) explains that the one may lack culture-specific background knowledge necessary to process the text in the top-down manner. E.g. (call for prayer in Malta) يؤذن في مالطا might not give the appropriate one (Howling in the moon) because English do not have the knowledge of what is going in Malta according to their culture.

1.2 Significance of the Study

This thesis will be a beneficial source of knowledge in the fields of cognitive psychology and comparative linguistics. How the interaction between these two areas would facilitate transfer of linguistic and cultural components between languages to be in service of the explosive growth of globalization at the pedagogical level, this study might provide syllabus designers, textbook writers, teachers of translation with more information about areas in question. Learners are expected to enhance their cultural awareness, linguistic competence and knowledge of the world which would lead to better translation.

1.3 Objectives of the Study

a. To identify the impact of linguistic and cultural problems on text translation.
b. To evaluate the impact of EFL reading comprehension as a tool for enhancing the process of translation.
c. To propose material involving both linguistic knowledge and cultural aspects for better text render.
d. To investigate the impact of the schema in facilitating translation process.

1.4 Questions of the Study

The study attempts to answer the following questions:

a. What are translation barriers that encounter English text translation?
b. How can the schemata have a role in developing reading and translating skills?
c. What differences are there in translation between readers who have background knowledge and those who do not have?
d. How can schema be activated or created through pre-reading tasks or exposure to appropriate environments for translation promotion?

1.5 Hypotheses of the Study
a. Translation barriers are attributed to the lack of linguistic, competence, cultural awareness, and subject matter background knowledge.

b. Schema plays a role in developing reading and translating skills.

c. There is a difference in translation between readers who have background knowledge and those who do not.

d. Schema can be activated or created through pre-reading tasks or exposure to appropriate environments for translation promotion.

1.6 Limitations of the Study

The study was confined to the role of schemata on translating English text. (Sudanese university students). The study is limited to 2011-2014. A case study of Gezira, Elnelin and Sudan for Science and Technology universities.

1.7 Methodology of the Study

The methodology that will be adopted in the study is the experimental and analytical approach. The subjects will be the university students, of Gezira University, Elnelin University and Sudan for Science and Technology University. Intact group design, where two groups of subjects are assigned randomly as a control and experimental groups. The data will be collected through a validated test and processed statistically. Test-retest technique will be adopted to measure the reliability of the multiple choice test.
1.8 Definition of Terms and of Abbreviations

(i) Definition of Terms


Schema:  the kind of organization that enables its users to handle certain kinds of tasks more efficiently than would otherwise be possible.

Top-down: Strategies take into consideration the rhetoric of the passage activating knowledge of the subject as well as expectations and intuition.

Bottom-up: Strategies have the reader work from letters and minimum units upward to decipher text.

Cognition: The various mental processes used in thinking, remembering, perceiving, recognizing classifying ..etc.

Script: Units of meaning consisting of sequences of events and actions that are related to a particular situation.

Scaffolding: The support provided to learners to enable them to perform tasks which are beyond their capacity. The theory of scaffolding emphasize the role of collaborative discourse in language learning.

Exegesis: Determining the meaning of the source text.

Structuring: Presented that same meaning clearly and naturally in the target language.

(ii) List of Abbreviations

DTS: Descriptive Translation Studies.
TC: Translation Competence.
SL: Source Language.
TL: Target Language.
CHAPTER TWO
LITERATURE REVIEW

2.0 Introduction

Researches, in the recent years, emphasize the importance of developing the ability to use English in a well-rounded way, in listening and speaking, as well as reading, writing and translation. While listening and speaking are to develop students' oral communicative competence, reading, writing and translation are connected with written abilities'. Among reading, writing and translation, reading is primary. Writing and translation cannot be improved without continuance input and accumulation, through extensive reading. Therefore, reading is a key to improving writing and translation. The research intends to discuss how to improve students reading comprehension and translation through applying the schema theory from the viewpoint of cognitive psychology.

2.1 Schemata, Historical Background

The word schema is derived from a Greek word meaning “form” or “shape”. It was first popularized in the western world by the psychologist Kant (1781) who points out that meaning exists only when a concept is related to personal known information. The singular of the term is schema its plural is schemata or sometimes schemas. Actually no single topic has been more controversial in the schema word than the proper plural form of the word schema. The original Greek plural is (Oxnuata) is schemata as in Latin transliteration and this form which Kant used is found in most dictionaries. However, as often happens when words from other languages are adopted into English, its plural changes into something that sounds more natural to an Anglophone ear. Therefore, the plural form schema seems to be rapidly dying out in favour of the simpler schemas.

The term schema is used in such very different ways by different cognitive theorists that it has become quite notorious for its ambiguity (Polson, & Kintsch: 1984: 6). Although, the different usages of schema are seldom unrelated to each other and have common etymological roots, it can by no means be safely assumed that properties or functions explicitly or implicitly attributed to schema by one theorist will necessarily apply to schemata as another theorist conceives of them. But, although these differences of usage may sometimes
reflect genuine theoretical agreement, often the differences seem to be merely “verbal”. The word was also used by Piaget in (1926), so, it was not an entirely new concept. Anderson, however, expand the meaning. Schemata were initially introduced into psychology and education through the work of the British psychologist sir Fredric Barilett, (1889-1969) who is usually credited as the first psychologist to use the term schemata in the sense that it is used today (Perkins 1987). Like Kant, Bartlett did not try to delve into the structure of schemata, even though he acknowledges that he hoped to discover its structure. In carrying out series of studies on the recall of Native American folktales, Bartlett noticed that many of the recalls were not accurate, but involved the replacement of unfamiliar information with something more familiar. They also include many inferences that went beyond the information given in the original text. In order to account for these findings; Bartlett proposed that people have schemata or unconscious mental structures that represent individuals’ generic knowledge about the world. It is through the schema that the old knowledge influences new information. For example one of Bartlett’s participants read the phrase “something black came out of his mouth” and later recalled it as “He foamed at the mouth” this finding could be accounted for by assuming that the input information was not consistent with any schema held by the participant, and so the original information was reconstructed in a form that was consistent with one of the participants schema.

According to Brewer (1999), Bartlett developed the schema construct in the (1920s). Yet the idea had its main impact on cognitive psychology and cognitive science in the (1970s) and (1980s). In the 1920s, however the schema construct was reintroduced into psychology through the work of the computer scientist Marvin Minsky. Minsky was attempting to develop machines that would display human like abilities (to perceive and understand the world). What was the cause of this 50 years lag? (between 1920 and 1970). In developing the schema consumed Bartlett was essentially proposing a complete new form of mental representation. Unfortunately for Bartlett, he made the proposal during the period when behaviorism was becoming the dominant intellectual frame work in psychology, and a core components of the behaviorist frame work was the mental entities were to be excluded from scientific psychology. Bartlett gathered much of his data on human memory during the period around world war 1. He published some of it without an overall theoretical frame work. In the early (1920s), he was very frustrated by his inability to work out a theoretical account of his data.
He states that during this period he wrote up several chapters for a book describing his memory research, but eventually destroyed them, however during the early 1920s he spent much time interacting with the neurologist Henry Head and he reports that these discussions led him to the development of the schema construct. Eventually in 1932 Bartlett published his famous book, *Remembering*, which contained a more detailed account of his empirical findings. The schema concept is frequently attributed to Bartlett (1932) who posited that people’s understanding and remembrance of events is shaped by their expectations or prior knowledge, and that these expectations are presented mentally in some sort of schematic fashion. Bartlett’s concept was decried for being too vague to be incorporated into any form of testable theory. The lack of a precise definition has isolated various conflicting interpretation of his work. Bartlett’s ideas were swept a side by the impeding tide of behaviorism, until a return to more naturalistic approaches to human memory in the 1970s provided favorable climate for their revival, and its whole sate recapitulation in Illric Neisser’s massively influential cognitive psychology (1967) Neisser’s work led to the ubiquity of term in psychology and its extension to other, disciplines, namely; the cognitive and computational science, since that time many other terms have been used as well including “frame – scene script. Conjugational models made it possible to tie down Bartlett's vague notion and understand the basic properties of schema.

From Bartlett, Neisser (1976) seems to have drawn his concept of schema principally (although he cites several others who use the concept in ways related to his own usage, particularly Piaget (1952) and Rumelhart (1975)). Inevitably, each time the concept has passed from one theoretical context to another, its meaning as been subtly (sometimes may be not so subtly) transformed. According to Bisiach, Luzzatti and Berani (1979) who themselves use schema in a sense related to, but subtly different from Neisser's, Henry Head in his turn, took the concept from 19th century German physiologist Wernicke (of area fame) who may fairly safely be presumed to have learned it from Kant critique of pure reason (Kant, 1781/1929) unfortunately, Kant’s brief remarks about schemata are, notoriously, one of the most obscure (though crucial) parts of his whole, complex philosophical system (indeed, Kant himself acknowledged this, describing the "schematism") as “an art concealed in the depth of the human soul, whose real modes of activity nature is hardly likely ever to allow us to discover” (1781/1929 A 141-B181). Johnson (1987) also claims the usage of scheme is inspired directly
by Kant, definitely he would not deny that he has transformed the Kantian concept radically elaborating it in ways that Kant himself thought would not be possible, and might very well not have approved. Khemlani and Lynne 2000 assert that since the late 1960s, a number of theorists (Goodman, 1970; smith, 1978) have developed interactive theories of reading which place great importance on the role of the reader and the knowledge he brings to the text, these interactive theories, which now dominate reading research and strongly influence teaching practice draw heavily on schema theory.

2.2 Definition of Schema

Much language is contextually interpreted, that is, it relates to some integrated and (usually) coherent domain, and only makes sense within the domain. The current term for this domain to which the discourse relates is schema. According to the 1933 edition of the oxford English Dictionary, the psychologist Imanaud Kant in 1781, used the word schema to mean (any one of certain forms of rules of the “productive” imagination through which the understanding is able to apply its categories to manifold of sense perception in the process of realizing knowledge or experience). According to Longman dictionary of applied linguistic (Richard and Schamibt, 2002) schema also scheme, a macro structure, genre schema, discourse structure, frame rhetorical structure.

1) A mental representation plan or structure.

2) A collection of organized and interrelated ideas, concepts and prior knowledge structure that are abstract representation of subjects, events and relationships in the real world.

3) (In text linguistic and discourse analysis) the underlying structure which account for the organization of the text or discourse. Different kinds of text and discourse. For example (stories, descriptions, letters, reports and poems) are distinguished by the way in which the topic propositions.

Schema has remaines the province of philosophers for a long time until the word entered computer science probably through data base theory, here schema originally meant any document that describes the permissible content of other elements, specially if the data typing is involved.

Schema is structure in semantic memory that specifics the general or expected arrangement of a body of information. The notion of schema is not new in psychology, it is
generally associated with the early work on story recall by Bstytlett (1932). He argued that it is fitting to speak of every human cognitive reaction – perceiving, imaging, remembering, thinking and reasoning – as an effort after meaning. He argued that memory is active, constructive, and schematically determined people better summarize and remember stories that come from their own culture than they do stories from other cultures when those other cultures have distinctly different expectations about storytelling forms. Such expectations are called schemata. Schemata are, in other words, mental structure acquired through many experiences with an event or in routine by setting up their expectations for what usually will happen and help them interpret what happens and remember what in fact happened on particular occasions both typical and unusual. Schemata are, in turn, continually modified by experiences. Schema theory is the theory of how knowledge is acquired processed and retrieved. Schema is a technical term used by cognitive scientist to describe how people process, organize and store information in their heads. Schema theory is a theory about knowledge, about how knowledge is represented, and about how that representation facilitates the use of knowledge in various ways. According to schema theorists, all knowledge is packaged into units called schemata, and embedded into these units of knowledge is information on how this knowledge is to be used. Each separate schema is a device for representing knowledge of a concept, along with specifications for relating it to an appropriate network of connections that seem to hold all components of that particular concept.

Individuals acquire schemata through their experiences both real and vicarious. As individuals have more experiences, they refine, reshape, correct, and restructure their schemata. One of the major problems involved in comprehension is that all people hardly ever share the same schemata; one of the problems in reading comprehension is that readers do not always have the same schemata as do the writers. It is cognitive structure by which people organize information in their long-term memory (Widdson, 1983). Schemata reflect the experiences, conceptual, understanding attitude, values, skills and strategies that are brought to the text situation (Vacca and Vocca, 1999: 15). Schemata therefore have been called “the building blocks of cognition” (Rumelhart, 1982) because they represent elaborate net work of information that people use to make sense of new stimuli, events, and situation. Schema theory is based on the belief that every act of comprehension involve one’s knowledge of the

“Everything we know and believe is organized in a theory of what the world is like, a theory that is the basis of all our perception and understanding of the world, the root of all learning, the source of hopes and fears, motives and expectancies, reasons and creativity”.

This theory is all we have. If we make sense of the world at all, it is by interpreting our interactions with the world in the light of our theory. The theory is a shield against bewilderment. Schemata theory is based on Goodman (1967)’s psycholinguistic model that reading is a guessing game. The basic idea of the theory is that human memory consist of high levels of structures known as schemata, each of which encapsulates our knowledge about every thing connected with a particular object or event. Coady (1979) has elaborated on this basic psycholinguistic model and has suggested a model in which reader’s background knowledge interacts with conceptual abilities and process strategies, more or less successfully, to produce comprehension. According to Brown (2001) the hallmark of schema theory, with regards to reading, is that the text is not by it self carry meaning. The reader brings information, knowledge, emotion and culture – that is the schema, to the printed word. (Clark and Zilberstein (1977) cited in Brown (2001) indicate that research has shown that reading is only incidentally visual, more information is contributed by the reader than by the print on the page. This will all seem to point to the fact that people's understanding of a text depends on how much their related schema is possessed while reading. Consequently reader’s failures or confusion to make sense of a text is caused by their lack of appropriate schemata that can easily fit with the content of the text. According to Bartlett in his classic book “Remembering” (1932: 201), the term schema refers to an active organization of reaction and past experience. Cited in (Carrel 1998: 39) by using the term active, Bartlett intended to explain the nature of human memory as reduplicate and re-productive. According to Longman Dictionary of applied linguistics (Richard and Schambit 2002) schema theory is the theory that in comprehending language people activate relevant schemata allowing them to process and interpret new experiences quickly and efficiently. According to Ramelhart (1980) schemata are used for interpretation of both linguistic and non linguistic information for the retrieval of information from the memory for the a management of actions, and largely for the direction of the flow of processing in the system. Schema can also be defined as (Abstract
representations of generic concepts” stored in the memory for subjects, actions, event and situations (Ramelhart, 1980). In other words they refer to the mental organization of an individuals past experience. (Nelson and Schmid (1984: 539) facilitate the interpretation of new information by allowing it to joined with the reader's past experiences and past knowledge, such interaction with new information with old knowledge, is what facilitates comprehension. Schemata serve as reference store from which a person can retrieve relevant existing knowledge and into which new information is assimilated. When encountering a topic in reading or listening, the reader activates the schema for that topic and makes use of it to anticipate, infer and make different kinds of judgments and decisions about it. Schema theory plays an important role in theories of language reading and listening comprehension. The theory suggests that people's knowledge of the world is organized into work of interrelated structure, whose function is to help decoding discourse via making prediction. Nunan, (1993: 89) states that “Given the fact that making sense of discourse, is the process of using both our linguistic knowledge and also our content knowledge. These schematic and or mental fill script are extremely important”. In the schema theory: schema grows and changes as new information is acquired. Trying to assimilate schemata which contradict their previous suppositions make learners feel internal conflict – schemata are hard to change and individual will often prefer to live with inconsistencies rather than to change a deeply held value or belief; They are stored separately in human mind but rather “operates as organized mass” Bartlett (1932: 201). Denial Candler states that “schemata can be investigated as a kind of frame work with ‘slots’ for variables, some of them filled-in and others empty”. The slots are either filled-in with compulsory values (e.g. that a dog is an animal) or default values (e.g., that a dog has four legs) or are empty (optional variables) until instantiated with values from current situation (e.g. that the dog colour is black). When what seems like the most appropriate schema is activated, inferences are generated to fill in any necessary but implicit details with assumed value from the schema, if no relevant schema is retrieved from long-term memory, a new schema is created. Explicit events and inferences as well as new schemas are stored in along-term memory.

Minsky (1970) came across Bartlett's’ work. Minsky concluded that humans were using their stored knowledge about the world, to carry out many of the processes that he was trying to emulate by machine, and he therefore needed to provide his machine with this type of
knowledge if they were ever to achieve human – like abilities. Minsky developed a frame construct as away to present knowledge in machines. Minsky’s frame proposal can be seen as essentially an elaboration and specification of the schema construct. He conceived of the frame knowledge as interacting with new specific information coming from the world; he proposed that fixed generic information be represented as a frame comprised of slots that accept a certain range of values. If the world did not provide specific value for a particular slot, then it could be filled by a defaulted value. In representing a generic (typical) elementary school classroom. The frame for such classroom includes certain information such as the room has walls, a ceiling, lights, and a door. The door can be thought of as slot which accept values such as wood door or metal door, but does not accept values such as a door made of Jello. If a person or a machine is trying to represent a particular elementary school classroom; the person or machine instantiate the generic frame with specific information from the particular classroom (e.g. it has a window in one wall, and the door is wooden). If for some reason, one does not actually observe the lights in the classroom, one can fill the lighting slot with the default assumption that they are fluorescent lights. This proposal gives a good account of a wide range of phenomena. It explains for example, why one would be very surprised to walk into an elementary classroom and find that it did not have a ceiling and it accounts for the fact that some one might recall that a certain classroom had fluorescent lights when it did not.

Schema driven processing is top – down perceptual process which guide a selective search for data relevant to expectation set up by the schema and interacts with bottom – up data driven process (which may lead to activation, modification, generation of schema).

Widdowson (2001: 61) pointes out:

“The reader or the listener makes use of his the creator of discourse”... we can distinguish between two kind of schematic knowledge on one hand, there are knowledge or conceptual content... the other kind of the schematic knowledge has to do with communication” content knowledge or reconstruct the original of

In the above quote, Widdoson has pointed out two major levels of schemata, one is the content or schematic level which includes the decoder content knowledge (how things are alike in the world of experience) and the symbolic level which involve the decoder linguistic knowledge. Readers make use of both to comprehend the text, while processing a text readers try to match their linguistic knowledge with the one of the decoder. Circourel (1973: 101) states that
“people use procedure of interaction to decode meaning that do not actually present in the discourse”. This view has been mentioned by Van Dijk (1981: 60) as cited in Brown and Xale, Van sees: “schema as a high level of complex habitual or even conventional knowledge structure plays a good role in interpretation of the text”.

McCarthy (1991: 168) states ” schemata are the underlying connections that allows new experiences and information to be aligned with previous knowledge. Coherent relationships are required to make sense of the text”.

According to (Nunan 1999) schema theory is based on the notion that past experiences lead to the creation of mental from work that help people make sense of new experiences.

(Smith 1994) calls schema the extensive representation more general patterns or regularities that occur in people’s experience. As an example he uses people's generic schema for classroom which allow people to make sense of classroom they have not previously been in, this means that past experiences will be related to new experiences which may include the knowledge of objects, situations, and events, as well as knowledge of procedure for retrieving, organizing and interpreting information.

Anderson (1994: 469) presents research showing that recall of information in a text is affected by the reader’s schemata and explains “A reader comprehends a message when he is able to bring to mind schema that gives accounts of objects and evens described in a message”. He continues “comprehension is activating or constructing schema that provides a coherent explanation of objects and events mentioned in a discourse”.

Anderson (1994: 473) for Anderson and Person (1988) comprehension is the interaction between old and new information. To comprehend a text is to find mental (home) for the information in the text, or that he had modified an existing mental home to accommodate that new information.

Comaggio (1993: 205) stats that learners’ schema will restructure itself to accommodate new information as that information is added to the system.

Schema is also regarded as a hypothetical mental structure for representing generic concept stored in the memory. It is a sort of frame work or plan, or script. Schemata are created through experience, humans begin to generalize across their restaurant experiences to develop an abstracted, generic set of expectation about what the people will encounter in a restaurant. This is useful because if someone tells someone story about eating in a restaurant,
they do not have to provide all of the details about being seated, giving their order to the server, leaving a tip at the end, etc., because their schemata for the restaurant experience can fill in these missing details. Schemata can be seen as the organized background knowledge which leads people to expect or predict aspect in their interpretation of discourse. Bartlett (1932) believes that reader's memory of discourse was not based on straight reproduction, but was constructive. This constructive process uses information from the encountered discourse together with knowledge from past experience related to the discourse at hand to build mental representation. The past experience, according to Bartlett, can not be an accumulation of successive individuated events and experiences, it must be organized and made manageable “The past operates as an organized mass rather than a group of elements each of which retains its specific character (1932: 197). Schema give structure to the organized mass, which Bartlett did not propose as a form of arrangement, but as something which remained active and developing (1932: 201). It is this active feature of discourse that leads to the constructive processes in memory (1932: 249).

For Yale, (1985) the concept of coherence is not something which exists in the language, but something which exists in people. It is people who make sense of what they read and hear. They try to arrive at an interpretation which is in line with their experience of the way the world is, indeed, their ability to make sense of what they read, is probably only a small part of the general ability people have to make sense of what they perceive or experience in the world.

According to schema theory, the process of comprehension is guided by the principle that every input is mapped against some existing schema and that all aspects of the schema must be compatible with the input information. This principle results in two basic models of information processing, called bottom-up and top-down processing. Bottom-up processing is evoked by the incoming data, the features of data enter the system through the best fitting, bottom-level schema. Schemata are hierarchically organized, from most general at the top, to most specific at the bottom. As these bottom-level schemata converge into higher level, more general schema, these two models are going to be discussed in details later (in 2.5.i, 2.5.ii). (Kucer, 1987)
2.3 Activating and Building Schema

Schema theory acknowledges that the reader plays a key role in the construction of meaning. Therefore, the reader’s age, gender, experience and culture are important considerations for a teacher who wants to select a reading that will motivate their students. Anderson (1994: 306) notes that when readers cannot locate schema that fits a text, they may find it incomprehensible. In some cases, readers or listeners may not have schema that is pertinent to the text, or they may need help activating the pertinent schema to be able to comprehend the text. In case like this, it may not be possible for the reader to understand the text, and the reader must be prepared to engage in “building new background knowledge”. Carrel (1988: 248) Bransford (1994) mentions that difficulties in comprehension may be attributed to the lack of background knowledge presented by the text, and he sees the responsibility of instructors as being twofold: to activate pre-existing schemata and to help students to integrate isolated (pockets) of knowledge into schema or to build a new one. If a text to be read has a cultural context that is different from the reader’s, the issue of formal and content schema become even more important. EFL and ESL learners are faced with difficulty in comprehension reading text that contain cultural assumptions of the target culture. Therefore one may lack the culture specific background knowledge necessary to process the text in a top-down manner.

Cook, (1989: 69) states that “The mind stimulated by key words or phrases in the text or by the context activates a knowledge schema”. Cook implies that readers are not necessarily dealing with conscious processes but rather with automatic cognitive responses given to external stimuli. This view clarifies that schemata are activated in one of two ways:

1) New information from the outside world can be cognitively received and related to already known information stored in memory through retrieval or remembering. In this case new concepts are assimilated into exiting schemata which can be altered or expanded.

2) New information can be represented by new mental structure. In this case, in absence of already existing schemata, new knowledge builds up new schemata.

According to Plastina (1997), in both cases the individual is piecing bits of knowledge together, attempting to make sense of them. It follows that the main features of schema are
flexibility and creativity. Schemata are flexible in that they undergo a cyclic process with which changes are brought about actively and economically, i.e., information is stored in memory and provided when needed with least a mount of effort. They are creative in that they can be used to represent all types of experience and knowledge, i.e.; they are specific to what is being perceived.

Carrel and Floyd (1987) maintain that the ESL teacher must provide the students with appropriate schemata he is lacking, and must also teach student how to build bridges between existing knowledge and new knowledge. Accordingly the building of bridges between the existing student’s knowledge and new knowledge is needed for text comprehension. Koh (1986) and Williams (1987) argue that not only it is important for the reader to have the background knowledge to read (and comprehend) more efficiently, but that knowledge also need to be activated. Krashen (1993) suggests two ways to activate the students’ schemata. The first, free voluntary reading, is to have the students select and read text that are of interest to them with no need to worry about the accountability. In other words, reading it sells will help build the familiarity necessary to read more advanced books. His second suggestion is to have them read in their first language so as to build up the knowledge base necessary to understand the material in the second language. If a student has no familiarity with the subject of computers, he will have trouble understanding a book about computers in the target language (and may, through lack of familiarity with the subject matter, even have trouble understanding it in his fist language) if, on the other hand, this same student has read a lot about computers in his first language, then, since the material would be familiar the selection in the target language would be easier to understand.

Extensive reading has also been advocated by many researchers (Wallace 1992, McCarthy and Carter, 1994, Bamford and Day, 1997, Pay and Bamford, 1998; 2002); however, despite its inherent positive effects some authors have voiced concerns about the feasibility of incorporating it into the curriculum. Crabe (2002) for example, discusses some of the dilemmas associated with the extensive reading including the need to educate administrators and teachers about the importance of extensive pleasure reading and supplying classrooms and libraries with reading resources that can excite students to read. In addition, specific times in the school curriculum should be devoted to pleasure reading on a regular
bases and time must be devoted to developing students’ motivation and to turning them into independent readers.

Wallace (1992:33) also writes about the activation of schemas and that they predict what will come next in spoken or written discourse as well as organize information. In the activation of the content schema, Carrell (1983), among others, cultural specificity of texts indicated that teachers must be sensitive to potential comprehension difficulties which EFL readers may encounter with a text due to a lack of familiarity with the culture-specific, content the text presumes. Therefore, teaching students to read is not achievable by simply choosing any text or reading materials and expecting students to make sense out of them. The extent to which readers are familiar with content of the text has a large impact on their reading comprehension. Carrel (1983-1987) indicates that the teacher should also work on minimizing their students’ reading difficulties by providing them with familiar contents that include relevant cultural information. The selected reading materials must activate students’ relevant schemata which will then lead to a better understanding of what is being read. Carrel (1983), Williams (1987), and other researchers show that reading comprehension may be affected not because the readers lack the appropriate schema, but because they fail to activate it.

The importance of background knowledge, for teachers, has three main implications: first, the teacher must take into account the knowledge on which any written text is based, second, the reader should actively use his background knowledge for the reading process to take place third, teachers should have as their principal objective the development of problem-solving, creative, interpretive strategies in which the students can exploit what ever knowledge or resources they may have, teachers therefore, in teaching the students to activate and use their background knowledge, are helping them to become better readers, this indicates the importance of how to take content schema into consideration.

Williams (1987) gives three phases for teaching reading comprehension: pre-reading phase, the reading phase, and the post reading phase for its importance the first phase will be discussed in details later. In the second phase, reading, the students read about the subject in this way, they continue to build upon their own existing schema each time they read on the same subject, their knowledge of the subject becomes greater. Then, through the activities of the third, post-reading phase, they integrate this background into a new schema structure. An example of how this works, if taken that the students have been assigned to read a selection
about an American folk hero such as Johnny Appleseed. A teacher starts his class with students writing about a folk hero/holiday in their own culture, giving them about ten minutes to write any thing they can think of about the folks hero/holiday they selected. At this stage, if the students do not know a word, the teacher tell them to put it in their stage, if the students do not know a word, teachers put it in their own language, leave space, or put in scribble. By writing in this way, students start thinking about the topic and start activating their background knowledge about folk holidays in general. After the students have finished writing, put them into small groups to discuss what they have written. This will help them hear what other have said about folk heroes/holidays, enabling them to recall more, enabling them to recall more.

Ten minutes talking about the topic in small groups, the hole class can be engaged in general discussion of the topic. In small group discussion, students feel more relaxed than in large classes where also there will not be enough time for every one to participate. Teacher can Judge whether to skip a step or to go straight from writing to class discussion. The important point is to have students relate concepts in their own culture.

Pre-reading: pre-reading as mentioned before is the most important for building background knowledge, wherein the instructor has the opportunity to use pictures, sliders, movies, games etc to activate and build upon the students schema. In this phase, students might also be asked to write about the knowledge of the subject and after writing, discuss their knowledge with other students. According to Chastain (1988), the purpose of pre-reading activities is to motivate the students to want to read the assignment and prepare them to be able to read it. Because the major emphasis in the past has been on the product rather than the process, it has been assumed that meaning resides in the reading itself. The ultimate pre-reading activities may include word definitions, to clarify the meaning of difficult words, and some syntactic explanation to help the students to understand complex structure in the text. According to Chia (2001), some students report that they have no problem with understanding both words and sentence structure of the paragraph, but they cannot reach satisfactory interpretation of the text, in fact most students rely too much on bottom-up processing individual words and analyzing sentence structure, but do not apply top-down processing for the overall view of the text, this may result from the lack of appropriate instruction and practice in applying reading strategies. That is why, it is claimed that providing students with traditional pre-reading activities such as word definition, and structure explanation seem to be
questionable. Pingler and Weber (1984) call pre-reading activities enabling activities, because they provide a reader with necessary background to organize activity and to comprehend the material. These experiences involve understanding the purpose(s) for reading and building a knowledge base necessary for dealing with content and the stricture of the material. They say that pre-reading activities elicit prior knowledge, build background, and focus attention.

Pre-reading activities: per-reading tasks have tended to focus exclusively on preparing for likely linguistic difficulties in a text; more recently attention has shifted to cultural or conceptual difficulties. However, pre-reading, activities may not just after compensation for second language reader’s suppose linguistics or socio – cultural in adequacies; they may also remind readers of what they do, infect, already know and think, that is to activate existing schematic knowledge, the experience – text- relationship (ETR) Method of Au (1979) consists of students expressing their own experience of knowledge about the topic prior to Reading. After the students have adequately shared their knowledge, the text becomes the focus of the class. During this segment of lesson, the teacher asks the students to read short sections of the text and then questions about the content. The teacher must be sensitive to those text areas that could elicit misunderstanding and work through any difficulties that the students may have. In the final stage the teacher aids the students, to draw relationships between personal experiences and the material discussed in the text stage, this provides an opportunity for each student to make comparisons and contrasts with what they already know and to accommodate the new information into their pre existing schemata. Through this process. Student’s schemata become redefined and extended. The teacher has the responsibility of leading the students to the appropriate answer without giving them too much information, so the task becomes on of self-discovery and integration.

Langer’s (1981), pre-reading plan is three steps assessment/instructional procedure, which like Au’s ETR method, used a discussion-based activity in the assessment stage, which allows the teacher, as well as the students, to define the amount of information needed and which vocabulary items need to be taught or reinforced in order to facilitate comprehension of the text.

Pre-reading plan begins with the teacher introducing a key word, concept or picture to stimulate a discussion by having students say any thing that initially comes to mind and having that information recorded on the black broad, participants are able to see the
associations. By asking the students questions, such as “what made you think of …?” they become aware of their network of associations and to integrate them into more accurate pictures of the target concept. The third step is the reformulation of knowledge which provides the opportunity for students to verbalize any changes of modifications of their associations that may have occurred during the discussion phase. The purpose of helping the students to link background knowledge with concept in the text is to set up appropriate expectations about the language and content of the passage.

Auerbach and Paxton (1997:259) suggest the following pre-reading strategies of which three major ones as a good indication of schema-theory – based pre – reading task /strategies more favour readers in this study:

1- Accessing prior knowledge.
2- Writing your way into reading (writing about your experience related to the topic.
3- Asking questions based on the title.
4- Semantic mapping.
5- Making predictions based on previewing.
6- Identity the text structure.
7- Skimming for general idea.
8- Reading the introduction and conclusion.
9- Writing summary of the article based on previewing.

i- Previewing:

Swaffar, et al. (1991) print out the benefits of previewing techniques that allow students to formulate hypotheses about the text. By taking advantage of contextual clues, titles, headings, pictures, students are encouraged to draw inferences prior to reading. In addition, Swaffar views identification of text genre: articles, poetry, nonfiction, and plays, as a very important preview exercise. She suggests that engaging in this type of analysis enables students to identify the probable rhetorical grammar, stylistic markers and possible constrains on the development of ideas.

According to Chia (2001), the aim of previewing is to help readers predict or make some educated guesses about what is in the text and thus activate effective top-down processing for reading comprehension several stimuli in a text, such as the title and photographs illustrations or subtitles are usually closely connected to the authors ideas and
content so based on any of them, students can make predictions about the content of the text, to make more specific predictions, however, students obviously need more guidance, such as: Asking students, to read the title to check whether they know about it or not, and have students read the first few paragraphs, which are generally introduction to the topics discussed in the text, can they determined the general theme? Then they are to be asked to read the first sentence of each paragraph, usually the topic sentence, which gives the main idea of the paragraph. Can they determine the major points of the article? Finally read the last paragraph which often reveals the conclusion of the author. Have the students discuss how the author organizes the information to present his point of view.

**ii- Questioning:**

Some pre-reading activities simply consist of questions to which the reader is required to find an answer from the text. Traditionally, this type of question followed the text and was designed to test comprehension but in more recent materials questions often precede the text and functions as scanning task. Questioning can be regarded as an other type of top-down processing activity. Questions may be generated by the teacher or by the students and should be done before the reading, rather than after the reading. Reutzel (1985) has proposed the reconciled reading lesson to help teachers form effective pre-reading questions. Teacher’s who adopt the reconciled reading questions from the comprehension questions that appear in the text look after the reading selection or in the teachers’ manual. A problem, here, is that not all the questions originally designed as post-reading exercises can be appropriately converted to pre-reading activities.

How can students generate text – related questions even before they read the passage? Williams (1987) gives three phase (pre-reading, while – reading, post-reading) approach to reading, with particular attention to the pre-reading phase. The approach begins by introducing the topic of the passage that student are going to read. Once the topic is presented, students are asked to work in groups and write a list in two columns. The first column lists things about the topic that they are sure of, and the second lists things that they are not sure of or don’t know. See for example of what a list about bats might look like, sure/ not sure do not know.

1) Bats are not birds – how many kinds?
2) They are about a pound weight – are they to be saten?
3) They are without feather - can they fly?
4) They are like mice – what do they eat?
5) Of what color are they?

William suggest that each member of the group in turn volunteer a fact or question, so that no group member is neglected. After words, the teacher asks a representative from each group to write one or two items from their list on the chalk board so that some interesting items, which other groups may not have thought of, can be included.

iii- Semantic mapping:

According to Chia (2001), many teaching techniques have been developed to activate students prior knowledge for effective top-down processing in order to facilitate reading comprehension. Several of them have been empirically proven to be helpful, but some have not, surprisingly, pre-reading vocabulary exercises, despite widespread use do not improve over all comprehension (Hudson, 1982; Jhanson 1982) in fact according to Jhanson, vocabulary studies may result in word-by-word, bottom-up approach that is to comprehension. But directly vocabulary instruction does not necessarily involve teaching specific words rather equipping learners with strategies necessary to expand their vocabulary. It is also argued that most vocabulary is learned through context.

But that the learning – from – context method is at its best for teaching learning – to – learn skills not for teaching vocabulary (Steinberg, 1987; Oxford and Scarcella, 1994). Williams (1971) suggests that pre-teaching vocabulary probably requires that the words to be taught in semantically and topically related sets so that word meaning and background knowledge improve concurrently. Zimmerman (1997) maintains that direct vocabulary instruction focusing on semantic mapping as an acquisition strategy is more effective than vocabulary acquisition activities that teach only words rather than strategies for a quinng words. According to Wallace (1992) one very popular pre-reading task is “brain storming”. This may take the form of giving the class a particular key word or key concept students are then invited to call out words and concepts they personally associate with the key word or words provided by the teacher. Brainstorming has many advantages as a classroom procedure:

1- It require little teacher preparation.
2- It allows learners considerable freedom to bring their own prior knowledge and opinions to bear on a particular issue.
3- It can involve the hole class.
No-one need feel threatened when any bid is acceptable and be added to the frame work. For example these are the kinds of associations which might be called up by the key word money: coin – bank – poverty – payday – interest – purse etc. these bids reflect very different categories and levels of generalization. However, the initial random, association can be classified and subcategorized either by the teacher or the students and additional contributions from class members or the teacher added to stretch existing concepts. The result of this kind of activity resample what has been called semantic mapping.

2.3.1 Implications and Remarks on Schema Activation

Few studies have been conducted to show the importance of prior knowledge of the world on ESL/EFL learners' reading comprehension. All of these studies emphasized the fact that the ability to understand a text is based not only on the reader's linguistic knowledge, but also on general knowledge of the world and the extent to which that knowledge is activated during processing. The results of all these studies and the view of reading comprehension as an interactive process between the reader and the text (Rosenblatt, 1994) lead to several implications for the ESL teacher. If the unfamiliar content of the text, whether cultural or topic-related has an effect on reading comprehension, then this fact must be considered as a criteria in the selection of reading materials and also in the evaluation of reading comprehension. Therefore, knowledge of schema theory is of a particular importance to teachers who are responsible for recommending materials for reading instruction.

According to schema theory, background knowledge (schemata) and its relevancy to the text that is being read, determines the ease and complexity of the understanding of that particular text. In other words, no matter how well a reader may know a language, he can not read in the language with a good comprehension if the subject matter or the content of the text is one he knows absolutely nothing about. Carrell & Eisterhold (1983) to explain this gave a line such as “The runner was called out at the plate‖ the reader must have acquired a kind of “baseball schemata‖ i.e., an organized understanding or model of the game within which words like “runner‖, “plate‖, and “out‖ have special meaning and relate to each other in special way.

The understanding of such a line by ESL reader who does not have a clue about what a base ball game is depends mainly on his teacher’s ability to activate the student’s related schema through classroom activities and teaching techniques.
Ahmed Al-Issa, American University of Sharjah (2006,25), suggests that teachers should ask themselves the following questions before deciding on which reading materials are to use in L2 classrooms:

1) Will my student be interested in reading such materials?
2) Will these materials be relevant to my students English proficiency levels?
3) What content knowledge is to be extracted from these materials?
4) Will these materials cause cultural conflicts in the classroom?
5) How can I motivate my students and involve them in reading such materials?
6) What kind of pre-reading, reading, and post-reading activities and materials can be designed to increase my students’ understanding of these materials?
7) Do the reading materials provide students with sufficient background information about the context of text?
8) How much time and freedom am I giving my student to exercise their understandings of the materials?
9) Am I being sensitive to my students’ hidden comprehension problems?
10) Am I helping my students become more aware of the fact that reading is a highly interactive process?
11) Are my students changing their attitudes about reading?
12) Am I allowing my students to become independent, self-directed readers?

If teachers ask themselves these questions before selecting a reading text, while the students are reading it and after they have finished it, then teachers can fairly certain that their students will become more secure and more independent readers in their second language.

2.4 Schema Classification

So as to understand the role of background knowledge in reading comprehension, it is worthwhile to distinguish, in reading comprehension it is worthy while to distinguish between three types of schema which are formal schemata, content schemata and abstract (Carrell 1983b). Carrell (1984) states that prior knowledge of content and formal schemata enable readers to predict events and meaning as well as to infer meaning from a wider context. All types are in any text and a readers experience affects interpretation.
i-Formal schemata:

It refers to the background knowledge about the text structure, such as differences in quern, differences in the structure of simple stories, articles, expository texts, a letter to editor, a scientific essay, etc. e.g. Schema for simple stories contain the following information: a setting, a theme, a plot and unending. If the reader know a typical format of research article consist of sections subtitles, interdiction, theory, methods, results, discussion conclusion, that knowledge will facilitate their interaction with the article and post comprehension. Fife different of expository structures are recognized by Mayer and her colleagues (Mayer 1975, 1977, a, b,1982 Mayer and Rice 1982, Mayer and Freedmen 1984) Collection – list, causation – causes and effect, response – problem and solution, comparison and contrast, and description- attribution. Each of these types require a different schema of their structure. The possession of the different schemata helps readers to recognize the text structure and aid reading comprehension as it give readers basis for predicting what a text will be like.

ii-Content schemata:

It refers to the cultural knowledge and the background knowledge about the content of the text, knowledge about the subject matter of the text or the massage of the text. If the massage is familiar, the reading task will be more productive and efficient. “content schema affects comprehension and remembering more than formal schemata do for text organization. Reader remembered the most when both content and the rhetorical forms were familiar to them, while unfamiliar content may cause more difficulties in correct comprehension” Jun, et al., (2007: 21) and it is said to be consists of two aspects:

One is situation schema connected with reading material; the other is background knowledge schema previously possessed by readers. Situation schema refers to schema formed by readers thorough combining letters and words in the same semantic field by language schema during reading process, background knowledge schema refers to knowledge and experience stored in a readers brain, which can affect directly the degree of reading comprehension. The more background knowledge schema a reader possesses, the better his reading comprehension is. Anderson (1994: 469) states that (A reader comprehend a message when he is able to bring to mind schema that gives accounts of the object and events described in the message). Perhaps one of the most important schemas that pose immediate threat to the
students is content or topical schema. As Abelsold and Field (1997: 41) asserts “if the topic .... Is outside students experience or base of knowledge, they are adrift to an unknown sea”. It has been shown that content schemata strongly affect reading comprehension. (Anderson and Person 1990; Bransford, Stein, and Shelton 1986, Wilson and Pearson 1986, Nilson and Schmid 1984)

Cultural schema: as content schema is a part of individual’s cultural orientation and since culture affects all aspects of life it certainty has a major impact on comprehension. Culture specific knowledge is an earlier name for schemata (carrel, et al., 1998)

Although idiosyncrasy cannot be ignored, one's cultural orientation appears to be dominant force in shaping one’s reading habits, Yule (1996: 87 cited in Erten and Razi, 2009) points out that cultural schema experiences are defined as pre-existing knowledge about cultural elements of the language being acquired. It is suggested that cultural schema as a culture – specific extension of content schema since they refer to the role of cultural relation ship that is required to completely understand the meaning intended by the author conceptual in nature, cultural schema brings about cultural familiarity and help a person to restructure the story, line through referring to more personally and culturally appropriate scripts (Oller, 1995 cited in Erten and Razi 2009).

A reader is most likely to fail if his cultural schema is different from the one’s proposed by the text. Carrel and Eigtehold (1983: 80) states that “one of the most obvious reasons why a particular content schema may fail to exist for a reader is that the schema is culturally specific and is not part of a particular reader’s cultural background”.

Steffensen, Joag – Dev and Anderson (1979) cited in Bernhardt, (1991) states when recalling information about culturally unfamiliar text, subjects tend to distort information and insert ideas from their own culture to over compensate for absent schema. Kaplan (1966, Long (1989) Nostrand (1989)), also indicate that culturally specific schema affects comprehension. No strand has shown that authentic text from one culture may give a false impression of the that culture to member of the second culture. To avoid this false impression, such text should be presented in authentic contexts and students’ appropriate schema should be activated. According to Kaplan, cultural differences lead to different approaches to teaching reading, cultural knowledge is also important because to comprehend some type of writing, hum our for example, a knowledge of the culture must be taken into consideration, humorous materials
can only be humorous in those situations in which the reader understands the cultural significance behind it. Koh (1986) states that one’s comprehension of the text depends on how much relevant prior knowledge the reader has about the subject matter of that particular text.

People who come from different countries or backgrounds may understand a situation in one way where as others based on pervious experience, may consider it to be something entirely different. Schema as well depend on encoding, encoding is how we code, what we may notice, hear, smell, or touch in our minds (Rober and Rober, 2001) in both L1 and L2 context con text formal as well as content schemata knowledge have significant yet different effect on reading comprehension (Grape, 1991).

Problems of ambiguity in comprehension and translation generally can be solved either by content schemata if it concern different situation in the world, or by formal schemata if it concern different text structure, such problem that originate from structural and lexical different between language and multi word units like idioms and collocations. Formal schema also solve the problem of grammar because there are several constructions of grammar poorly understood in the sense that it is not clear how they should be presented, or what rules should be used to describe them thus we can see that content schema can help readers to predict and choose information to eliminate the ambiguity and can make up for shortage of language knowledge.

iii- Abstract schemata:

Sometimes called cultural schema, also story schema or even linguistic schema, (Etren and Razi 1009). It is less important on contrast to previous ones. Abstract includes pure simples and inductive integrations. It involve hidden factors and thematic considerations.

2.5 The Reading Process

Goodman (1967: 40) views reading as a process whereby a hypothesis is constructed based on the clues already sampled. Explanations about what is to appear next depend on semantic and sequential labeling strategies the reader uses to weigh the plausibility of an interpretation.

Thus far reading has been considered only as visual activity, something that readers do with their eyes. This is by no mean, the whole truth about the process of reading. If you are an efficient reader, you do much more than simply run your eyes from left to write along a line of
words, accumulating information as each word, phrase, and sentence is progressively recognized. Reading is also an active process of predicting what is likely to come next.

Much like a high speed computer, your brain processes the visual information from eyes rapidly forming and revising hypotheses about the form and content of what you are reading. The success of your predictions depends upon your knowledge of English language and culture and your familiarity with subject matter you are reading about.

Beaver, (1970: 211) decoding a text occurs because of manipulation of syntactic clues received by the reader. Not all clues an author intended are noticed nor would processing be the same. The reader doesn’t have to process the same attitude as an author to understand what is meant. Previous opinions interact with the text and influence the slant it is read with and processed.

Researchers in both first and second languages have proposed a dynamic relationship between text and reader. Text do not contain meaning, rather they have potential for meaning. The potential is realized only in interaction between the text and the reader the meaning is created in the course of reading as the reader draws on both existing linguistics and schematic knowledge and input provided by the written text.

The purpose of reading is to connect the ideas on the page to what you already know, if you don’t know anything about the subject, then pouring words of text into your head is like pouring water into your hand, you don’t retain much.

Prior knowledge is using what you already know to help understand something new, it helps to understand and learn from specific reading material, students can access their prior knowledge on a subject to help relation to the subject that is to be learned at the moment. Reading different types of texts requires the use of different reading strategies and approaches. Making reading an active, observable process can be very beneficial to struggling readers. A good reader interacts with the text in order to develop an understanding of the information before them. Some good reader’s strategies are, predicting, connecting, inferring, summarizing, analyzing and critiquing. There are many resources and activities educators and instructors of reading can use to help with reading strategies in specific content areas and disciplines. Some examples are graphic organizers, talking to the text anticipation guides, double entry Journals, interactive reading, and note taking guides, chunking, and summarizing.
Some texts like in philosophy, literature or scientific research, may appear more difficult to read because of the prior knowledge they assume, they may assume the tradition from which they come, or assume having read a text which the author is criticizing or parodying such knowledge is assumed rather than restated for economic reasons, for saving time and space.

Philosopher Jacques Derrida (1987: 40) whose texts are considered difficult even by fellow scholars, explained that, in order to unfold what is implicit in so many discourses, one would have each time to make a pedagogical outlay that is just not reasonable to expect from every book. There the responsibility has to be shared out, mediated’ the reading has to do its work and the work has to make its reader.

What is expected is to be inferred by the reader is more crucial than what he actually reads in text comprehension. For example try to read these numbers:
7516324-751.6324-123-4567, the first one is hard to read and remember the second is easier because of chunking. The third is easy because prior knowledge and structure. In the process of reading comprehension of a message entails drawing information from both the message and the internal schemata until sets are reconciled as a single schema or message (Anderson et al. in Hudson 1982: 187). It is also claimed that (the first part of a text activates a schema-which is either confirmed by what follows or rejected) (Wallace, 1992: 33) but the process begins much earlier than this (the environment sets up powerful expectations, we are already prepared for certain genres but not for others, before we open a newspaper, a scholarly journal or a box containing some machines we have just bought. (Swalles, 1990: 88).

The reading process, therefore, involve identification of genre, formal structure and topic. All of which activate schema and allow readers to comprehend the text. (Sawalles, 1990: 89). In this it is assumed that readers not only posses all the relevant schemata but that these schemata actually are activated.

Where this is not the case, then some disruption of comprehension may occur. In fact this is likely that there will never be a total coincidence of schema between writer and reader. (Wallace, 1992: 33), such that coherence is the property of individual reader.

Reading a text is much like seeing a known place once again, changes attract additional attention, but eventually includes as known feature Smith views reading as
(reduction of uncertainty) and Good-man (1969:210) wrote an article about (reading as psychological guessing game)

(i) **Reading as Reduction of Uncertainty:**

Frank smith was the first one who viewed reading as process and he describes reading as (reduction of uncertainty) it is also called (redundancy in reading by Chastain, K. (1988). Readers' choice are constrained by linguistic features of the text and schematic knowledge, Smith discussed reduction of uncertainly under four headings: graphic information, phonetics information, syntactic information and semantic information. There are frequent occurrences of redundancy in reading. As an illustration consider smith’s unfinished sentence and famous example which could possibly appear at the bottom of the page. (the captain ordered the sailor to drop the …..) for the completion of this sentence, calling up schema which will give the word anchor will be needed as the most likely item. Wallace, (1992: 180)

Abersold, (1997 ) states that four ways of reducing uncertainty should be considered about the remainder of that sentence. There are four alternatives and therefore redundant sources of information: First, we could turn page and see how the last word finished. This what we normally mean by (reading) and we call this (visual information). Second, we can make some reasonable predictions about how the word will continue without turning the page, for example we can say that the next letter is unlikely to be b,f,h,j,m,p,q,r,w,or z, because these letters do not occur after an – in common English word: , therefore we can eliminate these alternatives on the basis of spelling, or what we call (orthographic information). Third there are some things that can be said about the entire word before turning the page. It is known that it is likely to be an adjective or a noun, because other types of words (articles, conjunctions, verbs, and preposition for example) are most unlikely to follow the word (the) we can eliminate all these additional alternatives on the basis of (grammatical information). Finally, alimentation of alternatives can be continued , even if candidates considere only nouns and adjectives that begin with "an" plus one of the letters not eliminated by the orthographic information. Words like (answer) (anchory) (anagram) or (untibody can eliminated because although they are not excluded by orthographic or grammatical criteria, knowledge of the word tells that these are not the things that captains not normally order
sailors to drop. The elimination of these alternatives is based on meaning, or what we call *(semantic information)*.

Obviously, the four alternative sources of information about the incomplete word in this example—visual, orthographic, grammatical, and semantic to some extent provide overlapping information. Readers do not need as much visual information about the next word as they would if it occurred in isolation because, the other sources of information eliminate many alternatives. The four sources of information, therefore, are all to some extent redundant. And the skilled reader who can make use of these three other sources needs much less visual information than the less fluent reader.

**(ii )Reading as Psycholinguistic Guessing Game:**

Reading is famously been described as psycholinguistic guessing game Goodman in Carrel and Elslertiold,(1933:74) in which efficient readers minimize dependence on visual details) by utilizing text (Goodman (1975:12) such Top-down models has unfortunately given the misleading message to teachers that ESL reading tuition is mostly is just a matter of providing (learners) with the right pack ground knowledge. And encouraging them to make full use of that knowledge in according text” (Eskey,1988:97). It is now recognized that language is a major problem in second language reading (op cit 97) Kenneth Goodman created a psycholinguistic and sociolinguistic model of reading inspired by the work of Noam Chomisky, who developed the theory of generative grammar. A generative grammar of a language attempts to give a set of rules that will correctly predict which combination of words will form grammatical sentences.

In (1969) Goodman wrote a famous article talking about reading as psycholinguistic guessing game. In Goodman's account the reader makes use of three cue systems represented by three levels of language within the text, **first** readers make use of their knowledge of used and phonetic feature of the text: **second** they draw their syntactic knowledge and **third** they draw their semantic constrains related to the meaning of words and what kind of word collocates with another. Moreover, their semantic knowledge is mediated by schematic knowledge.

He decided that the process of reading was similar to the process of learning language as conceptualized by Chomsky, that literacy developed naturally as consequence of
experiences with print, just as language ability developed naturally as a consequence of experiences with language. Goodman decided, as a result, that attempts to teach children rules for decoding words were inappropriate and not likely to succeed. This means that he found the teaching of phonics to be an irrelevant waste of time when trying to teach reading.

Goodman developed the theory underlying the literacy philosophy of whole language. Whole language emphasizes that children should focus on meaning and strategy instruction; contrasted with phonics (those who teach whole language think phonics is ridiculously confusing and false…setting up a false dichotomy). Whole language practitioners teach to develop a knowledge of language including graphophonic, syntactic, semantic, and grammatic aspect of language. Goodman’s concept of reading has been looked into and studied by brain researcher Sally Chaywitz, who rejected Goodman’s theory, saying that reading does not develop naturally in the absence of some kind of instruction. Despite some controversy, Goodman’s theory still has its scholarly supporters, and his theory was the basis for the whole language movement.

Kenneth. Goodman presented his model of reading as psycholinguistic guessing game with a note that the steps do not necessarily take place in the sequential or stretched-out form as they are shown below:

1. The reader scans along a line of print from left to right and down the page, line by line.
2. He fixes at a print to permit eye focus. Some print will be central and in focus. Some will be prior choices; perhaps his perceptual field is a flattened circle.
3. Now begins the selection process. He picks up graphic cues, guided by constraints set through prior choices his language knowledge, his cognitive styles, and strategies he has learned.
4. He forms a perceptual image using these cues and his anticipated cues. This image then is partly what he sees and partly what he expected to see.
5. Now he searches his memory for related syntactic, semantic, and phonological cues. This may lead to selection of more graphic cues and to reforming the perceptual image.
6. At this point, he makes guesses or tentative choice consistent with graphic cues. Semantic analysis leads to partial decoding as far as possible. This meaning is stored in short-term memory as he proceeds.
7. If no guess is possible, he checks the recalled perceptual input and tries again. If a guess is still not possible, he takes another look at the text to gather more graphic cues.

8. If he can make a decodable choice, he tests it for semantic and grammatical acceptability in the context developed by prior choices and decoding.

9. If the tentative choice is not acceptable semantically or syntactically, then he regresses, scanning from right to left along the line and up the page to locate appoint of semantic or syntactic inconsistency. When such a point is found, he starts over at that point, if no inconsistency can be identified, he reads on seeking some cue which will make it possible to reconcile anomalous situation.

10. If the choice is acceptable decoding is extended meaning is assimilated with prior meaning, and prior meaning is accommodated if necessary.

Explanation are formed about input and meaning that lie ahead.

11. Then the cycle continues.

Throughout the process there is constant use of long and short-term memory.

He ended with the comment stating:

" I offer no apologies for the complexity of this model. Its faults tie not in its complexity but in the fact that it is not yet complex enough to fully account for the complex phenomena in the actual behavior of readers. But such is man's destiny in his quest for knowledge. Simplistic for folklore must give way to complexity as we come to know".

EFL/ESL readers need a massive receptive vocabulary that is rapidly, accurately and automatically assessed (Grabe, 1988: 63). Carrel (1988b: 244) suggests “a parallel” approach in which vocabulary and schemata are developed by “pre-teaching vocabulary and background knowledge concurrently for sets of passages to real some later time” furthermore, since learners “need to see a word many times in different context before it is learned” (A ebersold and field, 1997: 139) they may need to read a great many more text than is usually the case in reading courses.

2.6 Applying Approaches to Reading

Realizing how crucial reading is for the students, readers can see the great importance of developing their reading ability. To achieve it, they should improve reading lessons by implementing the best method and techniques provided by theories.
So far, there are three main theories which explain the nature of learning to read, first the traditional theory, or bottom up processing, which focused on the printed form or text.

The second is the cognitive view, or top-down processing enhanced the role of background knowledge in addition to what appeared on the printed page. The third, the metacognitive view which is based on the control and manipulation that a reader can have on the act of comprehending a text, and thus emphasizes the involvement of the readers’ thinking about what he is doing while reading. (Parlindungan Pardeede)

i. **Bottom-up view of reading:**

The traditional bottom-up approach to reading was influenced by behaviourist psychology of 1950s which claimed learning was based upon “habit formation, brought about by the repeated association of stimulus with a response (Omaggio, 1993: 45). According to Longman dictionary of applied linguistics: Bottom-up processing makes use of the information present in the input to achieve higher level meaning. The meaning of these terms varies depending on the unit of analysis, for example in word recognition the higher level information is knowledge of permissible words as well as actual words of language, while the lower level information is the actual phonetic input (or the orthographic input in the case of written word recognition) in sentence comprehension or interpretation of an utterance, the lower level information is words, which the higher level information includes knowledge of grammar, semantics, and pragmatics, as applied to full understanding of a novel, lower level information consists of words and sentences, while higher level information includes readers previously existing knowledge of the world including culture and moral value, scripts, schemas, and literary genres.

The main method associated with the bottom-up approach to reading is known as “phonics” which require the learner to match letters with sound in a defined sequence. According to this view, reading is a linear process by which readers decode a text word by word linking the words into phrases and then sentences Gray and Rogers (1956: 80) cited in Kucer (1987: 70), According to Samuek and Kami (1988: 25), the emphasis on behaviourism treated reading as a word recognition response to the stimuli of the printed word were (little attempt was made to explain what went or within the recesses of the mind that allowed the human to make sense of the printed page), in other words textual comprehension involve adding the meanings of words to get the meanings of the clause (Anderson, 1994: 40).
According to this model, the meaning of the text is understood by (recognizing the printed letters and words, ad building up a meaning for a text from the smallest textual unit at the (bottom) (letters and words) to the larger and larger units at the (top) (phrases and clauses intersential linkages). Carrel (1990: 2).

Language is a code and the reader is a passive decoder whose main task is to identify graphemes and convert them into phonemes. As with the audio-lingual method phonics requires strong emphasis on repetition and on drills using the sound that make up words.

The bottom-up model describes information flow as series of stage that transforms the input and passes it to the next stage without any feed back or possibility or later stage of the process influencing earlier stage (Standvish, 1980). Whereas the Text book influenced by this perspective include exercises that focus on literal comprehension and give little or no importance to the readers knowledge or experience with the subject matter, and the only interaction is with the basic building blocks of sounds and words. Most activities are based on recognition and recall of lexical and grammatical forms with an emphasis on the perceptual and decoding dimension.

(ii)Top-down view of reading:

Top-down processing is the other approach to explain the nature of learning to read. It focuses on the background knowledge a reader uses to comprehend a text. This approach is associated with the schema theory. In the 1960s, a paradigm shift occurred in the cognitive science, behaviourism became somewhat discredited as the new cognitive theory represented the mind’s innate capacity for learning, which gave explanatory power to how human acquired their first language, this also had a tremendous impact on the field of EFL/ESL as psycholinguistics explains “how such internal representations of he foreign language develop within the learners mind” (Omaggio, 1993: 57). According to Longman dictionary of applied linguistics : top-down processing, in psycholinguistics, cognitive psychology and information processing, a contrast is made between two different ways in which human analyzed and process language as a part of processing of comprehension and learning, one way known as top-down processing make use of previous knowledge (higher level knowledge), no sensory information to predict or interpret (lower level) information that is present in the data. Ausubel, (1968) an early cognitive psychologist made an important distinction between meaningful learning and rote learning. Rote learning is simply
memorizing lists of isolated words or rules in a new language where the information becomes temporary and subject to loss, meaningful learning on the other hand, occurs when new information is presented in a relevant context and is related to what the learner already knows, thereby being “easily integrated into one existing cognitive structure” Omaggio, (1993: 58). According to Ausuabel (1968) learning that is not meaningful will not become permanent. This emphasis on meaning eventually informed the top-down approach to L2 learning, and in the 1960s and 1970s, there was an explosion of teaching methods and activities that strongly considered the experience and knowledge of the learner. This new cognitive and top-down processing approaches revolutionized the conception of the way student learn to read Goodman (1967: 180), and Smith (1994: 110). In this view reading is not extracting the meaning from a text, but a process of connecting information in the text with the knowledge the reader brings to the act of reading. Grape (1988: 56) states that “reading is a dialogue between the reader and the text” it is seen as an active cognitive process in which the reader’s background knowledge play’s a key role in the creation of meaning (Tierney and Person, 1994). Reading is not a passive mechanical activity but a (purposeful and rational, dependant on prior knowledge and expectation of the reader. Reading is a matter of making sense of written language rather than decoding print to sound. (Smith 1994: 2). This top-down processing is closely related to schema theory which had a major impact on reading instruction. It describes in details how the background knowledge of the learner in interacts with the reading task and illustrates how a student’s knowledge and previous experience of the world is crucial to deciphering a text. The ability to use this schema, or background knowledge is fundamental for efficient comprehension to take place.

(iii) The metacognitive view:

Pardede (1997) argues that according to Blcok (1992), there is now no more debate on whether reading is a bottom-up, language-based process or a top-down, knowledge-based process, and also no more problematic to accept the influence of background knowledge on readers. Research has gone even further to define the control executed by readers on their trial to understand a text. This control is what Block has referred to as meta-cognition. In the context of reading meta-cognition involves thinking about what one is doing while reading. Strategic readers do not only sample the text, make hypotheses, confirm or reject them, and make new hypotheses while reading. They also involve many activities along the process of
reading, whose stages can be divided into three, i.e. Before reading, while reading, and after reading. The activities the readers involve before reading are to identify the purpose of the reading. Identify the form or type of the text. In the second stage (while reading) they think about the general character and features of the form or type of the text—such as trying to locate a topic sentence and follow supporting details.

2.7 Other Ways of Presenting Background Knowledge

The schema theory is not the first attempt to present prior knowledge and experience. There have been other ways attempted similar to the schema approach, which are:

Frame, script, and scenario.

(i) **The frame theory:**

This theory sees human as continuous set of stereotypical situation or frame built out of the decoder's past experience. Nunan (1973:204) states:

"our frame experience of going to the doctor, provide us with the frame that enables us to predict what is likely to happen when we visit a doctor, similarly our past experience knowledge of what happen in the school enables us making a good prediction of what teaching in the class is likely to look like. And so the case when we visit the putcher".

The frame theory was first proposed by Miniskey (1995:90) who states: “when one encounters a new situation or makes substantial change in ones view of the present problem, one selects from memory structure called frame, this is a remembered to be adapted to fit reality by changing details as necessary”. Brown and Yule (1983: 238) mention that people's knowledge comprises two kinds of knowledge. So the theory suggest frames for linguistic knowledge for example: for kitchen in visual seen and frame for kitchen phrase in discourse. According to miniskey’s frame proposal, the frame can be seen as essentially an elaboration and specification of the schema conceived of the frame knowledge as interacting with new specific information coming from the world. He proposed that frame information be presented as frame comprised of slots that accept certain range of values. If the world did not provide particular slot, then it could be filled by default value. This theory has failed to explain why people select a particular frame rather than the other.

(ii) **The script theory:**

It is a psychological theory which posits that human behavior largely falls into patterns called “scripts” because they function analogously to the way a written script does by
providing a program for action. Silvan, Tomkins (1991) create script theory as further
development of his affect theory which regards human beings emotional responses to stimuli
as falling into categories called (Affects). He noticed that the purely biological response of
affect may be followed by awareness and by what is cognitively done in term of acting on that
affect so that more was needed to produce a complete explanation of what he called "human
being theory". In script theory, the basic unit of analysis is called “scene” defined as sequence
of events linked by the affects triggered during the experience of those events. Tomkins
recognizes that affective experience falls into patterns that people may group together
according to criteria such as the types of persons and places involved in the degree of intensity
of the effect experienced, which patterns in turn constitute scripts that inform our behavior in
an effort to maximize positive affect and to minimize negative affect.

Script is a theory that addresses the structure of knowledge with particular interest in
language understanding and higher thinking skills. The theory was developed by schank and
Abelson (1979) and involves language analysis suggested by Schank as conceptual
dependency cited in Brown and Yule (1988:212). His early work in the 1970 led to the
development of contextual dependence theory, which attempted to explain how meaning is
derived from sentences. He introduced the concept scripts, plans and themes in 1977; this level
of theory delt with understanding at the story level. His work in the 1980s continued to
develop the theory to encompass other levels and aspects of cognition. Schank was a
proponent of the notion that all memory is episodic meaning it is organized around personal
experience rather than semantic categories. Schema for generalized episods are “scripts”
scripts allow the learner to make inferences about situation by filling in missing information
thus understanding is developed by a blend of experiential observations and inferences made
from previous experiences stored in the memory.

So, script specific schema comprised standard sequence of events. Scripts culturally-
variable consist of sequential list of characteristic events involved in common routine. They
also include related props (such as menus) roles (such as waiter) enabling conditions (such as
having money) outcome (such as feeling less hungry). Scripts are sometimes such divided into
“scenses” such as entering, ordering, eating and leaving a restaurant. Scripts has understanding
claims that “in order to understand what is going on, a person must have been in that situation
before” Shank and Abelson (1977: 67). Access to the mechanism that underlies scripts allows
new situations to be dealt with plans (more general knowledge) are “the set of choice that a person has when he sets out to accomplish a goal”.

Plans depend on goals and goals can be determined from expected themes. Their enquiring was focused (to produce AI) but the examination of knowledge structure has revealed hidden elements of human behavior.

The example below is from Schank (1973: 60) as cited in Brown and Yule (1988: 241):
A. John ate the ice-cream with the spoon.
B. John ingested the ice-cream by transing the ice cream on the spoon to his mouth.

The term transing is used here to mean physically transforming. In this conceptual version of sentence B of Schank has presented part of understanding of the sentence which is included in the sentence in the page, that is the action described in sentence ‘A’ as made possible by getting the food to his mouth. According to Brown and Yule (1988:213), the understanding of sentence (A) will be possible if depends on syntactic analysis but it is made possible by involving people's knowledge of the world in the conceptual revision of sentence ‘A’.

In the development of the conceptual analysis of sentence riesbeck and Schank (1978:112) describe people's understanding of what they read or hear is expectation based. For example when they read the following two sentences, their expectation will help them to replace “x” (Jon crashed into the gradrial, when the ambulance came, it took him to ‘x”).

One of the shortcomings of this story is that people will make mistakes in their prediction of what will come next.

(iii) **Scenarios:**

The term scenario was first used by Standfold and Barrod (1973:180) to describe the extend domain of reference which is used in interpreting written text. Their aim is establish the validity of psychological theory. The term is used for an account or synopsis of a projected course of action, events or situations. Scenario development is used in policy, planning, and organizational development and generally, when organizations wish to test strategies against uncertain future developments, scenarios are widely used by organizations of all types to understand different ways that future events might unfold. Scenarios planning or scenarios analysis is a complex business process related to futures studies. According to Scenario theory, a text about going to a restaurant automatically brings a waiter slot into presentation. It
claims that a text based on coherent scenario, ease and increases speed of processing. In this sense, scenario theory is similar to schema theory, but in the scenario are situation-specific.

2.8 Using Schema and Scenario Interchangeably

As mentioned before, schema theory and the concept of scenarios are used interchangeably as follows:

Howard (1987:31) using the term “schema” for scenario, emphasizes that one’s mental scenarios are based on one's experience, and are used in categorization and making inferences. Pardede (1977) states that Bartlet, a social psychologist conducting experiments on memory, was apparently the first to describe scenarios, using the term schema. However, the theories of scenarios has been developed in a variety of disciplines, and different theorists use different terminologies for scenarios, even when referring to essentially the same concept. The concept of scenarios relates closely to what are called:

1. Frames: (Minky 1975; Fillmore 1982 B)
2. Schemata or schemas (Rumelhart and Ortony 1977)
3. Scripts (Schank and Ablson 1977) and (Riesbeck and Schank 1978).
4. Idealized Cognitive Models (Lackoff 1987) and

2.9 Application of Schema Theory to Reading

Some students apparent reading problems may be problems of insufficient background knowledge. (Carrel, 1988: 245), where this is thought to be topic-related, it has been suggested that narrow reading” within the students area of knowledge or interest may improve the situation. Similarly, where schema deficiencies are culture-specific, it could be useful to provide local text or texts which are developed from the readers own experiences (op cit: 85).

Carrel and Eisterhold (1983: 89) also suggest that every culture-specific interference problem dealt within the classroom presents an opportunity to build new culture-specific schema that will be available to the EFL/ESL student outside the classroom thus rather that attempting to neutralize text, it would seem more suitable to prepare students by helping them build background knowledge on the topic prior to reading through appropriate pre-reading activities. Carrel (1988:245) lists numerous ways in which relevant schema may be constructed including lectures, visual aids, demonstrations, real-life experience, discussions, role-play text
previewing, introduction and discussion of the vocabulary and key-word/ key-concept association activities. Examples of such contextualization, include, showing pictures of a city before asking the student to read a text about the city or play video clip for a film adaptation of the novel the class is about to study, although helpful these pre-reading activities are probably not sufficient alone and teachers will need to supply additional information.

Reading problems are not just caused by schema deficiencies and “the relevant schema must be activated” (Carrel 1988:105). In other words, readers may come to a text with a prior knowledge but their schemata are not necessarily activated while reading, so pre-reading activities must accomplish both goals: building new background knowledge as well as activating an existing background knowledge (Carrel,1988:248). Particularly useful and popular here are questioning and (brain-storming) where learners generate information on the topic based on their own experience and knowledge (Aebersold and Field,1997:73) for example : sentence (1) you are going to read a passage about a woman encounter with a bear while hiking in an American national park. Before reading answer the following questions:

1- Do bears live in the wild in your country? What kind of bears?
2- How would you feel if you meet a bear while hiking
3- What do you think should do if we encounter a bear in the wild? Previewing the text (particularly the title, sub headings and figures) also help the readers to predict what they are going to read and this hopefully activates their schemata (Aebrsold and Field, 1997:73).

You are going to read a passage about a man bad experience on camping trip in the north of England. Before reading do the following exercises:

1- Write down five problems the man could have had when he was camping.
2- Look at the title of the passage and the list of the words. What do you think might have happen?

Title: Our terrible new year.

Words in order: holiday, happy, drove, far, camped beautiful, night, freezing, snow, morning, engine, trouble, help, no phone, ran, ice, slipped, cut, disaster.

Another relevant point is that, because lower level student, may have schemata but not the linguistic skills to discuss them in the L2, the first language could be used to access prior knowledge but teachers must introduce the relevant vocabulary during the discussion,
otherwise a schema has been activated but learning the L₂ has not been facilitated (Aebersold and Field, 1997:77). No doubt that leaches role is paramount to activate and build schemata. A first task is to select texts that are relevant to students, need, preferences, individual differences and cultures. It is necessary to provide meaningful texts so the learners understand the message which entails activating existing schemata and helping build new one. There is a wide body of research that provides suggestions on how to accomplish this (Carrel, et al. 1988) for example, after selecting a text, the following three stages of activities are used to activate and build students schema.

2.10 Schema Theory and Translation Theory

Translation is not the transfer of an original writer’s words into another language. Translation is the transfer of an original writers’ meaning into another language. Translation does not communicate the original meaning by producing the source language but by expressing that meaning in the natural form of the target language. Nida and Taber (1969:12) put it thus: “Translating must aim primary at (reproducing the message) the translator must strive for equivalence rather than identity. In a sense this is just another way for emphasizing the reproduction of the message rather than the conservation of the form……,” Meaning-based translation assumes that “author intent” is what determines the meaning of the text (Collow 1998) and that the meaning can normally be adequately recovered from the text itself and adequately communicated in any language and culture. Determining the author’s intended meaning necessarily requires interpretation of the text through careful exegesis. Such exegesis involves discourse analysis of the source text, based on studying the writer’s use of grammar, syntax and vocabulary, and making plausible judgments as to the writer’s intended meaning in the light of what is known about the writer, the original reader, and context of the original communication (Mann and Thomposon 1987:4-5).

Meaning-based translation is referred to negatively as “free” translation or “paraphrase” each of these terms is accurate if used to refer to the way a meaning-based translation is free to use different (form) of grammar and lexicon from the source language, i.e by paraphrasing, stating the same message in different words. However, the terms as popularly used imply that the translation has been free in changing the “meaning” of the text, by ill-advisedly “paraphrasing” rather than being “strictly accurate”. Undoubtedly once a translator attempts to make a writer’s meaning clear, some people will disagree with the translator’s exegetical
choice, or success in phraseology, but this does not destroy the fundamental principle that the meaning of the source language should not be changed in translation, where as the form can be. (Afford (K63:26-27) defines the different translation approaches in terms of the level at which the equivalence of meaning is sought, where:

- Word –for – word translation seeks for equivalence at word level.
- Literal translation seeks equivalence at group level (ie phrase level) and
- Free translation seeks equivalence up to the highest level (clause, sentence right up to discourse).

Development in text linguistics and discourse analysis support the need for meaning-based translation to seek equivalence right up to discourse level, changing from where necessary, to preserve equivalence of meaning. Catford (1965:27) defines a good translation as one which is interchangeable with the SL source language and text in situations. Thus good translation is concerned with the transfer of the contextual meaning, not the form, of the source text whether oral or written. This understanding of translation is not new. Sluiter (1997,216) notes that “Jerome (4th century CE) who translated the bible into Latin... firmly places himself in the tradition of Horace, Cicero, and Seneca, rejecting a literalistic approach in favour of one aiming to convey the intention of the words” Sluiter (1997, 220) quotes: “ for not only do I admit, but I even freely proclaim what when I translate Greek texts, with the exception of Holy scripture where even the word order is a mystery, I don’t translate word-for-word but meaning for meaning (Letters 1975:5).

2.10.1 Accuracy, Clarity, and Naturalness

Translation has three fundamental strands: accuracy, clarity, naturalness (Baranwell 1986:23) Accuracy means accurately communicating the writer’s intended meaning as evaluated through exegesis of the original text. Clarity means that ordinary members of the target audience can clearly understand that meaning. Naturalness means that the form of the translation is the natural form of the target language, including not only basic grammar and lexicon, but also word order, metaphor, idiom, language level and discourse features etc. as appropriate for the specific genre being translated. These elements are weighted in order of importance, but a good translation should include all the three. But unfortunately translation based on this three-points ideology, such as Good News (1986:vii-vii) which attempt to be clear and natural as well as accurate, are sometimes signaled out for criticism. Some criticism
concerns the style of translation, lamenting its low literary merits. The appropriateness of language level and style, however, can only be evaluated by the intended reader which includes “all who use English as means of communication (1986:vii). Some criticism concerns a particular exegetical points which the critic believes, has been oversimplified, ignored, or wrongly expressed. Yet, it is only because the translator has attempted to be clear and natural that this point has come to the critics attention. Other more literal translations may well be unclear and unnatural and even miss-communicate to the majority of ordinary readers, yet because they stick closely to the words of the original text they can be judged (in the eyes of the critics at least) to be accurate. However, if only a very few academically and theologically astute people correctly understand the “accurate” translation, then the translation fails in its role as a means of communication. It has long been recognized by theorists on translation that the word-for-word approach to translation server only a very limited academic purpose (Catford 1965:25) states that “A word-rank-bound translation is useful for certain purpose for instance, for illustrating in acrude way differences between the SL and the TL in the structure of higher rank units-as in some kinds of interlinear translation of texts in “exotic” languages”.

Even some classical scholars were aware of the need for accuracy, clarity, and naturalness. Porter (1999-40) quotes Towett in his preface to his translation of Plato’s dialogues (from Grant 1961:136):

“it {the translation}should be read as an original work, and should also be the most faithful transcript which can be made of the language from which the translation is taken, consistently with the first requirement of all that it be English. Further the translation being English, it should also be perfectly intelligible in itself without reference to the Greek, the English being really the more lucid and exact of the two languages.

2.10.2 Target Audience and Target Use

The first decision one must make as a translator is to define the target audience. This is obvious, in as much as it determines the language into which the translation will be made, e.g. Arabic, French etc. however the decision is much more far-reaching than that. Who is intended to understand this translation?

• Adults only, or also children.
• If children, children of what age?
• Men only or also women?
• Town people only or also rural people?
• Educated only, or also illiterates?
• Mother tongue speaker, or also those for whom it is a second language.

Once this decision has been made, the translator can consider, and indeed check by comprehension testing, how far the translation meets the criteria of clarity and naturalness. Moreover, since the criterion of accuracy include accurate comprehension as well as accurate exegeses a translation can only be evaluated as to how well it communication with specific audience in its intended use. Thus a translation intended for private study by the educationally elite will be different from translation intended for reading aloud in non literate setting, and each must be evaluated in its own context. Pike (1992:233) points out that the relationship between the writer and the reader is fundamental in communication: “underlying every text is the relation, actual or potential, of the encoder to the decoder that relation is the I-thou-here-now axis in which I is the encoder thou is the decoder, both in the same place and time”.

For communication to take place all four elements are required. The significance of here and now for speaking or hearing is modified somewhat for writing/filming and reading viewing. In translation, of course, there is special problem, since the.

• Translator is not the original I.
• Target audience is not the original you.
• Original here and now have become a there and then.

Pike (1992: 233) points out the responsibilities of encoder and decoder in the normal communication situation:

“encoders to choose the topic appropriate to their interests and to those of their chosen audience (decoder). The audience can choose whether to continue the decoding process or not; hence the success of the communication is dependent on both parties. How close the decoder’s understanding is to he decoder’s intent differs from person to person. As a decoder of the ZPG letter, I can state only what I understand the message to be. In order to understand some message the study of many other texts is often required that is what education is all about”.

Translation is not by its nature only transferring a message to a different language, but also to a different culture. And this fact greatly affects the clarity of the text. The more
different the culture of original author and current target audiences, the more different their schemata, and the more implicit information will need to be made explicit Pike (1992:234) comments from personal across- cultural experience:

The notion of script is not important here (Schank and Abelson, 1977), a large event may be made up to smaller, predictable event which are expected by members of a cultural group. Hence the closer the referential structure of the decoder to that of the encoder, the fewer will be the details needing to be addressed overtly. In this regard, when I was working with a text in India being ignorant of many such scripts I had to address much more details, in order to understand, than would a local person, in the process my referential structure was greatly enlarged”.

The way that shared cultural knowledge affect the form of the text can not be overstated. Without knowledge of the original writer and reader’s cultural schemata, accurate exegesis of the text is impossible. Similarly, without knowledge of the reader’s cultural schemata comprehension is impossible. Typically the translation will need to be more explicit than the source text. Precisely because the reader does not share all of the writer's schemata.

2.10.3 Schema Theory’s Contribution to Translation Theory

The strength of the meaning-based approach has been the fact that it has allowed ordinary people to read and understand scripture, just as they would any other book. The weakness of the meaning-based approach has been a lack of theoretical underpinning from linguistic theory.

For example, Nida’s approach to translation as “functional equivalence” is widely acknowledged for its communicative power (Person 1999:82) states:

“indeed, it can be very convincingly argued that this method of translation, along with many of the warnings that go with it concerning how to handle style and idiom that exist in the source language, is the best way to communicate the most meaning to the largest possible audience”.

Yet, Person (1999:83) says that there needs to be “serious re-examination of the theory”. There are four basic assumptions of Nida’s theory of functional equivalence which Pearson (1999:83-84) believes need evaluating as whether and to what extent they are true:

1. A translation cannot be said to be a good translation unless it communicates the meaning as understood by the original author to the receptor in his own language and does it well.
(2) The original meaning as understood by the original author is apprehensible and communicable by the translator.

(3) Anything that can be said in one language can be said in the other, unless the form is essential element of the language.

(4) To preserve the content of the message, the form of the source language must be changed. Modern linguistic insights in discourse analysis and particularly in the application of schema theory to discourse analysis, provide at least practical answers to theoretical problems such as these.

2.10.4 Translatability

Any thought can be expressed in any language there is no doubt that cultures and languages are very different from each other, and that there is not a one-to-one correspondence between languages in either concepts, grammar, or lexicon. Nevertheless, schema theory is based on the fact that although people categorize their experiences and perceptions in different ways, there is such an enormous overlap of human experience that within any one culture people’s categories are remarkably consistent (that is they have essentially the same schema in their minds), and across cultures their experiences are still so remarkably similar that they have stored in their minds enough world knowledge that similar experience to the writer’s can be accessed.

Callow and Callow (1992:6) state:

“the meaning expressed in verbal communication is a universal, i.e. it is capable of multiple realization in words, but is independent of those realizations, which are specifics... in analyzing discourse we are analyzing a specific realization of an underlying meaning which is a universal; it is capable in principle of realization in any language, modern theories of communication do not try to say (my words mean this) as if words has discrete, abstract unchangeable definitions, but rather (my words are able to trigger similar thoughts in your brain to the thoughts in mind, because you share some of my life experience”

Callow and Callow (1992:6) say “the kind of meaning with which we are concerned here is the meaning the speaker intends to convey. As he communicates he is using verbal forms as signals of his inward thoughts, attitudes emotions, purposes etc. words do not have meaning, they signal meanings.”. Thus communication is not about stating in unambiguous lexical and grammatical forms 100 percent exactly what the writer intended but being "good enough for the job in hand" i.e. good enough to signal to the reader the inward thoughts, attitudes,
emotions and purposes, etc of the writer. This "good enough" is attainable in translation and is in fact, all that is attainable in any form of communication.

Schema theory, whilst acknowledging the differences in people’s mental concepts due to different cultural and individual experiences, it also argues that people can understand new concepts and make sense of new ideas by making generalizations and inferences based on previous experience, they can also be modified by experience and this –as previously illustrated- means that new concepts can be communicated, so long as they are communicated within the framework of existing schemata, thus allowing the audience to categorize the new concept appropriately and modify their mental schemata accordingly.

2.11 The Significance of Schema Theory for Translation

Since writers must interface with their reader’s mental schemata to achieve successful comprehension, and since schemata are culturally conditioned, all communications across cultures are fraught with potential misunderstandings due to the difference between the schemata of writers and readers, in this aspect schema theory can provide logical principles for:

- Determining information implicit in the source text.
- Analyzing both actual and potential misunderstanding, and
- Restructuring the original message of the source text in the light of the target readers’ knowledge and worldview to ensure accurate comprehension.

Translation involves two discrete activities: determining the meaning of source text (exegesis), and presenting that same meaning clearly and naturally in the target language (structuring). To these should be added comprehension testing to ensure that the readers’ comprehension of the translated text matches the exegesis. Schema theory is directly relevant to each of these activities. (Hudson, 1982).

2.11.1 Schema Theory and Restructuring

Schema theory, by emphasizing that schemata are culturally conditioned, reminds the translator to restructure the form of the text, not simply according to the grammar and lexicon of the target language, but also in the light of the reader’s worldview. Just as the choice of grammar and lexicon in the source text reflected the original writer and reader’s schemata, so the translation must use the appropriate reader-old or reader-new forms and lexical collocations of the target language to indicate to the new reader which schema are to be understood as currently open or closed, and how lexical items which belonged in a single
source. Text schema are semantically related. This will require careful discourse analysis of the target language.

Since certain grammatical forms in the source text signify which verbs or nouns belong to a single schema, the translator has textually-based rationale for making explicit such elements of the original author and reader’s schemata which are left implicit in the source text, but are nevertheless contextually focal. This may include explicit reference to implicit participant or events.

- Reasons or motives.
- Semantic relationships between participants, events, clauses or discourse units, and
- Whether elements in a text are to be understood as prototypical or unexpected.

Since lexical collocations in the source text open appropriate schemata in the original writer’s mind, and thus provided textual cohesiveness due to the prototypical semantic relationships within those culturally-determined schemata, there is textually based rationale for ensuring that those same schemata are opened in the target language translation which may mean making:

- Explicit the title of schema.
- Implicit elements with a schema, or
- Implicit links between-schemata, such as causal links or metaphorical links.

Understanding the prototypical and culturally based nature of schema, allows the translator to predict, in the light of the target reader’s world view, which participants events, semantic relationship etc. must be made explicit in the translation for correct understanding, and which will be correctly and easily understood even when left implicit.

All these factors help the translator to restructure the original massage in an appropriate form of the target language, improving clarify and naturalness.

2.12 Schemata and Translation Problems

Some particular translation problems are going to be considered which the task of translation poses for the Builer of MT systems –some of the reasons why MT is hard. It is useful to think of these problems as problems of ambiguity, and problems that arise from structural and lexical differences between languages and then multiword units like idioms and collocations. Of course these sorts of problem are not the only reasons why MT is hard. Other problems include the cheer size of the undertaking as indicated by a number of rules and
dictionary entries that a realistic system will need, and the fact that there are many constructions whose grammar is poorly understood, in the sense that it is not clear how they should be represented, or what rules should be used to describe them. This is the case even for English which has been extensively studied, and for which there are detailed description-both traditional (descriptive) and theoretically sophisticated-some of which are written with computational usability in mind. It is even worse problem for other languages. Put the researcher is going to think about these problems under the following headings showing the crucial role of schema in solving them: (McCarthy, and Carter 1994).

2.12.1 Translation and the Culture Barrier

The need for translation, however, implies a language barrier and, therefore, to some extent a cultural barrier between the writer and the reader. With written translation, this transfer of meaning is always at a different time, and almost always in a different place and to a different place and to a different audience from that which the writer was addressing. Typically this new reader not only differs in time, place, and language from the writer but also in culture. The huge time difference between the writer and the reader mean that the knowledge, attitudes, and assumptions of the reader are likely to be hugely different from those of the original audience.

It is this huge cultural difference between the original author and audience on one hand and the new target audience on the other, which makes the Bible translation such a complex task. If translation were simply a matter of transferring words, then the difference in culture would be a minor significance, affecting only the lexicon and grammar. But translation is about transferring meaning, and the meaning of everything that is read is interpreted through the cultural grid of one’s own personal experiences. Words are not culturally-accepted symbols equating one to one with universal concepts, but are culturally accepted symbols related to culturally-defined concepts as Tyzmoczko (1978:43) “knowing the semantic structure of the language, I have argued; depends upon knowing about the speakers, their environment, their society and their beliefs”.

Consequently, not only must the form of the source text be altered to match the grammar and lexicon of the target language, but also information implicit in the source text must be made explicit, so that readers, whose knowledge and assumptions are different from those of the original audience, can correctly understand the original message. In normal
communication, as relevance theory (Sperber and Wilson 1986) makes clear, the speaker regularly encodes less than he means, on the assumption that the hearer possesses enough shared knowledge to accurately “read between the lines” and correctly understand the message. The more knowledge is shared by the writer and reader, the more is left implicit. The less shared knowledge, the more explicit the text must be. This shared knowledge provides “mutual cognitive environment” for writer and reader and consists of real-life communication situation together with all the shared information stored in the culturally-based mental schemata.

According to (Sperber and Wilson 1986:137-138), communication is not achieved by text alone but also requires the writer and the reader to have a “mutual cognitive environment” in the light of which the writer adapts the mode of expression and degree of explicitness to the reader’s knowledge and the reader makes assumptions as to the writers meaning. The crucial step in the processing of new information and in particular of verbally communicated information, is to combine it with adequately selected set of background assumptions which constitutes the context- in the memory of the deductive device.

The chief responsibility for ensuring accurate communication lies with the communicator, Sperber and Wilson (1986:43) argue that the responsibility for avoiding misunderstandings lies with the speaker, so that all the hearer has to do is go ahead and use whatever code and contextual information come most easily to hand. The original authors of scripture also had to make correct assumptions about the codes and contextual information that their audience would have accessible and be likely to use the comprehension process and they wrote their text accordingly. Similarly, translator, in trying to pass on those authors’ original message to new audiences must strive to make correct assumptions as to what their own audiences will understand, and adjust the text of their translations in order to communicate the original meaning accurately and avoid misunderstandings. This conforms to Grice’s first maxim of quantity (1975:45) “make your contribution as information as is required” since peoples understanding is based on information stored in their culturally-based mental schemata, and if the writer never shares the same culture as the reader, translations regularly must be more explicit than the original texts in order to successfully communicate the meaning of the original message.
Using the appropriate level of explicitness in translation does not only affect whether the reader’s can understand the translation but also affects whether they will try to understand it. Sperber and Wilson (1986:125), the proponents of relevance theory, make two fundamental observations about relevance: “extent condition 1’ an assumption is relevant in a context to extent that its contextual effects in this context is 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.”

In other words, when the reader reads the text, the degree of relevance he assign to it, does not depend simply on the content of the message, “it’s contextual effects” but also on how easy the message is to follow and understand. If the text seem unnecessarily obscure, the reader may simply give up trying to understanding it. As Sperber and Wilson (1986:157) point out:

“addressee who doubts that the communicator has chosen the most relevant stimulus compatible with her communicative and informative intentions- a hearer, say, who believes that he is being addressed with deliberate and unnecessary obscurity – might doubt that genuine communication was intended, and might justifiably refuse to make the processing effort required.”

2.12.2 Cultural Schema and Translation

It has long been recognized that a difference in culture between source and target language communities can cause translated material to appear odd and lacking in cohesion. Catford (1965:101) calling this (cultural untranslatability), comments that in many cases, at least, what renders (cultural untranslatable) items . Untranslatable is the fact that the use in the TL text of any approximate translation equivalent produces an unusual collocation in the TL or even wrong in ternate meaning of a word. To talk of cultural untranslatability may just another way of talking about collocational translatability, the impossibility of finding an equivalent collocation in the TL. And this would be a type of linguistic untranslatability because of mismatch.

Lexical collocations which belong to a single schema in one language, do not necessarily together in another. Given the close connection between the conceptually linked structure of schemata and the collocations of the lexicon associated with such schemata, it is hardly surprising that this phenomenon can be analyzed as a conceptual issue (cultural trainability) or a linguistic one) (unusual collocation). The translator should be aware of these
unusual collocations and realize that they reflect an area of culture clash. It may be necessary, therefore, in translation to make explicit that such collocational clashes are not due to anything unusual about the situation but reflect the normal expected prototypical situation in the source culture.

Where the mismatch of schemata between source and target languages causes information loss, the information implicit in the source text will need to be made explicit in the target language translation in order to accurately communicate the original message. Where schema is opened in the source text by its title and there is a mismatch between schema titles and contents in the source and target culture, the translation must use target language titles, if they exist, to open the relevant schema, and any implicit information because of the mismatch of the schema content and must be made explicit. Similarly, where a schema is opened in the source text by making explicit a number discrete elements of schemata in the source of target culture may mean that same elements fail to open the correct schema in the target language. In such cases the translation should open the correct schema by making the target language title explicit, and also make explicit any implicit elements from the source text. Schema which are not inferable from the contents of the target languages schema due to schema mismatch.

Since schema mismatch cases a loss of predictability for the reader it may be necessary to make explicit in translation what motivates certain behavior and which elements are expected and which are unexpected, in order to guide the reader towards an accurate interpretation of the text.

2.12.3 Schemata and Textual Problems in Translation (formal schema)

A structural problem is there among students or translators because having to ignore the structure of the text that is not as clear as it should be in case of taking structure into account. Structure is as important as semantic is unequivocally. No one can turn a blind eye on that what so ever. Ignorance of this knowledge of structure is going to bring about failure in the proper introduction of clearer meaning, pure language, perfect understanding, typical transfer of meaning, best convey of ideas… etc. Translator is considered as a person or as an artist because he or she has a great deal of skills not only science this is entirely because of the idea or the fact that science has exceptions and certain defective scientific rules. Skills must be there as translators deal with the text. Both scientific rules of grammar and skills that
translators have are regarded at complementary, indivisible and interdependent. There is no potential separation between them all and if they are not united as translation takes place, then the translator runs the risk of failure to convey the perfect message, facts and ideas to the recipient. There will be an example about the structure and the construction of the sentence informer to provide a so much more transparent meaning of this structure and construction of sentences.

Consider the following example as far as experience is there. The example is taken from British broad casting corporation B.B.C:

"Ever since the collapse of the Soviet Union there have been fears that bomb-making materials or even nuclear war heads might be smuggled out to would be nuclear powers the united states is already heavily involved in helping Russia to secure and store nuclear materials retrieved from its massive stock pile of weapons but by far the most serious proliferation threat is the spread of nuclear know-how the danger that poorly paid Russian weapons scientist may simply leave the country and sold their talents to the highest bidder "

Analysis of this formalistic report is going to shed the light on the interpretation of how translation takes place in accordance with knowledge of structure and construction. “ever since the collapse of the soviet union there have been fears that bomb – materials or even nuclear war heads might be smuggled out to would be nuclear powers”, is a long sentence which in essence tend to produce confusion for some if not all translators specially those who are not expensed enough. “ever since” is difficult to translate for some translators because they say that since is used with the present perfect tense and here it is not used with the present perfect tense so it lead to some sort of confusion as well as misunderstanding. “ever since” means ever so this semantic problem in addition to this long structure might complicate the problem further and more than one would expect. “Ever since the collapse of the soviet union” can not stand a lone because the meaning is not complete. “there have been fears that bomb – making materials or even nuclear war heads might be smuggled out to would be nuclear power” gives a complete meaning but this meaning is considered as a gab having a glumes on the whole reports this is because it is associated with the first sentence. On the basis of what has been mentioned one can say that understanding the structure of the sentence is important in order to be a better translator and that is formal schema. An other problem of structure in found in the following sentences; “the United States is already heavily involved in helping
Russia to secure and store nuclear materials retrieved from its massive stock pile of weapons” the problematic area there is “which” omitted. It might be difficult to get the idea that there “which” not included in this might rise the difficulty – there is the helping verb “is” omitted as well. One say that lack of knowledge here might poring about a disaster of say a disastrous calamity in case of having to translate an important text or governmental an official one that is related to financial offing one that is related to financial offing. This sentence can be written in a different and dissimilar way that is as follows, (the United States is already heavily involved in helping Russia to secure and involve nuclear materials which are retrieve from its massive stock pile of weapons).

2.12.4 Lack of Content Schema (Word for Word Translation)

There is almost certainly stark problematic area translator have that is word for word for translation. Due to the existence of cultural differences among nations the translator resort to word to word translation unintentionally and this engulfs him with mistakes, which are not vehemently noticeable to the translator from one hand and from the other the translator thinks or feels that the translation is more than perfect. That is because the translator does not have enough ideas or knowledge about the text he or she deals with. The potential solution to iron out this problematic mutter is to have an idea exhaustively on the topic he addresses and that is content schemata which are suggested as a part of parcel of far more acceptable translation.

Another translation problem is that the translator does not consider the scientific expressions but they use expressions that do not belong to sciences or may be partially similar to the correct ones in thro case translator resort to what is known as generalization and overgeneralization, this actually does occur when the translator does not find the right equivalent for certain vocabulary or terminology of the selected text of translation one of the translator translated the following expression as follows (the international boxing criticism). He wanted to refer to that organization or institution that denote money to investors and financial schemas or for poor counties of the developing world. Criticism is related to literature and art, he should have said fund instead of boxing, instead of saying criticism he should have said monitory. The right translation is international monitory fund that is known economically as IMF among financial dealers and on financial ground and in the field of business Nada (1964) divides the equine aspect in two different types in his article in titled (principles of correspondence) i.e., formal and dynamic equivalence (Nida 1964 a: 159)
Formal equivalence focuses attention on the message itself, in both form and content ... one is concerned that the message in the receptor language should match as closely as possible different elements in the source language”. Lacking content schema is the cause of such errors and this type of schemata are very essential to avoided that fatal errors translators commit when translating documents idiom and sayings are commonly translated word for word instead of looking for appropriate expression in the target language idioms and sayings are tricky issue for translators who lack content schemata and specifically the cultural background of the target language. Because their org in usually has to be sought for back through the history of the people who use the sauce language. For example: “Der Apfel fallt nich weit vom stamm” in German, which means that children most usually resemble their fathers. Inexperienced translators would most probably write literal translations like: “the apples falls close to the trunk” or “of such a block such a chip” and nobody would understand the real meaning. The usual expression in English is “like father like son”. Nida in Venuti (2000: 129) states that in the type of equivalence the message produced in the TT should the different element of the ST as closely a possible for instance, if the idiom: “a bull in a China shop” translated “صْس في هحل الخز  الصزٌي” it might not convey the desired meaning. Furthermore, Nida (1964, 159 ) explains that a gloss translation typifies formal equivalence and explains: “the translator to reproduce as literally and meaning fully as possible the form and content of the original”. In order to be comprehensible, such a translation “would require numerous foot notes”. Another expression: “equine madrigal Dios le ayuda” literally translated means “He who gets up early is helped by god” but in English expression would rather be: “the early bird gets the worm” Spanish “a palos conel aguila” literally “beating the eagle with the stick” means in English to be “flat broke” Dynamic equivalence, according to (Nida1964 a:159) , is defined as a translation principle according to which a translator sacks to translate the meaning of the original in such a way that the TL wording will trigger the same impact on the TC audience as the original wording did upon the ST audience. This dynamic equivalence of Nida (1964 a: 159) is equivalent to current schemata of Jun et al. (2007) which can be fully utilized in translation. Another German expression is “Das setzt allem die krone auf” literally means: “that puts the crown on everything” not understandable at all but the English expression is “that beats all”. Going on with crowns German “was ist ihm in die krone
**gefatahren?**” translated into English literally “**what got into his crown?**” but it means “**what is the matter with him?**”.

These few examples show that one has to be very careful to find the right equivalences instead of inventing anything just because. The final conduction is nothing a text word for word, but always understand the idea and recall content cultural schemata for a proper translation.

### 2.13 Schemata and Functionalist Approaches to Translation

Though the immense translation problems, words like error or mistake are not words that often enters into the contemporary theorization of translation – out side language learning classroom at lest. Perhaps in accordance with this determination by translators themselves not to seen “as a meaningful tool of theory, the word also fails to appear in the glossary to Christiana nerd’s translating as a purposeful Activity.

Functionalist approaches as explained by (St Jerome, Manchester 1997) even though she devotes a section of the book to “translation errors and translation evaluation” (pages 73-79) Nords (1997, 19-28) aim is to present arrange of functionalist approaches to translation.

Her argument is found on two initial premises: the first is that translation is a particular type of human “action” or more strictly speaking ”interaction” between two or more agents which is first and for most intended to change and existing state of affairs minimally, the inability of certain people to communicate with each other involving a source text. Secondly, the target text is “functional” because it relates to the expectation, needs, perceiver knowledge and situational conditions of the receiver for whom it is intended. As Nord insists “the prime principle determining any translation process is the purpose of the overall translational action” adding that “this fits in with intentionality being part of the very definition of any action”. To underline her point, she cites Hans Vermeer’s (1989: 29) explains that each text is produced for a given purpose and should sense this purpose. The Skopos rule thus reads as follows: translate, interpret/ speak/ write in a way which enables your text/translation to function in the situation in which its used and with the people who want to use it and precisely in the way they want it to function.

Functionalist approaches (Nord 1997) in translation match and interact with schema theory carrel (1988: 10) both relates to the expectation, previous knowledge and situation condition.
2.14 Teacher’s Role

The role of the teacher is a crucial one helping the student to read and comprehend the text. Students have to do learning for themselves. But the teacher often have the major effect on whether any given student choose to go on reading language.

Carrel and Elsterhold (1983) state that second language reader try to provide schema to make sense of the text. They (1983) emphasize that in ESL/EFL classroom teachers should be sensitive to reading process and should provide their learners with text that evoke their schemata.

Assisting to comprehend by building or activating students, schema, the teacher is to stimulate interest, project his enthusiasm for learning and help students to see that reading is of a real value. This means relating reading to the interest of the student, to what they are thinking, talking about, to facilitate relating content and formal schema. and as stated before, Bransfored (1994) mentions that difficulties in comprehension may be attributed to the lack of background knowledge presumed by the text and he sees the responsibility of the instructor as being two folds: to activate pre-existing schemata and to help students to integrate isolated “pockets” of knowledge into schema or to build a new one.

Teachers need to activate students active thinking, guiding them to identify the main points to form matching schema. Teacher should provide background information such as linguistic forms or content previews to construct or activate appropriate schemata. Teacher should ask students to use their brains to give full play to their creativity and to reflect on material they will read so as to form correct understanding and inference of the material build their own new schemata and thus broaden the range of their knowledge. It is very unlikely for student to form at once the suitable schema that matches an article it take much time and practice to achieve the goal. Teacher should guide students and offer them opportunities of much practice to help them construct their schemata. Just as a proverb says “give a man a fish and he eats for a day, teach him how to fish and he eats for a life time”.

Good reading assignment should grow naturally out of the interests concerns of the class, or where ever possible, the interest and concerns of individual student. Good reading assignments should also fall within the students range of proficiency. The major problem for most readers of FL, even then the interest is high, is adequate knowledge of both the content and formal schema.
Unfamiliar vocabulary provide the most obvious example of this, other problems are, complex grammar, new rhetorical forms in the lower level and culture-bound assumptions about what any reader may be assumed to know which dictionaries don’t help to resolve their mysteries choosing just the right materials thus, becomes all important, and it is ideally the teacher who must chose, edit, modify or even create appropriate materials for students with varied needs and purposes to read in sequence of increasing difficulty. Bring students and appropriate materials together are a very large part of teachers job exploiting schemata.

2.15 Review of Previous Studies

There is no previous study which can be emulated by this study, because it tried to link between schemata and translation in that schema facilitates comprehension and good comprehension on consequence result in good translation. All the previous studies referred to schema as a tool that just facilitates comprehension. In this study the concept is used in a broad sense to include translation. In the following studies researchers show how schemata have a crucial role on text comprehension.

In recent years there have been a great deal of studies conducted investigating schemas in artificial intelligence as well in theoretical and applied linguistics. The review will focus on these studies which serve pedagogic aim in particular. Minsky (1970) was attempting to develop machines that would display human like abilities (e.g to perceive and understand the way of trying to solve these difficult problems). He came across Bartletts work. Ministry concluded that humans were using their knowledge about the world to carry out many of the processes that he was trying to emulate by machine, he there for needed to deal with this type of knowledge if they were over to achieve human like abilities.

Minsky developed a frame construct as knowledge in machine. Minisky’s frame proposal can be seen as essentially an elaboration and specification of the schema conceived of the frame knowledge as interacting with new specific information coming from the world.

He proposed that frame information be represented as a frame composed of slots that accept a certain range of values, if the world did not provide a particular slot, then it could be filled by a defaulted value.

Caddick (1993) conducted an interview with three adults to identify schema for (pencil, making hot drink, talking). The result displayed is that subject displayed their in pictorial
image from past experience, this implied that language teacher should be trained to develop skill of examining and analyzing schema for their students.

Young (1984) stresses the usefulness of authentic text in EFL reading classroom. He aimed to teach students to be proficient readers reactivation background knowledge to enhance comprehension. The schema theory is suggested as a frame work for approaching reading activities such as pre-reading and post reading activities. Students are thus encouraged to think, kept related and exposed to authentic text appear to be extremely useful in ESP.

Ross and boar (1981) worked out a formal mathematical experimental of schema activation theory. They subjected it to test, in their experiment subjects studied 80 sets of four words each related to more or less to obvious schema, for instance one set was “driver” “trap” “rough” and handicap which related to Golf-schema another set “prices” “head” and “dial” which related to –telephone-schema. After studying the words set, subjects attempted to recall given one or two words from each set as a cue.

The schema model gave good accounts to recall patterns described in their two other experiments. Hudson (1988:121) in his study entitled “the effect of induced schema on short circuit” on L2 reading by about 93 ESL students who where proficient readers in their native language.

This study intended to study three types of reading treatment to determine the following:

1. Can schema theory explain the L2 short circuit of a good reading strategies, by proficient L1 readers as second component factor?

2. If the readers are included to produce consistent initial schemata can this override the effect of L2 linguistic ceiling?

3. Is the inducement to produce consistent schemata equally effective across level of L2 language proficiency?

Three method which allow three types of schemata reconciliation where designed to provide students with text. The three methods were termed pre-reading, vocabulary and read test-read. 93 students studying at intensive language institute were given nine passages from science association reading. Three of the passages fall into each of proficiency level which matched students reading level, for each of the three levels: beginners, intermediates, and advanced, pre-reading activities were developed.
Linguistic or contextual affects comprehension, three experiments were conducted. Two experiments were conducted in Sudan university of science and technology and one in Omdurman Ahlia University.

The first two experiments were made to test the influence of the subject matter background knowledge on the reading comprehension and speed of two groups of students; one group studies physics while the other studies English language literature. The two groups were asked to read a text about electrical energy. The result revealed that the physics students were able to comprehend easier than English students.

The third examine the influence or pre-reading as schema activating factor on easing comprehension. The result indicate that the pre-reading makes comprehension more effective.

**Price and Drisol (1997)** in their study of students problem solving in familiar and unfamiliar context, the authors conducted three treatments. Their treatments were prior exposure to the problem in a familiar scenario, repeated opportunities to solve similar problem in different context, and detailed oriented feedback. The researcher found that 10.3% of the subject could solve particular type of problem (selection problem) in a familiar context. However, 57.3% of these involved the study could solve very familiar problem in a familiar context.

The effect of their treatments where not significant leading the author to conclude that the schemata exist and that they powerfully influence problem solving. However, there is no evidence that our subjects spontaneously abstracted a useful schema while trying to solve a selection problem nor did the feedback condition appear to promote such abstraction (cited in widmayer, 2001).

Price and Drisoll study demonstrate a difficulty that must be overcome, it may well be the case that strongly situated schema make it difficult for learner to develop functional problem solving skills that are appropriate across knowledge domain. In addition it appear that transfer of knowledge outside the content in which was originally acquired is difficult and may require that learners are exposed to a familiar knowledge in numerous different contexts so as to be able to constric less situational of constructed schema.

**Ibrahim (2010)** MA dissertation in entitled; the impact of schemata on text comprehension at secondary schools, university of Gezera, the rsearcher investigated the role of schemata on text comprehension the subject for the study were (60) out of (180) third
year secondary school students. They were selected randomly. The subjects have been divided into two equal groups according to their subject option. Thirty students in scientific section and other thirty study in arts section. So the scientific group has got knowledge of biology which the other group hasn’t got and vice versa.

The study resulted in that there is a crucial role of schema in understanding. The second result was that schema could be activated and could have a marvelous impact on reading development. The main findings were the great influence of background knowledge on text comprehension at secondary level, and the positive and effective contribution of the schema on the reading process on that level.
CHAPTER THREE
METHODOLOGY

3.0 Overview

This chapter is devoted to the methodology of the research, as it describes the procedure of eliciting research data. The research has followed the experimental and analytical approach, research population, subjects and the research setting will be described. Instruments of data collection will be discussed.

3.1 Methodology

This study is conducted to determine the effectiveness of schemata on English text comprehension and translation. To know the crucial role of schemata theory on English text perfect comprehension and translation, and consequently, the impact of translation on all human life aspects. The method which has been adapted in this study is intact group design where two groups of subjects are assigned randomly as control and experimental group. As the text is the same for the two groups, therefore, it calls the same content schema. The data are collected through a validated test and processed statistically.

3.2 Population

The population of this study is (240) male and female students. Studying English as a foreign language in University of Gezira and Sudan University of Science and Technology while the other group studies medicine in University of Elnilain and Gazeira as follows:

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They have been studying English for twelve years. They all speak Arabic language as a M.T. Students’ age ranged from nineteen to twenty three, they studied English language for about nine years.


3.3 Sampling

The subject for this study are one hundred thirty fourth year university students, they were randomly selected and covered different groups in an equal percent. As a test is a medical and the medicine group have got background knowledge about test area, which the other group hasn’t got.

3.4 Tools of data collection

The subjects have been given a text as a test entitled (Principles of therapy of diabetes mellitus in old age). The test is taken from a medical magazine from a topic entitled (Aging – physiology; combined –modality-therapy). It is about 110 words in length. To assess the reliability formula, cited in Thonis (1978) was used. Based on the Gunning formula: find the average length of sentences per one hundred words; count the number of words of more than three syllabus; add these factors together and multiply by (4), the result is the estimate of difficulty. The text is found to be at the eighth grade level of difficulty (8.09) which is considered to be suitable for the purpose.

This type of test was chosen because it was a practical mean to ensure that schema based perfect comprehension is an authentic mean to grantee perfect translation. According to discourse analysis theory, a text has three sources of meaning (1) the macro which concerned with functions of sentences and the whole structure of the text; (2) The micro, which is concerned with a word and its interactions with other words in the context, and (3) the pragmatic which focuses on the readers general knowledge of the world (Bensoussan and Ramraz 1989). In this study all these sources were given consideration, but a special one was given to the pragmatic because the information is considered to be exphoric depending on the background knowledge and its effect on text comprehension and translation.

3.5 The Procedure

The first step which has been taken was to take permission from universities administrations to conduct the text translation. Once permission was given, students were informed about the text, they showed good understanding and great enthusiasm to participate in the text translation. With the presence and help of the concerned lecturers, the test was fixed a day before the test was conducted. The medicine students’ lecturer was asked to revise the area of the test to activate their schema, without informing them of the real purpose of the
revision. Finally, on the fixed date as planned, the test was held and administered, and was marked by the researcher.

The experiment for English language students in Sudan University of Science and Technology was done in a large classroom with fifty fixed desks and chairs, there are two doors, six windows, six air conditioners and ten fans. The light was so good as there are six lamps. The weather was nice as the experiment was done in a soft winter. Other experiments environments in the other universities were similar, and students showed good understanding. So it was done in an ideal environment.

3.6 Reliability

Reliability refers to the accuracy and stability with which students’ answers and comments were scored and classified. Test-retest technique has been adopted to measure the reliability of the test. To estimate the reliability coefficient of the entire tests. Spearman – Brown Prophecy formula was used. The result of the applications of the Spearman - Brown Technique was 0.9 which showed a high correlation part of the test.

3.7 Validity

Test validity means that the test is meaningful and appropriate for the research purpose to establish the validity of the test which has been chosen as a tool for data collection. The researcher has consulted some experts English language teachers (Appendix 2) and they have agreed that the test is valid for such type of data collection.

3.8 Summary

The chapter focused on the research methodology which is used to achieve the objectives of the study. Firstly, the structure of the research method employed in the study was discussed, the consideration that were taken into account in adapting the research methodology were presented. Secondly, detailed descriptions of the population of the study, data collection instrument, and the main survey procedures were given. Finally, statistical analysis techniques used in the study were presented. An analysis and interpretations of the empirical data collected through these methods will be presented in the next chapter.
4.0 Introduction

In this chapter the data collected through the test which was described in the previous chapter, will be analyzed. The presentation of the results will be followed by the discussion. The discussion will be mainly in relation to the research questions stated in chapter one and it will be related to the findings of the previous studies discussed in chapter two. The data was collected mainly to determine (the impact of schemata on English text translation) where the schemata and the print are considered as inseparable entities together with appropriate comprehension and perfect translation. The focus will be on the test as an instrument for the study and the analysis of the results.

4.1 Data Analysis

The data collected through the test have been statistically processed. The total score of the medicine group and English language group has been calculated (table 4). The frequency distribution of each group has also been calculated. It has been depicted in form of graph (Figure 4.1 / 4.2). The mean difference and the T-test (calculated value) have been calculated to show the differences between the two groups clearly (table 4.2).

4.2 Data Presentation

The visual presentation of data in form of graph and table has been adopted. This system of presentation is adopted because it shows clearly the difference between the two groups (table 4.1) and depicts the raw data of the scores obtained by the two groups. In other words it shows the result of the translation test obtained by each group. The only treatment done on the data was the total of scores of each group.

<p>| Table (4.1): Results of Translation Test |
|----------------------------------------|-----------------|-----------------|
| Subject | Medicine group | English group |
| 1       | 25             | 16              |
| 2       | 25             | 17              |
| 3       | 29             | 17              |
| 4       | 29             | 23              |
| 5       | 28             | 21              |
| 6       | 28             | 22              |
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<td>65</td>
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<tr>
<td>Total</td>
<td>1679</td>
<td>1200</td>
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</tbody>
</table>
It is obvious from the figure that half of the subject has got score (25) and above. No one got score below (18).
It is plain from the figure that half of the subject has got below (19). No one got score over (25).
Table (4.2): shows the difference mean between the two groups

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>N</th>
<th>Std Deviation</th>
</tr>
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<tbody>
<tr>
<td>Medicine</td>
<td>28.0000</td>
<td>65</td>
<td>7.20149</td>
</tr>
<tr>
<td>English</td>
<td>15.3696</td>
<td>65</td>
<td>6.96932</td>
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</table>

One-Sample Test

<table>
<thead>
<tr>
<th></th>
<th>t</th>
<th>df</th>
<th>sig(2-tailed)</th>
<th>Mean difference</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicine</td>
<td>14.221</td>
<td>32</td>
<td>000</td>
<td>28.00</td>
<td>28.85</td>
<td>28.00</td>
</tr>
<tr>
<td>English</td>
<td>5.797</td>
<td>32</td>
<td>000</td>
<td>15.36</td>
<td>12.90</td>
<td>16.00</td>
</tr>
</tbody>
</table>

T = the calculate value  
df = degree of freedom  
sig = significance value
4.3 Results

To obtain the required results, the study adopted the experimental and analytical approach and Statistical Package for Social Science (SPSS) to analyze the results and discuss them. The main results of this study are summarized in table (4.1) and table (4.2), there was a crucial role of schemata (The building blocks of cognition) on English text translation. This could be obviously observed in the high scores obtained by the medicine group which has got schema (previous knowledge of medicine). The total scores of this group was (1679) table (4.1). The total scores of English group was (1200). As this group has not got sufficient knowledge of medicine their scores were lower than the medicine group.

The second result that could be drawn from the data presented was that schemata could be activated and could have a marvelous impact on comprehension and translation. (Figure 4.1) indicates that half of the subject of medicine group obtained scores 25 and above and that was a result of activated schema. This could be clearly shown when one compares this result to that of English language group depicted in figure (4.2). Half of English language group got scores (19) and below.

The third result is the schema helps in development of text translation particularly if activated. And this is very clear in table (4.2) where the T and the Mean (average score) of the medicine group are higher than the English language group. The table shows that the mean of the medicine group is (28.00) where the mean of English language group is (15.36)

4.4 Discussion

The survey was distributed to more than hundred fifty participants in different faculties in different places, rather all respondents’ mange to provide their responds, because the researcher adopted various mediums to reach them such as e-mails, outlook, traditional transports …etc. So the number is considered legitimate and processed to produce necessary results.

The analysis was intended to examine the translation barriers that encounter English text translation and the role of schema in development of reading and translation skills. It also tried to find whether there was any difference between readers who have got schemata and those who did not.
As for the first question of the study, what are translation barriers that encounter English text translation? Translation barriers are many, cultural and lexical differences are considered to be of the important barriers between SL and TL and that exists because the lack of content schema. The medicine group got high score because they have this type of schema which the English language group did not have. This result has its support in previous studies Nunan (1993, 89) states that “Given the fact that making sense of the text, is the process of using both our linguistic knowledge and also our content knowledge. These schematic and or mental fill scripts are extremely important ‘. Carrel and Eigtehold (1983 : 80) states “ one of the most obvious reasons why a particular content schema fail to exist for a reader is that the schema is culturally specific and is not part of a particular readers’ cultural background “. Anderson (1994) states that a reader comprehends a message when he is able to bring to mind schema that gives account of the subjects and events described in the message. This is called by Catford (1965) (cultural untranslatability).

Text ambiguity is a translation barrier when the translation lacks background knowledge and fails to open schema that matches text content. The English language group when processing the text encounter schema mismatch and failed to obtain high score as the medicine group. This result has its support in previous studies of Kussaul (1995) who states that a positive approach to learning is that comes from the relationship between previous knowledge and new knowledge. Another translation barrier is multi word units, idioms and collocations which can be solved by applying schema theory, creating mutual cognitive environment. The above result answered the first question of the study. The researcher believes that schema theory gives a theoretical basis for understanding and resolving all these problems.

The analysis of the total score of the two groups revealed that schemata play a significant role in comprehension and translation, the high score obtained by the medicine group (table 4.1) which could not be attributed to any reason other than their knowledge of medicine, which was activated by the revision of their medicine lecturer a day before the test was conducted. Similarly the low score obtained by English language group could not be attributed to their linguistic knowledge but to the absence of subject matter knowledge.
In the translation of the text, the English language group uses their linguistic knowledge only to process the text which is not sufficient for text comprehension and translation, and this resulted in their low scores in contrast to medicine group (table 4.1). This result has had its support in the schema theory. It has its support in Widdowson (2001: 61). Widdowson distinguishes between two levels of schemata, the linguistic knowledge and the content knowledge, and he explained that the two can help in text comprehension and on consequence on text translation. The results also have their support in the previous studies of Huddson (1988: 130). And Awad El Kareem (1995) in his empirical study of two groups of Sudan University of Science and Technology, he found that readers who have got schemata were able to understand the text better than those who have not got schemata. In his empirical study, the group that have got schema was physics group that was able to understand scientific texts or electrical power better than the group of English language and literature. So it is obvious that this result provides positive answer to the second question of the study: Does the schemata have a role in developing reading and translation skills? It also supports Bartletts theory (1932) that many of the recalls are not typical to the original information but involved in the replacement of unfamiliar information with something more familiar.

The analysis of the distribution of the two groups indicated that there was a great difference between the two groups. The number of subjects who have got higher score in the translation test was from the medicine group, and this is obviously due to their background knowledge of subject matter, that is the content schema. This result has had its support in previous studies of Nunan (19930), Cicourel (1973) and Anderson (1994). This great difference in number of subjects who got higher score might be also attributed to the activation of the schema of medicine group, which was done by their lecturer a day before the translation test was held. The lecturer made revision on the topic area but focused on the topic of subject matter (content schema) without telling students why the lecturer concentrated on this specific topic.

The sample analysis explained the difference between the groups more clearly than the frequency distribution mentioned above. The difference in the (T) and the (mean) of the two groups can make it more clear than frequency distribution of two groups. The higher mean
(overage score) of the medicine group indicate that this group was able to comprehend the text more efficiently than the English language group.

This efficient comprehension may not be only due to their knowledge of medicine but also due to their activated schema through the revision of the topic area of medicine that dealt with the text they translate. It was because probably this group used their activated schema to process and translate the text, otherwise, there would not be significant difference in the two means. So this result showed that there is a difference between the translators who have used their activated schema and those who have not got the same schema. This result has had its support in previous studies of Anderson (1977), Kock (1986), Williams (1987) and Awad Elkareem (1995).

The above result answers question three and four, as it gave an answer for the question: Can schema be activated?. And the question: If the schemata can be activated does it help in development of translation through perfect comprehension?. As the medicine group had finished the translation, beside the better result, in relatively short time.

4.5 Summary

This chapter presents data analysis to provide a basis for developing the conclusions and recommendations that follow in chapter 5. All usable surveys were analyzed and the respective information was discussed in narrative form and represented in tables where appropriate. The chapter discussed the characteristics of the population, a reliability analysis. The results were presented in figures and tables. The chapter generates a clear understanding on what the study wanted to achieve. In the following chapter the researcher will present the findings of the study together with recommendations and conclusion.
CHAPTER FIVE
CONCLUSIONS, FINDINGS and RECOMMENDATIONS

5.0 Conclusion

The study was carried out to investigate the impact of schema, the high level knowledge –previous stored knowledge- on English text translation. It is intended to examine whether this previous knowledge could be activated or created through pre reading tasks or exposure to appropriate environment for translation promotion. If it can also be activated, does it help in development of translation?

In order to examine the role of schema on English text translation, an experimental test was given to two groups of the same proficiency level. The data was collected and processed statistically.

The results of the study show that students used their schemata to process the text without being told to do so. The result also showed that the use of previously stored knowledge has had its effect on translating the text. This effect was clearly shown in the difference of the result obtained by each group. The result showed that some of the students have schemata being activated, that is why they got higher scores than others. The result has had its support in the theory of schema, and its effect on translation, and also in the previous studies done by others

5.1 Findings

The study has shown that the background knowledge has had a great influence on text comprehension and translation. It showed the positive and effective contribution of the background knowledge on translation. Bottom-up and Top-down processes interact to give the perfect translation through thorough comprehension.

It is thus a contribution to the research into the nature of translation. The study has shown that the particular group of the students may be advantageous by having knowledge of medicine from that academic field. Similarly the knowledge of culture scenario gives the translator advantage over those who had not got that knowledge.

Finally, if these findings have have enough support by further studies, then they will represent important evidence for the need of applying schema theory for the production of perfect translation.
5.2 Recommendations

For achieving good comprehension and translation, the study recommends the following:

1. The schematic knowledge should be maximized through the activities of building, modifying or activating schema.
2. Translation test designers should consider students schemata that no one could make advantage of his previous knowledge. They should have equal background knowledge.
3. Translation test designers should consider McDonough studies that demonstrate how people outside a given culture may misunderstand events with unfamiliar cultural connotations. This can also be a problem with standardized translation test that may assume common schema for students from different cultural backgrounds or those who haven’t equal exposure to a given material, so definitely, in such a case, a test will lack validity.
4. Based on the findings, establishing translation training centres based on schema theory to enable novice translators and new students to practice translation.
5. Promoting translation by reinforcing comprehension through exposing translators to a real linguistic and cultural environment.
6. Activating translator’s schema by using different reading techniques according to the specific area of translation.
7. Applying schemata to develop and upgrade syllabus of translation and supplement them with authentic material needed for different fields of translation.

5.3 Suggestions for Further Research

The study was carried out to investigate one aspect of schemata, (i.e The impact of schema on English text translation) which contained any generalization to that aspect, further studies are required to investigate other aspect of schema with the main theme of the study. i.e. The role of schema.

As it is discussed, schemata take different forms, it can be in form of culture knowledge – which is very important in translation, a text with cultural connotation can have fatal errors in translation— also content knowledge, the knowledge of meaning without which good translation cannot take place, formal knowledge and scenarios are also important in English text comprehension and translation. All these are virgin areas for research.
Further studies are required to investigate the cultural knowledge, generic and scenario in understanding English text for perfect translation, because in today’s world there are explosion in knowledge and information. This age is named the era of communication and globalization, so it is suggested that the translators and researchers need to be aware of schemata as a tool for text comprehension. Applying, activating background knowledge in language classroom translation institutes or colleges as well as being aware of new ideas and the recent information concerning the area of translation such as machine translation, dubbed translation, screen translation, subtitling, technical translation, professional translation, business translation and cultural translation. To draw a close connection between world dwellers, translation fields should be enhanced by the application of schemata. As a solution for most translation problems for better relationships.

5.4 Summary

This chapter has summed up the results and findings of the study. It has shown how the study has been able to test the hypotheses and provide answers for the research questions. It has made some recommendations for the practical implementation of the schema for better translation, students and teachers of translation are going to benefit of the application of schema theory. Suggestions have been offered for areas that can be topic for further research.
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APPENDIX

The Test

Principle of therapy of diabetes mellitus in old age

The criteria for the diagnose of diabetes, are the same in all age groups. The main reason for deterioration of glucose tolerance with age is insulin resistance primary concerning glucose uptake of skeletal muscle. The decision of if and how diabetes is treated in old people is a highly individual one depending on the patients general condition and life circumstances, Acute symptoms are poorly characteristic and can be mistaken as complains of old age thus they play the most important role in deciding therapy. Diet is the most important therapy and the only therapeutic aspect without side-effects. The patient’s habits must be known before prescribing a practical diet.